02-8902-06-SI
REV. NO. 0

FINAL DRAFT
SITE INSPECTION REPORT
DENTON AVENUE LANDFILL
NEW HYDE PARK, NEW YORK

PREPARED UNDER
TECHNICAL DIRECTIVE DOCUMENT NOS. 02-8902-06
CONTRACT NO. 68-01-7346

FOR THE

ENVIRONMENTAL SERVICES DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY

SEPTEMBER 20, 1989

NUS CORPORATION
SUPERFUND DIVISION

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SITE NAME:	Denton Avenue Landfill	**EPA ID NO.:**	NYD981186919
ADDRESS:	Denton & Hillside Avenues New Hyde Park, Nassau County, New York	**LATITUDE:**	40° 45' 20" N
		LONGITUDE:	73° 42' 20" W
		Block Nos.:	211-14
		Lot Nos.:	673, 679

1.0 SITE SUMMARY

The Denton Avenue Landfill is an inactive landfill located on 54 acres in New Hyde Park, Nassau County, New York. The area surrounding the site is characterized by a combination of residential, commercial, and light-industrial properties The site is bordered by Hillside Avenue on the north, Denton Avenue on the east, Evergreen Avenue on the south, and Leonard Boulevard and Maple Drive on the west. Several small businesses adjoin the site along its northern border. The site property consists of a northern landfill and a southern landfill which are separated by a county-owned recharge basin. Waste disposal allegedly took place at both of the landfills, and encompassed an area of 54 acres. According to the available information, the recharge basin was never used for waste disposal; therefore, it is not considered to be part of the site. In the time since the site's closure, some of the original property has been developed for other uses. At the present time, the northern landfill consists of an undeveloped lot and a Police Boy's Club. The southern landfill currently consists of a large municipal park and recreational center. Approximately 211,000 people reside within 3 miles of the site. The nearest homes are located approximately 60 ft west of the area of waste disposal. The Denton Avenue Landfill is currently owned by the Town of North Hempstead.

While in operation, the Denton Avenue Landfill allegedly accepted 350 to 400 tons of municipal refuse per day. A large portion of this material was allegedly burned in two on-site incinerators prior to its disposal. Available information indicates that raw garbage was also disposed of at the site. It is unknown if the site ever accepted hazardous waste.

Operations began at the southern landfill in 1953 and continued until 1963. Prior to its use as a landfill, this 27-acre parcel had been used as a sandpit by the Flatlands Sand and Gravel Company. In converting the property into a municipal landfill, the entire site was excavated to depth of 45 ft below grade. Waste disposal took place in this excavated area. In 1963, the southern landfill was brought to grade, and was subsequently closed and covered. Waste disposal activities were then shifted to the northern landfill. Prior to its use as a landfill, the 27-acre northern parcel had been used by the Colonial Sand and Gravel Company for sand and gravel mining. It is believed that the northern parcel was excavated to a depth of approximately 40 ft. The northern landfill allegedly accepted raw garbage and incinerator ash from 1963 until 1966. From 1966 until 1974, this landfill

only accepted incinerator ash. In 1974, a cover of clayey fill material was applied to approximately 90 percent of the northern landfill. This cover was reportedly 3 ft to 4 ft in thickness. A short time after this cover was applied, methane began migrating from the landfill into nearby homes. In an effort to combat this problem, vents were installed in the affected homes. In addition, 40 vent pipes and a venting trench were installed at the northern landfill.

On September 21, 1976, officials from the Nassau County Department of Health (NCDOH), the New York State Department of Environmental Conservation (NYSDEC), and the Town of North Hempstead (TNH) visited the northern landfill. The purpose of this visit was to determine if the on-site vent pipes and venting trench were successfully controlling the levels of methane at the landfill. To test for the presence of methane, a small hole was dug in the venting trench and a lighted match was applied to it. A portion of the venting trench subsequently caught fire and a sprinkler truck was required to extinguish the flames. As a result of this incident, NYSDEC requested TNH to take corrective measures at the site, and to institute a program of routine gas monitoring and surveillance. At about the same time, the town informed NYSDEC that they would be taking weekly gas readings at the site.

In 1977, the two on-site incinerators were forced to shut down due to changes in the federal air standards for this area. Since 1974, the incinerators had been burning raw garbage for another landfill. Incinerator ash from this process was stored overnight at the Denton Avenue Landfill, and transported to the other landfill for disposal.

In 1977, TNH excavated a portion of the southern landfill for the construction of an indoor swimming pool. The following year, the town began developing the southern landfill into a municipal park and recreation center. Several baseball fields, a stadium, tennis courts, and a physical activities center were constructed as part of this project. At the same time, a Police Boy's Club and an organic garden were built on the northern landfill. The organic garden was replaced by a golf driving range a short time later.

In September 1978, NCDOH received a complaint from the Chief of the Garden City Park Fire Department regarding the occurrence of methane fires at the northern landfill. A subsequent inspection by NCDOH revealed the presence of stressed vegetation and a burned and cracked area of ground. A reinspection of the site on October 3, 1978 revealed the presence of elevated levels of methane (i.e., exceeding the lower explosive limit) at a crack in the ground and in the excavation for the Police Boy's Club building. As a result of this inspection, it was recommended that some form of venting system be incorporated into the building plans of the Police Boy's Club. No action was deemed necessary to stop the flow of methane from the area of cracked ground.

From June 1980 to October 1980, NCDOH conducted a program of air monitoring at 10 landfills in Nassau County. The purpose of this study was to determine the extent of vinyl chloride emissions from county's active and inactive landfills. On July 2, 1980, NCDOH collected 10 air samples from the northern landfill as part of this study. Analyses of these samples did not reveal the presence of vinyl chloride at the site.

In November 1980, representatives from Fred C. Hart Associates, Inc. (FCH) conducted an inspection of the site. In a 10-page report that was submitted to U.S. EPA in January 1981, FCH recommended that samples be collected from the "on-site" recharge basin and from nearby wells. These samples were to be used to determine the potential for leachate to migrate from the site. In addition, FCH suggested that the site be rescreened for the presence of vinyl chloride, using an organic vapor analyzer.

The Denton Avenue Landfill is unlined and there is concern as to the impact that the site may have made on local groundwater. In October 1981, NCDOH requested its consultant, ERM-Northeast, to conduct a groundwater investigation at the Denton Avenue Landfill. As part of this investigation, in November 1982, five monitoring wells were installed downgradient of the site. Drilling was performed by Layne New York Company, Inc. under the supervision of NCDOH. Two of the wells (DA-1 and DA-2) were installed on the western edge of the northern landfill. These wells have become overgrown, and NCDOH personnel could not locate them during the FIT site reconnaissance on June 6, 1989. Another two wells (DA-4 and DA-5) were installed between the western edge of the southern landfill and Leonard Boulevard. The fifth well (DA-3) was installed approximately 800 ft west of the northern landfill on the property of the William Bowie School. Samples collected from these wells by NCDOH on November 22, 1982 and December 3, 1982 revealed the presence of metals at concentrations that exceeded federal drinking water standards, a phenol, phthalates, and trace amounts of halo-ethers. As a result of these findings, ERM-Northeast concluded that a plume of groundwater, contaminated primarily by iron and lead, had migrated at least 800 ft downgradient from the northern landfill. In addition, ERM-Northeast estimated that the Denton Avenue Landfill was generating leachate at the rate of approximately 13,196,000 gallons per year. In a report to NCDOH, ERM-Northeast recommended the following: (1) annual sampling of the monitoring wells to determine maximum, and average annual, plume concentrations, (2) the installation of additional monitoring wells at the site to help quantify the head relationship between the Upper Glacial and Magothy Aquifers, and (3) minor remedial measures that would further reduce the generation of leachate at the northern and southern landfills.

Based on the findings of the previous site studies, U.S. EPA requested NUS Corporation Region 2 FIT to conduct a site inspection at the Denton Avenue Landfill site. On June 14 and 15, 1989, NUS collected six groundwater samples, nine soil samples, two surface water samples, and two sediment samples (which included the collection of one environmental duplicate for each matrix sampled) to characterize the site. The groundwater samples were used to determine the potential for groundwater contamination and its migration from the site. The soil samples, sediment samples, and surface water samples were used to determine the potential for soil contamination and its migration to an adjacent recharge basin. The results of the groundwater sampling indicate the presence of metals at concentrations that exceed federal drinking water standards. The soil sampling results indicate the presence of metals, semivolatile compounds (SVOCs), pesticides, and polychlorinated biphenyls (PCBs). The sediment sampling results indicate the presence of metals and a PCB. The results of the surface water sampling indicate the presence of metals at concentrations that exceed federal drinking water standards.

Ref. Nos. 1, 2, 17

2.0 SITE INSPECTION NARRATIVE

2.1 EXISTING ANALYTICAL DATA

In September and October 1976, NCDOH collected gas samples from the site and at several locations along Leonard Boulevard. These samples were to be used in evaluating the effectiveness of the on-site venting system. The samples were collected from the ground and were analyzed for the amount of methane gas they contained. The nature of the samples (i e., air or soil), methods of sample analysis, and quality assurance are unknown. Analyses of the samples revealed the presence of potentially hazardous levels (i.e., concentrations exceeding the lower explosive limit) of methane at three locations on the northern landfill. The highest level of methane was detected in the venting trench located along the northern border of the site.

On July 2, 1980, NCDOH collected 10 air samples (including one field blank) from the northern landfill. The samples were forwarded to the NCDOH Division of Laboratories for analysis. Gas chromatography was used to analyze the samples for the presence of vinyl chloride Vinyl chloride was not detected in any of the samples.

On November 22, 1982, NCDOH collected groundwater samples from the five downgradient monitoring wells that are located west of the site. The samples were forwarded to a NCDOH laboratory for analysis. The samples were analyzed for EPA priority pollutants, an expanded list of heavy metals, and general water quality parameters. The methods of sample analysis are unknown. The methods of quality assurance are unknown; however, dedicated sampling equipment was used. Analysis of the groundwater samples revealed the presence of metals at concentrations that exceeded federal drinking water standards, phthalates, and halo-ethers. To determine the impact of the site on the local groundwater, these results were compared to limited preexisting data from 1979-1982 from five "background" wells located 3,000 ft to 4,000 ft from the site. (The locations of these wells are presented in reference No. 13). This comparison indicated the presence of elevated levels of iron and ammonia in the downgradient monitoring wells. The sampling results are summarized in Table 1 below:

TABLE 1. RESULTS OF GROUNDWATER SAMPLING CONDUCTED ON NOVEMBER 22, 1982

Compounds Present	Highest Concentration in Downgradient Monitoring Wells	Sample Location	Concentration Range Detected in "Background" Wells
Ammonia	11	MW-DA1	< 0.01 - 0.45
Iron*	61	MW-DA1	0.19 - 2.9
Manganese*	1.54	MW-DA2	NDA
Magnesium*	8.4	MW-DA1	"
Cadmium	0.006	MW-DA3	"
Chromium*	0.09	MW-DA4	"
Copper	0.08	MW-DA4	"
Lead*	0.62	MW-DA2	"
Zinc	0.53	MW-DA2	"
Dimethylnaphthalene	76	MW-DA4	"
p-Chloro-m-cresol	3	MW-DA4	"
Diethyl phthalate	10	MW-DA1	"
Di-n-butyl phthalate	22	MW-DA3	"
Butylbenzyl phthalate	6	MW-DA3	"
bis(2-ethylhexyl) phthalate	19	MW-DA3	"
Di-n-octyl phthalate	11	MW-DA3	"
4-Chlorophenyl phenyl ether	6	NW-DA4, MW-DA5	"
4-Bromophenyl phenyl ether	4	MW-DA2	"

NDA - Indicates no data available.

Note: All metals are expressed in units of mg/L, the remainder of the sample results are expressed in ug/L.

* - Indicates compound was detected at a concentration that exceeds Federal Drinking Water Standards.

On December 3, 1982, NCDOH collected a second set of groundwater samples from the downgradient monitoring wells. The wells were sampled using the same methods that were used on November 22, 1982. Sample analysis was conducted by a NCDOH laboratory. The samples were analyzed for EPA priority pollutants, an expanded list of heavy metals and general water quality parameters. The methods of sample analysis and quality assurance are unknown. Analysis of the groundwater samples revealed the presence of metals at concentrations that exceeded federal drinking water standards. Comparison of the sample results with the five background wells indicated the presence of elevated levels of iron and ammonia in the downgradient monitoring wells The sampling results are summarized in Table 2 below:

TABLE 2. RESULTS OF GROUNDWATER SAMPLING CONDUCTED ON DECEMBER 3, 1982

Compounds Present	Highest Concentration in Downgradient Monitoring Wells	Sample Location	Concentration Range Detected in "Background" Wells
Ammonia	100	MW-DA1	<0.01 - 0.45
Iron*	75	MW-DA1	0.19 - 2.9
Manganese*	1.93	MW-DA2	NDA
Cadmium	0.17	MW-DA2	"
Chromium*	0.05	MW-DA1, MW-DA2, MW-DA5	"
Copper	0.10	MW-DA2, MW-DA4	"
Lead*	0.30	MW-DA2	"
Magnesium	7.7	MW-DA1	"

NDA - Indicates no data available.

Note: All metals are expressed in units of mg/L.

* - Indicates compound was detected at a concentration that exceeds Federal Drinking Water Standards.

Ref. No. 1

2.2 WASTE SOURCE DESCRIPTION

While in operation, the Denton Avenue Landfill accepted approximately 350 tons to 400 tons of municipal refuse per day. A large portion of this waste was allegedly burned in two on-site incinerators, and deposited as ash. In addition, the site also accepted raw garbage. It is unknown if the site ever accepted hazardous waste. Waste disposal took place in a southern landfill and a northern landfill. The southern landfill operated from 1953 to 1963; it encompasses 27 acres and extends to a depth of 45 ft below grade. The northern landfill operated from 1963 to 1974; it encompasses 27 acres and extends to a depth of 40 ft below grade. As waste was disposed of at the site, it was distributed evenly across the bottom of the landfill and covered with an intermediate layer of fill. After application of this intermediate cover, a new layer of waste was then added to the landfill. This process was repeated until the landfill was brought to grade and a final covering of fill material was applied. Portions of this cover reportedly contain clay. Where present, the clay reduces the permeability of the cover.

The southern landfill was brought to grade in 1963 and was subsequently closed. Some time after its closure, the southern landfill received a covering of fill. The thickness of this cover is unknown. In 1977, the Town of North Hempstead began excavating a portion of the southern landfill for the construction of a swimming pool. Waste material that was uncovered during this excavation was reportedly well decomposed and contained wood, metal, and plastic debris. At the present time, this landfill is the site of the North Hempstead Park Physical Activities Center and numerous athletic fields and playing courts. The park has had several incidences of structural damage which are due to the settling of the landfill. The southern landfill is unlined and generates an estimated 22,100 gallons of leachate per day.

In 1974, the northern landfill was brought to grade and approximately 90 percent of its surface was covered with a layer of clayey fill. This cover is reportedly 3 ft to 4 ft thick in some areas. Shortly after the cover was applied to it, methane began migrating from the northern landfill. In an effort to alleviate this problem, vent pipes and a venting trench were installed at the site. Despite these measures, methane fires and an area of cracked ground and stressed vegetation allegedly occurred at the northern landfill in 1978. At the same time, a portion of the northern landfill was excavated for the construction of a Police Boy's Club. Air screening of the excavated area revealed the presence of methane at concentrations that exceeded the lower explosive limit. The northern landfill (excluding the area of the Police Boy's Club) is currently an undeveloped field; it is unlined, and generates an estimated 14,060 gallons of leachate per day.

It should be noted that the two on-site incinerators were shut down in 1977 and have been removed. The former location of the incinerators is presently occupied by a garage that is operated by the North Hempstead Department of Public Works.

There have been several incidents of miscellaneous dumping at the site. The available information indicates that the southern half of the site may have been used as a landfill prior to its purchase by the Town of North Hempstead. The type and quantity of waste that may have been accepted during that time is unknown. During the NUS Region 2 FIT site reconnaissance on June 6, 1989, NCDOH and NUS personnel observed a PVC pipe extending onto the northern landfill from an adjoining property. At the time, the pipe was discharging a thin stream of viscous liquid onto the site property. Closer inspection revealed the effluent to have a golden tinge and a pervasive odor The runoff from this pipe appeared to flow south toward a low-lying area of the site. During the NUS Region 2 FIT site inspection conducted on June 14 and 15, 1989, the area of the discharge pipe was reinspected. In the time since the site reconnaissance, the discharge had been discontinued and approximately 12 ft of pipe had been removed. The length of the remaining section of pipe could not be determined; however, it allegedly connects to a storm drain on the adjoining property. Cement had been used to plug the open end of this pipe. A soil sample was collected from the former point of discharge. Analysis of this sample revealed the presence of benzo (b) fluoranthene, benzo (k) fluoranthene, and Aroclor-1254, and elevated levels of zinc.

Other incidents of miscellaneous dumping may have occurred at the site. Analysis of a soil sample (NYED-S3) that was collected near a crushed bucket on the northern landfill revealed the presence of metals, SVOCs, pesticides, and Aroclor-1254. Analysis of a sediment sample (NYEB-SED2), which was collected from an area of ponded water located downslope of, and approximately 100 ft southeast of, the former discharge pipe, revealed the presence of Aroclor-1254. Analysis of a soil sample (NYEB-S1), which was collected from an area of excavated pavement on the southern landfill, revealed the presence of metals, SVOCs, and Aroclor-1260.

The site may pose a potential threat of fire. Methane-related fires have previously occurred at the northern landfill. During the FIT 2 site inspection, elevated organic vapor analyzer (OVA) readings were detected in the breathing zone at an area on the northern landfill. These readings may indicate the continued migration of methane from the site. There is a potential for the direct contact of people with on-site contaminants. PCBs, SVOCs, and pesticides have been detected in the surface soils on the northern landfill. The northern landfill is fenced; however, access is not restricted by a locked gate. A number of area youths were observed on this property during the FIT 2 site inspection

on June 14, and 15, 1989. The southern landfill also poses a threat of direct contact. A PCB and a SVOC were detected in an area of excavated pavement. Extensive construction work is taking place in this area, and a high potential exists for the direct contact of workers with contaminated soils.

Ref. Nos. 1, 2, 6, 17

2.3 GROUNDWATER ROUTE

The Denton Avenue Landfill is underlain by the Upper Glacial Aquifer, the Magothy Formation, and the Lloyd Aquifer. The aquifer of concern in the vicinity of the site is the Magothy Formation and the overlying, hydraulically connected, Upper Glacial Aquifer. The Lloyd Aquifer is not included in the aquifer of concern because it is overlain by an extensive clay confining layer and very few wells tap this formation within 3 miles of the site.

In the area of the site, the uppermost portion of the Magothy Formation is characterized by fine to medium sand, with mica and interstitial silt and clay. Based on well logs from the site, the depth to the Magothy Formation is approximately 100 ft to 105 ft below grade. The thickness of this formation is estimated to be 325 ft. The Magothy Formation is the primary source of potable water for Nassau County. Groundwater typically occurs under unconfined conditions in the upper portion of this formation. Monitoring wells DA-1 and DA-5 are reportedly screened in the upper 5 ft of the Magothy Formation.

The Upper Glacial Aquifer overlies the Magothy Formation. In the area of the site, the Upper Glacial Aquifer is characterized by fine to coarse sand, fine to coarse gravel, and small cobbles. The northern and southern landfills are constructed in the glacial deposits. Groundwater typically occurs under unconfined conditions in this aquifer. Based on well logs from the site, the water table is located approximately 13 ft to 34 ft below the bottoms of the landfills. Monitoring wells DA-2, DA-3, and DA-4 are screened in the upper glacial aquifer.

The depth to groundwater at the site ranges from approximately 58 ft to 79 ft below grade. Groundwater in this area reportedly flows through the Upper Glacial and Magothy Aquifers in an east-to-west direction. The rate of flow through these aquifers is estimated to be 0.76 ft per day. The unsaturated zone that overlies the aquifer of concern consists of a mixture of medium coarse sand, gravel, and municipal refuse. Areas of clayey sand are present on the northern landfill. The hydraulic conductivity that is associated with these deposits is estimated to be 10^{-3} cm/sec. Net annual precipitation for this area, calculated as the difference between normal annual total precipitation and mean annual lake evaporation, is 13 inches.

Most, if not all, of the people living within 3 miles of the site are served by integrated supply systems that draw on wells located within the 3 mile radius. There are a minimal number of private wells that are used in this area of Nassau County. A small portion of Queens County is included within the 3-mile radius. The source of drinking water for the residents in this area is not known. The nearest potable well to the site is Jamaica Water Supply Co. Well No. 20. This well is 464.83 ft deep and it is located approximately 125 feet south of the site. Jamaica Water Supply Co. Well No. 20 is part of an integrated supply system that serves between 33,000 and 130,000 people. U.S. EPA has designated all of the aquifers that underlie this region as part of a sole source aquifer system.

On June 14 and 15, 1989, NUS Corporation Region 2 FIT collected six groundwater samples (including one environmental duplicate) to determine the presence or absence of contaminants that are attributable to the site. Two downgradient samples (NYEB-GW2 and NYEB-GW3) were collected from monitoring wells DA-3 and DA-4, respectively. A third downgradient sample (NYEB-GW4) was collected from a public supply well (Jamaica Water Supply Co. Well No. 20) located approximately 125 ft south of the site. One upgradient sample (NYEB-GW5) was collected from a public supply well (N-3673) located approximately 250 ft east of the site. A second upgradient sample, (NYEB-GW6) and the duplicate sample (NYEB-GW7) were collected from a public supply well (N-5603) located approximately 1000 ft northeast of the site. Monitoring wells DA-3 and DA-4 are 95 ft deep and are screened in the upper glacial aquifer. Public supply wells Jamaica Water Supply Co. Well No. 20, N-3673, and N-5603 range in depth from 415 ft to 464.83 ft and are screened in the Magothy Formation.

Analysis of the groundwater samples suggests a potential for the release of iron and manganese to groundwater. Iron and manganese were detected in the downgradient monitoring wells, at concentrations that significantly exceeded federal drinking water standards. Neither of these metals was present above the contract required detection limits (CRDLs) in the upgradient samples. Iron and manganese are commonly associated with landfill leachate; therefore, their presence in the groundwater may be attributable to the site. A release of contaminants to groundwater cannot be documented at this site because the upgradient public supply wells were screened at a much greater depth than the downgradient monitoring wells. Sample analysis also revealed the presence of elevated levels of chromium, lead, nickel, and zinc in the downgradient monitoring wells. These metals are also associated with landfill leachate, and their presence in the groundwater may be attributable to the site. It should also be noted that chlorinated hydrocarbons were detected in all of the public supply wells that were sampled. These compounds are known to be present throughout the aquifer of concern, in this area of Nassau County. The source of these compounds may be solvent waste from local dry cleaning

businesses. These compounds are not attributable to the site; therefore, they do not contribute to the site's impact on groundwater. The sample results are summarized below:

Compounds Present Above CRDLs	Highest Upgradient Concentration	Sample Location	Highest Downgradient Concentration	Sample Location
Chromium*	BCRDL (DL-10ug/L)	NYEB-GW5, NYEB-GW6	404	NYEB-GW2
Iron*	ND	NYEB-GW6, NYGB-GW7	363,000	NYEB-GW2
Lead*	BCRDL (DL-5 ug/L)	NYEB-GW6, NYEB-GW7	337	NYEB-GW2
Manganese*	ND	NYEB-GW6, NYGB-GW7	1,430	NYEB-GW3
Nickel	ND	NYEB-GW5, NYGB-GW6, NYGB-GW7	250	NYEB-GW2
Zinc*	BCRDL (DL-20 ug/L)	NYEB-GW5, NYEB-GW6, NYEB-GW7	215	NYEB-GW2

* Indicates compound was detected at a concentration that exceeds Federal Drinking Water Standards.

Note 1: All results are expressed in units of ug/L.

Note 2: NYEB-GW6 and NYGB-GW7 are duplicate samples.

BCRDL - Below Contract Required Detection Limit

ND - Not Detected

DL - Detection Limit

Ref. Nos. 1, 2, 4, 5, 7, 10, 11, 12, 14, 15, 16, 17

2.4 SURFACE WATER ROUTE

A county-owned recharge basin is located in a low-lying area between the northern and southern landfills. According to the NCDOH, all site-generated runoff and leachate migrates into this recharge basin. The basin is man-made and serves to replenish the local groundwater supply by collecting precipitation and stormwater runoff. There are no migration pathways leading from the basin to naturally occurring surface water; however, it is hydraulically connected to the Upper Glacial Aquifer.

There are no sensitive environments or critical habitats of federally-listed endangered species located within 1 mile of the site. The 1-year 24-hour rainfall for this area is approximately 2.7 inches.

There is a high potential for site contaminants to enter the aquifer of concern via the recharge basin. Drainage pathways, leading from the northern landfill into the recharge basin, were observed during the FIT 2 site inspection. A soil sample (NYEB-S7) was collected from one of these pathways. Analysis of this sample revealed the presence of magnesium at 1,000 times the concentrations found in the other on-site soil samples. A sediment sample (NYEB-SED1) was collected at the bottom of the drainage pathway. Analysis of this sample revealed the presence of barium at 182 times the concentration found in the other on-site sediment sample (NYEB-SED2). Lead and manganese were detected at twice the concentrations fround in NYEB-SED2. Magnesium was detected at more than 2,000 times the concentration detected in NYEB-SED2. Vanadium was detected at 25 times the concentration detected in NYEB-SED2. Zinc was detected at 4 times the concentration detected in NYEB-SED2. A surface water sample was collected at the same location. Analysis of this sample indicates the presence of iron, lead, and manganese at levels that exceed the federal drinking water standards. In addition to metals, SVOCs, pesticides, and PCBs have been detected in the on-site soils. These compounds may be carried by stormwater runoff into the recharge basin.

Ref. Nos. 1, 2, 4, 8, 17

2.5 AIR ROUTE

Readings above background were detected on the HNu photoionization detector (HNu) and the OVA flame ionization detector (OVA) during the NUS Corporation Region 2 FIT site reconnaissance conducted on June 6, 1989. The HNu readings were detected near the ground at four locations on the site. Three of the readings were detected in the vicinity of the vent pipes on the northern parcel; the fourth reading was detected in an excavated area on the southern parcel. The highest reading, 20 parts per million (ppm) above background, was detected approximately 30 feet east of vent pipes Nos. 21 and 22 on the northern parcel. No HNu readings were detected in the breathing zone during the FIT 2 site reconnaissance. OVA readings ranging from 800 ppm to more than 1000 ppm above

background were detected inside the casings of monitoring well (MW) Nos. DA-3, DA-4, and DA-5, after uncapping. All of these readings subsequently dropped to background levels as the wells were allowed to vent. A methane flush test was performed at each well and the tests revealed the presence of methane. OVA readings were detected at three locations on the northern parcel. All of the readings were detected in the vicinity of the vent pipes. The highest reading, 30 ppm above background, was detected at a crushed pail located approximately 30 feet east of vent No. 14. No OVA readings were detected in the breathing zone during the FIT site reconnaissance.

No readings above background were detected on the HNu during the NUS Region 2 FIT site inspection conducted on June 14 and 15, 1989. Variable OVA readings were detected inside the casings of MW Nos. DA-3 and DA-4 prior to, and during, their evacuation. The highest reading, 60 ppm above background, was detected in MW No. DA-3 after the water column was disturbed. The readings gradually dropped to background levels as the wells were allowed to vent. An OVA reading of approximately 900 ppm above background was detected inside the casing of MW No. DA-5 after uncapping. This reading subsequently dropped to 150 ppm above background after the well had vented for three hours. No OVA readings were detected in the breathing zone during the collection of groundwater samples. OVA readings were detected prior to, and after, disturbing the soil at sample location Nos. NYEB-S1 and NYEB-S4. The highest reading, 10 ppm above background, was detected at sample location No. NYEB-S4. An OVA reading of 2 ppm was detected after the disturbance of the sediments at sample location No. NYEB-SED2; an OVA reading of 1 ppm was also detected in the breathing zone at this location. An OVA reading of 1.5 ppm above background, was also detected at the surface of the water at this location. No OVA readings were detected in the breathing zone during the collection of the soil samples. An OVA reading of 6 ppm above background was detected in the breathing zone at sample location Nos. NYEB-S7, NYEB-SW1, and NYEB-SED1. OVA readings, ranging from 50 ppm to 70 ppm above background, were detected in the breathing zone at the top of the drainage pathway from which sample No. NYEB-S7 was collected. A methane flush test was performed at this location and was unable to confirm the presence of methane. An OVA reading of greater than 1000 ppm above background was detected at the ground surface in this area. Subsequent screening of this area using Draeger tubes did not reveal the presence of benzene or vinyl chloride in the ambient air.

Approximately 390,000 people reside within 4 miles of the site. There are no historical landmarks that are visible from the site.

The majority of the site is vegetated and there is a limited potential for a release of contaminants to air. PCBs and pesticides that were detected in the on-site soils may be attached to soil particles and become airborne during dry, dusty conditions. Based on air readings that were detected during the FIT 2 site inspection, volatile compounds, other than methane, may be present at the northern landfill.

Ref. Nos. 1, 2, 3, 17

2.6 ACTUAL HAZARDOUS CONDITIONS

The actual hazardous conditions that are present at the site are summarized below:

- The potential exists for contamination of the potable water supply with chromium, iron, lead, manganese, and zinc.
- The potential exists for direct contact of people with contaminated soils that are present on site.
- Areas of stressed vegetation were observed at the northern landfill by a local fire chief on October 10, 1978. These stressed areas were allegedly due to elevated levels of methane.
- The site has a history of methane fires. Elevated levels of methane were detected at the northern landfill in 1976 and 1978. In September 1976, the on-site venting trench caught fire when town officials applied a lighted match to it. In September 1978, the NCDOH received a compliant from the Garden City Park Fire Chief regarding the occurrence of methane fires at the northern landfill. According to the Nassau County Fire Marshall's office, the site does not currently pose a significant threat of fire.

No other actual conditions pertaining to human or environmental contamination have been documented. Specifically:

- Contamination has not been documented either in organisms in a food chain leading to humans or in organisms directly consumed by humans.
- There has been no documented contamination of a sewer or storm drain without a point source to which the contamination can be attributed.
- There has been no documented damage to fauna.

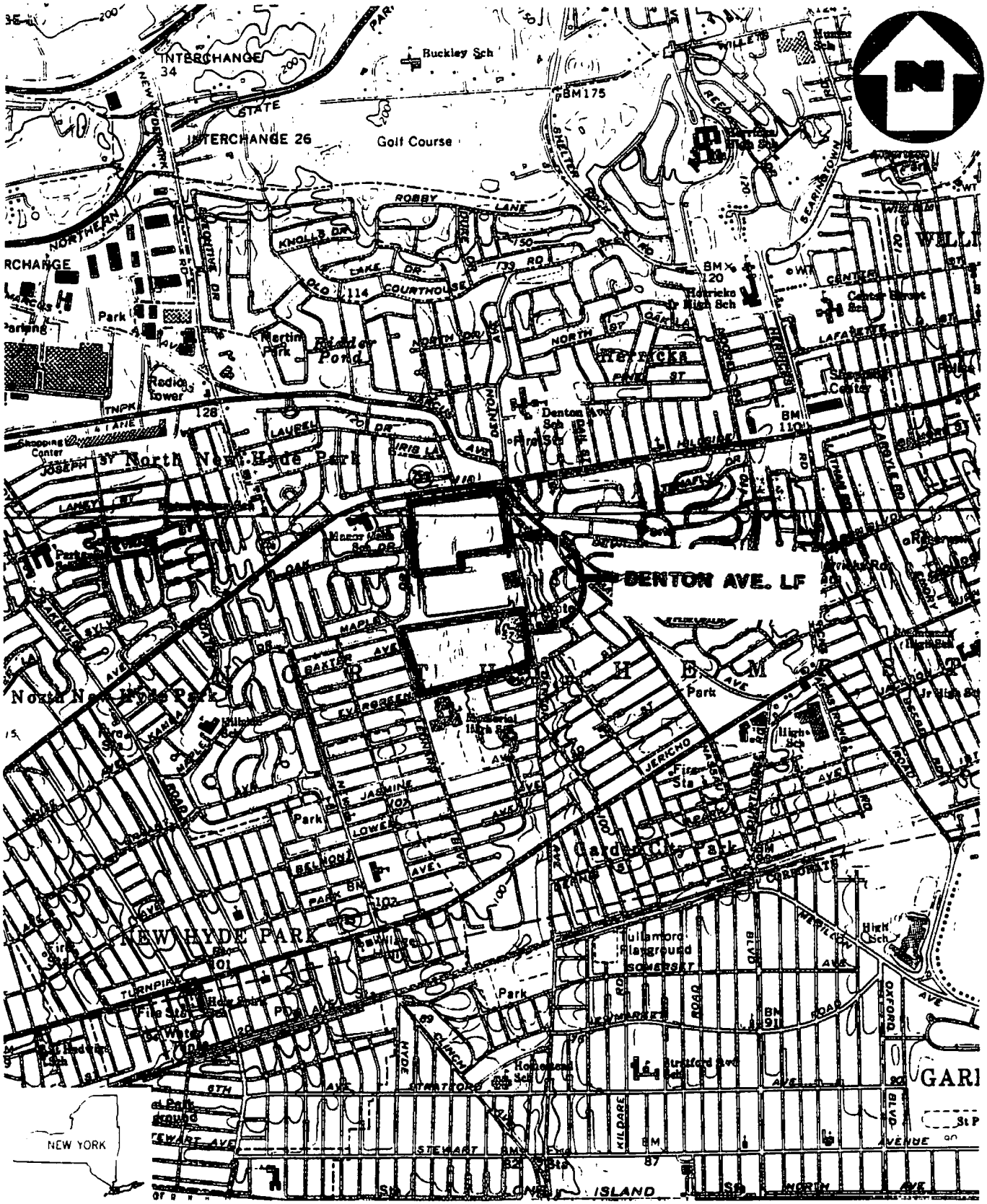
Ref. Nos. 1, 2, 17

3.0 MAPS AND PHOTOS

DENTON AVENUE LANDFILL
NEW HYDE PARK, NEW YORK

CONTENTS

Figure 1: Site Location Map
Figure 2: Sample Location Map
Exhibit A: Photograph Log



(QUAD) SEA CLIFF, N.Y.

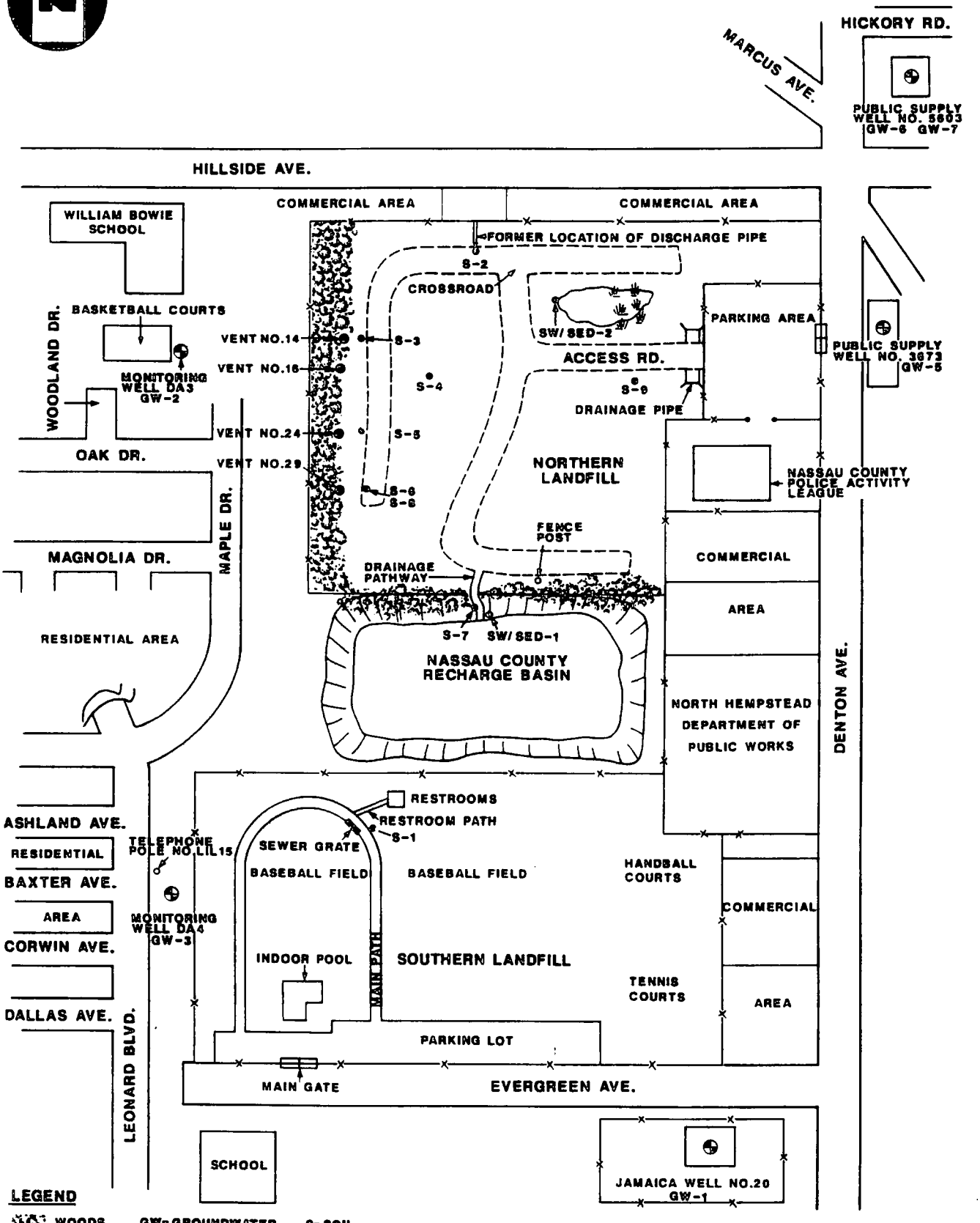
FIGURE 1

SITE LOCATION MAP

DENTON AVENUE LANDFILL, NEW HYDE PARK, N.Y.

SCALE: 1"=2000'

NUS CORPORATION



SAMPLE LOCATION MAP

DENTON AVENUE LANDFILL, NEW HYDE PARK, NY

NOT TO SCALE

FIGURE 2

NUS CORPORATION

EXHIBIT A

PHOTOGRAPH LOG

DENTON AVENUE LANDFILL
NEW HYDE PARK, NEW YORK

SITE RECONNAISSANCE: JUNE 6, 1989
SITE INSPECTION: JUNE 14 and 15, 1989

DENTON AVENUE LANDFILL
NEW HYDE PARK, NEW YORK
JUNE 6, 14, and 15, 1989

PHOTOGRAPH LOG

ALL PHOTOGRAPHS TAKEN BY BRIAN DIETZ.

Photo Number	Description	Time
1P-7,8	June 6, 1989 Panoramic view of southern landfill as seen from the parking lot.	1054
1P-22	June 6, 1989 Looking northwest across the recharge basin that divides the site.	1133
2P-9	June 6, 1989 Picture of PVC pipe dicharging onto the northern landfill.	1254
2P-17,18	June 6, 1989 Panoramic view of the northern landfill looking north from the recharge basin.	1311
1P-1	June 14, 1989 Anthony Culmone collecting soil sample S-1.	1050
1P-3	June 14, 1989 Steve Okulewicz collecting sediment sample SED-2.	1214
1P-4	June 14, 1989 Steve Okulewicz collecting soil sample S-2.	1243
1P-5	June 14, 1989 Steve Okulewicz collecting soil sample S-3.	1317
1P-6	June 14, 1989 Anthony Culmone collecting soil sample S-4.	1526
1P-7	June 14, 1989 Steve Okulewicz collecting soil sample S-5 (MS/MSD).	1547

DENTON AVENUE LANDFILL
NEW HYDE PARK, NEW YORK
JUNE 6, 14, and 15, 1989

PHOTOGRAPH LOG
(con't)

Photo Number	Description	Time
1P-8	June 14, 1989 Anthony Culmone collecting soil sample S-6/S-8 (dup).	1615
1P-9	June 14, 1989 Anthony Culmone collecting surface water sample SW-1.	1737
1P-10	June 14, 1989 Anthony Culmone collecting sediment sample SED-1.	1743
1P-12	June 14, 1989 Steve Okulewicz collecting soil sample S-7.	1837
1P-14	June 14, 1989 Steve Okulewicz collecting soil sample S-9.	1855
1P-15	June 15, 1989 Anthony Culmone and Steve Okulewicz collecting groundwater sample GW-2.	1055
1P-16	June 15, 1989 Anthony Culmone collecting tap water sample GW-1 (MS/MSD).	1341
1P-17	June 15, 1989 Anthony Culmone collecting tap water sample GW-5.	1507
1P-18	June 15, 1989 Anthony Culmone collecting tap water sample GW-6/GW-7 (dup).	1525
1P-19	June 15, 1989 Anthony Culmone and Steve Okulewicz collecting groundwater sample GW-3.	1646

DENTON AVENUE LANDFILL, NEW HYDE PARK, NEW YORK

1P-7,8

June 6, 1989
Panoramic view of southern landfill as seen from the parking lot.

1054

DENTON AVENUE LANDFILL, NEW HYDE PARK, NEW YORK

1P-22 June 6, 1989 1133
Looking northwest across the recharge basin that divides the site.

2P-9 June 6, 1989 1254
Picture of PVC pipe discharging onto the northern landfill.

DENTON AVENUE LANDFILL, NEW HYDE PARK, NEW YORK

2P-17,18

June 6, 1989
Panoramic view of the northern landfill looking north from the recharge basin.

1311

DENTON AVENUE LANDFILL, NEW HYDE PARK, NEW YORK

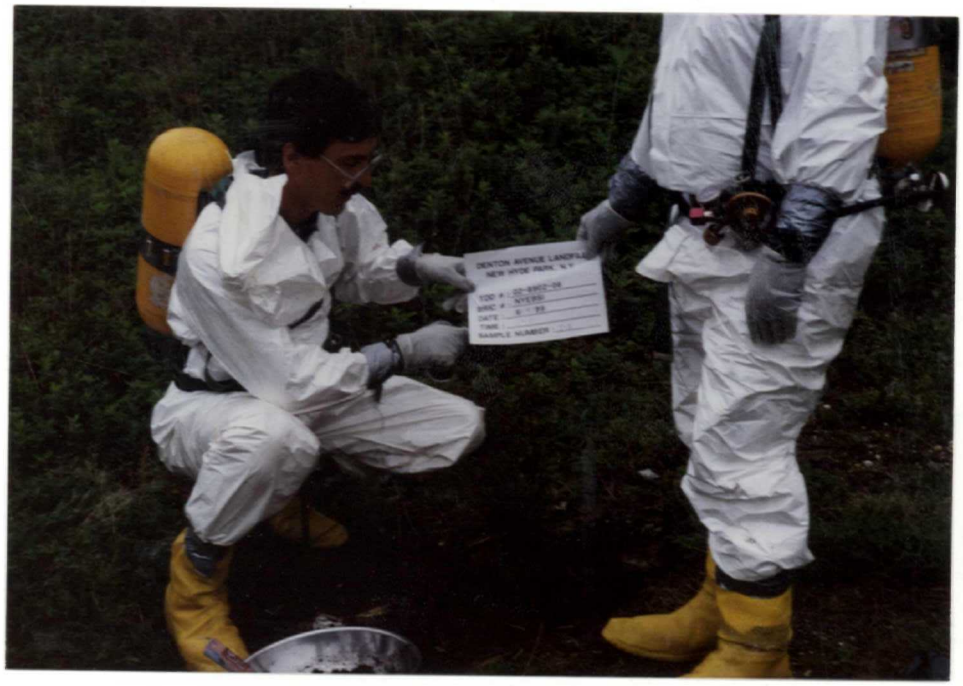
1P-1 June 14, 1989 1050
Anthony Culmone collecting soil sample
S-1.

DENTON AVENUE LANDFILL, NEW HYDE PARK, NEW YORK

1P-3 June 14, 1989 1214
Steve Okulewicz collecting sediment sample SED-2. (Note: The sample placard is mis-numbered in this photo).

1P-4 June 14, 1989 1243
Steve Okulewicz collecting soil sample S-2.

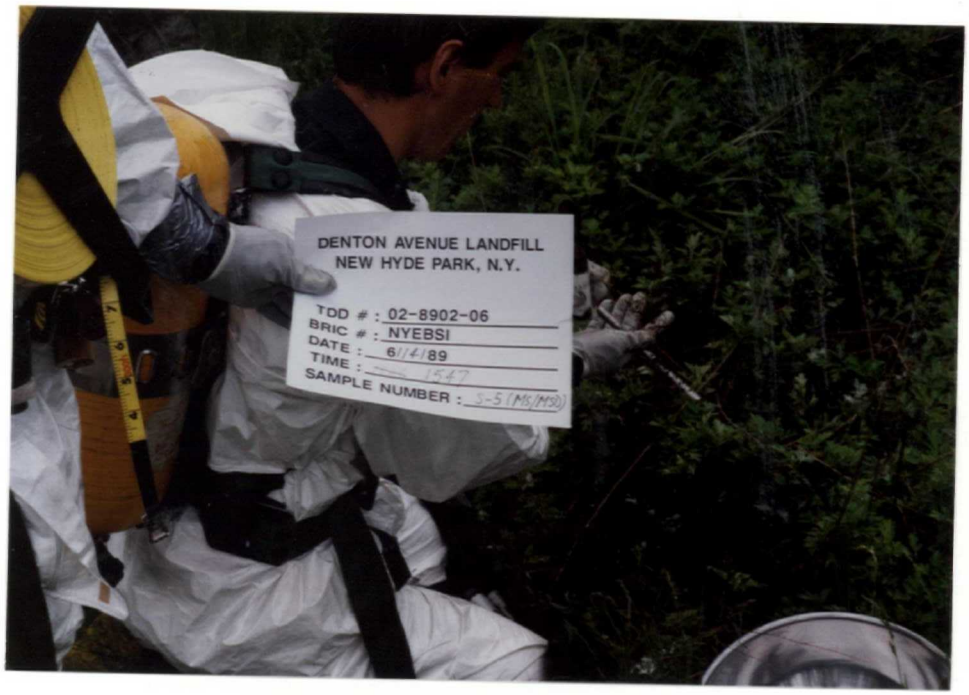
DENTON AVENUE LANDFILL, NEW HYDE PARK, NEW YORK



1P-5 June 14, 1989 1317
Steve Okulewicz collecting soil sample S-3.

1P-6 June 14, 1989 1526
Anthony Culmone collecting soil sample S-4.

DENTON AVENUE LANDFILL, NEW HYDE PARK, NEW YORK



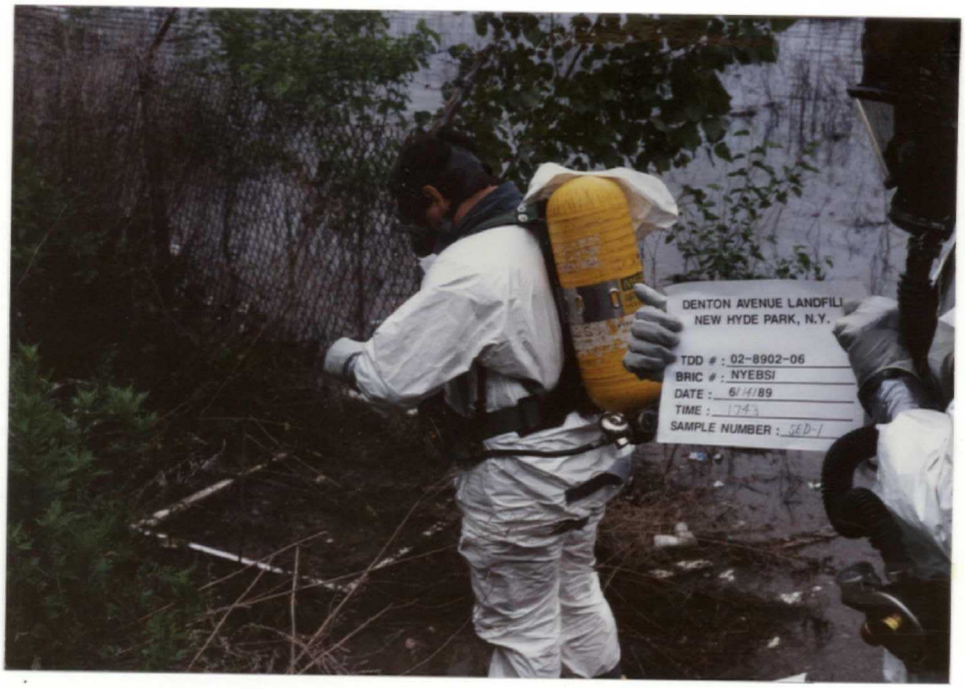
1P-7 June 14, 1989 1547
Steve Okulewicz collecting soil sample S-5 (MS/MSD)

1P-8 June 14, 1989 1615
Anthony Culmone collecting soil sample S-6/ S-8 (dup).

DENTON AVENUE LANDFILL, NEW HYDE PARK, NEW YORK

1P-9

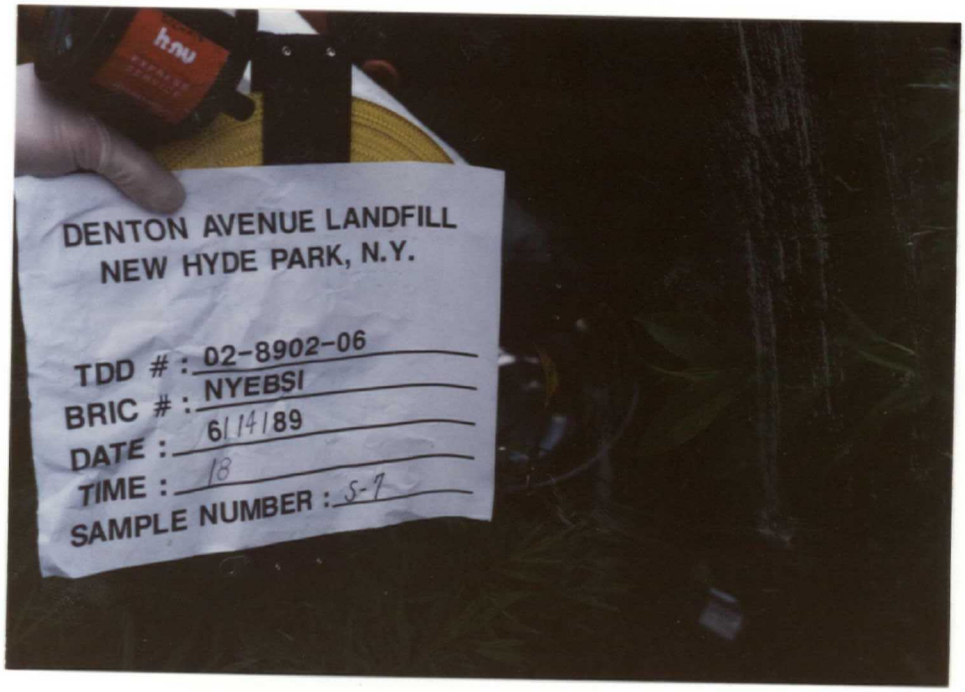
June 14, 1989 1737
Anthony Culmone collecting surface water sample SW-1.



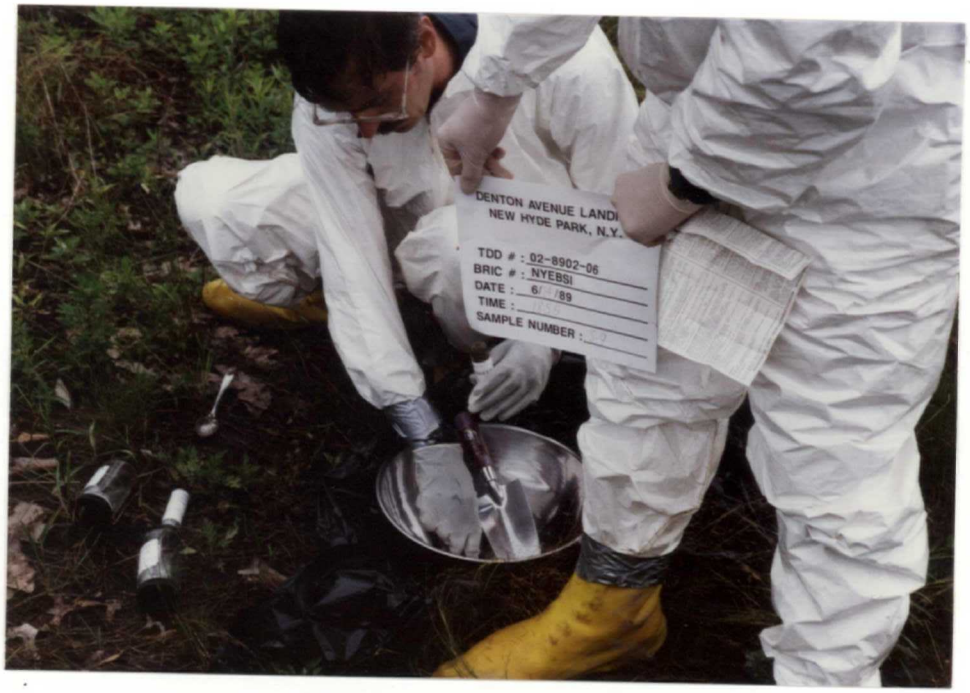
1P-10

June 14, 1989 1743
Anthony Culmone collecting sediment sample SED-1.

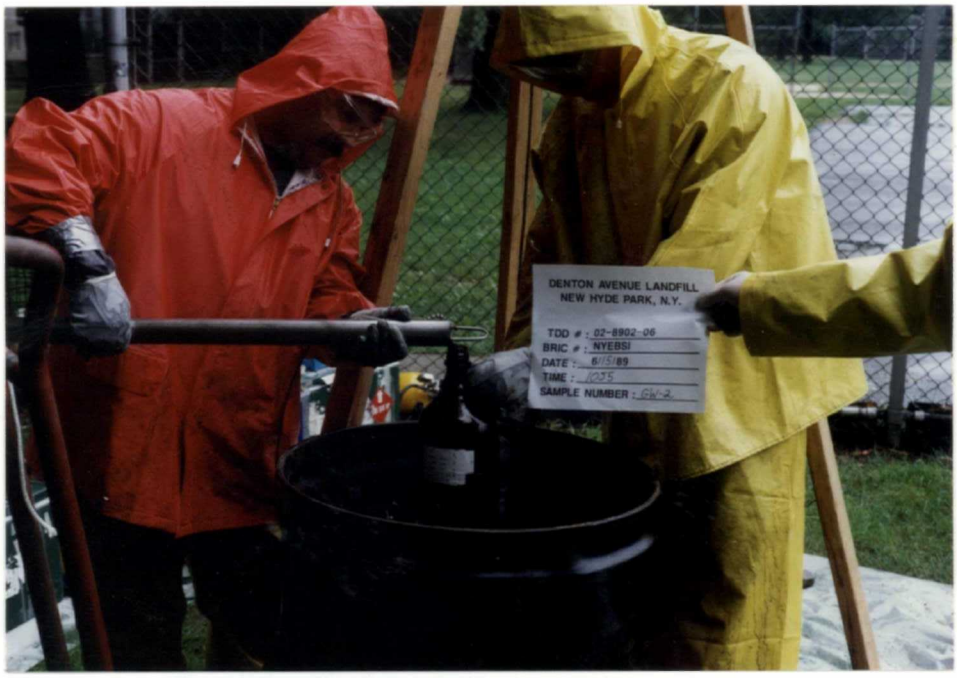
DENTON AVENUE LANDFILL, NEW HYDE PARK, NEW YORK



1P-12 June 14, 1989 1837
Steve Okulewicz collecting soil sample S-7.



1P-14 June 14, 1989 1855
Steve Okulewicz collecting soil sample S-9.



1P-15

June 15, 1989
Anthony Culmone and Steve Okulewicz
collecting groundwater sample GW-2.

1055

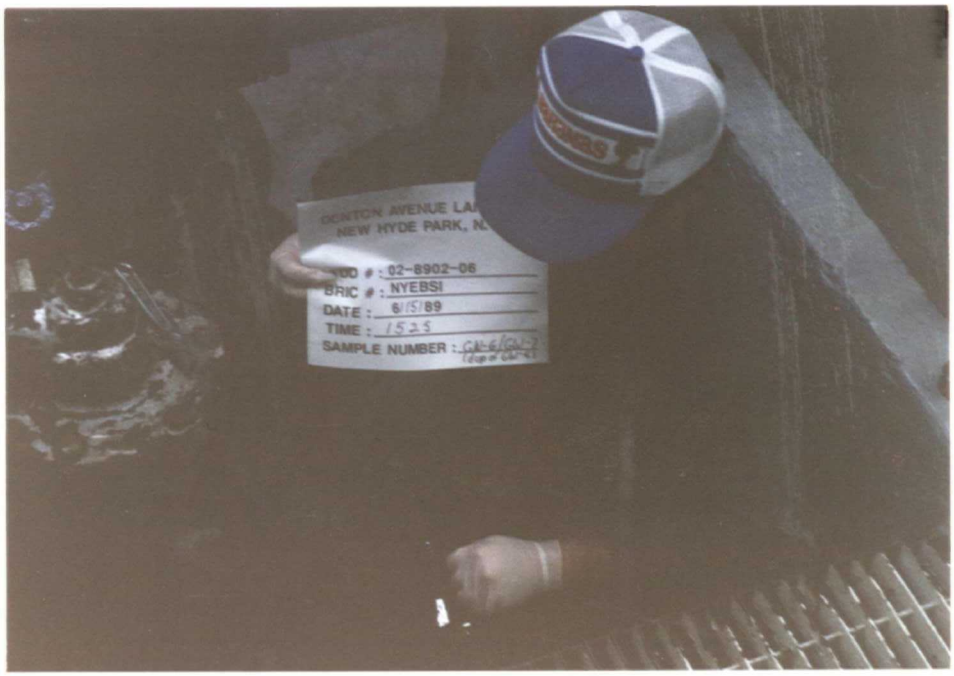
1P-16

June 15, 1989
Anthony Culmone collecting tap water sample GW-1 (MS/MSD).

1341

1P-17 June 15, 1989 1507
Anthony Culmone collecting tap water sample GW-5.

DENTON AVENUE LANDFILL, NEW HYDE PARK, NEW YORK



1P-18 June 15, 1989 1525
Anthony Culmone collecting tap water sample GW-6/GW-7 (dup).

1P-19 June 15, 1989 1646
Anthony Culmone and Steve Okulewicz collecting groundwater sample GW-3.

4.0 SITE INSPECTION SAMPLING RESULTS

Six groundwater samples, two surface water samples, two sediment samples, and nine soil samples (including one environmental duplicate for each matrix) were collected during the NUS Region 2 FIT site inspection conducted on June 14 and 15, 1989.

Analyses of the groundwater samples indicate the presence of chromium, iron, lead, and manganese, at levels that exceed federal drinking water standards, in the downgradient monitoring wells (MWs) DA-3 and DA-4. The highest concentrations of chromium (404 ug/L), iron (363,000 ug/L), and lead (337 ug/L) were detected in MW-DA3 (sample No. NYEB-GW2). The highest concentration of manganese (1,430 ug/L) was detected in MW-DA4 (sample No. NYEB-GW3). Tetrachloroethene and trichloroethene were detected in all of the public supply wells sampled. The highest concentrations of these compounds (640 ug/L and 8 ug/L, respectively) were detected in public supply well N-5603 (sample No. NYEB-GW6/7).

Sds closed

Analyses of the surface water samples indicate the presence of iron, lead, and manganese, at levels that exceed federal drinking water standards. The highest concentrations of iron (19,800 ug/L) and lead (105 ug/L) were detected in sample No. NYEB-SW1. The highest concentration of manganese (779 ug/L) was detected in sample No. NYEB-SW2.

Analyses of the sediment samples indicate the presence of barium, lead, magnesium, manganese, vanadium, and zinc. The highest concentrations of barium (182E mg/kg), lead (112 mg/kg), magnesuim (2,190 mg/kg), manganese (204 mg/kg), vanadium (25.9E mg/kg), and zinc (169E mg/kg), were detected in sample No. NYEB-SED1. These concentrations were approximately 2 to 200 times greater than those that were detected in the other sediment sample (NYEB-SED1). Aroclor-1254 was detected in sample No. NYEB-SED2 at a concentration of 210 ug/kg.

Analyses of the soil samples indicate the presence of arsenic, barium, cadmium, chromium, lead, manganese, vanadium and zinc, in the on-site soils. The highest concentrations of cadmium (1.7E mg/kg), chromium (19.2 mg/kg), lead (287 mg/kg), vanadium (445 mg/kg) and zinc (6,700 mg/kg) were detected in sample No. NYEB-S3. These concentrations were approximately 1 to 51 times greater than those that were detected in the other soil samples. The highest concentrations of arsenic (9.6 mg/kg) and barium (62E mg/kg) were detected in sample No. NYEB-S1. These concentrations were 2 to 62 times greater than those that were detected in the other soil samples. The highest concentration of manganese was detected in sample No. NYEB-S7. This concentration was approximately 2 times greater than those that were detected in the other soil samples. SVOCs were detected in sample Nos. NYEB-S1, NYEB-S2, and NYEB-S3 The concentrations of the SVOCs ranged from 610 ug/kg to 3,300

ug/kg. With the exception of bis(2-ethylhexyl) phthalate, the highest concentration of SVOCs were detected in sample No. NYEB-S3; pyrene and benzo(b)fluoranthene were present in the highest concentration (3,300 ug/kg). The pesticides dieldrin (28 ug/kg), 4,4'-DDE (42 ug/kg), and 4,4'-DDD (47 ug/kg) were detected in sample No. NYEB-S3. PCBs were detected in the on-site soils at concentrations ranging from 390 ug/kg to 4,200 ug/kg. Aroclor-1254 was detected in sample Nos. NYEB-S2 and NYEB-S3. The highest concentration (440 ug/kg) was detected in sample No. NYEB-S2. Aroclor-1260 was detected in sample No. NYEB-S1 at a concentration of 4,200 ug/kg.

The groundwater sampling results are summarized in Table 3. The surface water sampling results are summarized in Table 4. The sediment sampling results are summarized in Table 5. The soil sampling results are summarized in Table 6. Figure 2 in Section 3.0 provides a sample location map.

TABLE 3. Groundwater Sampling Results

Compounds Present Above CRDLs	Sample Location(s) Where Compounds Detected	Sample with Highest Concentration	Highest Concentration
Aluminum	NYEB-GW2, NYEB-GW3	NYEB-GW2	1,550
Chromium*	NYEB-GW2, NYEB-GW3	NYEB-GW2	404
Copper	NYEB-GW2, NYEB-GW5	NYEB-GW2	172
Iron*	NYEB-GW2, NYEB-GW3, NYEB-GW4	NYEB-GW2	363,000
Lead*	NYEB-GW2, NYEB-GW3	NYEB-GW2	337
Magnesium	NYEB-GW1, NYEB-GW6, NYEB-GW7	NYEB-GW1	7,900
Manganese*	NYEB-GW2, NYEB-GW3	NYEB-GW3	1,430
Nickel	NYEB-GW2, NYEB-GW3	NYEB-GW2	250
Zinc	NYEB-GW2, NYEB-GW3	NYEB-GW2	215
Trichloroethene	NYEB-GW6, NYEB-GW7	NYEB-GW7	8
Tetrachloroethene	NYEB-GW1, NYEB-GW5, NYEB-GW6, NYEB-GW7	NYEB-GW6	640

* - Indicates compound was detected at a concentration that exceeds Federal Drinking Water Standards.

Note 1: All results are expressed in units of ug/L.

Note 2: Sample Nos. NYEB-GW6 and NYEB-GW7 are duplicate samples.

TABLE 4. Surface Water Sampling Results

Compounds Present Above CRDLs	Sample Location(s) Where Compounds Detected	Sample with Highest Concentration	Highest Concentration
Aluminum	NYEB-SW1	NYEB-SW1	13,900
Chromium	NYEB-SW1	NYEB-SW1	30
Copper	NYEB-SW1	NYEB-SW1	36.7
Iron*	NYEB-SW1, NYEB-SW2	NYEB-SW1	19,800
Lead*	NYEB-SW1, NYEB-SW2	NYEB-SW1	105
Magnesium	NYEB-SW1, NYEB-SW2	NYEB-SW2	6,460
Manganese*	NYEB-SW1, NYEB-SW2	NYEB-SW2	779
Zinc	NYEB-SW1	NYEB-SW1	363

* - Indicates compound was detected at a concentration that exceeds Federal Drinking Water Standards.

Note: All results are expressed in units of ug/L.

Table 5. Sediment Sampling Results

Compounds Present Above CRDLs	Sample Location(s) Where Compounds Detected	Sample with Highest Concentration	Highest Concentration
Aluminum	NYEB-SED1, NYEB-SED2	NYEB-SED1	7,700
Barium	NYEB-SED1	NYEB-SED1	182E
Chromium	NYEB-SED1, NYEB-SED2	NYEB-SED1	17.9
Iron	NYEB-SED1, NYEB-SED2	NYEB-SED1	14,200
Lead*	NYEB-SED1, NYEB, SED2	NYEB-SED1	112
Magnesium	NYEB-SED1	NYEB-SED1	2,190
Manganese*	NYEB-SED1, NYEB-SED2	NYEB-SED1	204
Nickel	NYEB-SED1, NYEB-SED2	NYEB-SED1	16.1E
Vanadium	NYEB-SED1	NYEB-SED1	25.9E
Zinc*	NYEB-SED1, NYEB-SED2	NYEB-SED1	169E
Aroclor-1254	NYEB-SED2	NYEB-SED2	210

E - Indicates an estimated value.

Note: All results are expressed in units of mg/kg except Aroclor-1260 which is expressed in units of ug/kg.

TABLE 6. Soil Sampling Results

Compounds Present Above CRDLs	Sample Location(s) Where Compounds Detected	Sample with Highest Concentration	Highest Concentration
Aluminum	Present in all soil samples	NYEB-S3	11,900
Arsenic	Present in all soil samples	NYEB-S1	9.6
Barium	NYEB-S1	NYEB-S1	62E
Cadmium*	NYEB-S3	NYEB-S3	1.7E
Chromium*	Present in all soil samples	NYEB-S3	19.2
Iron	Present in all soil samples	NYEB-S3	13,900
Lead*	Present in all soil samples	NYEB-S3	287
Magnesium	NYEB-S7	NYEB-S7	1,820
Manganese	Present in all soil samples	NYEB-S7	187
Nickel	NYEB-S1, NYEB-S3, NYEB-S6, NYEB-S9	NYEB-S3	32.3E
Vanadium*	NYEB-S1, NYEB-S3, NYEB-S6, NYEB-S9	NYEB-S3	445E
Zinc*	Present in all soil samples	NYEB-S3	6,700E
Phenanthrene	NYEB-S3	NYEB-S3	610
Fluoranthrene	NYEB-S3	NYEB-S3	2,500
Pyrene	NYEB-S2, NYEB-S3	NYEB-S3	3,300
Benzo(a)anthracene	NYEB-S3	NYEB-S3	1,700
Chrysene	NYEB-S3	NYEB-S3	1,800
bis(2-ethylhexyl)-phthalate	NYEB-S1, NYEB-S3	NYEB-S1	2,600
Benzo(b)fluoranthene	NYEB-S2, NYEB-S3	NYEB-S3	3,300
Benzo(k)fluoranthene	NYEB-S2, NYEB-S3	NYEB-S3	2,000E
Benzo(a)pyrene	NYEB-S3	NYEB-S3	1,800E
Indeno (1,2,3-cd)pyrene	NYEB-S3	NYEB-S3	740E
Dieldrin	NYEB-S3	NYEB-S3	28
4,4'-DDE	NYEB-S3	NYEB-S3	42
4,4'-DDD	NYEB-S3	NYEB-S3	47
Aroclor-1254	NYEB-S2, NYEB-S3	NYEB-S2	440
Aroclor-1260	NYEB-S1	NYEB-S1	4,200

E - Indicates an estimated value.

Note 1: All metals are expressed in units of mg/kg; the remainder of the results are expressed in ug/kg.

Note 2: Sample Nos. NYEB-S6 and NYEB-S8 are duplicate samples.

Ref. No. 17

5.0 CONCLUSIONS AND RECOMMENDATIONS

A Listing Site Inspection (LSI) is recommended for the Denton Avenue Landfill Site on a **HIGH PRIORITY** basis. The LSI should include the collection of additional soil samples from the southern landfill to determine the extent of PCB contamination in the park area. Additional soil samples should also be collected from the northern landfill to determine the extent of soil contamination. At least one soil sample should be collected from the area where OVA readings of 60 ppm to 70 ppm above background were detected during the FIT 2 site inspection. Subsurface waste samples (from a depth of at least 4 ft) should be collected from the former disposal areas to characterize the nature of the on-site waste. Downgradient monitoring wells DA-1 and DA-2 should be located and sampled. Additional monitoring wells should be installed upgradient of the site ; these wells should be screened at the same depth as the existing downgradient wells. These recommendations are based on the following information that was acquired during the site inspection and subsequent report preparation.

- Groundwater contamination with iron and manganese has been documented. These metals are known constituents of landfill leachate and may be attributable to the site.
- The hydrogeology of the region indicates that the upper glacial and Magothy aquifers are hydraulically connected. The aquifer of concern is included in an U.S. EPA-designated sole source aquifer system.
- At least 54,000 people receive potable water from municipal wells that are located within 2000 ft of the site. The nearest potable well is located approximately 125 ft south of the site and is part of an integrated system that serves 33,000 to 130,000 people.
- The site allegedly generates 13,196,000 gallons of leachate per year.
- A PCB contaminant was detected at the southern landfill in an area of extensive construction. This poses an imminent threat of direct contact by individuals who are working in this area.
- The municipal park that is built on the southern landfill is undergoing extensive renovation. There is a potential for the excavation and transport of PCB-contaminated soils.
- PCBs and pesticides that are present on site may be attached to soil particles and become airborne during dry, dusty conditions.

Ref. Nos. 1, 2, 7, 10, 11, 12, 14, 15, 17

6.0 REFERENCES

1. Engineering Investigations at Inactive Hazardous Waste Sites, Phase I Investigation of Denton Avenue Landfill. EA Science and Technology, June 1987.

2. Field Notebook No. 0420, Denton Avenue Landfill, TDD No. 02-8902-06, on-site reconnaissance performed on June 6, 1989, and site inspection conducted on June 14 and 15, 1989, NUS Corporation Region 2 FIT, Edison, New Jersey.

3. General Sciences Corporation, Graphical Exposure Modelling System (GEMs). Landover, Maryland, 1986.

4. Uncontrolled hazardous waste site ranking system. A user's manual, 40 CFR, Part 300, Appendix A, 1986.

5. Code of Federal Regulations, Protection of the Environment 40, Parts 100 to 149. Revised as of July 1, 1986.

6. Telecon Note: Conversation between Don Speiss, Nassau County Department of Health, and Brian Dietz, NUS Corporation, September 11, 1989.

7. Federal Register, Vol. 43, No. 120, Aquifers Underlying Nassau and Suffolk Counties, New York. Determination published June 21, 1978.

8. Letter from Lawrence Brown, NYSDEC, Significant Habitat Unit, to Brian Dietz, NUS Corporation. April 10, 1989.

9. Telecon Note: Conversation between Nassau County Tax Assessor's Office, and Brian Dietz, NUS Corporation, March 27, 1989.

10. Project Note regarding meeting with John Guarino, Garden City Park Water District, and Brian Dietz, NUS Corporation, July 19, 1989.

11. Letter from Andrew Abate, Jamaica Water Supply Company, to Brian Dietz, NUS Corporation. May 31, 1989.

12. Telecon Note: Conversation between Don Myott, Nassau County Department of Health, Bureau of Public Water Supply, and Brian Dietz, NUS Corporation, March 29, 1989.

13. Three-Mile Vicinity Map based on U.S. Department of the Interior, Geological Survey Topographic Maps, 7.5-minute Quadrangles for "Lynbrook, N.Y.", 1969; "Sea Cliff, N.Y.", 1979; "Freeport, N.Y.", 1979; "Hicksville, N.Y.", 1979.

14. Canter, L. et al. Groundwater quality protection. Chelsea, Michigan, Lewis Publishers, Inc.

15. N.E. McClymonds, N.E. and O.L. Franke, Water-Transmitting Properties of Aquifers on Long Island, New York. Geological Survey Professional Paper 627-E, 1972.

16. Analytical results for groundwater sampling of municipal well Nos. N-3672, N-5603, and N-20. Sample analysis conducted by H2M Labs, Inc.

17. U.S. EPA Contract Laboratory Program, Compu Chem Laboratories (Organic Analysis), Skinner & Sherman, Inc. (Inorganic Analysis), Case No. 12105, Laboratory Analysis from NUS Region 2 FIT Site Inspection conducted on June 14 and 15, 1989.

REFERENCE NO. 1

ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES

FILE COPY

PHASE 1 INVESTIGATION
Denton Avenue Landfill
Site No. 130008
Town of North Hempstead, Nassau County
Final - June 1987

RECEIVED
JUN 18 1987
BUREAU OF
HAZARDOUS SITE CONTROL
DIVISION OF SOLID AND
HAZARDOUS WASTE

New York State
Department of
Environmental Conservation

50 Wolf Road, Albany, New York 12233
Henry G. Williams, Commissioner

Division of Solid and Hazardous Waste
Norman H. Nosenchuck, P.E., Director

Prepared by:

EA SCIENCE AND TECHNOLOGY
A Division of EA Engineering, Science, and Technology, Inc.

EA REPORT DEC63A

ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES IN THE STATE OF NEW YORK PHASE I INVESTIGATIONS

DENTON AVENUE LANDFILL
TOWN OF NORTH HEMPSTEAD, NASSAU COUNTY
NEW YORK I.D. NO. 130008

Prepared for

Division of Solid and Hazardous Waste
New York State Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233-0001

Prepared by

EA Science and Technology
R.D. 2, Goshen Turnpike
Middletown, New York 10940

A Division of EA Engineering, Science, and Technology, Inc.

December 1986

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Site Coordinates:

Latitude: 40° 44' 57"
Longitude: 73° 40' 32"

DENTON AVENUE LANDFILL

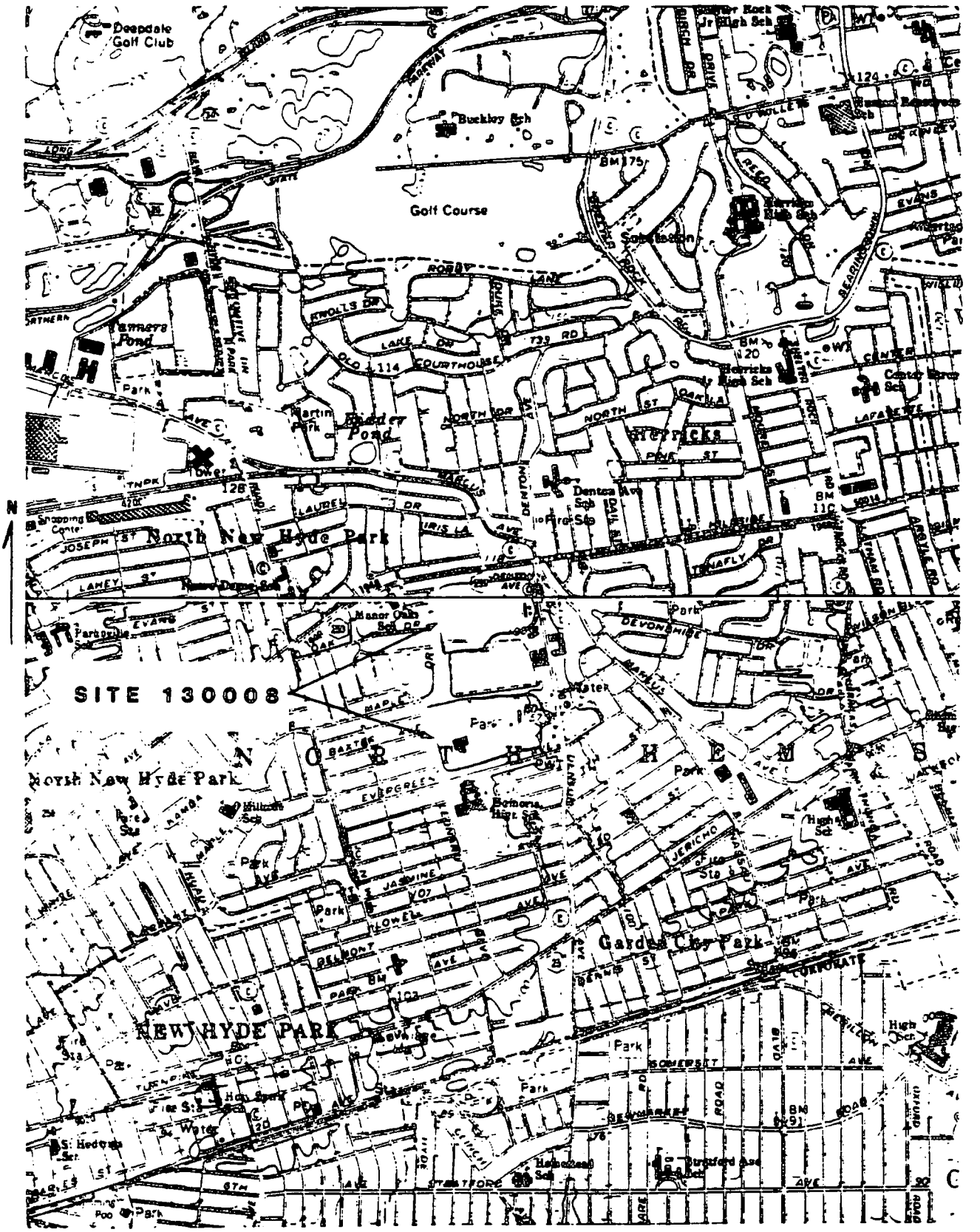


Figure 1-1. LYNBROOK & SEA CLIFF QUADS.

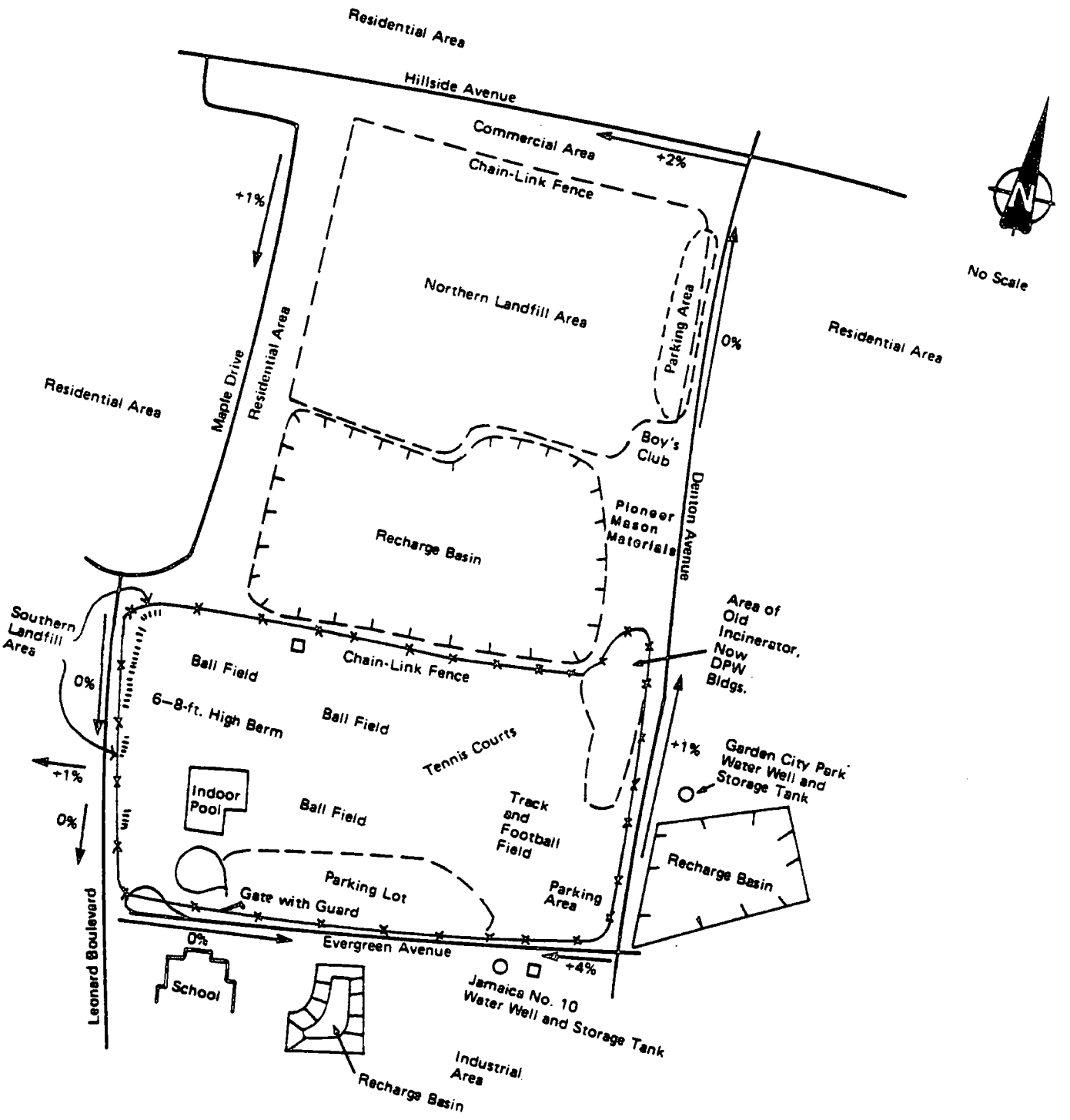
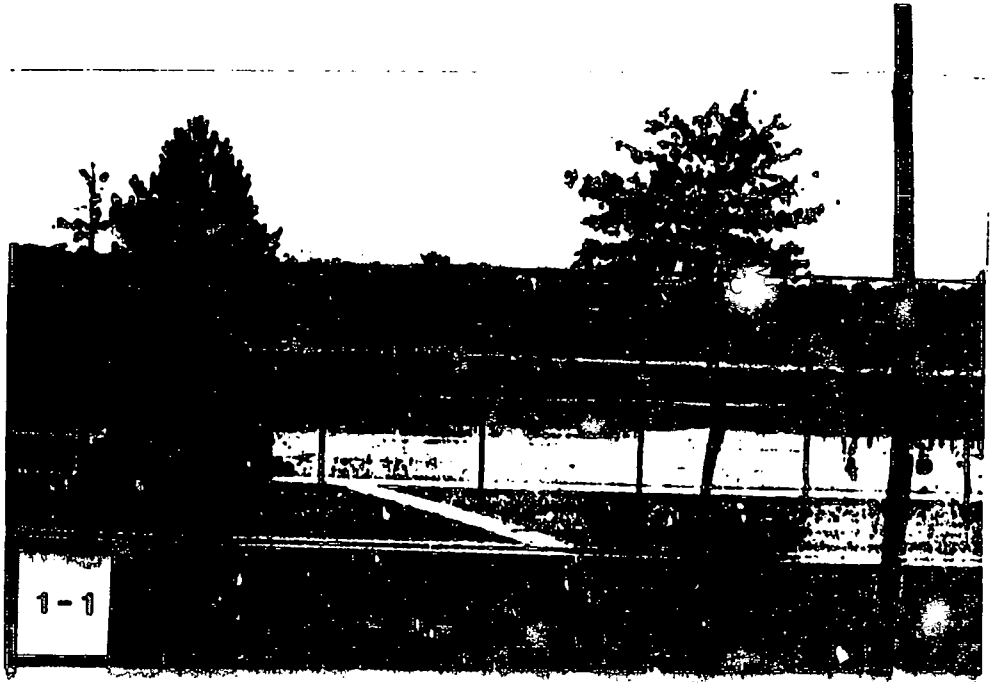


Figure 1-2. Site sketch. Denton Avenue Landfill, 20 January 1986.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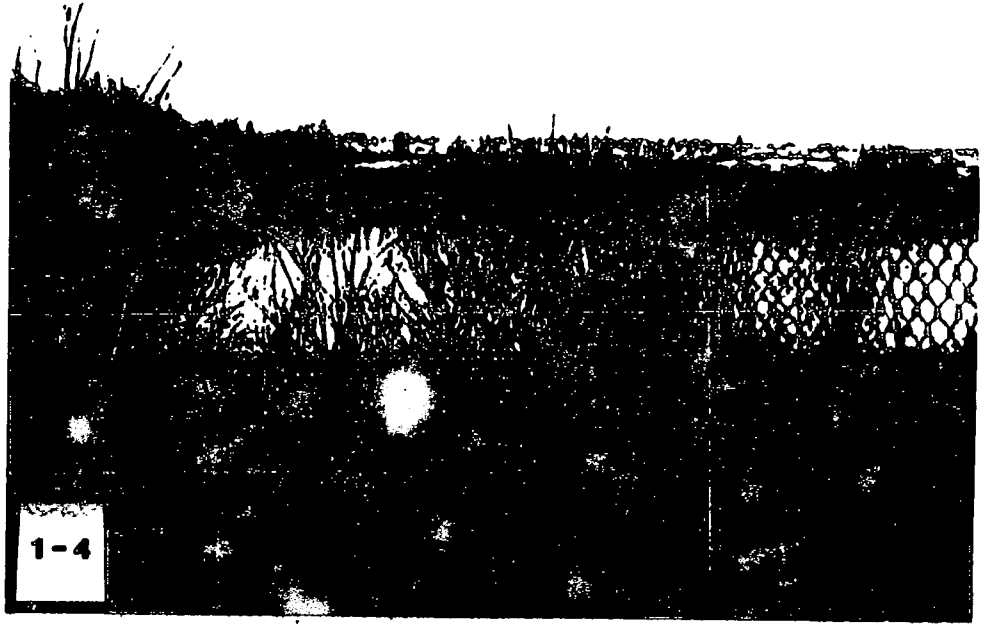
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DENTON AVENUE LANDFILL - PHOTO LOG

Photo	Description
1-1 and 1-2	West-northwest view across the northern landfill area from Denton Avenue (Figure 1-1). Residences along Maple Drive are visible in the distance in Photo 1-1. Commercial establishments along Hillside Avenue are visible in the right portion of Photo 1-2.
1-3 thru 1-11	Panoramic view (320°) from the northern border of the southern landfill at the southwest corner of the large recharge basin that separates the two landfill areas.
1-3	Northwest view across the southwestern corner of the recharge basin to residences located along Maple Avenue.
1-4	North view across the recharge basin to the northern landfill area. Far buildings in the photo are the buildings along Hillside Avenue. In the left portion of the photo are a chain of black pipes which are the methane vents located along the western edge of the northern landfill.
1-5	Northeast view across the recharge basin.
1-6	East-northeast view across the eastern portion of the recharge basin towards Denton Avenue (Figure 1-2).
1-7	East view along the northern edge of the southern landfill area to the Garden City Park Water District storage tank located along Denton Avenue. Tennis courts are located in the center right of the photo.
1-8	Southeast view across the southern landfill area to the Jamaica Water District storage tank located along Evergreen Avenue (Figure 1-2). A ball field, part of the athletic complex built above the landfill, is in the center of the photo. The ball field is lower in elevation than the surrounding terrain. Tennis courts are located in the center left of the photo.
1-9	South view across the southern landfill area to the parking lot inside the Evergreen Avenue entrance to the athletic facility. The ball field is in the left center portion of the photo.
1-10	Southwest view across the southern landfill area towards Evergreen Avenue (Figure 1-2). The facility in the center of the photo houses the indoor swimming pool. In the distance, center left of the photo, is the school located along the south side of Evergreen Avenue. Homes along Leonard Boulevard are center right in the photo.
1-11	West-southwest view across the southern landfill area to the homes located along Leonard Boulevard. The athletic field built above the northwestern corner of the southern landfill is visible.
1-12	North view along Leonard Boulevard of the western perimeter of the southern landfill area. Monitoring wells located in this area were not visible during EA's site inspection.

1. EXECUTIVE SUMMARY

The Denton Avenue Landfill site (New York I.D. No. 130008; EPA I.D. No. NYD981186919), located southwest of the intersection of Denton and Hillside Avenues in New Hyde Park, is an inactive landfill that operated from 1953 to 1966 (Figures 1-1 and 1-2; Photos 1-1 through 1-8). The property, owned by the Town of North Hempstead, consists of two 27-acre rectangular plots separated by a large recharge basin. Both landfills were constructed in old sand pits excavated close to the water table. There is no documentation of hazardous waste disposal at the landfill and the superintendent of the Town's Sanitation Department has described the waste material, in general, as municipal refuse. The southernmost landfill was closed in 1963. Upon closure of the northern landfill in 1966, a clayey fill material was applied to 90 percent of the landfill surface. Soon thereafter, methane gas began migrating into nearby homes. In the early 1970s, vents were installed in the affected homes, a trench backfilled with crushed rock was installed on the northern edge of the landfill, and vent pipes were sunk into the landfill mass to alleviate the problem. The Town of North Hempstead agreed to monitor gas on a weekly basis, and methane gas continued to be a problem at the northern landfill throughout the 1970s. In 1980, air monitoring of several other contaminants revealed only the presence of methane in the ground. In 1982, five ground-water monitoring wells were installed downgradient of both landfills and sampling revealed elevated concentrations of ammonia, lead, iron, dimethylnaphthalene, and several phthalates. For the purpose of HRS scoring, iron was used to confirm a release to ground water. A Nassau County Department of Health consultant, upon reviewing the analytical data, concluded that a plume of ground water

contaminated by iron and lead has migrated at least 800 ft downgradient of the north landfill site. Currently, the Denton Avenue Landfill property is the site of the North Hempstead recreational facility. Neither methane gas nor ground water is currently sampled.

The HRS scores are as follows: Migration Score (S_M) = 35.35, (S_{gw} = 61.15; S_{sw} = 0; S_a = 0), the highest attainable for this site; Fire and Explosion Score (S_{FE} = N/A), and Direct Contact Score (S_{DC}) = 0, because the northern fill area has reportedly been covered with more than 2 ft of capping material and the southern fill area appears to be adequately covered. There is a confirmed release of contaminants (iron) to the ground water. It is recommended that the next step of site investigation involve the evaluation of the horizontal and vertical extent of the ground-water contamination. This is beyond the scope of a Phase II study, and therefore, performance of a Phase II investigation is not recommended for this site.

2. PURPOSE

The Denton Avenue Landfill site was listed in the New York State Registry of Inactive Hazardous Wastes Sites because it is an inactive landfill and ground water downgradient of the site contains low levels of contaminants.

The goal of the Phase I investigation of this site was to: (1) obtain available records on the site history from state, federal, county, and local agencies; (2) obtain information on site topography, geology, local surface water and ground-water use, previous contamination assessments, and local demographics; (3) interview site owners, operators, and other groups or individuals knowledgeable of site operations; (4) conduct a site inspection to observe current conditions; and (5) prepare a Phase I report. The Phase I report includes a Hazard Ranking Score (HRS) and an assessment of the available information.

3. SCOPE OF WORK

The Phase I investigation of the Denton Avenue Landfill site involved a site inspection by EA Science and Technology, as well as record searches and interviews. The following agencies or individuals were contacted:

Contact	Information Received
Mr. Robert Dolan Town Attorney Town of North Hempstead 220 Plandome Road Manhasset, New York 11030 (516) 627-0590	Site History
Mr. Clyde Perro Commissioner of Solid Waste Town of North Hempstead 220 Plandome Road Manhasset, New York 11030 (516) 621-0906	Site History
Mr. Anthony Candela, P.E. Senior Sanitary Engineer New York State Department of Environmental Conservation Divison of Solid Waste SUNY Campus - Building 40 Stony Brook, New York 11794 (516) 751-7900	Site file
Mr. Larry Sama, P.E. Public Health Engineer Office of Industrial and Hazardous Waste Management Nassau County Department of Health 240 Old Country Road Mineola, New York 11501 (516) 535-2406	Site file

Contact	Information Received
Mr. Howard Schaefer/Mr. Robert Willis Public Health Sanitarians Office of Industrial and Hazardous Waste Management Nassau County Department of Health 240 Old Country Road Mineola, New York 11501 (516) 535-3314/535-2406	Site history
Mr. Kevin Walter, P.E. New York State Department of Environmental Conservation Division of Hazardous Waste Enforcement 50 Wolf Road Albany, New York 12233-0001 (518) 457-4346	No file/information
Mr. John Iannotti, P.E. New York State Department of Environmental Conservation Bureau of Remedial Action 50 Wolf Road Albany, New York 12233-0001 (518) 457-5637	No file/information
Mr. Earl Barcomb, P.E. New York State Department of Environmental Conservation Landfill Operations Vatrano Road Albany, New York 12205 (518) 457-2051	No file/information
Mr. Peter Skinner, P.E. New York State Attorney General's Office Room 221 Justice Building Albany, New York 12224 (518) 474-2432	No file/information
Mr. Ron Tramontano/Mr. Charlie Hudson New York State Department of Health Bureau of Toxic Substances Assessment Nelson A. Rockefeller Empire State Plaza Corning Tower Building, Room 342 Albany, New York 12237 (518) 473-8427	Site file

Contact	Information Received
Mr. James Covey, P.E. New York State Department of Health Nelson A. Rockefeller Empire State Plaza Corning Tower Building Albany, New York 12237 (518) 473-4637	Community Water Supply Atlas
Mr. Rocky Paggione, Atty./ Mr. Louis A. Evans, Atty. New York State Department of Environmental Conservation Division of Environmental Enforcement 202 Mamaroneck Avenue White Plains, New York 10601-5381 (914) 761-6660	No file/information
Mr. Marsden Chen, P.E. New York State Department of Environmental Conservation Bureau of Site Control 50 Wolf Road Albany, New York 12233-0001 (518) 457-0639	Site file
Mr. John W. Ozard Senior Wildlife Biologist New York State Department of Environmental Conservation Wildlife Resources Center Significant Habitat Unit Delmar, New York 12054 (518) 439-7486	Significant habitats
Mr. Perry Katz U.S. Environmental Protection Agency Region II Room 757 26 Federal Plaza New York, New York 10278 (212) 264-4595	No file/information
Mr. Don Myott Chief Officer Groundwater Management Nassau County Department of Health 240 Old Country Road Mineola, New York 11501 (516) 535-2201	Water Supply/Water Quality Information

Contact	Information Received
Mr. Doug Pica New York State Department of Environmental Conservation Division of Water SUNY Campus - Building 40 Stony Brook, New York 11794 (516) 751-7900	Well logs
Mr. Dave Bartow Assistant Fire Marshal Nassau County 899 Jerusalem Avenue Uniondale, New York 11553 (516) 566-5800	Information regarding the threat of fire and/or explosion at the site
Mr. Mirando Public Works Superintendent Garden City Water District 351 Stewart Avenue Garden City, New York 10923 (516) 742-5802	Public water supply information
Mr. Leonard Falco Superintendent Franklin Square Water District P.O. Box 177 Franklin Square, New York 11010 (516) FL4-0780	Public water supply information
Mr. Michael Steban Water Superintendent Manhasset - Lakeville Water District 170 East Shore Road Manhasset, New York 11030 (516) 466-4413	Public water supply information
Mr. Harold Morgan Town Engineer Town of Hempstead 220 North Plandome Road Manhasset, New York 11030 (516) 794-8300	Public water supply information
Mr. Becker Engineer Jamaica Water District 410 Lakeville Road Lake Success, New York 11042 (516) 488-4600	Public water supply information

Contact	Information Received
Mr. George Lee District Superintendent Albertson Water District 184 Shepherd Lane Roslyn Heights, New York 11577 (516) 621-3610	Public water supply information
Mr. Joseph Passariello District Supervisor Mineola Village Water District 167 Elm Place Mineola, New York 11501 (516) 746-0750	Public water supply information
Mr. Whiteside Superintendent Long Island Water Corporation 733 Sunrise Highway Lynbrook, New York 11563 (516) 593-1000	Public water supply information
Mr. Mahoney Port Washington Water District P.O. Box 432 38 Sandy Hollow Road Port Washington, New York 11050 (516) 707-0171	Public water supply information
Mr. Joseph Palogonia Superintendent West Hempstead - Hempstead Garden Water District 575 Birch Street West Hempstead, New York 11552 (516) 483-1180	Public water supply information

4. SITE ASSESSMENT - DENTON AVENUE LANDFILL

4.1 SITE HISTORY

The Denton Avenue Landfill site is an inactive landfill located approximately 0.5 mi north of the Village of New Hyde Park in the Town of North Hempstead, Nassau County, New York. The landfill consists of two separate 27-acre rectangular plots separated by a large recharge basin (Appendix 1.1-1). The Town of North Hempstead established the landfill in the early 1950s on the southern parcel, purchased from the Flatlands Sand and Gravel Company. This portion of the facility was closed in 1963 and is now the site of the North Hempstead recreational facility (EA Site Inspection, 20 January 1986 and Appendix 1.1-1). The northern landfill was developed in 1963 on property purchased from Eugene C. DePasquale in 1962. This landfill was closed in 1966 and is currently an undeveloped field (Appendixes 1.1-1 and 1.1-2). The material accepted at the Denton Avenue Landfill has been described by a superintendent of the Town's Sanitation Department as municipal refuse. The only waste accepted from industrial sources was wood and cardboard (Appendix 1.1-1). During routine site inspections in 1977, a NCDOH inspector observed that excavated refuse from the southern landfill consisted of well-decomposed material with only some larger wood pieces and plastic and metal material being visible (Appendix 1.1-3).

Landfilling operations began in the southern parcel in 1953 on property originally used as a sandpit by the Flatlands Sand and Gravel Company. The land was completely excavated to at least 45 ft below grade. In some portions

of the property, ponded water was observed by eyewitnesses, suggesting the excavation extended to or below the water table or a perched water condition. The entire floor of the site was reportedly covered with refuse and then an intermediate cover was added to start a new lift. There was also an incinerator purchased with this property in the early 1950s. The Town of North Hempstead eventually built an additional incinerator in 1953. The incinerators burned most of the estimated 350-400 tons of garbage accepted at the landfill each day (EA Site Inspection and Appendixes 1.1-1 and 1.1-2). A total of five lifts brought the excavated site to grade in 1963, and this portion of the landfill was closed and replaced by the northern section (Appendix 1.1-1).

The northern plot of the Denton Avenue Landfill is approximately the same size as the southern fill area and was also originally used for sand and gravel mining. (Town officials believe Mr. DePasquale obtained the property from Colonial Sand and Stone Company (Appendix 1.1-2).) This excavation extended close to the water table as indicated by the presence of ponded water on the bottom of the original pit. Landfilling in this section began in 1963, and reached capacity in 1966 (Appendix 1.1-1). Following closure, a clayey fill material from excavation activity for extensions to the Northern State Parkway was used to cover 90 percent of this section of the landfill. In some areas, the cover was reported to be 4 ft thick (Appendixes 1.1-1 and 1.1-2).

After the final cover was applied to the northern landfill, methane gas began migrating into nearby homes (Appendix 1.1-2). In the early 1970s, several abatement techniques were initiated to alleviate the problems. Vents were installed in the affected homes and a trench was dug about 150 ft south of Hillside Avenue on the northern edge of the landfill and backfilled with

crushed rock. In addition, vent pipes were sunk into the landfill mass (Appendixes 1.1-2 and 1.1-4). On 21 September 1976, representatives of the NYSDEC and the NCDOH collected gas samples in the landfill area as well as points outside the perimeter and found that the problem was still not in control. A hole dug in the ground at the venting trench caught fire after applying a lighted match to it, and continued to burn for at least 15-20 minutes. The fire continued to burn despite efforts to extinguish the flames and it was necessary for one of the Town's employees to obtain a sprinkler truck in order to eliminate the fire (Appendixes 1.1-4 and 1.1-5). As a result of their findings, the NYSDEC on 27 September 1976, called for corrective action of the problem along with a program of routine gas monitoring and surveillance. The Town of North Hempstead agreed to take gas readings on a weekly basis (Appendix 1.1-5).

In 1977, the U.S. EPA changed the air standards for the area and the incinerators at the Denton Avenue Landfill, still being used to burn raw garbage for another landfill, had to be shut down. In 1978, development of recreational and athletic facilities began. Several ball fields, a physical activity center, and a stadium were built over the southern landfill. About the same time, a senior citizens facility and organic gardens were built on the northern facility. Later that year, a golf driving range replaced the organic gardening facilites (Appendix 1.1-2). In September 1978, an inspection of this area by Chief of the Garden City Park Fire Department revealed stressed vegetation and scars of a fire where the ground had cracked (Appendix 1.1-6). A reinspection of the site in October revealed methane to be present in other portions of the site as well as the driving range. Readings were taken in the basement of the Police Boy's Club building excavation, and the presence of

methane was confirmed. As a result, it was recommended that some type of venting, either external or internal be incorporated into the building plans. No action was deemed necessary in the area of the driving range (Appendix 1.1-7).

Events developing in Suffolk County and other communities during late 1979 and early 1980 created public health concerns over toxic gas emissions from landfills. As a result, a program of air monitoring at ten landfills in Nassau County commenced in June 1980. The Denton Avenue Landfill was included in the ten landfills surveyed. Sampling for total hydrocarbons (THC), methane, and vinyl chloride revealed only the presence of methane in the ground at the site. Samples taken downwind of the sampling points indicated that any methane escaping from the ground was quickly diluted by the ambient air (Appendix 1.1-8).

In 1981, Fred C. Hart Associates (FCH) filed an inspection report of the Denton Avenue Landfill with the U.S. EPA. The consultant concluded that the recharge basin between the two landfills and nearby wells should be sampled to identify any leachate contamination. FCH also recommended additional vinyl chloride surveying with an organic vapor analyzer (Appendix 1.1-9).

On 11 and 12 November 1982, five monitoring wells were installed reportedly downgradient of the Denton Avenue Landfill under the supervision of NCDOH. Ground water in the vicinity of the Denton Avenue Landfill was reportedly determined to flow from east to west and it was decided at the time that the wells should be installed downgradient (west) of the two portions of the landfill (Appendixes 1.1-1 and 1.1-10). Drilling was performed by Layne-New

York Company, Inc. and the NCDOH consultant was ERM-Northeast. Both the north and south landfill sites had two wells installed, 95 and 120 ft deep, on their western borders and a fifth well (100 ft deep) was installed approximately 800 ft west of the northern landfill on the property of the William Bowie School. During EA's 20 January 1986 site reconnaissance, an attempt was made to locate Wells DA-4 and DA-5 (reportedly located west of the southern portion of the site), however, the wells were not located. On 22 November and 3 December 1982, ground water was collected from the five monitoring wells by NCDOH personnel and analyzed by the NCDOH laboratory for U.S. EPA priority pollutants, an expanded list of heavy metals, and general water quality parameters.

As a result of the NCDOH ground-water sampling program in 1982, ERM-Northeast concluded that a plume of ground water contaminated primarily by iron and lead has migrated at least 800 ft downgradient of the north landfill site. ERM-Northeast recommended that: 1) the wells should be sampled regularly for at least a year to evaluate average annual and maximum plume concentrations; 2) the head relationships between the upper glacial and Magothy aquifers should be quantified; 3) the extent and permeability of the fill at the north site should be determined; and 4) both sites should be regarded with additions to the covers, if warranted, in order to decrease infiltration and leachate generation (Appendix 1.1-1).

Currently, the Denton Avenue Landfill property is the site of the North Hempstead recreational facility. The only problems encountered at the south landfill site are related to land settling. Methane gas has presented

problems at the newer landfill (northern portion) but is no longer sampled. The Town Attorney has indicated that neither methane nor ground water is currently sampled at the site (Appendix 1.1-12).

4.2 SITE TOPOGRAPHY

The Denton Avenue Landfill is an inactive municipal landfill located at an elevation of approximately 100 ft above MSL. The site, situated on the west side of Denton Avenue in New Hyde Park, consists of two separate 27-acre rectangular plots separated by a large recharge basin (Appendix 1.1-1). The entire site is bounded on the north by Hillside Avenue, on the south by Evergreen Avenue, and on the west by Leonard Boulevard and Maple Drive (Appendix 1.2-1). Regional, as well as local slope, is less than 3 percent. The southern landfill is currently the site of a town recreational facility, and the northern portion of the landfill is an undeveloped field.

Prior to landfilling, the property was used for sand and gravel mining. Both portions of the landfill reportedly originated as gravel pits and were eventually filled to grade and covered (Appendix 1.1-1). As a result of hazardous methane gas conditions in the northern landfill, the Town of North Hempstead installed a trench along the northern edge of the landfill, approximately 150 ft south of Hillside Avenue. The trench was then backfilled with crushed rock. Along the western periphery and in other areas, vent pipes were sunk into the landfill (Appendixes 1.1-2 and 1.1-4).

Situated along the eastern edge of the site are the Boy's Club and Department of Public Work's (DPW) facilities built on the edge of or immediately adjacent to the northern and southern landfills, respectively. The DPW facility is located on the former site of the incinerator. Pioneer Mason Materials, a concrete plant, is situated between the Boy's Club and the DPW facilities. The nearest residence is approximately 0.14 mi to the west along Maple Drive. To the north of the site along the south side of Hillside Avenue are commercial establishments, while to the south of the entire site there is a school and an industrial area. The homes and businesses immediately surrounding the Denton Avenue Landfill are supplied by public water (Appendix 1.2-2). The nearest surface water is two golf course ponds located approximately 2 mi south of the site. Based on a 1980 survey performed by the NCDOH, surface water runoff from the site is expected to reach the large recharge basin that separates the northern and southern landfill areas (Appendix 1.2-3). This, along with the existence of other recharge basins within the immediate vicinity of the site, is expected to pre-clude site runoff from reaching the two ponds.

4.3 HYDROGEOLOGY

The Denton Avenue Landfill site is directly underlain by Pleistocene Age glacial outwash deposits, which are in turn underlain by the Cretaceous Age Magothy Formation, the Clay Member and Lloyd Sand Member of the Cretaceous Age Raritan Formation, and finally by Precambrian Age gneiss and schist bedrock (Appendix 1.3-1). Based upon the geologic logs available for Wells DA-1, DA-5, N17, and N3673, the Pleistocene outwash deposits in the vicinity of the landfill are estimated to be approximately 85-120 ft in thickness, and composed of stratified medium to coarse sand and gravel (Appendixes 1.1-1 and 1.3-2).

The Magothy Formation locally appears to be approximately 325 ft thick (Appendix 1.1-1). Of the five monitoring wells installed at the Denton Avenue Landfill site, only two reportedly penetrated the Magothy. Wells DA-1 and DA-5, however, only penetrated 5-10 ft of the formation (Appendix 1.1-1) and, thus, do not provide additional characterization. Regionally, the Magothy Formation generally "consists chiefly of fine micaceous sand, sandy clay, and clay. The colors are usually gray, white, pink, or red; lignite, pyrite, and iron oxide concretions are common throughout. Gravel occurs in a zone at the bottom and in lenses at somewhat higher altitudes" (Appendix 1.3-1).

The Clay member of the Raritan Formation is estimated to be approximately 130 ft in thickness. Generally, this unit "consists of about 100-200 ft of relatively impermeable solid and silty clay, usually dark gray and lignitic zones" (Appendix 1.3-1). The Lloyd Sand member of the Raritan Formation is estimated to be approximately 200 ft in thickness. This member is a stratified deposit of discontinuous layers of sand, gravel, sandy clay, silt, and clay (Appendix 1.3-1).

All freshwater supplies in Nassau County are derived from ground water. Swarenski (1963, Appendix 1.3-1) defines the "principal aquifer" as "that part of the Magothy Formation which occurs from about 50 ft below sea level downward to the top of the clay member of the Raritan Formation. In places, moreover, the aquifer includes Pleistocene deposits which blanket the Magothy or lie in channels cut into it." This indicates that the Pleistocene upper glacial aquifer and Magothy (principal) aquifer are hydraulically connected, and for the purpose of HRS, will be considered as a single hydrologic unit. Both the

upper glacial (Pleistocene) deposits and the Magothy Formation have been developed by wells for public water supply (Appendixes 1.3-3 and 1.3-4) and for the purpose of HRS are designated as the aquifer of concern. Although the Lloyd Sand member of the Raritan Formation has been developed by two wells of the Manhasset-Lakeville Water District and one well of the Jamaica Water District, this aquifer is directly overlain by the thick extensive, confining (low permeability) Clay member of the Raritan Formation (Appendix 1.3-1). Additionally, each of these wells is only one or two of several which supply each of the two water districts. The remainder of the wells for each of the two districts are completed in the upper glacial and Magothy deposits (Appendixes 1.3-3 and 1.3-4). Therefore, the Lloyd Aquifer will not be considered further by the Phase I investigation.

Recharge to the upper glacial portion of the aquifer of concern is derived entirely from precipitation. Recharge to the Magothy portion and Lloyd aquifer is derived from the downward movement of water from each overlying aquifer. In general, recharge to the lower aquifers occurs near the center of Long Island, while discharge is to the ocean or Long Island Sound (Appendix 1.3-1). The average annual precipitation in the area is reported to be approximately 43 in., of which about 50 percent (22.5 in.) is estimated to infiltrate to the water table (Appendix 1.3-1). The remainder of the precipitation is returned to the atmosphere by evapotranspiration, except for runoff to streams.

Based upon four of the monitoring wells installed for the NCDOH at the Denton Avenue Landfill, depth to ground water in 1982 is estimated to be approximately 68-81 ft below grade, as compared to a suggested depth to water of 45 ft below grade reportedly observed in the base of the sand pit in the early 1950s.

Based upon the 7 December 1982 water level elevation in the same four wells, plus that measured in five nearby, previously existing, observation wells, ERM determined that local ground-water flow direction is toward the west and west-southwest at a calculated rate of 0.76 ft/day (Appendix 1.1-1). This compares well with the regional ground-water flow direction reported by Donaldson and Koszalka (Appendix 1.3-5). Within 3-mi of the site, the aquifer of concern has been developed by seven Manhasset-Lakeville Water District wells, two Port Washington Water District wells, five Albertson Water District wells, three Williston Park Water District wells, four Garden City Park Water District wells, four Mineola Village Water District wells, five Garden City Water District wells, ten Jamaica Water District wells, one Plainview Water District well, two Franklin Square Water District wells, and one West Hempstead-Hempstead Gardens Water District well. The area within 3 mi of the site is served by the eleven aforementioned water districts. Appendix 1.3-4 provides a list of the active public wells located within 3 mi of the site.

4.4 SITE CONTAMINATION

Waste Types and Quantities

The Denton Avenue Landfill operated from 1953 to 1966 under the Town of North Hempstead. No documentation exists with specific information regarding any disposal of hazardous materials at the site but a superintendent of the Town's Sanitation Department described the waste material in general as municipal refuse. The only industrial waste accepted was wood and cardboard (Appendix 1.1-1).

Ground Water

Ground water in the vicinity of the Denton Avenue Landfill was first sampled in November 1982 by NCDOH personnel and analyzed for U.S. EPA priority pollutants, an expanded list of heavy metals, and general water quality parameters. In a November 1982 sampling program, an elevated concentration of ammonia (11.0 mg/liter) was detected in monitoring well DA-1. All five wells sampled contained elevated concentrations of lead (0.05-0.62 mg/liter) and iron (21.0-75.0 mg/liter), all of which are above the New York State Class GA ground-water standards. Four of the five wells sampled contained elevated concentrations of manganese (0.05-62.0 mg/liter). No volatile organic compounds, PCBs or pesticides were detected. Various phthalates ranging in concentration from 1.0 to 22.0 ppb were found in ground water collected in wells DA-1, DA-2, and DA-3. Dimethylnaphthalene (76.0 ppb) was detected in well DA-4 (Appendixes 1.1-1 and 1.1-11). Although there was no concurrent sampling of background water quality, ERM selected five nearby previously existing observation wells for comparison of the above downgradient ground-water quality data with ambient conditions. Three of the five previously existing wells are screened in the glacial sediment similar to the five DA-series wells located downgradient. The existing quality data includes only standard water quality parameters (no organics) for various times between 1979 and 1982 (Appendix 1.1-1, Table 10-1); however, the results are relatively similar. The iron concentration reported for the ambient conditions (0.19-2.9 mg/liter) is considerably less than that reported for the DA-series wells (21-75 mg/liter) downgradient of the Denton Avenue Landfill. Because of the general consistency of the 1979-1982 quality data and that the ground-water flow rate is only about 0.76 ft/day, these data are currently considered

representative of ambient conditions. Specifically, Well 8694 (located about 3,000 ft southeast of the site) was sampled in August 1982 (about 3 months prior to the DA-series wells). The iron concentration of the Well 8694 sample was less than 0.5 mg/liter compared with 21-75 mg/liter in samples from the DA-series wells. This is considered a significant (greater than 10 times) increase, and thus for HRS scoring confirms a release of contaminants to the ground water.

Surface Water

No data available.

Soil

No data available.

Air

No data available.

DENTON AVENUE LANDFILL
TOWN OF NORTH HEMPSTEAD, NASSAU COUNTY

The Denton Avenue Landfill site, located southwest of the intersection of Denton and Hillside Avenues in New Hyde Park, is an inactive landfill that operated from 1953 to 1966. The property, owned by the Town of North Hempstead, consists of two 27-acre rectangular plots separated by a large recharge basin. Both landfills were constructed in old sand pits excavated close to the water table. There is no documentation of hazardous waste disposal at the landfill and the superintendent of the Town's Sanitation Department has described the waste material, in general, as municipal refuse. The southernmost landfill was closed in 1963. Upon closure of the northern landfill in 1966, a clayey fill material was applied to 90 percent of the landfill. Soon thereafter, methane gas began migrating into nearby homes. In the early 1970s, vents were installed in the affected homes, a trench backfilled with crushed rock was installed on the northern edge of the landfill, and vent pipes were sunk into the landfill mass to alleviate the problem. The Town of North Hempstead agreed to monitor gas on a weekly basis, but methane gas continued to be a problem at the northern landfill throughout the 1970s. In 1980, air monitoring of several other contaminants revealed only the presence of methane in the ground. In 1982, five ground-water monitoring wells were installed downgradient of both landfills and sampling revealed elevated concentrations of ammonia, iron, dimethylnaphthalene, and several phthalates. For the purpose of HRS scoring, iron was used to confirm a release to ground water. The Nassau County Department of Health consultant, upon reviewing the analytical data, concluded that a plume of ground water contaminated by iron and lead has migrated at least 800 ft downgradient of the north landfill site. Currently, the Denton Avenue Landfill property is the site of the North Hempstead recreational facility. Neither methane gas nor ground water is currently sampled.

Ground Water Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max. Score	Ref. (Section)
1 Observed Release	0 45	1	45	45	3.1
If observed release is given a score of 45, proceed to line 4. If observed release is given a score of 0, proceed to line 2.					
2 Route Characteristics					3.2
Depth to Aquifer of Concern	0 1 2 3	2		6	
Net Precipitation	0 1 2 3	1		3	
Permeability of the Unsaturated Zone	0 1 2 3	1		3	
Physical State	0 1 2 3	1		3	
	Total Route Characteristics Score			15	
3 Containment	0 1 2 3	1		3	3.3
4 Waste Characteristics					3.4
Toxicity/Persistence	0 3 6 9 12 15 18	1	18	18	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	8	
	Total Waste Characteristics Score		19	26	
5 Targets					3.5
Ground Water Use	0 1 2 3	3	6	9	
Distance to Nearest Well/Population Served	0 4 6 8 10 / 12 16 18 20 / 24 30 32 35 40	1	35	40	
	Total Targets Score		41	49	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			35,055	57,330	
7 Divide line 6 by 57,330 and multiply by 100		S_{gw} = 61.15			

FIGURE 2
GROUND WATER ROUTE WORK SHEET

Surface Water Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max Score	Ref. (Section)
1 Observed Release	0 45	1	0	45	4.1
If observed release is given a value of 45, proceed to line 4. If observed release is given a value of 0, proceed to line 2					
2 Route Characteristics					4.2
Facility Slope and Intervening Terrain	0 1 2 3	1	0	3	
1-yr. 24-hr. Rainfall	0 1 2 3	1	2	3	
Distance to Nearest Surface Water	0 1 2 3	2	0	6	
Physical State	0 1 2 3	1	0	3	
	Total Route Characteristics Score		2	15	
3 Containment	0 1 2 3	1	0	3	4.3
4 Waste Characteristics					4.4
Toxicity/Persistence	0 3 6 9 12 15 18	1	0	18	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	0	8	
	Total Waste Characteristics Score		0	26	
5 Targets					4.5
Surface Water Use	0 1 2 3	3	6	9	
Distance to a Sensitive Environment	0 1 2 3	2	0	6	
Population Served/Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	1	0	40	
	Total Targets Score		6	55	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			0	64,350	
7 Divide line 6 by 64,350 and multiply by 100		S_{sw} =	0		

FIGURE 7
SURFACE WATER ROUTE WORK SHEET

Air Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max Score	Ref. Section
1 Observed Release	0 45	1	0	45	5.1
Date and Location:					
Sampling Protocol:					
If line 1 is 0, the S_a = 0. Enter on line 5. If line 1 is 45, then proceed to line 2.					
2 Waste Characteristics					5.2
Reactivity and Incompatibility	0 1 2 3	1		3	
Toxicity	0 1 2 3	3		9	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
	Total Waste Characteristics Score			20	
3 Targets					5.3
Population Within 4-Mile Radius	0 9 12 15 18 21 24 27 30	1		30	
Distance to Sensitive Environment	0 1 2 3	2		6	
Land Use	0 1 2 3	1		3	
	Total Targets Score			39	
4 Multiply 1 x 2 x 3				35,100	
5 Divide line 4 by 35,100 and multiply by 100		S_a = 0			

FIGURE 9
AIR ROUTE WORK SHEET

	S	S^2
Groundwater Route Score (S_{gw})	61.15	3,739.32
Surface Water Route Score (S_{sw})	0	0
Air Route Score (S_a)	0	0
$S_{gw}^2 + S_{sw}^2 + S_a^2$		3,739.32
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		61.15
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73 = S_M =$		35.35

FIGURE 10
WORKSHEET FOR COMPUTING S_M

Fire and Explosion Work Sheet						
Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max Score	Ref. (Section)
1 Containment	1 3	1		3	7.1
2 Waste Characteristics					7.2
Direct Evidence	0 3	1		3	
Ignitability	0 1 2 3	1		3	
Reactivity	0 1 2 3	1		3	
Incompatibility	0 1 2 3	1		3	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
Total Waste Characteristics Score				20	
3 Targets					7.3
Distance to Nearest Population	0 1 2 3 4 5	1		5	
Distance to Nearest Building	0 1 2 3	1		3	
Distance to Sensitive Environment	0 1 2 3	1		3	
Land Use	0 1 2 3	1		3	
Population Within 2-Mile Radius	0 1 2 3 4 5	1		5	
Buildings Within 2-Mile Radius	0 1 2 3 4 5	1		5	
Total Targets Score				24	
4 Multiply 1 x 2 x 3				1,440	
5 Divide line 4 by 1,440 and multiply by 100		S_{FE} = N/A			

FIGURE 11
FIRE AND EXPLOSION WORK SHEET

Direct Contact Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max Score	Ref. (Section)
1 Observed Incident	(0) 45	1	0	45	8.1
If line 1 is 45, proceed to line 4 If line 1 is 0, proceed to line 2					
2 Accessibility	0 1 2 (3)	1	3	3	8.2
3 Containment	(0) 15	1	0	15	8.3
4 Waste Characteristics Toxicity	(0) 1 2 3	5	0	15	8.4
5 Targets					8.5
Population Within a 1-Mile Radius	0 1 2 3 4 (5)	4	20	20	
Distance to a Critical Habitat	(0) 1 2 3	4	0	12	
Total Targets Score			20	32	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			0	21,600	
7 Divide line 6 by 21,600 and multiply by 100		S_{DC} =	0		

FIGURE 12
DIRECT CONTACT WORK SHEET

DOCUMENTATION RECORDS
FOR
HAZARD RANKING SYSTEM

INSTRUCTIONS: As briefly as possible, summarize the information you used to assign the score for each factor (e.g., "Waste quantity = 4,230 drums plus 800 cubic yards of sludges"). The source of information should be provided for each entry and should be a bibliographic-type reference. Include the location of the document.

FACILITY NAME: Denton Avenue Landfill

LOCATION: Town of North Hempstead, Nassau County

DATE SCORED: 17 February 1987

PERSON SCORING: EA Science and Technology

PRIMARY SOURCES(S) OF INFORMATION (e.g., EPA region, state, FIT, etc.)

Nassau County Department of Health
New York State Department of Environmental Conservation
EA Site Inspection, 20 January 1986

FACTORS NOT SCORED DUE TO INSUFFICIENT INFORMATION:

COMMENTS OR QUALIFICATIONS:

Hazardous waste disposal at the site has not been documented.

The Migration Score (S_M) is based on a significant increase in the concentration of iron in ground water downgradient of the site compared to ambient conditions established at a well located approximately 3,000 ft south-southeast of the site which was sampled approximately 3 months prior to the downgradient wells (Chapter 4.4).

No viable overland route for surface water exists.

GROUND WATER ROUTE

1 OBSERVED RELEASE

Contaminants detected (5 maximum):

Iron.

Reference: 1.

Assigned value = 45

Reference: 2.

Rationale for attributing the contaminants to the facility:

The concentration of iron (21-75 mg/liter) in the November 1982 ground water downgradient of the site (DA-series wells) is considerably higher (>10 times) than ambient conditions (<0.5 mg/liter) established at Well 8694, which is located approximately 3,000 ft south-southeast of the site. Although the upgradient well was sampled approximately 3 months prior to the DA-series wells, the data are considered adequate for a preliminary S_{GW} because the wells are completed at similar depths, and the calculated ground-water flow rate is only about 0.76 ft/day.

***

2 ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifer(s) of concern:

Depth(s) from the ground surface to the highest seasonal level of the saturated zone (water table[s]) of the aquifer of concern:

Depth from the ground surface to the lowest point of waste disposal/storage:

Depth to aquifer of concern:

Net Precipitation

Mean annual or seasonal precipitation (list months for seasonal):

Mean annual lake or seasonal evaporation (list months for seasonal):

Net precipitation (subtract the above figures):

Permeability of Unsaturated Zone

Soil type in unsaturated zone:

Permeability associated with soil type:

Physical State

Physical state of substances at time of disposal (or at present time for generated gases):

***

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Method with highest score:

***

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

Iron. Reference: 1.

Compound with highest score:

Iron = 18.

Reference: 2 and 25.

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum):

No analytical data identifying waste characteristics of material disposed of at the site (Chapter 3).

Basis of estimating and/or computing waste quantity:

Minimum quantity assumed.

Assigned value = 1.

Reference: 2.

***

5 TARGETS

Ground Water Use

Use(s) of aquifer(s) of concern within a 3-mile radius of the facility:

Drinking water with municipal water from alternate sources presently available.

References: 3-6.

Assigned value = 2.

Reference: 2.

Distance to Nearest Well

Location of nearest well drawing from aquifer of concern or occupied building not served by a public water supply:

Public supply well serving the Garden City Park Water District located along Denton Avenue, east of the site.

Reference: 3.

Distance to above well or building:

0.5 mi. Measured from the farthest border of the landfill.

Reference: 3.

Assigned value = 3.

Reference: 2.

Population Served by Ground Water Wells Within a 3-Mile Radius

Identified water-supply well(s) drawing from aquifer(s) of concern within a 3-mile radius and populations served by each:

Community Supplies	Population Served
Garden City Water District	23,000
Franklin Square Water District	21,000
Manhasset-Lakeville Water District	46,048
Jamaica Water District	129,000
Albertson Water District	13,000
Mineola Village Water District	21,000
Garden City Park Water District	22,600
Port Washington Water District	38,000
West Hempstead - Hempstead Garden Water District	28,000
Williston Park Village Water District	8,216
Plainview Water District	40,000
Total Population Served	389,864

References: 5-15.

Computation of land area irrigated by supply well(s) drawing from aquifer(s) of concern within a 3-mile radius, and conversion to population (1.5 people per acre):

No agricultural land is reported within a 3-mi radius of the site.

Reference: 16.

Total population served by ground water within a 3-mile radius:

389,864.

Assigned value = 5. Combined assigned value = 35.

Reference: 2.

SURFACE WATER ROUTE

1 OBSERVED RELEASE

Contaminants detected in surface water at the facility or downhill from it (5 maximum):

No data available (Chapter 3).

Assigned value = 0.

Reference: 2.

Rationale for attributing the contaminants to the facility:

***

2 ROUTE CHARACTERISTICS

Facility Slope and Intervening Terrain

Average slope of facility in percent:

Average slope = <3 percent. Estimated using Suunto clinometer.

Reference: 17.

Name/description of nearest downslope surface water:

Two ponds located in a golf course/country club facility.

Reference: 18.

Average slope of terrain between facility and above-cited surface water body in percent:

<3 percent (estimated from topographic maps). However, runoff from the site is expected to flow directly or via storm drains to the large recharge basin

that separates the northern and southern fill areas. In addition, other recharge basins are located in the vicinity of the site.

References: 18 and 19.

Is the facility located either totally or partially in surface water?

No.

Reference: 17.

Is the facility completely surrounded by areas of higher elevation?

No.

References: 17 and 18.

Assigned value = 0.

Reference: 2.

1-Year, 24-Hour Rainfall in Inches

2.5 in.

Assigned value = 2.

Reference: 20.

Distance to Nearest Downslope Surface Water

2 mi. However, surface runoff from the site is expected to enter the large recharge basin which separates the northern and southern fill areas either directly or via storm drains. In addition, other recharge basins are located in the vicinity of the site.

References: 18 and 19.

Assigned value = 0.

Reference: 2.

Physical State of Waste

Hazardous waste disposal has not been documented (Chapter 3).

Assigned value = 0.

Reference: 2.

***

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Landfill; intervening terrain precludes runoff to surface water.

Method with highest score:

The northern landfill is covered with a clayey material up to 4 ft in thickness in some areas. The southern landfill is covered, but the depth of cover is unknown. Surface water runoff from the site is expected to enter the large recharge basin, which separates the northern and southern fill areas, either directly or via storm drains. In addition, other recharge basins are located in the vicinity of the site.

References: 1, 17-19.

Assigned value = 0.

Reference: 2.

***

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated

Containment score is zero. Therefore, waste characteristics are not evaluated.

Assigned value = 0.

Reference: 2.

Compound with highest score:

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum):

Basis of estimating and/or computing waste quantity:

***

5 TARGETS

Surface Water Use

Use(s) of surface water within 3 miles downstream of the hazardous substance:

There are two ponds located in a golf course/country club facility located approximately 2 mi downslope of the facility. Use is assumed to be recreational.

Reference: 18.

Assigned value = 2.

Reference: 2.

Is there tidal influence?

No.

Reference: 18.

Distance to a Sensitive Environment

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

None.

Reference: 18.

Distance to 5-acre (minimum) freshwater wetland, if 1 mile or less:

None.

Reference: 18.

Distance to critical habitat of an endangered species or national wildlife refuge, if 1 mile or less:

None.

Reference: 21.

Assigned value = 0.

Reference: 2.

Population Served by Surface Water

Location(s) of water supply intake(s) within 3 miles (free-flowing bodies) or 1 mile (static waterbodies) downstream of the hazardous substance and population served by each intake:

None.

Reference: 22.

Computation of land area irrigated by above-cited intake(s) and conversion to population (1.5 people per acre).

None. There is no reported agricultural land within 3 mi of the landfill.

Reference: 16.

Total population served:

Zero.

References: 16 and 22.

Assigned value = 0.

Reference: 2.

Name/description of nearest of above waterbodies:

Distance to above-cited intakes, measured in stream miles.

AIR ROUTE

EA has researched all agency files and has found no data indicating a release to air (Chapter 3).

Assigned value = 0.

Reference: 2.

1 OBSERVED RELEASE

Contaminants detected:

Date and location of detection of contaminants

Methods used to detect the contaminants:

Rationale for attributing the contaminants to the site:

***

2 WASTE CHARACTERISTICS

<u>Reactivity and Incompatibility</u>

Most reactive compound:

Most incompatible pair of compounds:

Toxicity

Most toxic compound:

Hazardous Waste Quantity

Total quantity of hazardous waste:

Basis of estimating and/or computing waste quantity:

***

3 TARGETS

Population Within 4-Mile Radius

Circle radius used, give population, and indicate how determined:

0 to 4 mi 0 to 1 mi 0 to 1/2 mi 0 to 1/4 mi

Distance to a Sensitive Environment

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

Distance to 5-acre (minimum) freshwater wetland, if 1 mile or less:

Distance to critical habitat of an endangered species, if 1 mile or less:

Land Use

Distance to commercial/industrial area, if 1 mile or less:

Distance to national or state park, forest, or wildlife reserve if 2 miles or less:

Distance to residential area, if 2 miles or less:

Distance to agricultural land in production within past 5 years, if 1 mile or less:

Distance to prime agricultural land in production within past 5 years, if 2 miles or less:

Is a historic or landmark site (National Register or Historic Places and National Natural Landmarks) within the view of the site?

FIRE AND EXPLOSION

The local fire marshal has not certified that the site presents a signficant fire or explosion threat.

Reference: 23.

1 CONTAINMENT

Hazardous substances present:

Type of containment, if applicable:

***

2 WASTE CHARACTERISTICS

Direct Evidence

Type of instrument and measurements:

Ignitability

Compound used:

Reactivity

Most reactive compound:

Incompatibility

Most incompatible pair of compounds:

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility:

Basis of estimating and/or computing waste quantity:

***

3 TARGETS

Distance to Nearest Population

Distance to Nearest Building

Distance to Sensitive Environment

Distance to wetlands:

Distance to critical habitat:

Land Use

Distance to commercial/industrial area, if 1 mile or less:

Distance to national or state park, forest, or wildlife reserve, if 2 miles or less:

Distance to residential area, if 2 miles or less:

Distance to agricultural land in production within past 5 years, if 1 mile or less:

Distance to prime agricultural land in production within past 5 years, if 2 miles or less:

Is a historic or landmark site (National Register or Historic Places and National Natural Landmarks) within the view of the site?

Population Within 2-Mile Radius

Buildings Within 2-Mile Radius

DIRECT CONTACT

1 OBSERVED INCIDENT

Date, location, and pertinent details of incident:

None reported (Chapter 3).

***

2 ACCESSIBILITY

Describe type of barrier(s):

Vehicular and pedestrial access is completely unrestricted.

Reference: 17.

Assigned value = 0.

Reference: 2.

***

3 CONTAINMENT

Type of containment, if applicable:

The landfill is covered.

Reference: 17.

Assigned value = 0.

Reference: 2.

***

4 WASTE CHARACTERISTICS

Toxicity

Compounds evaluated:

Hazardous waste disposal has not been documented (Chapter 3).

Assigned value = 0.

Reference: 2.

Compound with highest score:

***

5 TARGETS

Population Within 1-Mile Radius

22,199. Estimated 50 percent of the population of North New Hyde Park (14,596), 95 percent of Garden City Park (7,752), 20 percent of Herricks (7,811), 5 percent of Mineola (20,200), 5 percent of Garden City (22,895), and 40 percent of New Hyde Park (9,551).

Reference: 24.

Assigned value = 5.

Reference: 2.

Distance to Critical Habitat (of Endangered Species)

None within 1 mi.

Reference: 21.

Assigned value = 0.

Reference: 2.

6. ASSESSMENT OF DATA ADEQUACY AND RECOMMENDATIONS

6.1 ADEQUACY OF EXISTING DATA

The data are adequate to confirm a release of iron from the Denton Avenue Landfill to the ground water, and to prepare an HRS score for the site. The HRS scores are as follows: Migration Score (S_M) = 35.55; and the Direct Contact Score (S_{DC}) = 0.

The Migration Score (S_M) is based on a significant increase in the concentration of iron in the November 1982 ground water downgradient (21-75 mg/liter) of the site (DA-series wells) compared to ambient (<0.5 mg/liter) conditions established at Well 8694, which is located approximately 3,000 ft south-southeast of the site and was sampled approximately 3 months prior to the DA-series wells. Quality data from other upgradient/ambient wells were also considered (Section 4.4). Although, the upgradient and downgradient samples were not collected on the same date, the data are considered adequate for a Ground-water Score (S_{GW}), because the wells are completed at similar depths, and the calculated ground-water flow rate is only about 0.76 ft/day. No volatile organic, PCB, or pesticide compounds were detected in the November 1982 ground-water samples collected downgradient of the site. However, trace amounts of some phthalates, haloethers, and dimethylnaphthalene were detected in the downgradient samples. The upgradient ambient sample was not analyzed for organic compounds.

For the purpose of HRS scoring, a "significant" increase in the detected concentration of a contaminant (as related to this site) is defined as follows:

1. For a single analytical parameter not detected upgradient of the site, but detected downgradient of a site, a "significant" downgradient increase would be at least 3 times above the detection limit of the upgradient sample, and/or

2. For a single analytical parameter detected both upgradient and downgradient of the site, a "significant" downgradient increase would be at least 10 times above the concentrations detected upgradient.

Although there are no data available regarding the quality of surface water, there is no apparent viable route between the site and the nearest surface waterbody within 3 mi of the site.

6.2 RECOMMENDATIONS

Because a release of iron to ground water has been confirmed, the next step would be to evaluate the full character and the horizontal and vertical extent of the contamination. This is beyond the scope of a Phase II study; and therefore, performance of a Phase II study is not recommended for this site. However, it would be appropriate to install a well east of the site to a depth of about 100 ft below grade, and then to collect and analyse another complete

suite of samples (DA-series and the new well) for analysis of the Hazardous Substance List of organic compounds and inorganic parameters to provide guidance for future studies.

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United States
Environmental Protection
Agency

Office of Emergency and
Remedial Response
Washington DC 20460

EPA Form 2070-12
July 1981

Denton Avenue Landfill

EPA

Potential Hazardous Waste Site

Preliminary Assessment

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE: NY | 02 SITE NUMBER: NYD981186919

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site): Denton Avenue Landfill

02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER: Denton and Hillside Avenues

03 CITY: New Hyde Park | 04 STATE: NY | 05 ZIP CODE: 11040 | 06 COUNTY: Nassau | 07 COUNTY CODE | 08 CONG DIST

09 COORDINATES LATITUDE: 40° 44' 57." LONGITUDE: 73° 40' 32."

10 DIRECTIONS TO SITE (Starting from nearest public road):

Site is located on the west side of Denton Avenue just below the intersection of Denton Avenue and Hillside Avenue.

III. RESPONSIBLE PARTIES

01 OWNER (If known): Town of North Hempstead

02 STREET (Business, mailing, residence): 220 Plandome Road

03 CITY: Manhasset | 04 STATE: NY | 05 ZIP CODE: 11030 | 06 TELEPHONE NUMBER: (516) 621-0906

07 OPERATOR (If known and different from owner): Same as above

08 STREET (Business, mailing, residence):

09 CITY: | 10 STATE: | 11 ZIP CODE: | 12 TELEPHONE NUMBER: ( )

13 TYPE OF OWNERSHIP (Check one)

☐ A. PRIVATE ☐ B. FEDERAL: _____ (Agency name) ☐ C. STATE ☐ D. COUNTY ☒ E. MUNICIPAL

☐ F. OTHER: _____ (Specify) ☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)

☐ A. RCRA 3001 DATE RECEIVED: ___/___/___ (MONTH DAY YEAR) ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: ___/___/___ (MONTH DAY YEAR) ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION

☒ YES DATE 1 / 20 / 86 (MONTH DAY YEAR)

☐ NO

BY (Check all that apply)

☐ A. EPA ☐ B. EPA CONTRACTOR ☐ C. STATE ☒ D. OTHER CONTRACTOR

☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: _____ (Specify)

CONTRACTOR NAME(S): EA Science and Technology

02 SITE STATUS (Check one)

☐ A. ACTIVE ☒ B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION

1953 (BEGINNING YEAR) | 1966 (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

Mixed municipal refuse.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

None known.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)

☐ A. HIGH (Inspection required promptly) ☐ B. MEDIUM (Inspection required) ☐ C. LOW (Inspect on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NUMBER
Rebecca Ligotino	EA Science and Technology	(914) 692-6706

04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
Stephen Barry		EA	(914) 692-6706	3 / 24 / 86 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	NYD981186919

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- [X] A SOLID
- [ ] B POWDER, FINES
- [ ] C SLUDGE
- [ ] D OTHER _____ (Specify)
- [ ] E SLURRY
- [ ] F LIQUID
- [ ] G GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS unknown

CUBIC YARDS _____

NO. OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply) Unknown

- [ ] A TOXIC
- [ ] B CORROSIVE
- [ ] C. RADIOACTIVE
- [ ] D PERSISTENT
- [ ] E SOLUBLE
- [ ] F INFECTIOUS
- [ ] G FLAMMABLE
- [ ] H IGNITABLE
- [ ] I HIGHLY VOLATILE
- [ ] J EXPLOSIVE
- [ ] K REACTIVE
- [ ] L. INCOMPATIBLE
- [ ] M NOT APPLICABLE

III. WASTE TYPE Unknown

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers) Unknown

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION

V. FEEDSTOCKS (See Appendix for CAS Numbers) Not applicable

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EA site inspection and interview, 20 January 1986.
Nassau County Department of Health files.
New York State Department of Environmental Conservation - Bureau of Hazardous Site Control - files.

United States
Environmental Protection
Agency

Office of Emergency and
Remedial Response
Washington, DC 20460

EPA Form 2070-13
July, 1981

Denton Avenue Landfill

EPA

Potential Hazardous Waste Site

Site Inspection Report

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION
01 STATE: NY
02 SITE NUMBER: NYD981186919

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER				
Denton Avenue Landfill	Denton and Hillside Avenues				
03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
New Hyde Park	NY	11040	Nassau		

09 COORDINATES: LATITUDE 40° 44' 57" LONGITUDE 73° 40' 32"

10 TYPE OF OWNERSHIP (Check one): ☐ A. PRIVATE ☐ B. FEDERAL ☐ C. STATE ☐ D. COUNTY ☒ E. MUNICIPAL ☐ F. OTHER ☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION: 01/20/86 (MONTH DAY YEAR)

02 SITE STATUS: ☐ ACTIVE ☒ INACTIVE

03 YEARS OF OPERATION: 1953 (BEGINNING YEAR) / 1966 (ENDING YEAR) ___ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply): ☐ A. EPA ☐ B. EPA CONTRACTOR ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR ☐ E. STATE ☒ F. STATE CONTRACTOR EA Science and Tech ☐ G. OTHER

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
James A. Shultz	Senior Geologist	EA	(914) 692-6706

09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
Rebecca Ligotino	Environmental Scientist	EA	(914) 692-6706
			( )
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO.
Robert Dolan	Town Attorney	Town of North Hempstead	(516) 627-0590
		220 Plandome Road Manhasset, New York 11030	( )
Clyde Perro	Comm. Solid Waste		(516) 621-0906
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
☒ PERMISSION ☐ WARRANT	1400 hrs	overcast 30s; rainy and snowflakes

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Rebecca Ligotino	EA Science and Technology	(914) 692-6706

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
Rebecca Ligotino		EA	(914) 692-6706	02/18/87 (MONTH DAY YEAR)

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	NYD981186919

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- ☒ A. SOLID
- ☐ B. POWDER, FINES
- ☐ C. SLUDGE
- ☐ D. OTHER _____ (Specify)
- ☐ E. SLURRY
- ☐ F. LIQUID
- ☐ G. GAS

02 WASTE QUANTITY AT SITE unknow

(Measures of waste quantities must be independent)

TONS _____

CUBIC YARDS _____

NO. OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)

- ☐ A. TOXIC
- ☐ B. CORROSIVE
- ☐ C. RADIOACTIVE
- ☐ D. PERSISTENT
- ☐ E. SOLUBLE
- ☐ F. INFECTIOUS
- ☐ G. FLAMMABLE
- ☐ H. IGNITABLE
- ☐ I. HIGHLY VOLATILE
- ☐ J. EXPLOSIVE
- ☐ K. REACTIVE
- ☐ L. INCOMPATIBLE
- ☒ M. NOT APPLICABLE

III. WASTE TYPE Mixed municipal refuse

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION

V. FEEDSTOCKS (See Appendix for CAS Numbers) N/A

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Appendixes 1.1-1 and 1.1-2.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	NYD981186919

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: 389,864
02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Within 3-mi of the site, the aquifer of concern has been developed by seven Manhasset-Lakeville Water District wells, two Port Washington Water District wells, five Albertson Water District wells, three Williston Park Water District wells, four Garden City Park Water District wells, four Mineola Village Water District wells, five Garden *

01 ☐ B. SURFACE WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

No viable overland route to surface water.

01 ☐ C. CONTAMINATION OF AIR
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None reported.

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None reported.

01 ☐ E. DIRECT CONTACT
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None reported.

01 ☐ F. CONTAMINATION OF SOIL
03 AREA POTENTIALLY AFFECTED: _____ (Acres)
02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None reported.

01 ☒ G. DRINKING WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: 389,864
02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Limited to the population served by ground/water from the aquifer of concern within a 3 mi radius of the site.

01 ☐ H. WORKER EXPOSURE/INJURY
03 WORKERS POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None reported.

01 ☐ I. POPULATION EXPOSURE/INJURY
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None reported.

*City Water District wells, ten Jamaica Water Disŧirct wells, one Plainview Water District well, two Franklin Square Water District wells, and one West Hempstead-Hempstead Gardens Water District well.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	NYD981186919

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None known.

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include common name(s) of species)

None known.

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None known.

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES (Spills/Runoff/Standing liquids, Leaking drums) — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

None known.

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None known.

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None known.

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None known.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED: 389,864

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EA Site Inspection.
Appendixes 1.1-1, 1.1-2, and 1.2-2.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	NYD981186919

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
☐ A. NPDES				
☐ B. UIC				
☐ C. AIR				
☐ D. RCRA				
☐ E. RCRA INTERIM STATUS				
☐ F. SPCC PLAN				
☐ G. STATE (Specify)				
☐ H. LOCAL (Specify)				
☐ I. OTHER (Specify)				
☐ J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
☐ A. SURFACE IMPOUNDMENT		
☐ B. PILES		
☐ C. DRUMS, ABOVE GROUND		
☐ D. TANK, ABOVE GROUND		
☐ E. TANK, BELOW GROUND		
☒ F. LANDFILL	unknown	
☐ G. LANDFARM		
☐ H. OPEN DUMP		
☐ I. OTHER (Specify)		

04 TREATMENT (Check all that apply)

- ☒ A. INCINERATION
- ☐ B. UNDERGROUND INJECTION
- ☐ C. CHEMICAL/PHYSICAL
- ☐ D. BIOLOGICAL
- ☐ E. WASTE OIL PROCESSING
- ☐ F. SOLVENT RECOVERY
- ☐ G. OTHER RECYCLING/RECOVERY
- ☐ H. OTHER (Specify)

05 OTHER

- ☒ A. BUILDINGS ON SITE

06 AREA OF SITE

approx. 54 (Acres)

07 COMMENTS

Site is an inactive municipal waste facility that operated from 1953 to 1966. It consists of two landfilled areas constructed in pits that were excavated to 45 ft below grade. Each has been covered, one is currently a recreational facility.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

☐ A. ADEQUATE, SECURE ☐ B. MODERATE ☒ C. INADEQUATE, POOR ☐ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKES, LINERS, BARRIERS, ETC.

The landfill is unlined. A recharge basin between the two landfills precludes surface runoff.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE ☐ YES ☒ NO

02 COMMENTS

The landfills have been covered.

VI. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

EA Site Inspection.
Appendix 1.1-1.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	NYD981186919

II. SAMPLES TAKEN None

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER			
SURFACE WATER			
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL			
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
Slope	Estimated with Suunto clinometer.

IV. PHOTOGRAPHS AND MAPS

01 TYPE ☒ GROUND ☒ AERIAL

02 IN CUSTODY OF EA Science and Technology (Name of organization or individual)

03 MAPS ☒ YES ☐ NO

04 LOCATION OF MAPS EA Science and Technology

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

Photographs

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EA Site Inspection, 20 January 1987.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	NYD981186919

II. CURRENT OWNER(S)			PARENT COMPANY (If applicable)		
01 NAME: Town of North Hempstead	02 D+B NUMBER		09 NAME	09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.): 220 Plandome Road	04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE	
05 CITY: Manhasset	06 STATE: NY	07 ZIP CODE: 11030	12 CITY	13 STATE	14 ZIP CODE
01 NAME	02 D+B NUMBER		09 NAME	09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE
01 NAME	02 D+B NUMBER		09 NAME	09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE
01 NAME	02 D+B NUMBER		09 NAME	09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE

III. PREVIOUS OWNER(S) (List most recent first)			IV. REALTY OWNER(S) (If applicable, list most recent first)		
01 NAME	02 D+B NUMBER		01 NAME	02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE
01 NAME	02 D+B NUMBER		01 NAME	02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE
01 NAME	02 D+B NUMBER		01 NAME	02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EA Site Inspection.
Appendix 1.1-2.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	NYD981186919

II. CURRENT OPERATOR				OPERATOR'S PARENT COMPANY			
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		14 CITY	15 STATE	16 ZIP CODE	
08 YEARS OF OPERATION	09 NAME OF OWNER						

III. PREVIOUS OPERATOR(S)				PREVIOUS OPERATORS' PARENT COMPANIES			
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		14 CITY	15 STATE	16 ZIP CODE	
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD						
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		14 CITY	15 STATE	16 ZIP CODE	
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD						
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		14 CITY	15 STATE	16 ZIP CODE	
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD						

IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EA Site Inspection.
Appendix 1.1-2.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	NYD981186919

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EA Site Inspection.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	NYD981186919

II. PAST RESPONSE ACTIVITIES None

01 ☐ A. WATER SUPPLY CLOSED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 ☐ C. PERMANENT WATER SUPPLY PROVIDED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 ☐ D. SPILLED MATERIAL REMOVED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 ☐ E. CONTAMINATED SOIL REMOVED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 ☐ F. WASTE REPACKAGED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 ☐ G. WASTE DISPOSED ELSEWHERE 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 ☐ H. ON SITE BURIAL 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 ☐ I. IN SITU CHEMICAL TREATMENT 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 ☐ J. IN SITU BIOLOGICAL TREATMENT 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 ☐ K. IN SITU PHYSICAL TREATMENT 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 ☐ L. ENCAPSULATION 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 ☐ M. EMERGENCY WASTE TREATMENT 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 ☐ N. CUTOFF WALLS 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 ☐ P. CUTOFF TRENCHES/SUMP 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 ☐ Q. SUBSURFACE CUTOFF WALL 04 DESCRIPTION	02 DATE _____	03 AGENCY _____

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION
01 STATE: NY
02 SITE NUMBER: NYD981186919

II. PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R. BARRIER WALLS CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ S. CAPPING/COVERING — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ T. BULK TANKAGE REPAIRED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ U. GROUT CURTAIN CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ V. BOTTOM SEALED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☒ W. GAS CONTROL — 02 DATE early 1970s — 03 AGENCY _____
04 DESCRIPTION
Vents and trench installed at landfill to alleviate methane gas migration.

01 ☐ X. FIRE CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ Y. LEACHATE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ Z. AREA EVACUATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ 1. ACCESS TO SITE RESTRICTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ 2. POPULATION RELOCATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ 3. OTHER REMEDIAL ACTIVITIES — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Chapter 3.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION	
01 STATE NY	02 SITE NUMBER NYD981156919

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☐ YES ☒ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, records)

Chapter 3.

EPA FORM 2070-13 (7-81)

Appendix 1.1-1

ERM-Northeast

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Received from:
Nassau Co. Dept. of Health

INVESTIGATION OF LANDFILL IMPACT ON GROUNDWATER QUALITY

SYOSSET AND NEW HYDE PARK LANDFILLS

Submitted To:

Nassau County Department of Health
Mineola, New York

Prepared By:

ERM-Northeast, Inc.
88 Sunnyside Blvd.
Plainview, New York

January 7, 1983

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A special acknowledgement is made to Kevin Phillips, P.E., Ph.D. and the staff of Fanning and Phillips for their contribution to this report.

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SECTION 1.0

INTRODUCTION

1.1 Objectives

ERM-Northeast was retained in October, 1981, by the Nassau County Department of Health to conduct groundwater investigations at two closed municipal landfills in Nassau County. This project was funded by a grant from the New York State Department of Health.

The two sites selected by NCDH to be investigated were the Syosset landfill in the Town of Oyster Bay and the Denton Avenue landfill in New Hyde Park, Town of North Hempstead. Both sites were owned and operated by their respective Towns during the 1950's and 1960's, and subsequently closed. The general purpose of this project was to determine the existence, magnitude and quality of leachate plumes being generated at both sites.

To develop the site-specific objectives for each drilling and sampling program, all available water quality and hydrogeologic data were reviewed. Thick unsaturated zones at each site (100 feet at Syosset, 70 feet at Denton Avenue) and the amount of project resources available for well drilling were important considerations that also determined the scope of the field programs. The objectives for each site are described below:

Syosset Landfill

- Define the local configuration of the water table, the location of the regional groundwater divide with respect to the landfill and the direction and rate of groundwater flow. This was a primary objective at Syosset because the direction of groundwater flow was not precisely known prior to start of drilling.

- Establish groundwater quality beneath the site and determine if leachate is being generated. A previously published report from the 208 Study found minimal leachate impacts.

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- Provide permanent monitoring wells that can be used to evaluate long-term groundwater quality trends.

- Determine if industrial waste that was reportedly accepted at Syosset is currently impacting groundwater quality.

- Evaluate the potential for leachate impacts on public water supply wells.

Based on reports indicating that the Syosset landfill was extensively used as an industrial waste disposal site, it was mutually agreed upon by NCDH and ERM-Northeast to commit a larger share of the drilling budget to this site.

Denton Avenue Landfill

- Define the local groundwater gradient in more detail, including water table modifications associated with the large recharge basin, that separates the north and south sections.

- Assess groundwater quality on the downgradient boundary of each landfill site and determine if leachate is currently impacting the upper glacial aquifer.

- Install permanent observation wells that can be used to monitor changes in groundwater quality over time.

- Evaluate the potential for leachate impacts on public water supply wells.

1.2 Report Organization

The Syosset and Denton Avenue landfills are discussed independently. The following organizational format is used for each:

Background - The location and current conditions of each site is described. The operational history and type of wastes disposed of are reviewed. Previous field work, if conducted, is summarized.

Installation of Monitoring Wells - The installation of the monitoring wells is described, the procedures followed in performing the field work are detailed, and the geologic and hydrogeologic setting of each site is discussed.

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Sampling Procedures and Analytical Results - The collection of groundwater samples is discussed and the analytical results presented.

Discussion of Results - The laboratory analyses are discussed and interpreted in conjunction with collected hydrogeologic data.

Conclusions and Recommendations - The major conclusions are summarized and recommendations concerning remedial measures and additional field work are presented.

- NYDOH
Bur. Toxic Sub.

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SECTION 7.0

BACKGROUND

7.1 Site Description

The Denton Avenue landfill consists of two separate 27 acre rectangular plots on the west side of Denton Avenue in New Hyde Park. The landfill plots are bounded on the north by Hillside Avenue, Evergreen Avenue on the south and Leonard Avenue on the west. The two landfill plots are separated by a large recharge basin. The southern section is now the site of a North Hempstead recreational facility. The northern plot is an undeveloped field.

7.2 History of Site

The southern landfill parcel was originally a sandpit owned by the Flatlands Sand and Gravel Company. In 1953, landfill operations were initiated at the site, which was completely excavated at least 45 feet below grade (personal communication, William Cook, 1982). The excavation apparently extended below the water table in some areas because eyewitness reports describe ponded water at the bottom of the sand pit. The entire floor of the site was reportedly covered with refuse before intermediate cover was added and a new lift started. A total of five lifts were required to bring the excavated site to grade. The southern parcel was completed in 1963.

The northern plot is approximately the same size, 27 acres, and was also used for sand and gravel mining. Ponded water on the floor of the pit has been reported indicating that the excavation at least reached the water table. Apparently, some sections of the landfill were started below the water table. This site became operational in 1963. By 1966, it had been filled to capacity and was closed. Following closure, Town personnel report clayey fill material was used to cover approximately 90% of the site. In some areas, the fill was reported to be four feet thick.

Historical information describing the type and quanity of refuse accepted at Denton Avenue is not available. Nassau County Department of Health and Town of North Hempstead officials were unable to identify any reports that quantify waste disposal at the landfill. William Cook, Superintendent of the Town's Sanitation Department, qualitatively described the

material accepted at both sites as municipal refuse. The only industrial waste accepted by the Town consisted of wood and cardboard. No drums or bulk waste was reported at either site.

To estimate the quantity of leachate generated during the active life of the Denton Avenue landfill sites and following site closure, the same methodology as previously described for the Syosset landfill was used. The assumptions for each site are listed below:

South Site

- Average annual precipitation equals 43.7 inches
- Runoff during operation was assumed to be zero. After closure, annual runoff was calculated to be about 11 inches. This assumes surficial material at the site is Soil Conservation Service hydrologic soil group A (high infiltration capacity). For three winter months the soil is assumed to be group D (low infiltration capacity) because of frozen conditions. Also, 77% of the site was classified as lawn and 23% as impervious surface.
- Irrigation of grass was added to monthly summer rainfall totals (June and September, 1.49 inches; July and August, 1.53 inches)
- Evapotranspiration was calculated to be 27 inches per year after closure and 3 inches per year during site operations.
- Soil moisture retention depth was estimated to be 2 inches.

North Site

- Runoff during operations was assumed to be zero. After closure runoff was estimated to be about 15.5 inches. This was based on soils at the site classed as hydrologic soil group C (shallow and clayey soils) reflecting the partial capping that has taken place. During three winter months, the soils are assigned to group D.
- Evapotranspiration was calculated to be about 24.5 inches after closure and 7 to 8 inches during operation.
- Soil moisture retention depth is 10.0 inches because of higher clay content.

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Using these values, a recharge rate of 41 inches per year was calculated for both sites during operation. Assuming both sites are about 27 acres, the annual volume of leachate generated at each is approximately 30,087,000 gallons (82,400 gpd).

Monthly recharge calculations for the post-closure period (detailed in Appendix C) show annual recharge rates of about 11 inches at the south site and 7 inches at the north site. The volume of leachate generated at the south site was calculated to be about 8,064,000 gallons per year (22,100 gpd) following site closure. At the north site, approximately 5,132,000 gallons of leachate are generated per year (14,060 gpd).

7.3 Previous Investigations

No studies have been conducted that assess groundwater quality in the vicinity of the Denton Avenue landfill. A line of steel methane vents have been installed along the western boundary of the northern parcel; however, these perforated pipes were placed in the refuse and do not extend to the water table.

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SECTION 8.0

INSTALLATION OF MONITORING WELLS

8.1 Methodology

Five monitoring wells were installed at the Denton Avenue landfill on November 11 and 12, 1982. Both the north and south landfill sites had two wells installed on their western boundaries and one well DA-3, was located about 800 feet west of the north site, on the property of the William Bowie School. Groundwater flow in the vicinity of the Denton Avenue landfill is clearly from east to west, thus the wells could be concentrated on the downgradient side of each site.

The same procedure that was used to install wells at Syosset was employed at Denton Avenue. Hollow stem augers were used to drill the bore hole and deposits were characterized by well cuttings brought up by the auger flytes. A limited attempt was made to evaluate vertical water quality concentrations by screening one well at each site at 95 feet and the other screen somewhat deeper (125 feet at the north site; 115 feet at the south site). The off-site well was screened at 100 feet. Construction details for each well are presented in the well logs in Appendix A.

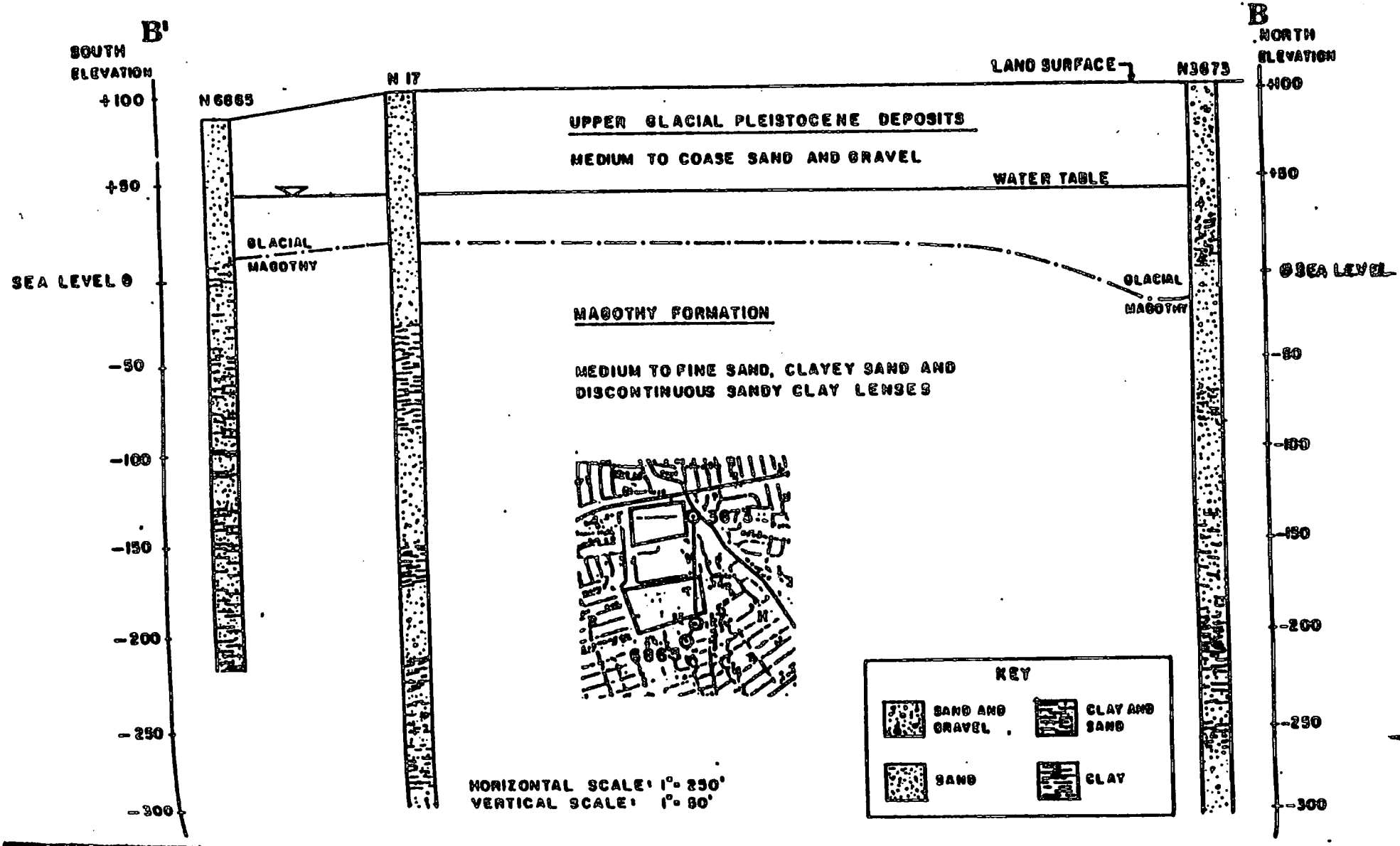
The wells were all developed by air lift pumping for two hours and the specific conductance monitored.

8.2 Geologic Setting

Subsurface deposits beneath the landfill sites are shown in Figure 8-1. The geologic cross-section was prepared using drillers logs from public supply wells located immediately west and south of the landfill. Additional stratigraphic information was also collected during the drilling program.

Glacial outwash deposits that consist of stratified medium to coarse sand and gravel are about 110 feet thick in the vicinity of the landfill. Wells DA-2, DA-3, and DA-4 are completely installed in coarse glacial material. Five to ten feet of fine to medium clayey micaceous sand, characteristic of the Magothy, were encountered in wells DA-1 and DA-5. Kilburn (Long Island Water Resources Bulletin 12, 1979) has shown the contact between the glacial outwash deposits and the glacial moraine to be about 1,500 feet north of the north landfill site.

FIGURE 8-1 GEOLOGIC SECTION DENTON AVENUE LANDFILL



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The Magothy Formation is shown by Kilburn (1979) to be about 325 feet thick beneath the site extending from about -25 to -350 feet below sea level. Well logs show thick units of sandy clay near the top of the Magothy Formation. This was not confirmed during drilling because of limited penetration. Fine grained deposits at the top of the Magothy would tend to reduce hydraulic communication between the Magothy and upper glacial aquifers.

8.3 Hydrogeology

To prepare contour maps of the water table in the vicinity of the Denton Avenue landfill, a synoptic set of water levels were collected from the five landfill monitoring wells and from five nearby observation wells on December 7, 1982. The water level measurements are summarized in Table 8-1.

The configuration of the water table beneath the Denton Avenue landfill sites is shown in Figure 8-2, and the regional water table gradient is shown in Figure 8-3. Water levels collected from well DA-1 were not used to prepare these maps because of inconsistent erratic measurements. Repeated measurements at DA-1 showed the water level to be 1.0 to 1.5 feet too low when compared to DA-2 and DA-3, and the regional gradient established using all nine water levels. This may reflect surveyor error or problems associated with the packing of material around the screen.

Figure 8-2 and 8-3 show that groundwater flow is to the west and west-southwest. The gradient beneath the landfill is approximately 5.28 feet per mile (.001 ft./ft.). Using the McClymonds and Franke (USGS Professional Paper 627-E, 1972), regional estimates of hydraulic conductivity in the glacial aquifer of 2,000 gallons per day per square foot and an estimated porosity of 0.35, the average groundwater velocity in the upper glacial aquifer is calculated to be 0.76 ft./day.

The modification of the regional water table gradient by the large recharge basin that separates the two landfill sites is apparently minimal. Standing water was continually observed in the basin during the 18-month course of this project and the existence of a groundwater mound beneath the basin was anticipated. Water levels in wells DA-2 and DA-4 would have been preferentially higher if mounding occurred. Comparison of these water levels to regional water table trends show no artificial increase. This indicates that infiltration through the floor of the basin is low and that mounding is not currently occurring.

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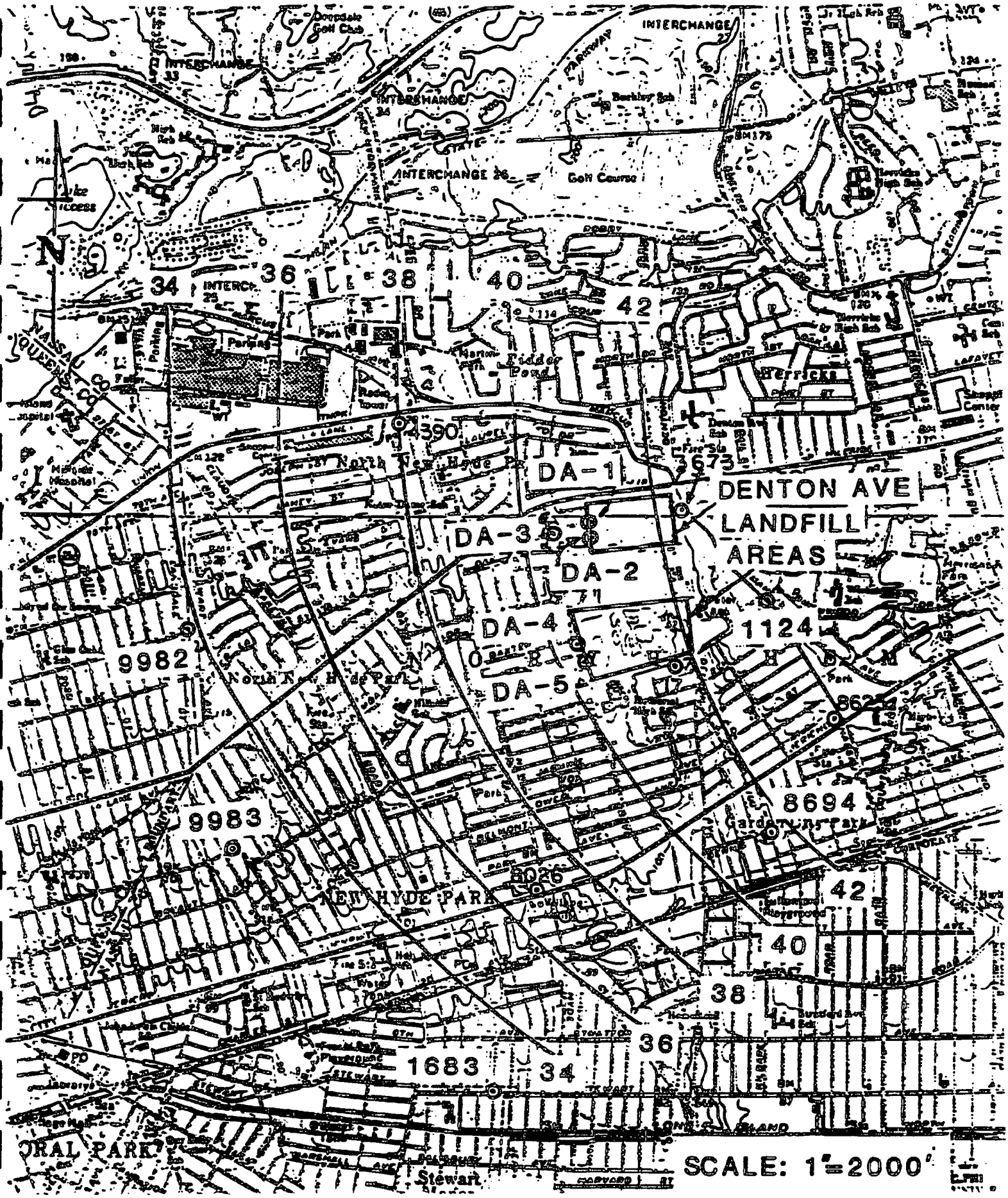
Table 8-1

WATER LEVEL MEASUREMENTS

DENTON AVENUE LANDFILL

WELL NUMBER	CASING ELEVATION	November 22, 1982 DEPTH TO WATER	November 22, 1982 WATER TABLE ELEVATION	December 7, 1982 DEPTH TO WATER	December 7, 1982 WATER TABLE ELEVATION
DA-1	108.62	68.25	40.37	69.43	39.19
DA-2	109.92	68.62	41.30	68.82	41.10
DA-3	121.50	81.10	40.40	81.04	40.46
DA-4	108-97	68.00	40.97	68.23	40.74
DA-5	109.67	69.03	40.64	69.23	40.44
1124	109.84			66.66	43.18
1683	82.77			50.69	32.08
8694	96.13			54.24	41.89
9982	120.07			86.32	33.75
9983	107.39			75.46	31.93

GURE 8-3 REGIONAL WATER TABLE MAP-DENTON AVE LANDFIL



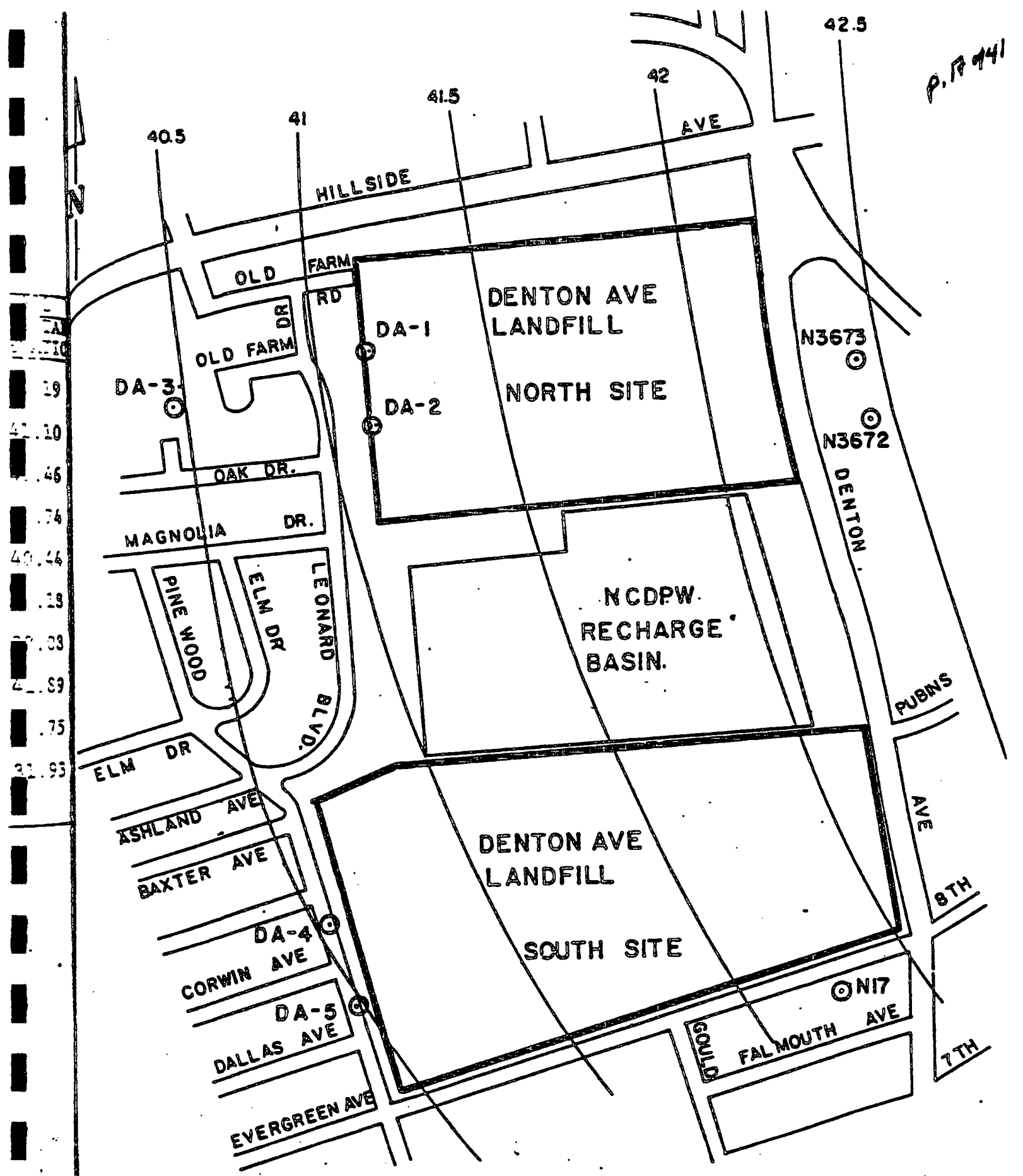


FIGURE 8-2 LOCAL WATER TABLE CONTOURS

DENTON AVE LANDFILL

Examination of Nassau County groundwater contour maps prepared by the U.S. Geological Survey (Swarzenski, 1963; Kimmel, 1970; Koszalka, 1974) shows the Denton Avenue landfill is located on or just north of the regional groundwater divide. The area adjacent to the divide is generally characterized by vertical flow and recharge to the Magothy aquifer. The wells installed at the Denton Avenue site were not designed to evaluate the Magothy flow system so published data must be relied upon. Maps prepared by Swarzenski (1963) showing the piezometric surface in the Magothy aquifer indicate that lateral flow is in the same direction as the upper glacial aquifer. Heads in the Magothy are several feet lower than in the upper glacial confirming the existence of vertical flow. As previously described at the Syosset landfill, the comparatively low hydraulic conductivity and anistropy of the Magothy aquifer will result in greatly reduced lateral and vertical groundwater flow rates. Based on Swarzenski's maps, the gradient in the Magothy can be assumed to be roughly equal to the upper glacial gradient - .001 ft./ft. Assuming hydraulic conductivity is 400 gpd/sq. ft. (McClymonds and Franke, 1972) and porosity is .30, the average rate of groundwater flow is .18 ft./day. The rate of average vertical flow is estimated to be at least one order of magnitude lower depending on the thickness of local clay units.

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SECTION 9.0

SAMPLING PROCEDURES AND ANALYTICAL RESULTS

9.1 Sampling Program

The same procedure used to sample the Syosset wells was used to sample the Denton Avenue wells. Prior to sampling, each well was sounded and at least one casing volume was removed using a stainless steel bailer. Each well was again assigned a unique bailer to prevent cross-contamination of samples. Samples were collected by Nassau County Department of Health personnel on November 22, 1982, with a second set collected on December 3, 1982. They were analyzed for EPA priority pollutants, an expanded list of heavy metals and general water quality parameters by the NCDH laboratory.

9.2 Analytical Results

The analytical results from both sets of samples are presented in Tables 9-1, 9-2, and 9-3. Acid extractables, base neutrals, pesticides, vinyl chloride, and PCB's were not completed in time to be included in this report.*

* The analytical results for the acid extractables, base neutrals, pesticides, vinyl chloride, and PCB's are provided in Appendix 1.1-11.

Table 9-1 ANALYTICAL RESULTS - INORGANIC CONSTITUENTS

TABLE 9-1

ANALYTICAL RESULTS - INORGANIC CONSTITUENTS

DENTON AVENUE LANDFILL

PARAMETER	WELL NUMBER 01 11/82	01 12/82	02 11/82	02 12/82	03 11/82	03 12/82	04 11/82	04 12/82	05 11/82	05 12/82
Spec. Cond. (umhos)	446	448	243	269	252	258	293	330	258	274
pH	7.2	7.1	6.6	6.9	6.5	6.8	6.4	6.9	6.6	6.8
Total Solids	309	*	152	*	154	*	196	*	184	*
Total Hardness (mg/l) ($CaCO_3$)	206	*	104	*	87	*	129	*	119	*
Calcium Hardness (mg/l) ($CaCO_3$)	62	*	40	*	36	*	38	*	40	*
Total Akalinity (mg/l) ($CaCO_3$)	108	112	22	36	29	31	54	72	65	71
COD	*	*	*	*	*	*	*	*	*	*
Free CO_2	13	*	11	*	110	*	62	*	32	*
MBAS	<.02	<.02	<.02	<.02	.25	<.02	<.02	<.02	<.02	<.02
Ammonia (mg/l) N	11.00	1.00	.17	.33	.05	.08	.16	.2	1.3	.78
Nitrite (mg/l) N	.011	.007	.006	.004	.02	.01	.02	.01	.01	.011
Nitrate (mg/l) N	<.01	.35	<.01	.11	1.13	1.32	.11	.15	.06	.21
SiO_2	3.6	4.3	5.1	5.0	4.8	4.0	6.1	6.0	6.9	6.8
Fluoride	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
Chloride	55.0	57.1	43.0	44.8	43.4	44.9	47.0	45.8	29	27.6
SO_4	18	<2	18	20	13	12	6	6.0	28	12
Na	42	44	21	23	28	30	38	40	20	22
K	16	13	2.5	3.3	3.8	5.5	3.7	5.5	4.9	6.3
Ca	25	19.7	16.1	17.5	14.4	14.5	15.3	16.2	19.3	22.1
Mg	8.4	7.7	3.7	3.7	3.2	2.8	4.2	3.6	4.3	4.4
Mn	1.25	0.97	1.34	1.93	.21	.17	1.21	1.25	1.02	1.10
Fe	61.0	73.0	27.0	40.0	21.0	24.0	41.0	53.0	29.0	36.0

Note: All values in mg/l unless otherwise noted.

* - Not reported.

0.21441

Table 9-2

ANALYTICAL RESULTS - HEAVY METALS

DENTON AVENUE LANDFILL

(All results in mg/l)

PARAMETER	WELL NUMBER #1 11/82	#1 12/82	#2 11/82	#2 12/82	#3 11/82	#3 12/82	#4 11/82	#4 12/82	#5 11/82	#5 12/82
Silver (Ag)	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05
Arsenic (As)	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005
Barium (Ba)	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5
Beryllium (Be)	<.005	*	<.005	*	<.005	*	<.005	*	<.005	*
Cadmium (Cd)	.002	.009	.003	.017	.006	.014	.003	.008	.002	<.001
Total Chromium (Cr)	.01	.05	.03	.05	.03	.02	.09	.03	.02	.05
Copper (Cu)	<.05	.09	.06	.10	.07	.07	.08	.10	.07	.07
Mercury (Hg)	<.0005	*	<.0005	*	<.0005	*	<.0005	*	<.0005	*
Nickel (Ni)	<.05	*	<.05	*	<.05	*	<.05	*	<.05	*
Lead (Pb)	.05	.27	.62	.30	.17	.01	.34	.13	.14	<.01
Selenium (Se)	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005
Antimony (Sb)	<.01	*	<.01	*	<.01	*	<.01	*	<.01	*
Thallium (Tl)	<.01	*	<.01	*	<.01	*	<.01	*	<.01	*
Zinc (Zn)	.41	*	.53	*	.30	*	.15	*	.10	*

* - Not Reported.

ANALYTICAL RESULTS - HALOGENATED AND NON-HALOGENATED ORGANICS

DENTON AVENUE LANDFILL

(All results in ug/l)

PARAMETER	DETECTION LIMIT	WELL NUMBER 01		02		03		04		05	
		11/82	12/82	11/82	12/82	11/82	12/82	11/82	12/82	11/82	12/82
Volatile Halogenated											
Methylene Chloride	5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Trichlorofluoromethane	1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1 Dichloroethylene	1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1 Dichloroethane	4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,2 Dichloroethylene	1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chloroform	1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1,2 Trichlorotrifluoroethane	1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,2 Dichloroethane	4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Carbon Tetrachloride	1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,2 Dichloropropane	2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Bromodichloromethane	1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Trichloroethylene	1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1,1 Trichloromethane	1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Bromoform	1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Tetrachloroethylene	1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Volatile Non-Halogenated											
Benzene	4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Toluene	4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chlorobenzene	5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Ethylbenzene	3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Xylene	4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Dichlorobenzene	10	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

BDL - Below Detectable Limits.

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SECTION 10.0

DISCUSSION OF RESULTS

The monitoring well results do not show the dramatic water quality impacts normally associated with a plume of landfill leachate. To assess the low to moderately elevated anion and cation concentrations, the landfill monitoring wells must be compared to background water quality in the vicinity of Denton Avenue. Table 10-1 presents analytical results from five wells outside the influence of the landfill (Well N8694 is 3,000 feet south of the landfill; N8623 is 3,000 feet southeast of the site; N8026 is south-southwest; N4390 is 3,500 feet northwest and N3673 is 300 feet east; well locations are shown in Figure 8-3). The parameter concentrations in the five background wells show relatively little variation and provide a consistent basis for evaluating the monitoring well results.

The results from DA-1 clearly show some leachate impacts. The concentrations of ammonia, 11.0 mg/l and iron, 61 mg/l are very high and these constituents are traditionally good leachate indicators. Other anion and cation concentrations, however, are only moderately elevated. The conductivity, 466 umhos, is higher than the average background level, about 300 umhos, but much lower than the 2000 umhos found in the downgradient wells at the Syosset landfill. Similarly, the total alkalinity, total hardness, chloride and sodium concentrations are higher than background levels but they are not sharply elevated as might have been expected.

Interpreting the results from the other four landfill wells is more difficult. The conductivity in the landfill wells is equal to or even lower than background. Total hardness and total alkalinity concentrations are marginally greater in the landfill wells than the background wells. There is no significant difference between the sodium and chloride concentrations and the background sulfate and nitrate levels are higher than in the landfill wells. The only parameters that differ markedly from background levels are iron and manganese. The iron concentrations, which range from 21 mg/l to 75 mg/l and the manganese concentrations of 0.17 mg/l to 1.93 mg/l are commensurate with highly concentrated landfill leachate. Background iron concentrations in the area range from less than 0.5 mg/l to 2.9 mg/l.

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Table 10-1

BACKGROUND WATER QUALITY

DENTON AVENUE LANDFILL

PARAMETER	WELL NUMBER				
	8026	8694	8623	4390	36
Well Depth	-6	+16	+14	-141	-28
Screened Aquifer	Glacial	Glacial	Glacial	Upp.Mag.	Upp.
Total Alkalinity	26	7	11	35	16
Hardness	74	73	71	94	74
Spec. Conductance	317	338	248	250	290
pH	6.2	6.0	6.2	6.4	6.1
Ammonia	.45	.07	<.01	<.01	<.01
Nitrate	5.47	4.6	6.65	4.6	10.5
Chlorides	27.8	41.4	12	28	19.4
Sulphate	40	85	31	32	46
Sodium	17	31.0	<3	14.0	14
Iron	2.9	<.5	.19	<.5	.26
Date of Analysis	6/81	8/82	1/81	1/80	5/79

Based on the fact that leachate of low to moderate strength is being generated, at least at the north landfill site as shown by results from DA-1, it is tentatively concluded that the high iron concentrations in all the wells are attributable to leachate impacts. The low concentrations of other leachate indicators may indicate that the majority of the refuse decomposition and leaching occurred in the past and the contaminated groundwater has already migrated off-site. Partial capping of the north site with clayey material may also be reducing the quantity of leachate generated. Persistent high iron concentrations may reflect iron-rich refuse that was deposited at both sites.

Another indication that the five monitoring wells are screened in leachate enriched groundwater is the uniform presence of cadmium, chromium, lead and zinc in all samples. Although only lead was found in significant concentrations (equaling or exceeding the drinking water standards in all but two samples), even the low level identification of these metals is important. These parameters have not been detected in any of the observation wells in the vicinity of the landfill which indicates there are no other sources in the area that can account for the positive levels in the landfill wells.

None of the volatile organics tested for were identified in the landfill well samples. Halogenated organics are widely distributed in the upper glacial and Magothy aquifers in the New Hyde Park area and were responsible for the closing of supply wells N3672 and N3673 immediately upgradient from the north site. The absence of organics in the landfill samples and the low inorganic concentrations in the supply well analyses tend to show that the landfill was not responsible for the well closures. Jamaica Water Co. supply well N17, located immediately south of the south site, has also never been affected by leachate from the nearby south landfill site.

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SECTION 11.0

CONCLUSIONS AND RECOMMENDATIONS

11.1 Conclusions

Based on information collected during the groundwater investigation at the Denton Avenue landfill, the following conclusions can be made:

1. Lateral groundwater flow in the upper glacial aquifer beneath the site is to the west and southwest. The average flow rate is 0.76 ft./day.

2. The landfill sites are located on or just north of the regional groundwater divide.

3. Leachate, characteristic of municipal refuse decomposition, is being generated at both landfill sites. The major components of the leachate-impacted groundwater are iron (concentration range - 21.0 mg/l to 75.0 mg/l), manganese (concentration range - 0.17 mg/l to 1.93 mg/l), and ammonia (concentration range - 0.05 mg/l to 11.0 mg/l. Lead, for which the drinking water standard is 0.05 mg/l, was found to range from less than 0.01 mg/l to 0.62 mg/l. Chromium, cadmium and zinc were detected below drinking water standards.

4. Volatile organic compounds were not detected in the monitoring well samples.

5. A plume of groundwater contaminated primarily by iron and lead has migrated at least 800 feet downgradient of the north landfill site based on water quality results in the off-site monitoring well.

6. Active and closed public water supply wells near the landfill have not been affected by leachate. Because both the landfill and the supply wells have been in existence for 15 or 20 years, new leachate impacts on public water supplies are not likely to develop in the future.

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11.2 Recommendations

1. The wells installed during this study should be sampled regularly for at least a year to evaluate average annual and maximum plume concentrations. The review of data collected over the course of a year will permit a comprehensive assessment of leachate strength.

2. Because the landfill is located close to the groundwater divide where vertical components of flow are important, the head relationship between the upper glaical and Magothy aquifers should be quantified. This would require the installation of two or three additional wells at each landfill site. Water samples obtained from these wells would also establish vertical concentration gradients.

3. Major remedial measures do not seem to be warranted at either site because of the low strength of the leachate being produced, the absence of public water supply impacts and the partial capping that has already taken place. Minor remedial actions that would further reduce leachate generation are desirable.

   At the north site, the extent of the clayey fill should be determined by conducting a series of shallow soil borings. The permeability of this material should be measured. Fill with a low permeability should be added to those portions of the site not covered by the original clayey fill. Finally, the entire site should be regraded to facilitate positive drainage toward the periphery and eliminate the small depressions that currently collect and store runoff.

   At the south site, regrading or additional paving would decrease infiltration and leachate production, although modification to the ball fields and other outdoor recreation areas is not considered necessary.

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APPENDIX C

WATER BALANCE CALCULATIONS

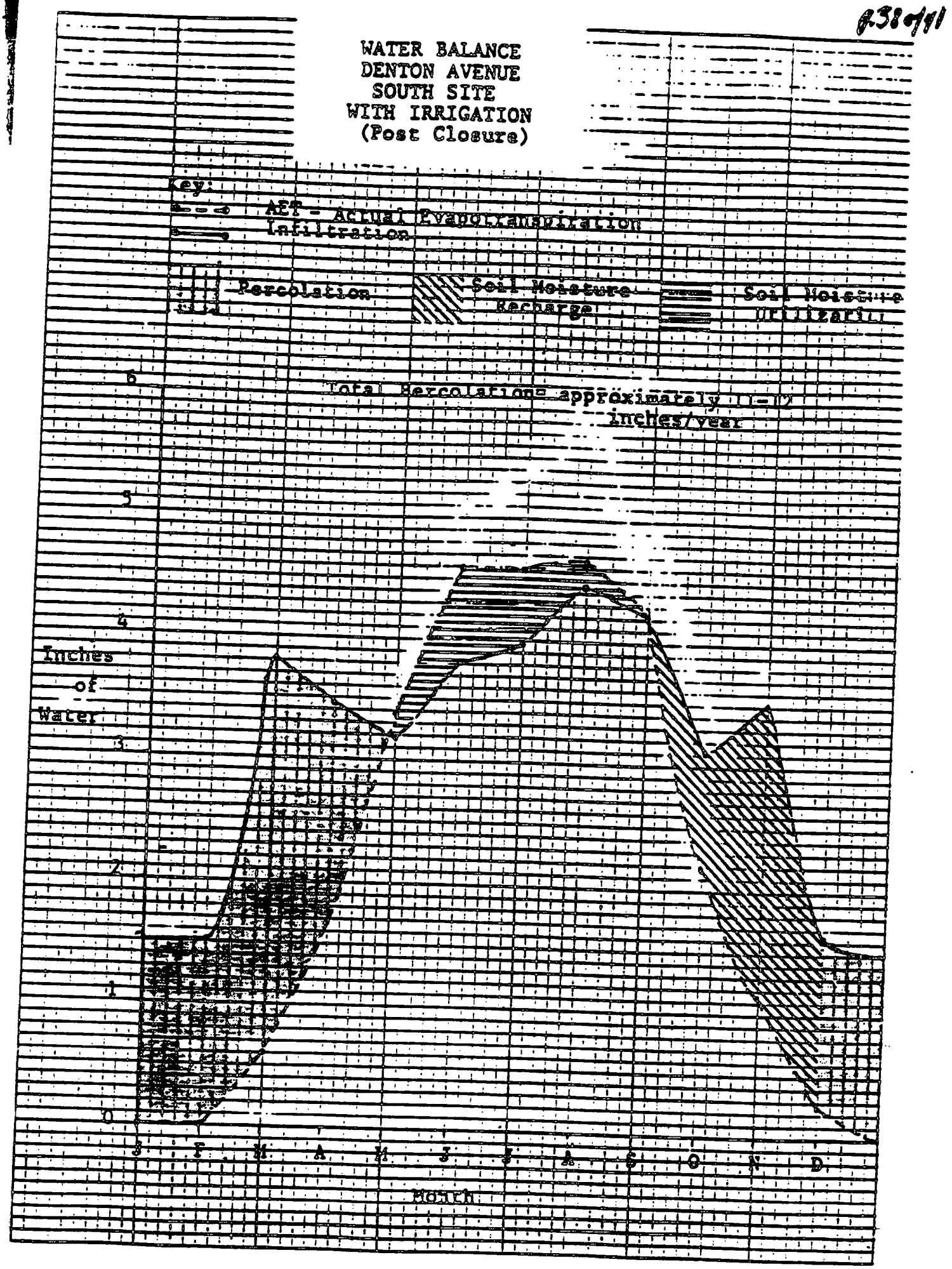
DENTON AVENUE LANDFILL

WATER BALANCE
DENTON AVENUE
SOUTH SITE
(Post Closure)

Months of the year

Table 1A	J	F	M	A	M	J	J	A	S	O	N	D	ANNUAL
PET (justed)	0	0	0.62	1.67	3.36	4.84	5.63	5.72	4.25	2.18	1.15	0.25	29.67
P (2)	3.31	3.37	4.44	4.01	3.46	4.42	4.70	5.59	5.12	3.38	3.97	3.92	49.69
R/O (3)	1.78	1.83	0.61	0.45	0.27	0.60	0.72	1.14	0.91	0.24	0.43	2.30	11.28
I (P-R/O)	1.53	1.54	3.83	3.56	3.19	3.82	3.98	4.45	4.21	3.14	3.54	1.62	38.41
PET	1.53	1.54	3.21	1.89	-0.17	-1.02	-1.65	-1.27	-0.04	0.96	2.39	1.37	-
Neg. PET					-0.17	-1.19	-2.84	-4.11	-4.15				-
ST	2	2	2	2	1.83	1.05	0.44	0.23	0.22	1.18	2	2	16.95
ST	0	0	0	0	-0.17	-0.78	-0.61	-0.21	-0.01	+0.96	+0.82	0	0
ET	0	0	0.62	1.67	3.36	4.60	4.59	4.66	4.22	2.18	1.15	0.25	27.05
erc (4)	1.53	1.54	3.21	1.89	0	0	0	0	0	0	1.57	1.37	11.11

(1) See Table 1A for explanation
(2) Sum of P and irrigation for months of June, July, August and September
(3) Runoff calculated by Soil Conservation Service Method
(4) Perc= (P-R/O) - ΔST - AET


WATER BALANCE
DENTON AVENUE
SOUTH SITE
WITH IRRIGATION
(Post Closure)
Key:
AET - Actual Evapotranspiration
Infiltration
Percolation
Soil Moisture Recharge
Soil Moisture Utilization
Total Percolation= approximately 11-12 inches/year
Inches of Water
0
1
2
3
4
5
6
J F M A M J J A S O N D
Month

WATER BALANCE
DENTON AVENUE
NORTH SITE
(Post Closure)

Months of the year

	J	F	M	A	M	J	J	A	S	O	N	D	ANNUAL
PET (justed)	0	0	0.62	1.67	3.36	4.84	5.63	5.72	4.25	2.18	1.15	0.25	29.67
	3.31	3.37	4.44	4.01	3.46	2.93	3.17	4.06	3.63	3.38	3.97	3.92	43.65
/O (1)	1.30	1.30	1.70	1.40	1.50	0.72	0.85	1.40	1.10	0.98	1.40	1.70	15.35
I -R/O)	2.01	2.07	2.74	2.61	1.96	2.21	2.32	2.66	2.53	2.40	2.57	2.22	28.30
ET	2.01	2.07	2.12	0.94	-1.40	-2.63	-3.31	-3.06	-1.72	0.22	1.42	1.97	-
g. T					-1.40	-4.03	-7.34	-10.40	-12.12				-
	10	10	10	10	8.72	6.72	4.81	3.55	2.99	3.21	4.63	6.60	81.23
	0	0	0	0	-1.28	-2.00	-1.91	-1.26	-0.56	+0.22	+1.42	+1.97	-3.40
	0	0	0.62	1.67	3.24	4.21	4.23	3.92	3.09	2.18	1.15	0.25	24.56
(2) c	2.01	2.07	2.12	0.94	0	0	0	0	0	0	0	0	7.14

(1) Runoff calculated by Soil Conservation Service Method
(2) Perc= (P-R/O) - ΔST - AET

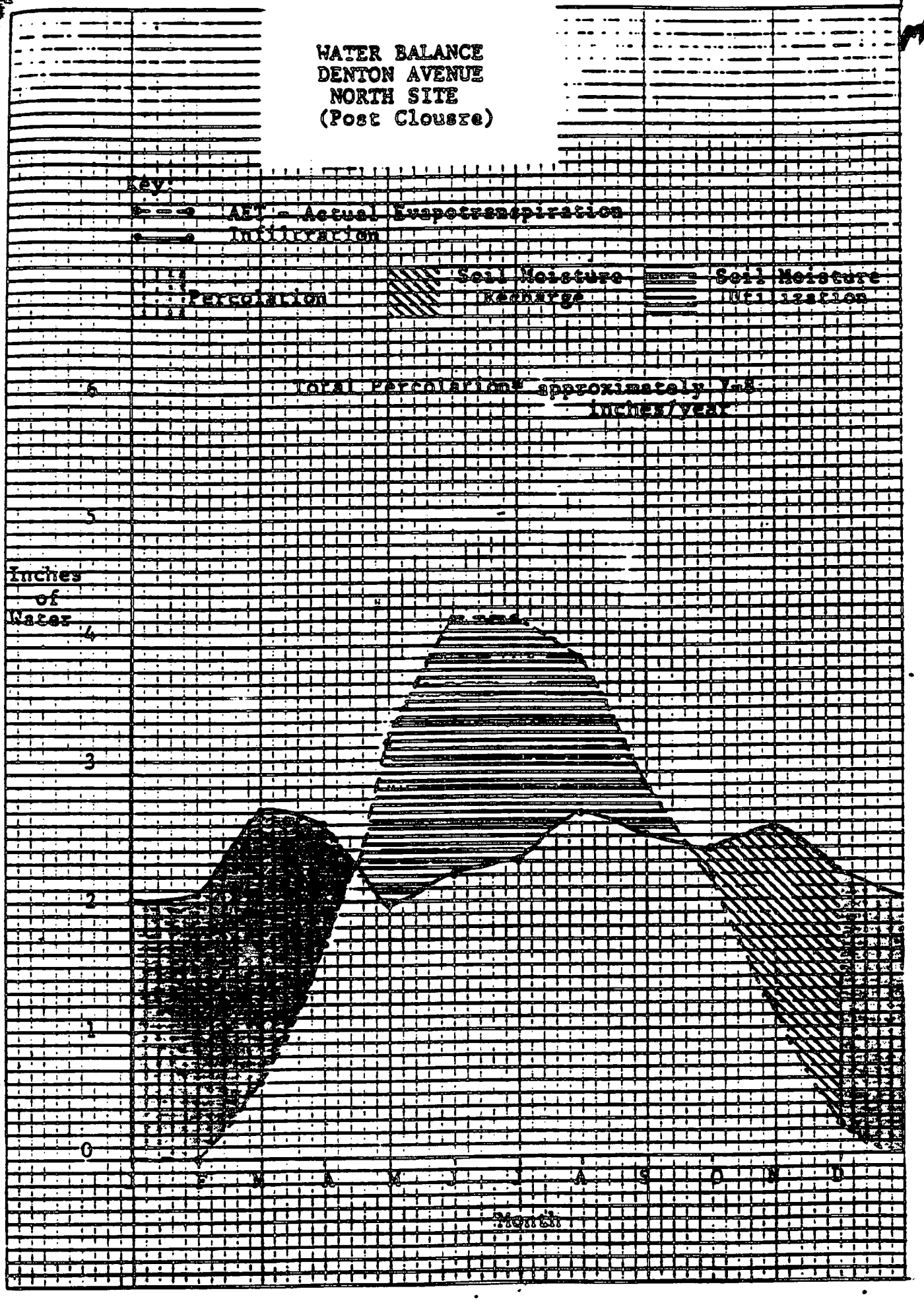

WATER BALANCE
DENTON AVENUE
NORTH SITE
(Post Closure)
Key:
AET - Actual Evapotranspiration
Infiltration
Percolation
Soil Moisture Recharge
Soil Moisture Utilization
Total Percolation* approximately 1.8 inches/year
Inches of Water
6
5
4
3
2
1
0
J F M A M J J A S O N D
Month

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Table 1A
Explanation of abbreviations used
in water balance

PET -- Potential Evapotranspiration
P -- Precipitation
R/O -- Runoff
I -- Infiltration = Precipitation - Runoff
ST -- Soil Moisture Storage
AET -- Actual Evapotranspiration
Perc -- Percolation (leachate)

APPENDIX A

WELL LOGS

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Environmental Resources Management

Drilling Log

Project NYSDOH Landfill Inv. Owner NCDH

Location Denton Ave. L.F. North Site W.O. Number

Well Number DA-1 Total Depth 120 ft. Diameter 8 in.

Surface Elevation 108.62 Water Level: Initial DTW 70.10' 24-hrs. 39.19

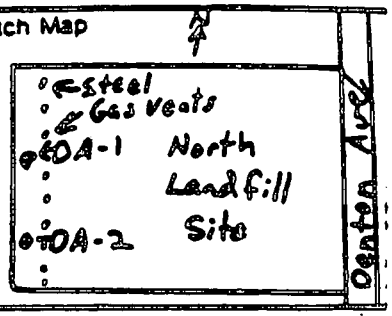
Screen: Dia. 2 in. Length 10 ft. Slot Size .02

Casing: Dia. 2 in. Length 110 ft. Type steel

Drilling Company Layne-NY Drilling Method holl. stem auger

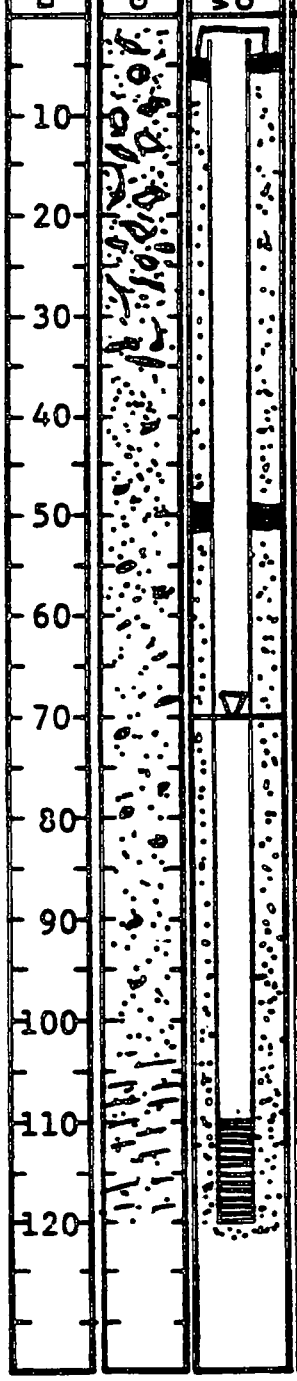
Driller Log By Date Drilled

Sketch Map



Notes Bentonite seal (20 lbs.) at about 50'

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
				Dark grayish brown medium to fine sand with soft, mixed household refuse.
10				
20				Discolored black coarse to fine sand with refuse, strong odor, constant to 35'.
30				
40				Discolored brownish gray medium to fine sand with some gravel - odorous and warm.
50				
60				Same as above.
70				Discolored, odorous, brownish-gray medium to coarse sand with gravel and some small cobbles.
80				
90				
100				* Materials change indicated by driller.
110				Light brownish gray fine sand with medium sand and mica interstitial silt and clay - odor less than above.
120				



Environmental Resources Management

Drilling Log

Project NYSDOH Landfill Inv. Owner NCDH

Location Denton Ave. L.F. W.O. Number

Well Number DA-2 Total Depth 95 ft. Diameter 8 in.

Surface Elevation 109.92 Water Level: Initial DTW 70.2' 24-hrs 41.10

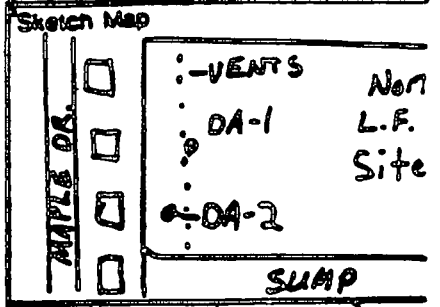
Screen: Dia. 2 in. Length 10 ft. Slot Size .02

Casing: Dia. 2 in. Length 85 ft. Type steel

Drilling Company Layne-NY Drilling Method holl.stem auger

Driller Bill Sanford Log By C. Werle Date Drilled 11/11/82

Sketch Map



Notes Bentonite seal (20 lbs) at about 40'

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
0–40				Dark grayish black fine to coarse sand and gravel with refuse, to 40 ft.
40–70				Same as above.
40–50				Discolored brownish gray medium to coarse sand and gravel, some fine sand, strong odor.
70–90				Brownish gray medium to coarse sand and gravel, strong odor.
90–100				Grayish black medium to fine sand with some coarse sand.

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Environmental Resources Management

Drilling Log

Project: NYSDOH Landfill Inv. Owner: NCDH

Location: Wm. Bowie School W.O. Number:

Well Number: DA-3 Total Depth: 100 ft. Diameter: 8 in.

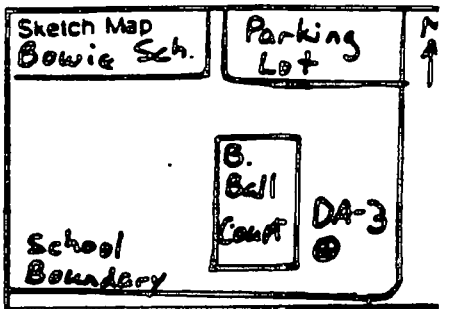
Surface Elevation: 121.50 Water Level: Initial DTW 81.39 24-hrs. 40.46

Screen: Dia. 2 in. Length 10 ft. Slot Size .02

Casing: Dia. 1 in. Length 90 ft. Type steel

Drilling Company: Layne-NY Drilling Method: holl.stem auger

Driller: Bill Sanford Log By: C. Werle Date Drilled: 11/11/82



Notes: Bentonite seal (20 lbs.) at about 45'

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
10				Orange brown fine to medium sand with coarse sand and gravel.
20				Tan brown medium to coarse sand and gravel, some fine sand.
30				
40				Same as above.
50				
60				Same as above.
70				
80				
90				
100				Same as above.

Environmental Resources Management

Drilling Log

Project NYSDOH Landfill Inv. Owner NCDH

Location Denton Ave. L.F. South Site W.O. Number

Well Number DA-4 Total Depth 95 ft. Diameter 8 in.

Surface Elevation 108.97 Water Level: Initial DTW 68.26' 24-hrs 40.74

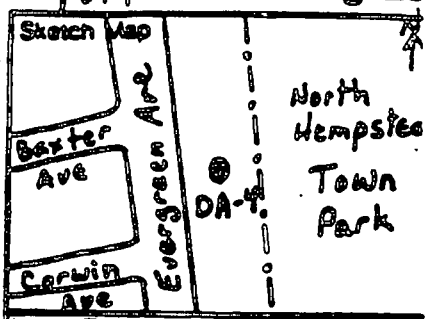
Screen: Dia. 2 in. Length 10 ft. Slot Size .02

Casing: Dia. 2 in. Length 85 ft. Type steel

Drilling Company Layne-NY Drilling Method holl.stem auger

Driller Bill Sanford Log By C. Werle Date Drilled 11/12/82

Sketch Map



Notes Bentonite seal (20 lbs.) at about 50'

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
10				Tan brown medium to coarse quartz sand and gravel, some fine sand, subangular to subround.
20				
30				Same as above.
40				
50				
60				
70				Same as above.
80				
90				
100				Same as above.

A35 #41

Environmental Resources Management

Drilling Lo

Project NYSDOH Landfill Inv. Owner NCDH

Location Denton Ave. L.F. South Site W.O. Number

Well Number DA-5 Total Depth 114 ft. Diameter 8 in.

Surface Elevation 109.67 Water Level: Initial DTW 69.67 24-hrs 40.44

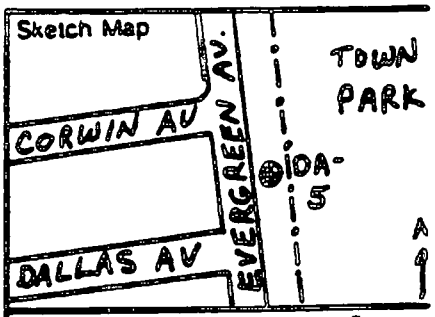
Screen: Dia. 2 in. Length 10 ft. Slot Size .02

Casing: Dia. 2 in. Length 104 ft. Type steel

Drilling Company Layne-NY Drilling Method holl.stem auger

Driller Bill Sanford Log By C. Werle Date Drilled 11/12/82

Sketch Map



Notes Bentonite seal (20 lbs.) at about 4

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
10				Tan-brown medium to coarse quartz sand with fine to coarse gravel, some fine sand, sub-angular to subround.
20				
30				Same as above.
40				
50				
60				Same as above.
70				
80				
90				Driller indicates materials change yellow-tan fine to medium sand with mica and interstitial clay.
100				
110				One foot seam of light tan-brown silty micaceous clay - cohesive, plastic, dense, laminated.
120				

RECEIVED APR 23 1986

INTERVIEW ACKNOWLEDGEMENT FORM

Site Name: Denton Avenue Landfill

I.D. Number: 130008

Person Contacted: Mr. Clyde Perro

Date: 20 January 1986

Title: Commissioner of Solid Waste

Affiliation: Town of North Hempstead

Phone No.: (516) 621-0906

Address: 220 Plandome Road
Manhasset, New York 11030

Persons Making Contact:
EA Representatives:

Shultz/Ligotino

Type of Contact: In person

Interview Summary:

Messrs. Dolan and Perro showed us aerial photographs of the Denton Avenue Landfill site and described the various aspects of the site to give us an understanding of the physical layout of the facility, as well as the changes which have taken place there over the years. An area along Evergreen Street is where the original Denton Avenue Landfill was located. It is now ballfields, a physical activity center, and a stadium. Development of the athletic facility began in 1978. The only problems encountered at this original landfill site have been related to land settling. The former locations of an original incinerator, a second incinerator, and an addition to that were established. Considerable changes have taken place on the property. A public works office and highway garage are standing where the incinerators were.

A county recharge basin was pointed out, and on the other side of this, the location of the second landfill was established. The second landfill occupied an area of about 27 acres--an old mining area-- (based on a survey that was conducted in 1962 when the land was purchased). In the late 1960s or early 1970s, fill from excavation activity at extensions to the Northern State Parkway was used to cap this area. When the "cap" was applied, landfill gases emigrated into nearby houses, so vents had to be installed. There have not been any problems with gas since then. A police boy's club and senior citizens facility, and an organic garden have been built on this parcel. Also on this parcel is an old driving range, and an area formerly used by area residents for organic gardens.

It is estimated that the Denton Avenue Landfill took in 350-400 tons of garbage per day. The incinerators at the site were to have burned most of that, but were closed down in 1977 when EPA changed tha air standards for the area. Actually, the incinerator burned a large portion of the raw garbage while they were in operation, and it is unknown how much raw garbage may have gone into the landfill.

An ERM report (by a Mr. John DePhillipi) indicates that the southern landfill parcel operated from about 1953 to 1963, and that the northern landfill parcel operated from 1963 until it reached capacity and closed in 1966. A Fred C. Hart site inspection form (dated 1980) indicates the period of site operations to be 1951-1974. Mr. Dolan indicated that the northern landfill

parcel was purchased in 1962. Mr. Perro indicated that the timeframes presented in each report were probably not contradictory--that the site (probably) stopped taking raw garbage in 1966, and that the area was (probably) capped in 1974. Mr. Perro indicated that the Town of North Hempstead purchased the southern parcel in (about) 1950 and started operations in 1951. The incinerator had been privately-owned prior to this. There is no way of knowing what garbage went to the property before it became property of the Town. Former owners of portions of the southern area include Flatland Sand and Gravel, and Colonial Sand and Stone Company (there were small sand pits and mining operations at the site as early as 1942-43.) The former owner (reported) of the northern area was Eugene L. De Pasquate. Mr. Pasquate had obtained the property from Colonial Sand and Stone Company. The reported date of final closure (1974) coincides with the startup of a landfill in Port Washington. After 1974, incinerator residue was only stored overnight at the Denton Avenue landfill, then transported to the Port Washington landfill.

There have been monitoring wells installed at the Denton Avenue landfill site; however, Messrs. Dolan and Perro were not sure if the town is currently monitoring them. Past sampling results would have been submitted to the DOH. Information would be available from the Department of Public Works. There are no residential wells nearby--all supply is by private water districts. The Jamaica Water Supply, and the Garden City Park Water District both have wells nearby. A Mr. Robert Banks, Commissioner of Garden City Park Water District could elaborate. He can be reached through the Manahasset Highway Department.

The facility was backfilled to grade with garbage--there was no mounding. The depth of cover (fill) on the old landfill is unknown. The new landfill has approximately 3-4 feet of cover. Scraps of metal and wood have been found during excavation for the swimming pool. Ash was deposited in the old landfill primarily in the area where the stadium was built.

Additional information received from Mr. Dolan included: 10 September 1962. Blueprint map of real property to be acquired by the Town of North Hempstead to be used for sanitary landfill...

7 February 1984. Topographical map of northern landfill area. Prepared by Charles E. Ward, Inc.

Aerial Photographs (date unknown.)

Acknowledgement:

I have read the above transcript and I agree that it is an accurate summary of the information verbally conveyed to EA Science and Technology interviewers, or as I have revised below, is an accurate account.

p6 of 6

Revisions (please write in corrections to above transcript):

Signature: Clyde W. Pruof. Date: 4-21-86

Appendix 1.1-2

RECEIVED APR 7 1986

INTERVIEW ACKNOWLEDGEMENT FORM

Site Name: Denton Avenue Landfill

I.D. Number: 130008

Person Contacted: Mr. Robert F. Dolan

Date: 20 January 1986

Title: Town Attorney

Affiliation: Town of North Hempstead

Phone No.: (516) 627-0590

Address: 220 Plandome Road
Manhasset, New York 11030

Persons Making Contact:
EA Representatives:

Type of Contact: In person

Shultz/Ligotino

Interview Summary:

Messrs. Dolan and Perro showed us aerial photographs of the Denton Avenue Landfill site and described the various aspects of the site to give us an understanding of the physical layout of the facility, as well as the changes which have taken place there over the years. An area along Evergreen Street is where the original Denton Avenue Landfill was located. It is now ballfields, a physical activity center, and a stadium. Development of the athletic facility began in 1978. The only problems encountered at this original landfill site have been related to land settling. The former locations of an original incinerator, a second incinerator, and an addition to that were established. Considerable changes have taken place on the property. A public works office and highway garage are standing where the incinerators were.

A county recharge basin was pointed out, and on the other side of this, the location of the second landfill was established. The second landfill occupied an area of about 27 acres--an old mining area-- (based on a survey that was conducted in 1962 when the land was purchased). In the late 1960s or early 1970s, fill from excavation activity at extensions to the Northern State Parkway was used to cap this area. When the "cap" was applied, landfill gases emigrated into nearby houses, so vents had to be installed. There have not been any problems with gas since then. A police boy's club and senior citizens facility, and an organic garden have been built on this parcel. Also on this parcel is an old driving range, and an area formerly used by area residents for organic gardens.

It is estimated that the Denton Avenue Landfill took in 350-400 tons of garbage per day. The incinerators at the site were to have burned most of that, but were closed down in 1977 when EPA changed the air standards for the area. Actually, the incinerator burned a large portion of the raw garbage while they were in operation, and it is unknown how much raw garbage may have gone into the landfill.

An ERM report (by a Mr. John DePhillipi) indicates that the southern landfill parcel operated from about 1953 to 1963, and that the northern landfill parcel operated from 1963 until it reached capacity and closed in 1966. A Fred C. Hart site inspection form (dated 1980) indicates the period of site operations to be 1951-1974. Mr. Dolan indicated that the northern landfill

parcel was purchased in 1962. Mr. Perro indicated that the timeframes presented in each report were probably not contradictory--that the site (probably) stopped taking raw garbage in 1966, and that the area was (probably) capped in 1974. Mr. Perro indicated that the Town of North Hempstead purchased the southern parcel in (about) 1950 and started operations in 1951. The incinerator had been privately-owned prior to this. There is no way of knowing what garbage went to the property before it became property of the Town. Former owners of portions of the southern area include Flatland Sand and Gravel, and Colonial Sand and Stone Co. (there were small sand pits and mining operations at the site as early as 1942-43.) The former owner (reputed) of the northern area was Eugene L. De Pasquale. Mr. Pasquale had obtained the property from Colonial Sand and Stone Co. The reported date of final closure (1974) coincides with the startup of a landfill in Port Washington. After 1974, incinerator residue was only stored overnight at the Denton Avenue landfill, then transported to the Port Washington landfill.

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The facility was backfilled to grade with garbage--there was no mounding. The depth of cover (fill) on the old landfill is unknown. The new landfill has approximately 3-4 feet of cover. Scraps of metal and wood have been found during excavation for the swimming pool. Ash was deposited in the old landfill primarily in the area where the stadium was built.

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7 February 1984. Topographical map of northern landfill area. Prepared by Charles E. Ward, Inc.

Aerial Photographs (date unknown.)

Acknowledgement:

I have read the above transcript and I agree that it is an accurate summary of the information verbally conveyed to EA Science and Technology interviewers, or as I have revised below, is an accurate account.

Revisions (please write in corrections to above transcript):

Signature: _____ **Date:** 4-3-86
Town Attorney

Appendix 1.1-3
Source: NCDOH

MEMORANDUM

NASSAU COUNTY DEPARTMENT OF HEALTH

240 Old Country Road - Mineola, New York 11501

DA — plot
File
TNH - Corres
Denton Ave.

To : Files

Date: May 11, 1977

From : Howard Schaefer HS

Subject : Excavation of Denton Ave. Landfill

On May 9, during a routine inspection of the Denton Ave. Incinerator a large mound of excavated refuse was noted in the park built on the southern landfill. The refuse was approximately 20 ft. high by 50 yds. long. It was composed mainly of well decomposed material with only larger wood pieces and plastic and metal material still visible. No odor, except in the area being used for dumping, was noticed. This odor was not offensive.

The area is being excavated in order to construct a swimming pool. The excavated material is to be used for backfill with the remainder being landfilled in Port Washington. Mr. Philip Wagner of Wiedersum Assoc., a subcontractor, was interviewed.

Mr. Rudy Bartoldus is the project engineer for North Hempstead. He was contacted by phone on May 10. He stated that the entire project would take approximately one year. During that time the pile of refuse would remain. After an initial portion is used for backfill the remaining pile will be dressed up and seeded until it is gradually used. The remaining material will be removed.

HS:ld

DA DA
FP FP
SJ

MEMORANDUM

NASSAU COUNTY DEPARTMENT OF HEALTH

240 Old Country Road - Mineola, New York 11501

File

TNH — Coll
Denton Ave.

To : Files

Date: July 12, 1977

From : Howard Schaefer HS

Subject : Inspection Of Excavation Of Denton Ave. Landfill

An inspection of the site was made on July 11, 1977. The area is being excavated for a swimming pool. The excavated material covered approximately 250' X 30'. No odors were detected. The material appears to be well decomposed and does not appear to offer rodent harborage.

HS:ld

FDP

p.3 of 3

MEMORANDUM

NASSAU COUNTY DEPARTMENT OF HEALTH

240 Old Country Road - Mineola, New York 11501

To : Files

Date: October 17, 1977

From : Howard Schaefer HS

Subject : Inspection of Denton Avenue Excavation

On October 12th, the writer inspected the excavation being made for a swimming pool on the southern landfill at Denton Avenue. The excavated material had no odor and did not appear to present any problems.

HS/bg

Appendix 1.1-4
Source: NYSDOH Bureau of Toxic Substances file

...nt	Location		
26	Foot of Wakefield Avenue	-- --	0.0
27	" " " "	"	0.0

* Levels above the lower explosive limit of 5.3% are considered potentially hazardous and thus significant.

B Town of North Hempstead - New Hyde Park Denton Ave. L.F.

The Town of North Hempstead's landfill area adjacent to Denton Avenue in New Hyde Park consists of an older area close to the incinerator that was completed 10 to 15 years ago and the northwest area completed within the last 10 years (Map 3). In the past there had been considerable evidence of excessive levels of methane migrating from certain sections of this landfill. Several abatement techniques were initiated to combat the problem. Along the northern edge, about 150 feet south of Hillside Avenue, a trench was dug and filled with crushed rock while in other areas, particularly along the western periphery, vent pipes were sunk onto the landfill mass. On occasion, enough gas emanated from these to enable burning. Both of these systems appear to have successfully controlled the problem. To further verify this and update previous studies gas samples were taken from the ground in the former landfill areas as well as from points outside the perimeter of the site along Leonard Avenue to the west. These were analyzed as follows:

p273

Int	Location	Test Date	% of Methane
28	Adjacent to Incinerator	9-21-76	3.8
29	" " "	"	0.5
30	North Portion of Site	"	6.8
31	" " " "	"	11.0
32	Trench on Northern Perifery	"	44.0**
33	Outside Fence Opposite Ashland Avenue	10-19-76	1.0
34	" " " Baxter "	"	4.5
35	" " " Corwin "	"	3.5
36	" " " Dallas "	"	0.0

* Levels above the lower explosive limit of 5.3% are considered potentially hazardous and thus significant.

** When a lighted match was inserted in this test hole the gases ignited with the flames rapidly spreading the full length of the gravel filled trench.

Conclusions and Recommendations:

The limited testing summarized above indicates that significant levels of combustible gases exist in the gound on both the active landfill sites and those that have been closed formany years. Future development of these sites must, therefore, take into consideration the potential impact and hazard represented by the presence of these gases. It also indicates the necessity of periodically ascertaining the combustible gas level in and around all buildings on these sites.

p.343

The results of these tests as well as past occurences and measurements indicate that soil conditions, particularly in the vicinity of the New Hyde Park site are susceptable to gas migration. Although the abatement action that was taken appears to have prevented excessive levels of methane from accumulating at off-site receptors, special consideration must be given to this possibility. Again, this would dictate the need for periodic surveys of the areas adjacent to the landfills.

These conclusions essentially support and give credence to Mr. Middleton's decision backed by his September 27 and October 15, 1976 directives to the town requesting that they conduct a comprehensive survey of the two areas and propose a program for its periodic updating. These surveys would identify any area requiring remedial abatement action.

Robert V. Close, P.E.
Director, Bureau of Air Quality Management

RVC:hhs

New York State Departme of Environmental Conservation
Building #40
SUNY
Stony Brook, New York 11794

Appendix 1.1-5
Source: NCDOH

8/10/2

Peter A.A. Berle
Commissioner

December 7, 1976

TO S. Juczak
RE. SUS 3/10/
FY. F. 1ss

FP FDP
File

Commissioner Felix Andrews
Town of North Hempstead
Department of Public Works
220 Plandome Road
Manhasset, New York 11030

Dear Commissioner Andrews:

This is in reference to your letter of November 1, 1976 concerning the possible methane problems at the Town's landfills.

We understand that the Town had installed vents some years ago at the Denton Avenue Landfill to control the methane problem which was apparent at that time, and we recognize that the Town has taken measures to control that problem.

Nevertheless, on September 21, 1976, at a visit made to the Denton Avenue Site by representatives of both this Office and Nassau County Department of Health, employees of the Town of North Hempstead indicated that, in the past, the presence of methane was checked by driving a small pipe into the ground and applying a lighted match to it. It was indicated that, if methane were present, it would burn for only a few seconds. One of the Town representatives suggested that we perform a similar test by digging a similar hole in the ground. This was done at the venting trench, a portion of which caught fire and continued to burn for at least the 15 or 20 minutes during which our representatives were present despite efforts to extinguish the flames. It was necessary for one of the Town's employees to obtain a sprinkler truck in order to eliminate the fire.

As you know, that site is in an area to which the public has access. Furthermore, the trench is only a few feet away from the cyclone fence at the edge of the property. Immediately adjacent to the fence is a lumber yard, as well as a number of shops with their backyard parking lots abutting the fence.

In our opinion, this situation is a potential safety hazard to these neighboring facilities, as well as the unaware citizen who could inadvertently drop a lighted cigarette onto the flammable area referred to above.

We felt it important to bring this hazard to the Town's attention as soon as possible since we were concerned that you may not be aware of this problem, as indicated in your letter of November 1, 1976. In addition to the concern for the safety of the public, the Town could possibly be held responsible for any damages which may be attributable to the landfill.

As requested in my letter of September 27, 1976, please submit to this Office, a plan for corrective action of this problem along with a program of routine gas monitoring and surveillance. I am pleased to note that the Town will be taking gas readings on a weekly basis. This information, along with the location of the tests, should be included as part of your submittal. Please submit this information by the end of the year. Staff of this Office are available to work with you on this matter.

Very truly yours,

Donald J. Middleton
Regional Director

DJM:AM:11

cc: M. Tully, Supervisor
E. Mc Cabe
W. Cook
J. Dowling
W. Bentley
A. Machlin

Appendix 1.1
Source: NCDH

MEMORANDUM

NASSAU COUNTY DEPARTMENT OF HEALTH

240 Old Country Road - Mineola, New York 11501

To : Files

Date: Oct. 10, 1978

From : Howard Schaefer HS

Subject : Methane Complaint, Denton Ave. Landfill

A complaint was received on September 28, 1978 from Kenneth Kublo, Chief of the Garden City Park Fire Department about methane fires on the Denton Avenue Landfill.

An inspection was made of the area. Chief Kublo pointed out an area on the northern landfill, near the driving range, where the ground had cracked and where there had been a fire recently. Ornamental shrubs planted near the driving range appeared to be dying. The area near the gas vents was inspected, no odors or gas appeared to be coming from the vents.

The Garden City Park Water District located across Denton Ave. from the landfill, was visited. Several people there complained of odors from the landfill since an excavation had been made for a PBC center.

Chief Kublo called the county Fire Marshall and Fire Inspectors David Bartow and John Livingston accompanied us on a second tour of the area. Readings were taken at the point in the ground where the fire had occured as well as in the excavation for the PBC center. Most of the readings were above the lower explosive limit in the range of 7 - 10%.

HS:ms

cc: Nassau County Fire Marshall
Chief Kenneth Kublo, Garden City Park Fire Department
Gerard E. Donohue
Robert Close

Appendix 1.1
SOURCE: NCDH

MEMORANDUM

NASSAU COUNTY DEPARTMENT OF HEALTH

240 Old Country Road - Mineola, New York 11501

To : Files

Date: Oct. 10, 1978

From : Howard Schaefer HS

Subject : Follow-up Investigation of Methane Gas Complaint
Denton Ave. Landfill

A reinspection of the above site was made on October 3, 1978 by the writer, F. Pedersen, D. Aitken, along with the Fire Marshall's Office, at the request of Commissioner Cook. In addition to Commissioner Cook, Peter Vames, Clyde Perro, Jim Graham and William Boucher of the town were present.

Readings were taken in the basement of the PBC excavation by Dave Bartow (Fire Marshall's Office) and Jim Graham. Identical readings were obtained by both meters. The testing showed methane to be present in the northwest corner of the excavation. No readings were obtained in the center or southeast corner. Dave Bartow recommended that some type of venting, either external or internal, be incorporated into the building plans. Commissioner Cook stated that he would relate this to the Building Department.

Methane was also detected near the driving range as during the previous visit. No action to stop the gas was deemed necessary in this area.

HS:ms

cc: Nassau County Fire Marshall
Chief Kenneth Kublo, Garden City Park Fire Department
Gerard E. Donohue
Robert Close

NASSAU COUNTY DEPARTMENT OF HEALTH

240 OLD COUNTRY ROAD, MINEOLA, N.Y. 11501

FRANCIS T. PURCELL
County Executive

JOHN J. DOWLING, M.D., M.P.H.
Commissioner

FRANCIS V. PADAR, P.E., M.C.E.
Deputy Commissioner
Division of Environmental Health

Appendix 1.1-8

BAQM Report No. 4E - 81

SUMMARY REPORT
VINYL CHLORIDE-AIR SAMPLING LANDFILL AREAS
TOWN OF NORTH HEMPSTEAD - DENTON AVENUE

March 4, 1981

Introduction

Events developing in Suffolk County and other communities during late 1979 and early 1980, created public health concerns relative to the emissions of vinyl chloride from previously landfilled areas and their infiltration into residential areas. While no situation related to vinyl chloride had been identified in Nassau County, public health concerns dictated that a program of air monitoring be carried out to evaluate the extent, if any, of vinyl chloride emissions from deactivated and active landfill sites.

This program was commenced on June 9, 1980, and continued through October, 1980, at which time weather conditions proved unfavorable for further monitoring operations. In that period, ten landfill locations were monitored, four of which were still in operation while the remainder were inactive and have been developed into residential areas or recreational parks and facilities. Specifically, these locations may be listed as follows:

Facilities Currently in Operation

1. Town of Hempstead facility - Merrick
2. Town of Hempstead facility - Oceanside
3. Town of Oyster Bay facility - Old Bethpage
4. Town of North Hempstead facility - Port Washington

Inactive or Developed Facilities

1. Town of North Hempstead - Denton Avenue, New Hyde Park
2. Town of Hempstead - Valley Stream
3. Town of Hempstead - Elmont Rd. Park, Elmont
4. Town of Hempstead - Averill Park, Elmont
5. Town of Hempstead - Coes Neck Rd., Baldwin
6. Town of Oyster Bay - Syosset

B 2415

Survey and Test Procedure

The nature of the various landfill sites that were surveyed dictated that a preliminary inspection was required to determine the most feasible and appropriate monitoring procedure to be followed. In general, however, the test sequence may be summarized as follows:

1. A cursory visual inspection was made to observe the facility boundaries, the available sampling locations, (sewers, vents, etc.) and areas most applicable for sampling (terrain, debris accumulations, etc.) From this, the candidate sampling locations would be selected and considered for instrument scanning.

2. Upon completion of the inspection, a scan was made with realtime analysis instrumentation (AID Total Hydrocarbon Analyzer and/or On-Mark Natural Gas Analyzer), to determine total hydrocarbon (THC) and methane (CH_4) levels at the various candidate sampling sites.

   The AID Total Hydrocarbon Aanlyzer (flame ionization) operates in a range of 0 to 2000 ppm (parts per million) for either total hydrocarbons or methane. It will not operate for concentrations greater than 2000 ppm.

   The On-Mark Natural Gas Analyzer (catalytic filament) operates in two ranges of 0 to 5 percent and 0 to 100 percent natural gas. The readings are less precise than the AID unit.

   The use of the instrumentation was dependent on the levels of hydrocarbon found.

3. The candidate sampling location points consist of either of the following:

   a. Sewers

   b. Existing vent outlets

   c. Holes approximately 1 in. to 1-1/2 in. diameter and 1 ft. to 2 ft. deep, penetrated by a slide hammer bang bar

   d. Ambient air at locations appropriate to the source or the receptor.

4. The sampling for the lower concentration vinyl chloride levels utilized carbon adsorption tubes or columns in conjunction with battery powered vacuum pumps. The tubes were inserted into sample location points selected on the basis of methane (natural gas) concentration and at one of the candidate sampling locations noted above. The penetration of absorption tube into the sampling point was sufficient to minimize interference effects of ground level air currents and/or other extraneous sources. The sampling time was 200 ml/min. for 25 minutes.

5. The charcoal tubes were processed by the Division of Laboratories where a gas chromatographic analysis was carried out for specific vinyl chloride content.

LANDFILL SITE: Denton Avenue DATE 7/2/80

SURVEY DATA

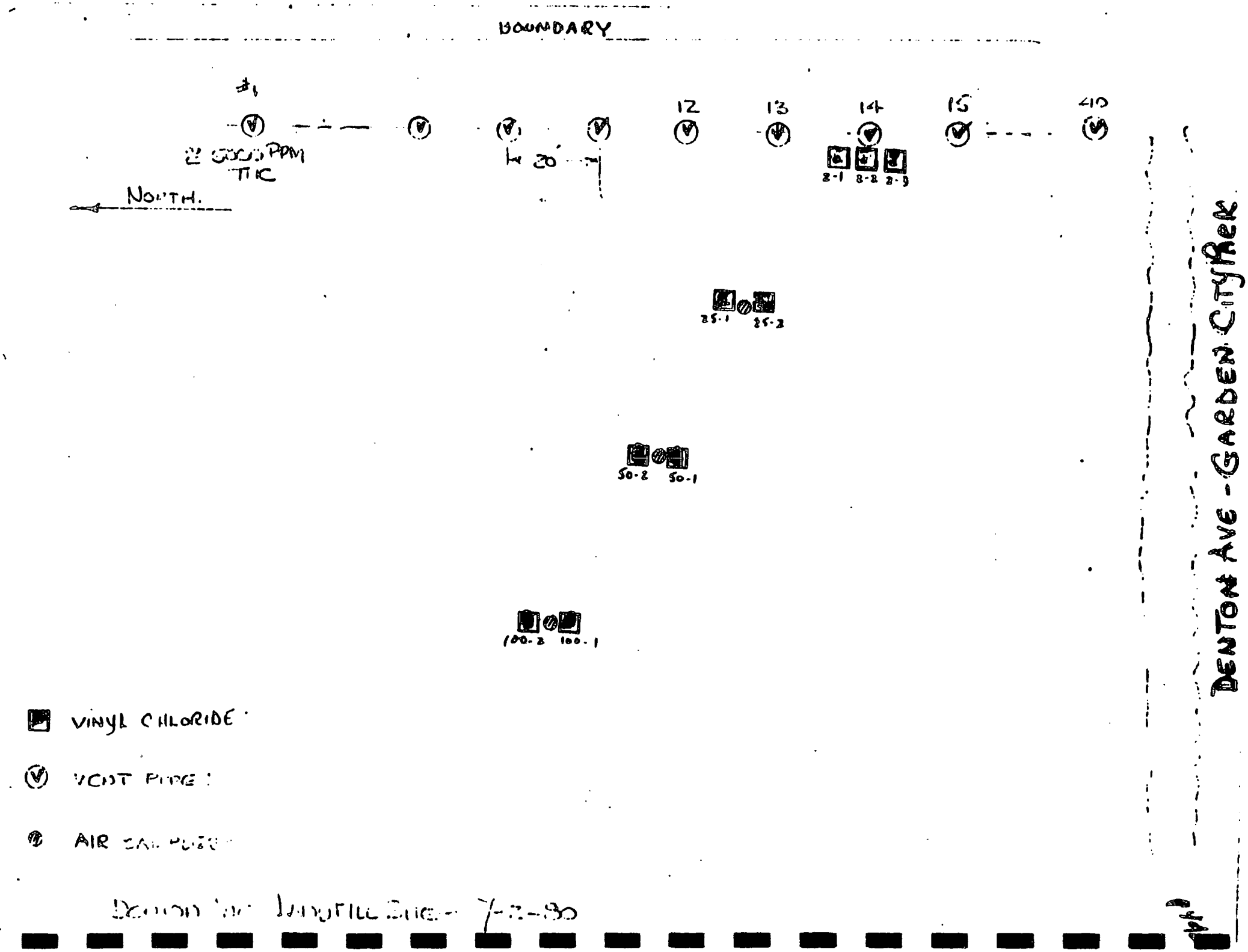
TABLE

MONITORING POINT	THC (ppm)	METHANE (ppm)	VINYL CHLORIDE (ppb)
Field Bank	-	-	None Detected
2-1	-	-	" "
2-2 & (large tube)	-	-	" "
2-3	-	-	" "
25-1	-	-	" "
25-2	-	-	" "
50-1	-	-	" "
50-2	-	-	" "
100-1	-	-	" "
100-2	-	-	" "

Comments

AID Analyzer not working - methane previously detected in ground.

None Detected means there was no vinyl chloride detected above the lowest detectably level of 38 ppb.


BOUNDARY
#1
12
13
14
15
40
2 5000 PPM
TIC
20'
NORTH.
2-1
2-2
2-3
25-1
25-2
50-2
50-1
100-2
100-1
VINYL CHLORIDE
VENT PIPE
AIR SAMPLER
DENTON AVE - GARDEN CITY PARK

NASSAU COUNTY DEPARTMENT OF HEALTH
DIVISION OF LABORATORIES & RESEARCH
ENVIRONMENTAL HEALTH LABORATORIES

RESULTS OF EXAMINATION

Received from:
Nassau Co. Dept. of Health

REPORTING LAB: TRACE ORGANICS

LAB ACCESS NO. 000625

SOURCE: Denton Ave. Landfill, Field Blank

MATRIX: Air

DATE SAMPLED: 7/2/1980

DATE RECEIVED: 7/2/1980

DATE COMPLETED: [illegible]

PARAMETER	ppb (nl/l)
Vinyl Chloride	Not detected

JUL 10 1980

NASSAU COUNTY DEPARTMENT OF HEALTH
DIVISION OF LABORATORIES & RESEARCH
ENVIRONMENTAL HEALTH LABORATORIES

RESULTS OF EXAMINATION

REPORTING LAB: TRACE ORGANICS

LAB ACCESS NO. 000626

SOURCE: Denton Ave. Landfill, 2-1

MATRIX: Air

DATE SAMPLED: 7/2/1980

DATE RECEIVED: 7/2/1980

DATE COMPLETED: 7/3/1980

PARAMETER	ppb (nl/l)
Vinyl Chloride	Not detected

0626

JUL 10 1980

p80415

NASSAU COUNTY DEPARTMENT OF HEALTH
DIVISION OF LABORATORIES & RESEARCH
ENVIRONMENTAL HEALTH LABORATORIES

RESULTS OF EXAMINATION

REPORTING LAB: TRACE ORGANICS

LAB ACCESS NO. 000627

SOURCE: Denton Ave. Landfill, 2-2

MATRIX: Air

DATE SAMPLED: 7/2/1980

DATE RECEIVED: 7/2/1980

DATE COMPLETED: 7/3/1980

PARAMETER	ppb (nl/l)
Vinyl Chloride	Not detected

0627
JUL 10 1980

p9415

NASSAU COUNTY DEPARTMENT OF HEALTH
DIVISION OF LABORATORIES & RESEARCH
ENVIRONMENTAL HEALTH LABORATORIES

RESULTS OF EXAMINATION

REPORTING LAB: TRACE ORGANICS

LAB ACCESS NO. 000628

SOURCE: Denton Ave., Landfill, 2-3

MATRIX: Air

DATE SAMPLED: 7/2/1980

DATE RECEIVED: 7/2/1980

DATE COMPLETED: 7/3/1980

PARAMETER	ppb (nl/l)
Vinyl Chloride	Not detected

JUL 10 1980

p 10 of 15

NASSAU COUNTY DEPARTMENT OF HEALTH
DIVISION OF LABORATORIES & RESEARCH
ENVIRONMENTAL HEALTH LABORATORIES

RESULTS OF EXAMINATION

REPORTING LAB: TRACE ORGANICS

LAB ACCESS NO. 000629

SOURCE: Denton Ave., Landfill, 25-1

MATRIX: Air

DATE SAMPLED: 7/2/1980

DATE RECEIVED: 7/2/1980

DATE COMPLETED: 7/3/1980

PARAMETER	ppb (nl/l)
Vinyl Chloride	Not detected

JUL 10 1980

8 11 of 15

NASSAU COUNTY DEPARTMENT OF HEALTH
DIVISION OF LABORATORIES & RESEARCH
ENVIRONMENTAL HEALTH LABORATORIES

RESULTS OF EXAMINATION

REPORTING LAB: TRACE ORGANICS

LAB ACCESS NO. 000630

SOURCE: Denton Ave., Landfill, 25-2

MATRIX: Air

DATE SAMPLED: 7/2/1980

DATE RECEIVED: 7/2/1980

DATE COMPLETED: 7/3/1980

PARAMETER	ppb (nl/l)
Vinyl Chloride	Not detected

JUL 10 1980

0630

AL.

NASSAU COUNTY DEPARTMENT OF HEALTH
DIVISION OF LABORATORIES & RESEARCH
ENVIRONMENTAL HEALTH LABORATORIES

RESULTS OF EXAMINATION

REPORTING LAB: TRACE ORGANICS

LAB ACCESS NO. 000631

SOURCE: Denton Ave., Landfill, 50-1

MATRIX: Air

DATE SAMPLED: 7/2/1980

DATE RECEIVED: 7/2/1980

DATE COMPLETED: 7/3/1980

PARAMETER	ppb (nl/l)
Vinyl Chloride	Not detected

JUL 10 1980

0631

AL

NASSAU COUNTY DEPARTMENT OF HEALTH
DIVISION OF LABORATORIES & RESEARCH
ENVIRONMENTAL HEALTH LABORATORIES

p.13 of 15

RESULTS OF EXAMINATION

REPORTING LAB:	TRACE ORGANICS
LAB ACCESS NO.	000632
SOURCE:	Denton Ave. Landfill, 50-2
MATRIX:	Air
DATE SAMPLED:	7/2/1980
DATE RECEIVED:	7/2/1980
DATE COMPLETED:	7/3/1980

PARAMETER	ppb (nl/l)
Vinyl Chloride	Not detected

0632

JUL 10 1980

NASSAU COUNTY DEPARTMENT OF HEALTH
DIVISION OF LABORATORIES & RESEARCH
ENVIRONMENTAL HEALTH LABORATORIES

PH75

RESULTS OF EXAMINATION

REPORTING LAB: TRACE ORGANICS

LAB ACCESS NO. 000633

SOURCE: Denton Ave. Landfill, 100-1

MATRIX: Air

DATE SAMPLED: 7/2/1980

DATE RECEIVED: 7/2/1980

DATE COMPLETED: 7/3/1980

PARAMETER	ppb (nl/l)
Vinyl Chloride	Not detected

JUL 10 1980

0633

NASSAU COUNTY DEPARTMENT OF HEALTH
DIVISION OF LABORATORIES & RESEARCH
ENVIRONMENTAL HEALTH LABORATORIES

B 15 7/15

RESULTS OF EXAMINATION

REPORTING LAB:	TRACE ORGANICS
LAB ACCESS NO.	000634
SOURCE:	Denton Ave., Landfill, 100-2
MATRIX:	Air
DATE SAMPLED:	7/2/1980
DATE RECEIVED:	7/2/1980
DATE COMPLETED:	7/3/1980

PARAMETER	ppb (nl/l)
Vinyl Chloride	Not detected

JUL 10 1980

0634

Appendix 1.1-9

UTDEC Bureau of Hazardous
Site Control

p1 of 3

NUS CORPORATION
RARITAN PLAZA III
KING GEORGE ROAD
EDISON, NEW JERSEY 08837
(201) 225-6160

April 19, 1983
C-584-4-83-53

130008

Dr. Richard Spear, Chief
Surveillance & Monitoring Branch
Environmental Services Division
Raritan Arsenal, Woodbridge Ave.
Edison, N.J. 08837

Subject: Denton Avenue Landfill
TDD# 02-8303-22

Dear Dr. Spear:

Investigation of the Denton Avenue Landfill file has revealed the following information:

1. A 10-page site inspection report has been completed by James Perazzo of FCH on January 15, 1981.

2. The report was filed under the name "Denton Avenue Municipal Landfill", (TDD# 02-8011-61), EPA Site Number unknown.

Sincerely,

William G. Russell

William G. Russell,
Project Manager

Approved: Peter Franconeri

WGR:PF:stf

Bureau of Hazardous
Site Control

R 2013

RECORD COMMUNICATION

OTHER (SPECIFY) Ten page form

(Record of item checked above)

TO:	FROM:	DATE
Dr. Richard Spear	James Perazzo	1-15-81
		TIME

SUBJECT

DENTON AVE. MUNICIPAL LANDFILL (TDD# 02-8011-61)

SUMMARY OF COMMUNICATION

The North Hempstead or Denton Ave. Municipal Landfill was in operation from 1951 to 1974. In 1961, the northern section was open to accept all types of municipal wastes (e.g. paper, demolition debris, wood, etc.). In 1965-1974, incinerator residues were deposited in the northern section. It is unknown whether any industrial waste was dumped at this site. However, it was the only operating landfill in the area (primarily residential). Prior to the landfill, this site was a sand mining operation which indicates a high hydraulic conductivity of the underlying strata.

The southern section, closed in 1967, received a cap of sandy loam mixed with clay and subsequently was converted into a park with assorted recreational facilities. The northern section was closed in 1974.

There is a recharge sump dividing the northern and southern sections and although the Nassau Co. Department of Public Works maintains three test wells; (one well south south west of site and the other two east of the site), the sump has never been sampled to determine if leacheate is contaminating recharge water. Located in the western portion of the northern site are forty methane vents. These vents were tested in July of 1980 by the Nassau Co. Healt Dept. to determine concentrations of methane. Vinyl Choride Analysis was done on those vents exhibiting the highest methane concentrations (2-4 vents) and none was found.

CONCLUSIONS, ACTION TAKEN OR REQUIRED

FCH recommends that samples be taken from the recharge sump and nearby wells to identify any possible leacheate contamination. Although some vents were analyzed by Nassau Co. Health Dept. for vinyl chloride, FCH is not in full agreement with the methodology employed. The Health Dept. selected those vents exhibiting the highest concentrations of methane for vinyl chloride analysis. This may not be a true test and additional vinyl chloride surveying with an organic vapor analyzer is recommended.

INFORMATION COPIES

TO:

EPA Form 1350-6 (7-72) REPLACES EPA NO FORM 1350-6 WHICH MAY BE USED UNTIL SUPPLY IS EXHAUSTED.

p.3 of 13

GENERAL INSTRUCTIONS: Complete Sections I and III through IV of this form as completely as possible. Then use the information on this form to develop a Tentative Disposition (Section II). File this form in its entirety in the regional Hazardous Waste Site File. Be sure to include all appropriate Supplemental Reports in the file. Submit a copy of the form to: U.S. Environmental Protection Agency, Site Tracking System; Hazardous Waste Enforcement Task Force (EN-335); 401 M St., SW; Washington, DC 20460

I. SITE IDENTIFICATION

A. SITE NAME: Denton Ave or Town of N. Hempstead Landfill	B. STREET (or other identifier): Denton Ave. and Hillside Ave.

C. CITY	D. STATE	E. ZIP CODE	F. COUNTY NAME
New Hyde Park (Town of)	NY	11040	Nassau County

G. SITE OPERATOR INFORMATION

1. NAME	2. TELEPHONE NUMBER
Town of North Hempstead	Town Hall (516) 627-0590

3. STREET	4. CITY	5. STATE	6. ZIP CODE
Plandome Road	Manhasset	NY	

H. REALTY OWNER INFORMATION (if different from operator of site)

1. NAME	2. TELEPHONE NUMBER
Town of North Hempstead	Town Hall (516) 627-0590

3. CITY	4. STATE	5. ZIP CODE
Plandome Road Manhasset	NY	

I. SITE DESCRIPTION
Former Town Landfill/Now southern section is a municipal park.

J. TYPE OF OWNERSHIP
☐ 1. FEDERAL ☐ 2. STATE ☐ 3. COUNTY ☒ 4. MUNICIPAL ☐ 5. PRIVATE

II. TENTATIVE DISPOSITION (complete this section last)

A. ESTIMATE DATE OF TENTATIVE DISPOSITION (mo., day, & yr.)	B. APPARENT SERIOUSNESS OF PROBLEM
January 6, 1981	☐ 1. HIGH ☐ 2. MEDIUM ☒ 3. LOW ☐ 4. NONE

C. PREPARER INFORMATION

1. NAME	2. TELEPHONE NUMBER	3. DATE (mo., day, & yr.)
James Perazzo	(201) 621-6800	January 6, 1981

III. INSPECTION INFORMATION

A. PRINCIPAL INSPECTOR INFORMATION

1. NAME	2. TITLE
Gregory Shkuda	Sr. Chemist

3. ORGANIZATION	4. TELEPHONE NO. (area code &
Fred C. Hart Associates, Inc.	(201) 621-6800

B. INSPECTION PARTICIPANTS

1. NAME	2. ORGANIZATION	3. TELEPHONE NO.
James Perazzo	Fred C. Hart Associates, Inc.	(201) 621-6800
-		
-		

C. SITE REPRESENTATIVES INTERVIEWED (corporate officials, owners, tenants, etc.)

1. NAME	2. TITLE & TELEPHONE NO.	3. ADDRESS
Howard Schaffer	Eng. (516) 535-3314	Nassau County Health Dept.
		Old Country Road Mineola, NY
Joe Schechter	Sr. Chemist	Nassau County Health Dept.
-	(516) 535-3314	Old Country Road Mineola, NY

Reverse

1. NAME	2. TELEPHONE NO.	3. ADDRESS	
tation Collection		Town of North Hempstead	Municipal

TRANSPORTER/HAULER INFORMATION

1. NAME	2. TELEPHONE NO.	3. ADDRESS	4. WASTE TYPE TRANSPORTED
same as above			

7. IF WASTE IS PROCESSED ON SITE AND ALSO SHIPPED TO OTHER SITES, IDENTIFY OFF-SITE FACILITIES USED FOR DISPOSAL.

1. NAME	2. TELEPHONE NO.	3. ADDRESS
N/A		

6. DATE OF INSPECTION (Mo., Day, & Yr.)	7. TIME OF INSPECTION	8. ACCESS GAINED BY: (Documentation must be attached in all cases)
11/25/80	2:30 PM	[X] 1. PERMISSION [ ] 2. WARRANT

9. WEATHER (Describe)
Cloudy and cold

IV. SAMPLING INFORMATION

A. Mark "X" for the types of samples taken and indicate where they have been sent e.g., regional lab, other EPA lab, contractor, etc. and estimate when the results will be available.

1. SAMPLE TYPE	2. SAMPLE TAKEN (Mark "X")	3. SAMPLE SENT TO:	4. DATE RESULTS AVAILABLE
a. GROUNDWATER			
b. SURFACE WATER			
c. WASTE			
d. AIR			
e. RUNOFF			
f. SPILL			
g. SOIL			
h. VEGETATION			
i. OTHER (Specify) Analysis of methane for vinyl chloride	X	Samples were taken by Nassau Co. Health Dept. in July, 1980.	7/2/80

FIELD MEASUREMENTS TAKEN (e.g., radioactivity, explosivity, pH, etc.).

1. TYPE	2. LOCATION OF MEASUREMENTS	3. RESULTS
	N/A	

Continue on Page

IV. SAMPLING INFORMATION (continued)

1. TYPE OF SAMPLE
   - [ ] a. GROUND
   - [X] b. AERIAL

2. SAMPLES IN CUSTODY OF: Nassau County Health Dept. and FCH

3. IS A MAP?
   - [ ] YES. SPECIFY LOCATION OF MAPS. Sketch attached

4. COORDINATES
   - 1. LATITUDE (Deg.-min.-sec.): 40° 44' 51"
   - 2. LONGITUDE (Deg.-min.-sec.): 73° 40' 31"

V. SITE INFORMATION

A. SITE STATUS
- [ ] 1. ACTIVE (Those industrial or commercial sites which are being used for waste treatment, storage, or disposal on a continuing basis, even if intermittently.)
- [X] 2. INACTIVE (Those sites which no longer receive wastes.)
- [ ] 3. OTHER (specify): _____ (Those sites that include such treatments like "midnight dumping" where no regular or continuing use of the site for waste disposal has occurred.)

B. IS GENERATOR ON SITE?
- [X] 1. NO
- [ ] 2. YES (specify generator's four-digit SIC Code): _____

C. AREA OF SITE (in acres): 40 acres

D. ARE THERE BUILDINGS ON THE SITE?
- [ ] 1. NO
- [X] 2. YES (specify): Park recreation facilities

VI. CHARACTERIZATION OF SITE ACTIVITY

Indicate the major site activity(ies) and details relating to each activity by marking 'X' in the appropriate boxes.

X	A. TRANSPORTER	X	B. STORER	X	C. TREATER	X	D. DISPOSER
	1. RAIL		1. PILE		1. FILTRATION	X	1. LANDFILL
	2. SHIP		2. SURFACE IMPOUNDMENT		2. INCINERATION		2. LANDFARM
	3. BARGE		3. DRUMS		3. VOLUME REDUCTION		3. OPEN DUMP
X	4. TRUCK		4. TANK, ABOVE GROUND		4. RECYCLING/RECOVERY		4. SURFACE IMPOUNDMENT
	5. PIPELINE		5. TANK, BELOW GROUND		5. CHEM./PHYS./TREATMENT		5. CHEMICAL DUMPING
	6. OTHER (specify):		6. OTHER (specify):		6. BIOLOGICAL TREATMENT		6. INCINERATION
					7. WASTE OIL REPROCESSING		7. UNDERGROUND INJECTION
					8. SOLVENT RECOVERY		8. OTHER (specify):
					9. OTHER (specify):		

E. SUPPLEMENTAL REPORTS: If the site falls within any of the categories listed below, Supplemental Reports must be completed. Indicate which Supplemental Reports you have filled out and attached to this form.

- [ ] 1. STORAGE
- [ ] 2. INCINERATION
- [X] 3. LANDFILL
- [ ] 4. SURFACE IMPOUNDMENT
- [ ] 5. DEEP WELL
- [ ] 6. CHEM/BIO/PHYS TREATMENT
- [ ] 7. LANDFARM
- [ ] 8. OPEN DUMP
- [ ] 9. TRANSPORTER
- [ ] 10. RECYCLER/RECLAIMER

VII. WASTE RELATED INFORMATION

A. WASTE TYPE
- [ ] 1. LIQUID
- [X] 2. SOLID
- [ ] 3. SLUDGE
- [ ] 4. GAS

B. WASTE CHARACTERISTICS
- [ ] 1. CORROSIVE
- [ ] 2. IGNITABLE
- [ ] 3. RADIOACTIVE
- [ ] 4. HIGHLY VOLATILE
- [ ] 5. TOXIC
- [ ] 6. REACTIVE
- [X] 7. INERT
- [ ] 8. FLAMMABLE
- [ ] 9. OTHER (specify): Municipal refuse, commercial waste, wood, paper, etc.

C. WASTE CATEGORIES

1. Are records of wastes available? Specify items such as manifests, inventories, etc. below.

No

Continue On Reverse

A. SLUDGE	B. OIL	C. SOLVENTS	D. CHEMICALS	E. SOLIDS	F. OTHER
AMOUNT	AMOUNT	AMOUNT	AMOUNT Unknown	AMOUNT Unknown	AMOUNT Unknown
UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASU
(1) PAINT, PIGMENTS	(1) OILY WASTES	(1) HALOGENATED SOLVENTS	(1) ACIDS	(1) FLYASH	(1) LABORAT PHARMAC
(2) METALS SLUDGES	(2) OTHER (specify):	(2) NON-HALOGNTD. SOLVENTS	(2) PICKLING LIQUORS	(2) ASBESTOS	(2) HOSPITAL
(3) POTW		(3) OTHER (specify):	(3) CAUSTICS	(3) MILLING/MINE TAILINGS	(3) RADIOACT
(4) ALUMINUM SLUDGE			(4) PESTICIDES	(4) FERROUS SMELTING WASTES	(4) MUNICIPA
(5) OTHER (specify):			(5) DYES/INKS	(5) NON-FERROUS SMLTG. WASTES	XX (5) OTHER (m commercial waste, dem lition deb wood, pape incinerate residue, e
			(6) CYANIDE	X (6) OTHER (specify): Municipal incinerator residue	
			(7) PHENOLS		
			(8) HALOGENS		
			(9) PCB		
			(10) METALS		
			(11) OTHER (specify):		

D. LIST SUBSTANCES OF GREATEST CONCERN WHICH ARE ON THE SITE (place in descending order of hazard)

1. SUBSTANCE	2. FORM (mark "X") a. SOLID	b. LIQ.	c. VAPOR	3. TOXICITY (mark "X") a. HIGH	b. MED.	c. LOW	d. NONE	4. CAS NUMBER	5. AMOUNT	6.
N/A										

VII. HAZARD DESCRIPTION

FIELD EVALUATION HAZARD DESCRIPTION: Place an 'X' in the box to indicate that the listed hazard exists. Describe the hazard in the space provided.

[X] A. HUMAN HEALTH HAZARDS

Possible contamination of the recharge sump by leachate. Methane gas nuisance to occupants and surrounding residents. The southern portion of this site is now a park

P 70/1

☐ C. WORKER INJURY/EXPOSURE

☐ D. CONTAMINATION OF WATER SUPPLY

☐ E. CONTAMINATION OF FOOD CHAIN

☒ F. CONTAMINATION OF GROUND WATER

If leachate, from the inactive landfill is migrating into the recharge sump (located between the northern and southern sections of the landfill) possible groundwater contamination can result.

☐ G. CONTAMINATION OF SURFACE WATER

Continue On Reve

H. DAMAGE TO FLORA/FAUNA

I. FISH KILL

XX J. CONTAMINATION OF AIR

Forty 30 foot methane vents located in the north east section of the landfill are designed to that height to prevent a gas nuisance from developing. However, recent Long Island landfill investigations have shown vinyl chloride concentrations in the presence of methane. Although Nassau Co. Health Dept. did conduct a vinyl chloride survey in July of 1980, FCH is not in complete agreement on the sampling techniques employed.

K. NOTICEABLE ODORS

None

L. CONTAMINATION OF SOIL

M. PROPERTY DAMAGE

N. FIRE OR EXPLOSION

O. SPILLS/LEAKING CONTAINERS/RUNOFF/STANDING LIQUID

P. SEWER, STORM DRAIN PROBLEMS

Q. EROSION PROBLEMS

R. INADEQUATE SECURITY

S. INCOMPATIBLE WASTES

Unknown

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VII. HAZARD DESCRIPTION (continued)

☐ T. MIDNIGHT DUMPING

☐ U. OTHER (specify):

This area is of particular interest because of the recharge sump located between the northern and southern sections of this landfill. Prior to the landfill, this site was utilized as a sand mining operation indicating the high permeability of the area. Leachate may be perculating into the ground water and or recharge sump. Since the sump has never been sampled, FCH suggests a sampling program to be conducted on a low priority basis.

IX. POPULATION DIRECTLY AFFECTED BY SITE

A. LOCATION OF POPULATION	B. APPROX. NO. OF PEOPLE AFFECTED	C. APPROX. NO. OF PEOPLE AFFECTED WITHIN UNIT AREA	D. APPROX. NO. OF BUILDINGS AFFECTED	E. DISTANCE TO SITE (specify unit)
1. IN RESIDENTIAL AREAS		1000-2000	500 homes	½ mile
2. IN COMMERCIAL OR INDUSTRIAL AREAS				
3. IN PUBLICLY TRAVELLED AREAS				
4. PUBLIC USE AREAS (parks, schools, etc.)	approx. 200	800	10-15 bldgs.	¼ mile

X. WATER AND HYDROLOGICAL DATA

A. DEPTH TO GROUNDWATER (specify unit)	B. DIRECTION OF FLOW	C. GROUNDWATER USE IN VICINITY
40-65 feet	south-southwest	2 Public supply wells east of the site.
D. POTENTIAL YIELD OF AQUIFER	**E. DISTANCE TO DRINKING WATER SUPPLY (specify unit of measure)**	**F. DIRECTION TO DRINKING WATER SUPPLY**
unknown	approx. 300 feet	east of site

G. TYPE OF DRINKING WATER SUPPLY

☐ 1. NON-COMMUNITY < 15 CONNECTIONS

☒ 2. COMMUNITY (specify name): > 15 CONNECTIONS Garden City Park Water Supply and Jamacia Water Supply

☐ 3. SURFACE WATER

☒ 4. WELL

Continue On Page 9

E OF SITE INSTABILITY (Erosion, Settling, Side Hills, etc.)

☒ NO

NCE OF IMPROPER DISPOSAL OF BULK LIQUIDS, SEMI-SOLIDS AND SLUDGES INTO THE LANDFILL

ES ☒ NO

CK RECORDS OF CELL LOCATION AND CONTENTS AND BENCHMARK

☐ YES ☐ NO

WASTES SURROUNDED BY SORBENT MATERIAL

☐ YES ☒ NO

DIVERSION STRUCTURES ARE EFFECTIVELY CONSTRUCTED AND PROPERLY MAINTAINED

☒ YES ☐ NO

6. EVIDENCE OF PONDING OF WATER ON SITE

☐ YES ☒ NO

7. EVIDENCE OF IMPROPER/INADEQUATE DRAINING

☐ YES ☒ NO

ADEQUATE LEACHATE COLLECTION SYSTEM (If "Yes", specify Type)

☐ YES ☐ NO N/A

. SURFACE LEACHATE SPRING

☐ YES ☒ NO

9. RECORDS OF LEACHATE ANALYSIS

☐ YES ☐ NO N/A

0. GAS MONITORING.

☒ YES ☐ NO

1. GROUNDWATER MONITORING WELLS

☒ YES ☐ NO

12. ARTIFICIAL MEMBRANE LINER INSTALLED

☐ YES ☒ NO

13. SPECIFIC CONTAINMENT MEASURES (Clay Berms, Silos, etc.)

☐ YES ☒ NO

14. FIXATION (Stabilization) OF WASTE

☐ YES ☒ NO

15. ADEQUATE CLOSURE OF INACTIVE PORTION OF FACILITY

☒ YES ☐ NO A cap of sandy loam with clay overlies southern section (park).

16. COVER (Type)

Compacted soil with vegetative growth (grass)

16a. THICKNESS

Unknown

16b. PERMEABILITY

Unknown

16c. DAILY APPLICATION

☐ YES ☒ NO Site is inactive

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION

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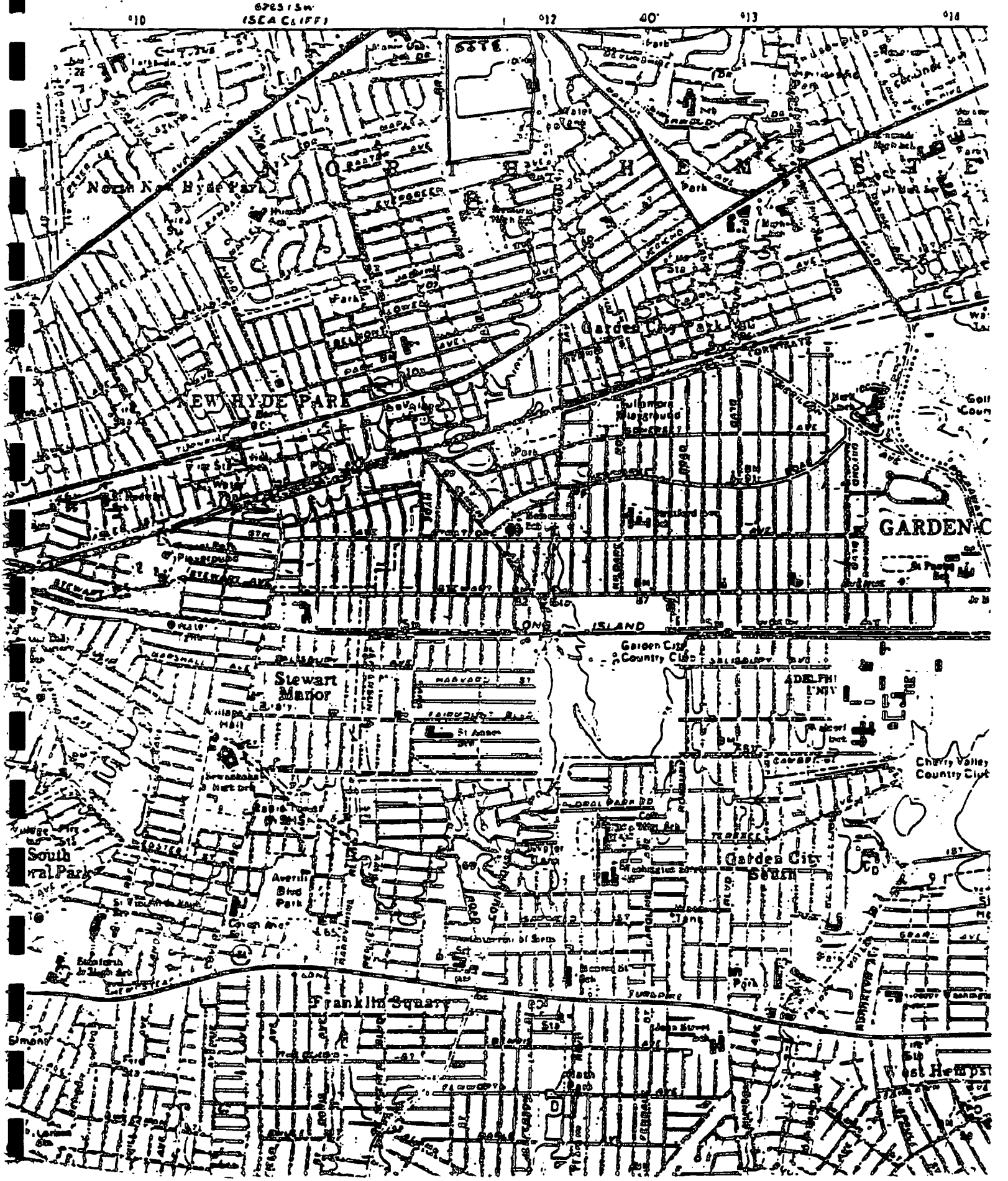
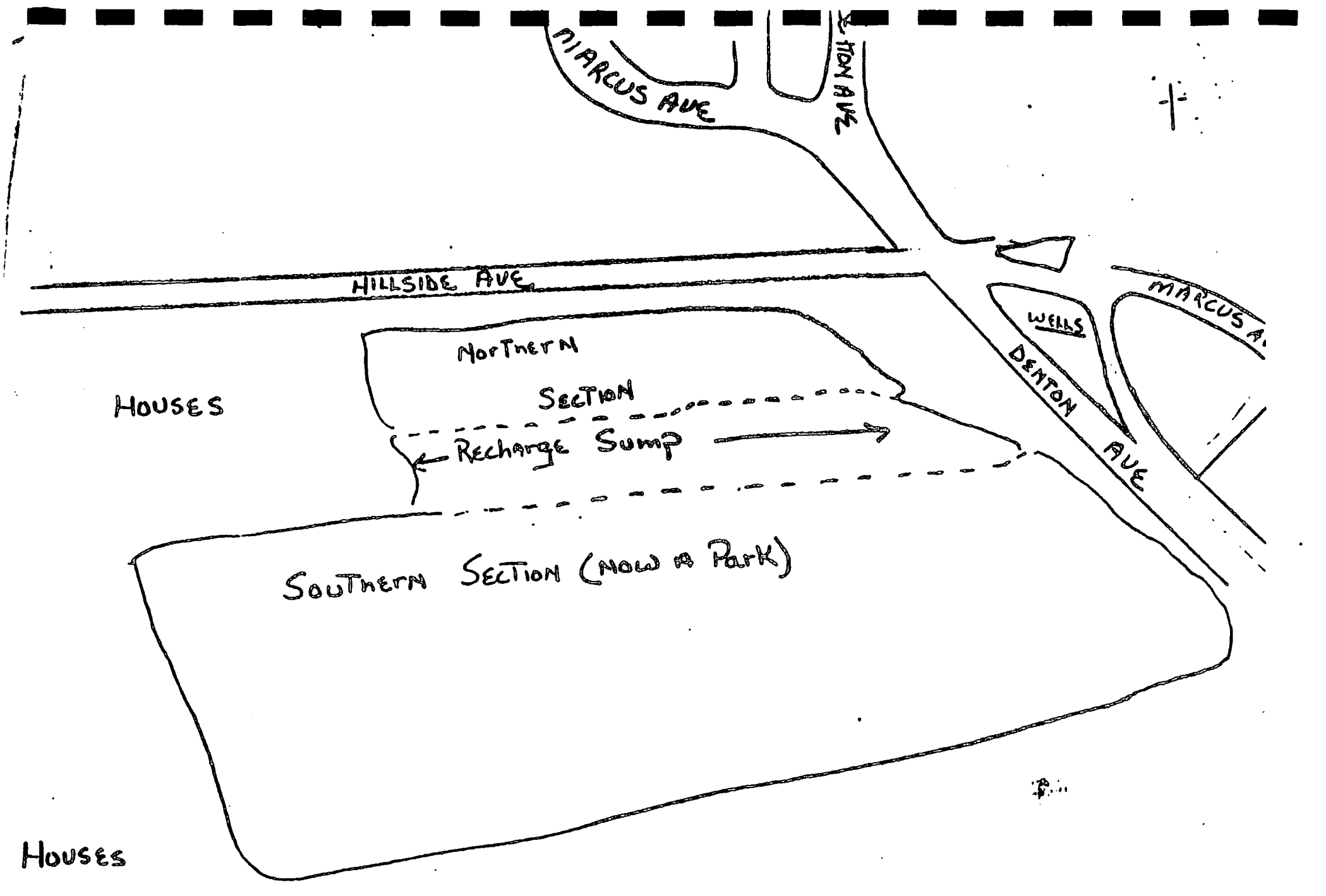




SKETCH MAP

DENTON AVE AT N. HEMPSTEAD

REPORT OF
SPECIAL SITUATION

Nassau County
Department of Health

☒ Initial Report

☐ Update

1 2 3

Route To	Init.	Route To	Init.
.V. Padar			
Dr. Dowling			
		Received from: Nassau Co. Dept. of Health	

Appendix 1.1-1

☐ URGENT

☒ IMPORTANT

☐ ROUTINE

Subject

Denton Ave. Landfill

Program	Public Water Supply
Prepared By	Michael J. Alarcon
Date	November 12, 1982

Item: Describe event; significance; action taken and planned; and recommended action by others.

Well drilling at the Denton Ave. Landfill in New Hyde Park began yesterday as part of the State funded investigation which also includes the Syosset Landfill. Two wells will be approximately 75' deep, two will be approximately 120' deep and one off-site well will be approximately 100' deep. All wells will be 2" diam. with steel casing and 10' stainless steel well screens.

The first well installed yesterday near the northwest corner of the landfill (Well #DA-1) was installed through discolored medium-coarse sand which may have been darkened as a result of leachate passage. A distinct putrescent type odor was evident during the drilling.

Well drilling will continue today and if necessary tomorrow morning. Wells will be developed next week and sampled late next week or early the following week. Drilling is being performed by Layne New York and our project consultant in ERM-Northeast.

The Town of North Hempstead resolution and approval to commence drilling was issued on November 9.

MJA:da

cc: Sheldon O. Smith
Gerard E. Donohue
S. Juczak, R.Curiano
R. Close
T. Burger
D. Myott
F. Cioffi
D. Spiess
R. Liebe

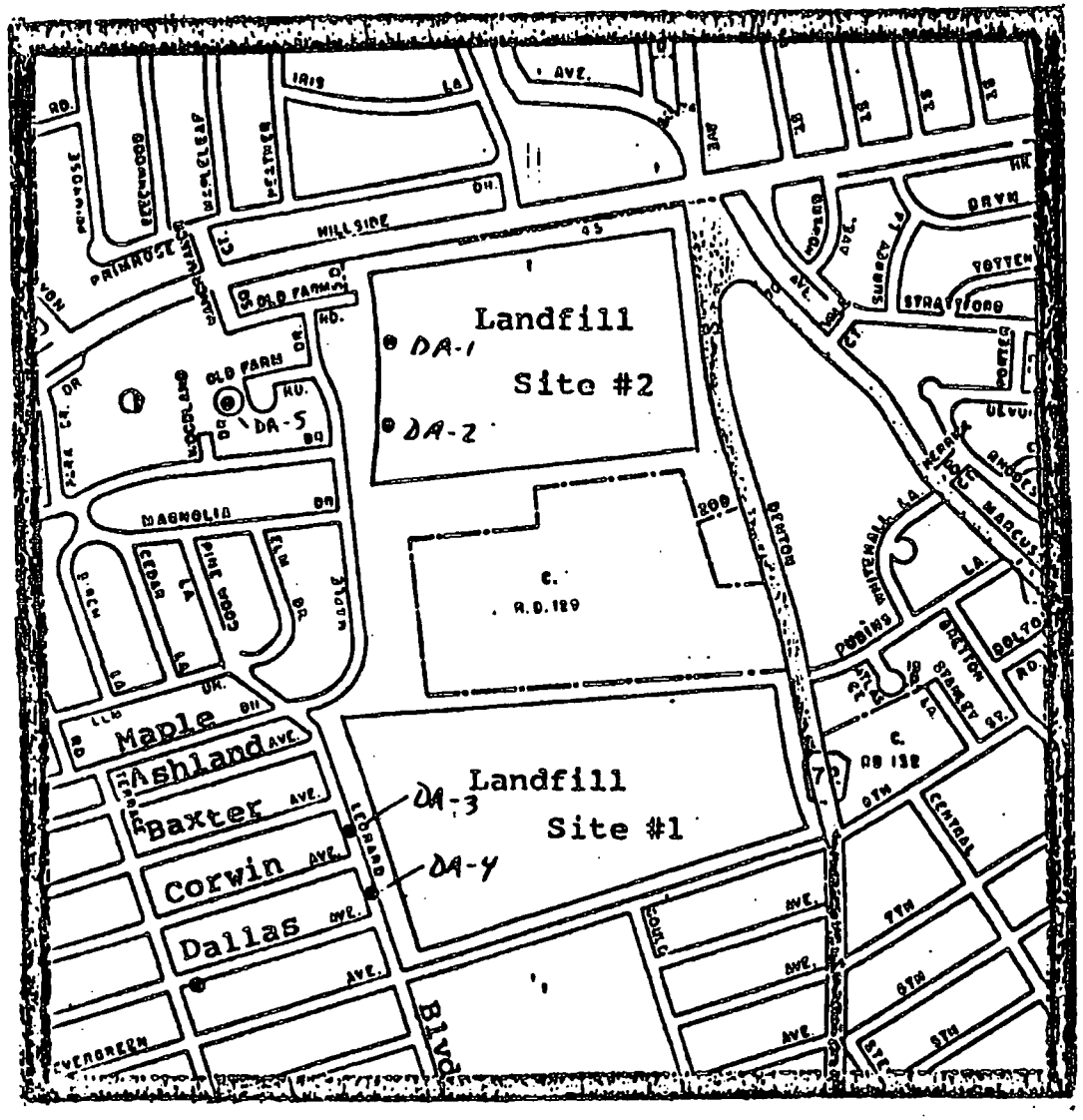
Attachments:

☐ Copy sent to Public Information.

HD 267 2/74

Vicinity Sketch

New Hyde Park Municipal Landfill
Sites #1 and #2



-N-

- Not to scale -

◐ - Manor Oaks - Wm. R. Bowie School

● - Proposed monitoring well location

◎ - Alternate proposed monitoring well location
(Town approval not required)

P. 2012

Appendix 1.1-11

Received from:
Nassau Co. Dept. of Health

EPA Priority Pollutant I Organic

Analytical Results*

for

Landfill Investigation Study

GROUNDWATER MONITORING

~~Syosset Landfill~~ - 3 pages

New Hyde Park (Denton Avenue) Landfill - 3 pages

* Analyzed by Nassau County Department of Health Laboratory

Analytical Results - EPA Priority Pollutant I Organics
Donton Avenue Landfill
(All results in ug/l)

Parameter	Detection Limit(ug/l)	Well Number #1 11/82	#2 11/82	#3 11/82	#4 11/82	#5 11/82
olycyclic Aromatic Hydrocarbons						
itrobenzene	1	-	-	-	-	-
aphthalene	1	-	-	-	-	-
ethylnaphthalene						
imethylnaphthalene	1	NR	-	NR	76	-
-Chloronaphthalene						
luorene	1	NR	-	NR	NR	-
cenaphthene						
cenaphthylene	1	NR	-	NR	NR	-
henanthrene	1	NR	-	NR	-	-
nthracene	1	NR	-	NR	-	-
luoranthene	1	-	-	-	-	-
yrene	1	-	-	-	-	-
hrysene & benzo (a) anthracene	1	-	-	-	-	-
enzo (b) fluoranthene	1	-	-	-	-	-
enzo (k) fluoranthene	1	-	-	-	-	-
enzo (a) pyrene	1	-	-	-	-	-
ibenzo (a,h) anthracene	1	-	-	-	-	-
enzo (a,h,i) perylene	1	-	-	-	-	-
Indeno (1,2,3-c,d) pyrene	1	-	-	-	-	-
Benzidines						
',3' - dichlorobenzidine	1	-	-	-	-	-
enzidine						
Phenols						
Phenol	1	-	-	-	-	-
4-Nitrophenol	1	-	-	-	-	-
2,4-Dinitrophenol	1	-	-	-	-	-
2-Chlorophenol	5	-	-	-	-	-
2-Nitrophenol	1	-	-	-	-	-
2,4-Dimethylphenol	5	-	-	-	-	-
p-Chloro-m-cresol	1	-	-	-	3	-
4,6-Dinitro-o-cresol	1	-	-	-	-	-
2,4-Dichlorophenol	1	-	-	-	-	-
2,4,6-Trichlorophenol	5	-	-	-	-	-
Thymol						
Pentachlorophenol	1	-	-	-	-	-

Analytical Results - EPA Priority Pollutant I Organics
Denton Avenue Landfill
(All results in ug/l)

arameter	Detection Limit (ug/l)	Well Number #1 11/82	#2 11/82	#3 11/82	#4 11/82	#5 11/82
lychlorinated Biphenyls						
B - 1016	1	-	-	-	-	-
B - 1221	1	-	-	-	-	-
B - 1232	1	-	-	-	-	-
B - 1242	1	-	-	-	-	-
B - 1248	1	-	-	-	-	-
B - 1254	1	-	-	-	-	-
B - 1260	1	-	-	-	-	-
lorinated Hydrocarbons						
2,4 - Trichlorobenzene	1	-	-	-	-	-
xachlorobutadiene	1	-	-	-	-	-
xachloroethane	1	-	-	-	-	-
xachlorocyclopentadiene	1	-	-	-	-	-
6-Dinitrotoluene	1	-	-	-	-	-
4-Dinitrotoluene	1	-	-	-	-	-
thalates						
methyl phthalate	2	-	-	-	-	-
ethyl phthalate	2	10	5	8	-	-
-n-butyl phthalate	2	-	2	22	-	-
tylbenzyl phthalate	1	1	-	6	-	-
s (2-ethylhexyl) phthalate	1	10	-	19	-	-
-n-octyl phthalate	1	-	-	11	-	-
trosamines						
nitrosodimethylamine						
nitrosodi-n-propylamine	1					
nitrosodiphenylamine	1					
loethers and Isophorone						
s - (2-chloroisopropyl) ether	5	-	-	-	-	-
s - (2-chloroethyl) ether	5	-	-	-	-	-
ophorone						
s - (2-chloroethoxy) methane	5	-	-	-	-	-
Chlorophenyl phenyl ether	5	-	-	-	6	6
Bromophenyl phenyl ether	1	-	4	-	-	-

A 3 of 4

Analytical Results - EPA Priority Pollutant [Organics

Donton Avenue Landfill
(All results in ug/l)

arameter	Detection Limit (ug/l)	Well Number #1 11/82	#2 11/82	#3 11/82	#4 11/82	#5 11/82
logenated Pesticides						
xachlorobenzene	1	-	-	-	-	-
BHC	1	-	-	-	-	-
BHC	1	-	-	-	-	-
BHC	1	-	-	-	-	-
ptachlor	1	-	-	-	-	-
BHC	1	-	-	-	-	-
ldrin	1	-	-	-	-	-
ptachlor epoxide	1	-	-	-	-	-
-Endosulfan	1	-	-	-	-	-
,4' - DDE	1	-	-	-	-	-
ieldrin	1	-	-	-	-	-
ndrin	1	-	-	-	-	-
,4' - DDD	1	-	-	-	-	-
-Endosulfan	1	-	-	-	-	-
,4' - DDT	1	-	-	-	-	-
ndrin aldehyde	1	-	-	-	-	-
ndosulfan sulfate	1	-	-	-	-	-
hlordane	1	-	-	-	-	-
oxaphene	3	-	-	-	-	-
olatile Halogenated Gases		1/83	1/83	1/83	1/83	1/83
inyl Chloride	10	-	-	-	-	-

Abbreviations: - = below detection limit
NR = not reported

p. 4444

Appendix 1.1-12

EA SCIENCE AND TECHNOLOGY

A Division of EA Engineering, Science and Technology, Inc.

COMMUNICATIONS RECORD FORM

Distribution: ( ) _____, ( ) _____
( ) _____, ( ) _____
( ) Author

Person Contacted: Mr. Robert F. Dolan Date: 05 January 1987

Phone Number: (516) 627-0590 Title: Town Attorney

Affiliation: Town of North Hempstead Type of Contact: Phone

Address: 220 Plandome Rd Person Making Contact: Ken B. Metzger
Manhasset, New York 11030

Communications Summary: I called Mr. Dolan regarding the sampling of groundwater and methane sampling. He said that there has been no sampling at the site in years.

(see over for additional space)

Signature: Ken B. Metzger

Appendix 1.2-1

Appendix 1.2-2

EA SCIENCE AND TECHNOLOGY
A Division of EA Engineering, Science, and Technology, Inc.

19

COMMUNICATIONS RECORD FORM

Distribution: (X) File, ( ) _____
( ) _____, ( ) _____
( ) Author

Person Contacted: Mr. Mirando Date: 31 March 1986

Phone Number: (516) 742-5802 Title: Public Works Superintendent

Affiliation: Garden City Water District Type of Contact: Telephone

Address: _____ Person Making Contact: E. Bidwell

Communications Summary:

WELL #	DEPTH	AQUIFER
N-3881	470	Magothy
N-8339	363	Magothy
N-7058	445	Magothy
N-1697	528	Magothy
N-95	539	Magothy
N-94	382	Magothy (No longer used)

The systen is fully integrated. He will send us a distribution map.

Population served is approximately 23,000.

Have received distribution map.

(see over for additional space)

Signature: Ellen Bidwell

EA SCIENCE AND TECHNOLOGY
A Division of EA Engineering, Science and Technology, Inc.

19

COMMUNICATIONS RECORD FORM

Distribution: (X) File, ( ) _____
( ) _____, ( ) _____
( ) Author

Person Contacted: Lenny Falco Date: 31 March 1986

Phone Number: (516) FL4-0780 Title: Superintendent

Affiliation: Franklin Square Water District Type of Contact: Telephone

Address: PO Box 177
F.S. New York 11010
Person Making Contact: E. Bidwell

Communications Summary:

WELL #	DEPTH	AQUIFER
N-3603	498	Magothy Formation
N-3604	498	Magothy

Population served - 21,000
Fully integrated system

I am sending a letter requesting a distribution map.

(see over for additional space)

Signature: Eva Bidwell

EA SCIENCE AND TECHNOLOGY
A Division of EA Engineering, Science, and Technology, Inc.

COMMUNICATIONS RECORD FORM

Distribution: (x) File, ( ) _____
( ) _____, ( ) _____
( ) Author

Person Contacted: Mr. Michael Steban Date: 31 March 1986

Phone Number: (516) 466-4413 Title: Water Superintendent

Affiliation: Manhasset-Lakeville Water District Type of Contact: Telephone

Address: Board of Water Commissioners Person Making Contact: E. Bidwell
170 East Shore Road
Manhasset, New York 11030

Communications Summary:

WELL #	DEPTH	AQUIFER	STATUS
N-7651	408	Magothy	
N-1802	691	Lloyd	
N-3905	254	Magothy	History of organics
N-1243	255	Magothy	History of organics
N-7892	455	Magothy	Summer well only
N-7126	461	Magothy	
N-5710	385	Magothy	Restricted use
N-1618	550	Lloyd	Active
N-5099	399	Magothy	Waiting to install new screen
N-1328	746	Lloyd	

Integrated - yes
Population served - 46,048 9,859 services
Distribution map - ordered by letter

(see over for additional space)

Signature: Ken Bidwell

EA SCIENCE AND TECHNOLOGY
A Division of EA Engineering, Science, and Technology, Inc.

p. 1/9

COMMUNICATIONS RECORD FORM

Distribution: (x) File, ( ) _____
( ) _____, ( ) _____
( ) Author

Person Contacted: Mr. Becker Date: 31 March 1986

Phone Number: (516) 488-4600 Title: Engineer

Affiliation: Jamaica Water District Type of Contact: Telephone

Address: 410 Lakeville Road Person Making Contact: E. Bidwell
Lake Success, New York 11042

Communications Summary:

WELL #	DEPTH	AQUIFER	STATUS
N-15	101	Glacial	Abandoning the well
N-1958	720	Lloyd	
N-14	106	Glacial	
N-4077	90	Glacial	BOC treatment
N-4298	384	Magothy	BOC treatment
N-6744	94	Glacial	
N-6745	344	Magothy	
N-5155	90	Glacial	
N-5156	331	Magothy	
N-4390	301	Magothy	
N-7445	453	Magothy	

Population served - 129,000; 27,500 services.

They have integrated system but have a high and low zone. These wells are in both. I have sent him a letter requesting a distribution map.

(see over for additional space)

Signature: Ellen Bidwell

EA SCIENCE AND TECHNOLOGY

A Division of EA Engineering, Science and Technology, Inc.

19

COMMUNICATIONS RECORD FORM

Distribution: (x) File, ( ) _____
( ) _____, ( ) _____
( ) Author

Person Contacted: Mr. George Lee Date: 4 April 1986

Phone Number: (516) 621-3610 Title: District Superintendent

Affiliation: Albertson Water District Type of Contact: Telephone

Address: 184 Shepherd Lane Person Making Contact: E. Bidwell
Roslyn Heights, New York 11577

Communications Summary:

WELL #	DEPTH	AQUIFER	
N-3732	355	Magothy	Integrated - yes
N-3733	455	Magothy	Population served - 13,000
N-8558	415	Magothy	Distribution maps - ordered
N-4327	430	Magothy	
N-5947	370	Magothy	

(see over for additional space)

Signature: Ellen Bidwell

EA SCIENCE AND TECHNOLOGY

A Division of EA Engineering, Science, and Technology, Inc.

A-19

COMMUNICATIONS RECORD FORM

Distribution: (x) File, ( ) _____
( ) _____, ( ) _____
( ) Author

Person Contacted: Mr. Joe Passariello Date: 4 April 1986

Phone Number: (516) 746-0750 Title: District Superviser

Affiliation: Mineola Village Water District Type of Contact: Telephone

Address: 167 Elm Place Person Making Contact: E. Bidwell
Mineola, New York 11501

Communications Summary:

WELL #	DEPTH	AQUIFER		
N-578	407	Magothy	(out of service)	Integrated - yes
N-8576	510	Magothy		Population served - 21,000
N-97	369	Magothy		Distribution map - ordered
N-4082 (Sheridan & Brown)	467	Magothy		
N-5596 (Glen Cove & Voice Road)	468	Magothy		

(see over for additional space)

Signature: Eric Bidwell

EA SCIENCE AND TECHNOLOGY
A Division of EA Engineering, Science, and Technology, Inc.

COMMUNICATIONS RECORD FORM

Distribution: (x) File, ( ) _____
( ) _____, ( ) _____
( ) Author

Person Contacted: Mr. Mahoney Date: 31 March 1986

Phone Number: (516) 707-0171 Title: _____

Affiliation: Port Washington Water District Type of Contact: Telephone

Address: Post Office Box 432
38 Sandy Hollow Road Person Making Contact: E. Bidwell
Port Washington, New York 11050

Communications Summary:

WELL #	DEPTH	AQUIFER
N-7551	473	Magothy
N-7552	458	Magothy

Population served - 38,000

Distribution map - ordered by letter

System integrated - yes

(see over for additional space)

Signature: Ellen Bidwell

EA SCIENCE AND TECHNOLOGY

A Division of EA Engineering, Science and Technology, Inc.

COMMUNICATIONS RECORD FORM

Distribution: (X) File, ( ) _____
( ) _____, ( ) _____
( ) Author

Person Contacted: Mr. Joseph Palogonia Date: 4 April 1986

Phone Number: (516) 483-1180 Title: Superintendent

Affiliation: West Hempstead-Hempstead Garden WD Type of Contact: Telephone

Address: 575 Birch Street Person Making Contact: E. Bidwell
West Hempstead, New York 11552

Communications Summary:

WELL #	DEPTH	AQUIFER	
N-7720	511	Magothy	Integrated - yes
			Population served - 28,000
			Distribution map - ordered

On 16 June 1986 Mr. Palogonia informed me that he was refusing to send us a distribution map.

(see over for additional space)

Signature: Ellen Bidwell

Appendix 1.2

MEMORANDUM

NASSAU COUNTY DEPARTMENT OF HEALTH

240 Old Country Road - Mineola, New York 11501

To : Stanley Juczak, Jr.

Date: July 30, 1980

File

From : Donald Aitken, Jr.

Subject : Drainage From TNH Recreation Park (Denton Ave, Landfill).

On July 29, 1980, a survey was made of the former Denton Avenue (TNH) Landfill which has, since its closure, been developed into a Recreational Park (Swimming Pool, Golf Driving Range and Tennis and Handball Courts).

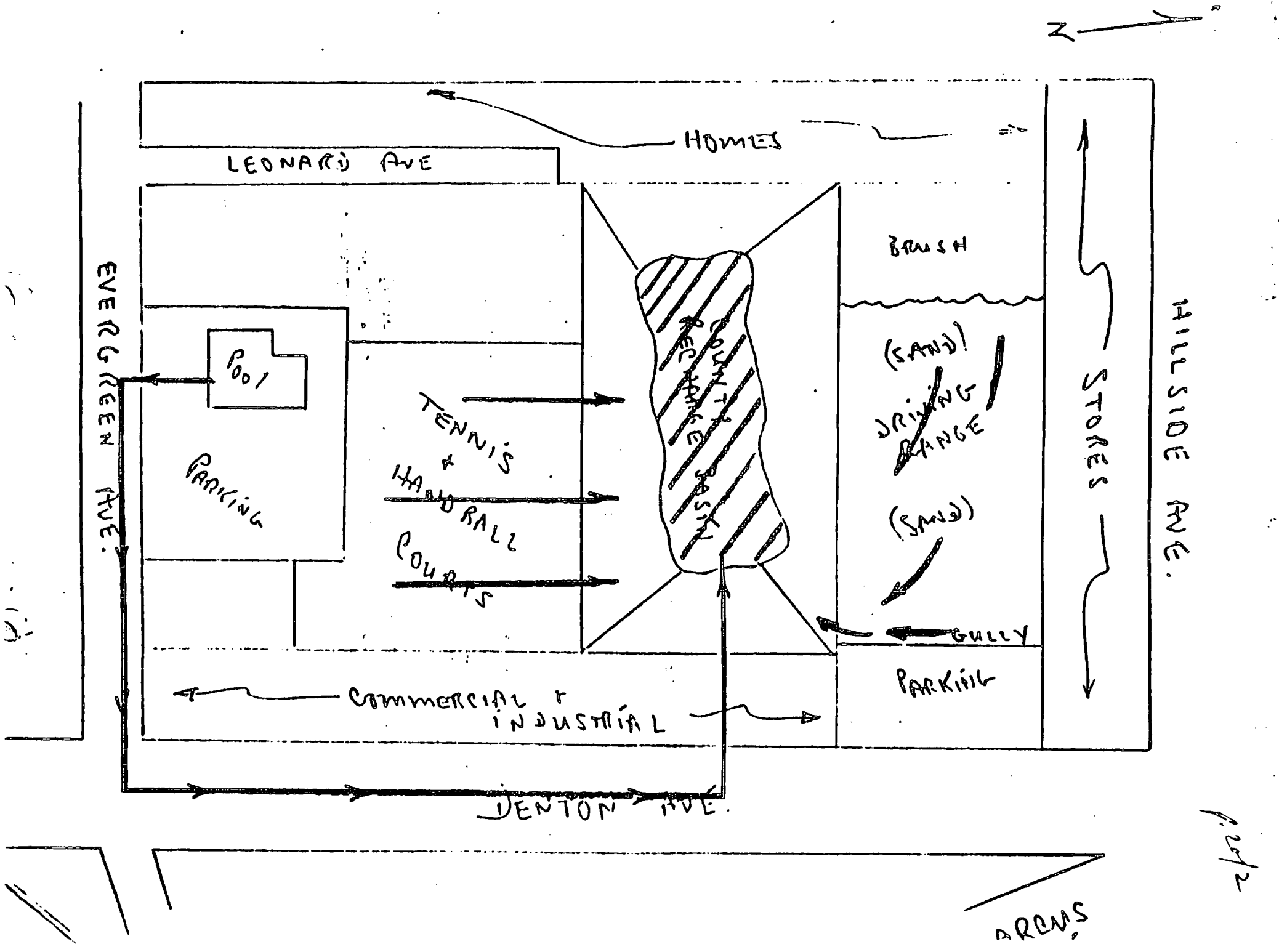
The driving range has a slight slope from west to east and water collects in a small gully which empties into the County Recharge Basin. After only four hours of moderate rain (8 a.m. to 12-noon) several areas of ponding were observed.

The handball and tennis courts drain directly into the recharge basin, whereas the pool complex empties into a lateral storm drain (Evergreen Avenue). This, in turn, empties into the main on Denton Avenue and the water travels north only as far as an outlet to the basin.

The map attached shows the course of the water in red with surrounding structures.

DA

DA:ed
Attachment - Map of Denton Avenue,
New Hyde Park, N.Y.


N
HOMES
LEONARD AVE
BRUSH
(SAND)
DRIVING RANGE
(SAND)
GULLY
PARKING
STORES
HILLSIDE AVE.
EVERGREEN AVE.
POOL
PARKING
TENNIS
&
HANDBALL
COURTS
COUNTY RECREATION BASIN
COMMERCIAL &
INDUSTRIAL
DENTON AVE.
ARCMS

Hydrogeology of Northwestern Nassau and Northeastern Queens Counties Long Island, New York

By WOLFGANG V. SWARZENSKI

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1657

Prepared in cooperation with the Nassau County Department of Public Works and the New York State Water Resources Commission

With special reference to water in Cretaceous and Pleistocene aquifers

Appendix 1.3-1
1 of 36

UNITED STATES GOVERNMENT PRINTING OFFICE, WASHINGTON, 1963

UNITED STATES DEPARTMENT OF THE INTERIOR

STEWART L. UDALL, *Secretary*

GEOLOGICAL SURVEY

Thomas B. Nolan, *Director*

The U.S. Geological Survey Library has cataloged this publication as follows:

Swarzenski, Wolfgang Victor, 1917–
Hydrogeology of northwestern Nassau and northeastern Queens Counties, Long Island, New York. Washington, U.S. Govt. Print. Off., 1963.

88 p., maps, diagrs., tables. and portfolio (maps, diagrs., profile) 24 cm. (U.S. Geological Survey. Water-supply paper 1657)

Prepared in cooperation with the Nassau County Department of Public Works and the New York State Water Resources Commission.
Bibliography: p. 62–63.

(Continued on next card)

Swarzenski, Wolfgang Victor, 1917–
Hydrogeology of northwestern Nassau and northeastern Queens Counties, Long Island, New York. 1963. (Card 2)

1. Geology—Long Island. 2. Water, Underground—Long Island. 3. Water-supply—Long Island. 4. Borings—Long Island. I. Title. (Series).

For sale by the Superintendent of Documents, U.S. Government Printing Office

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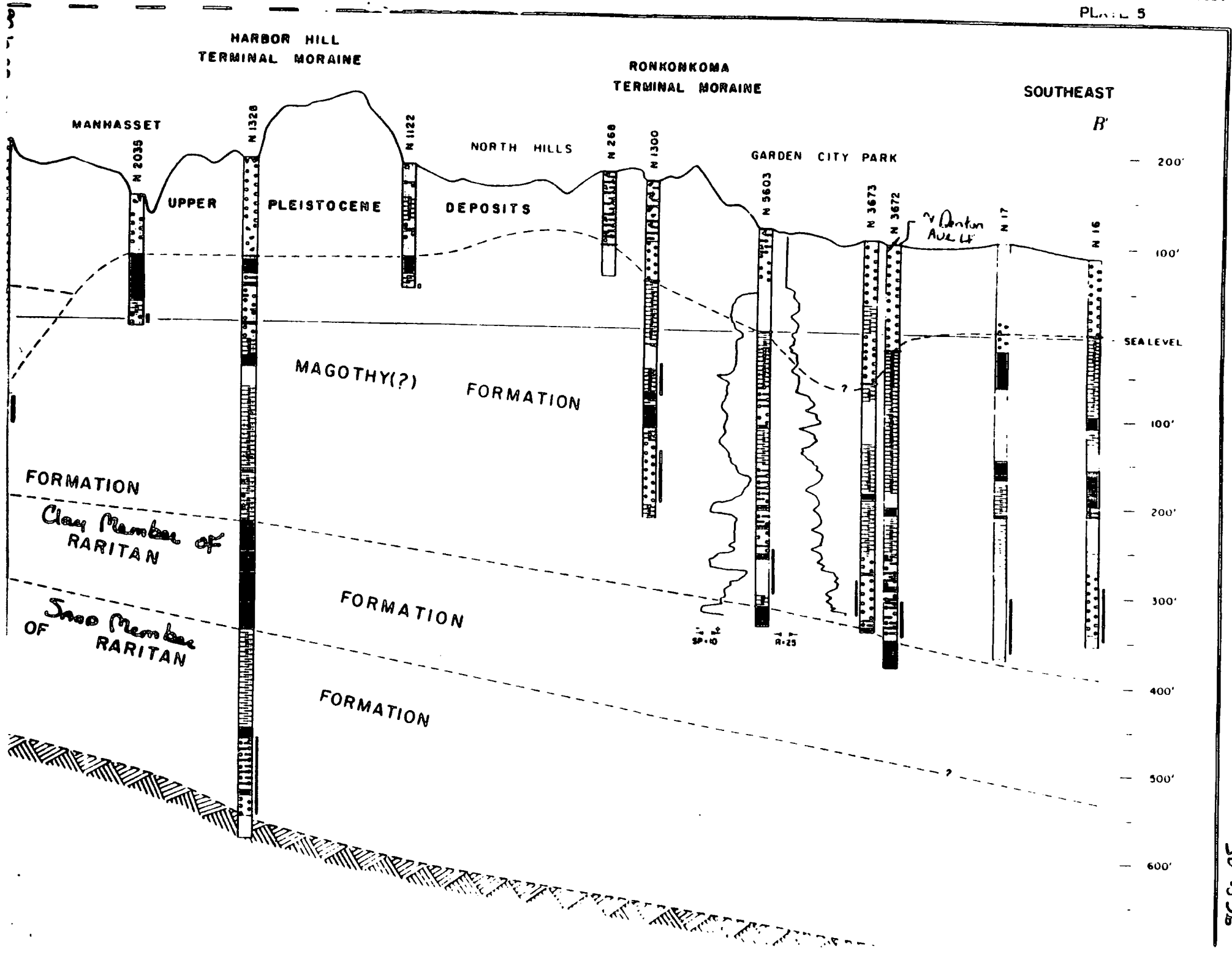
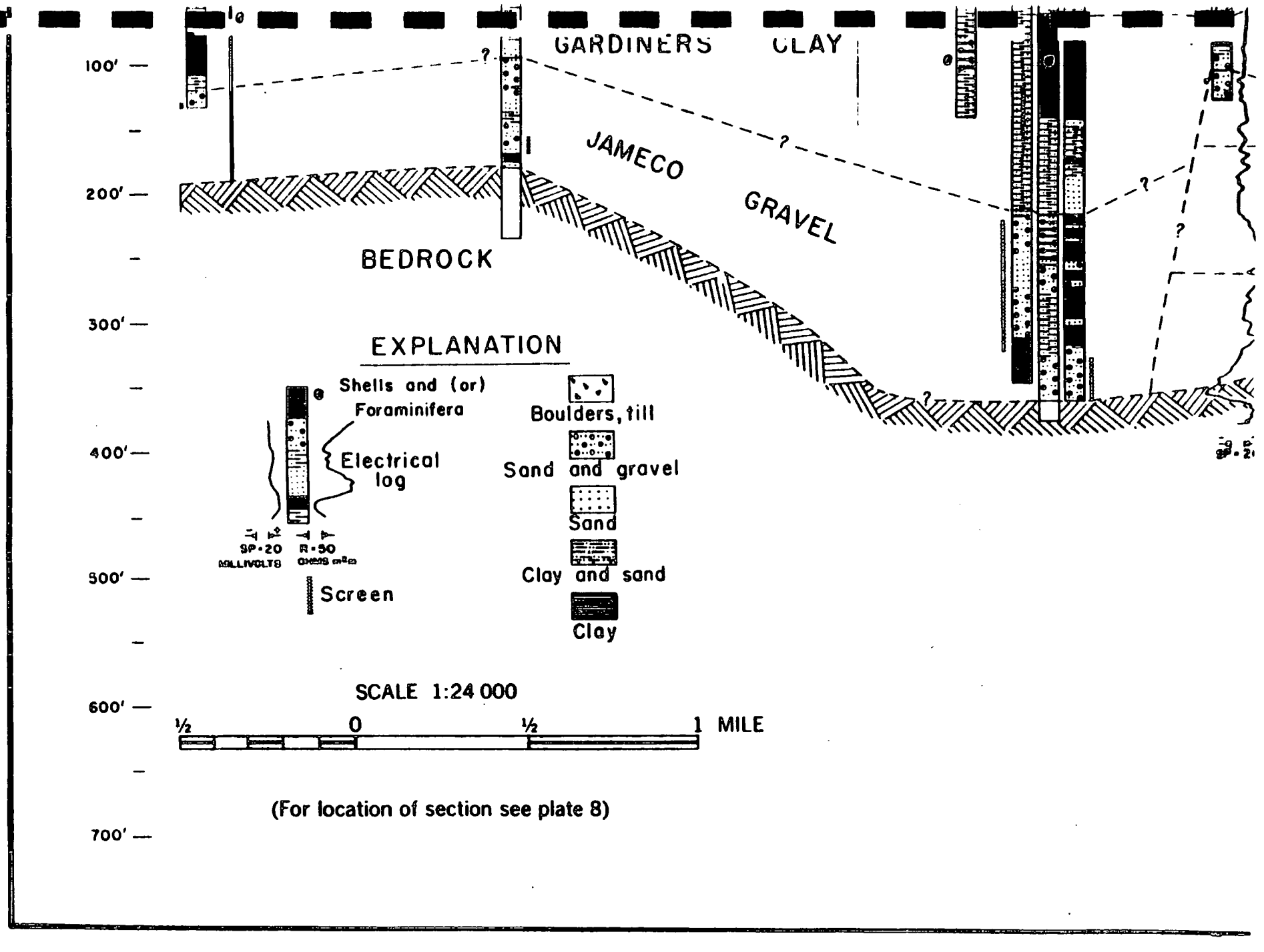
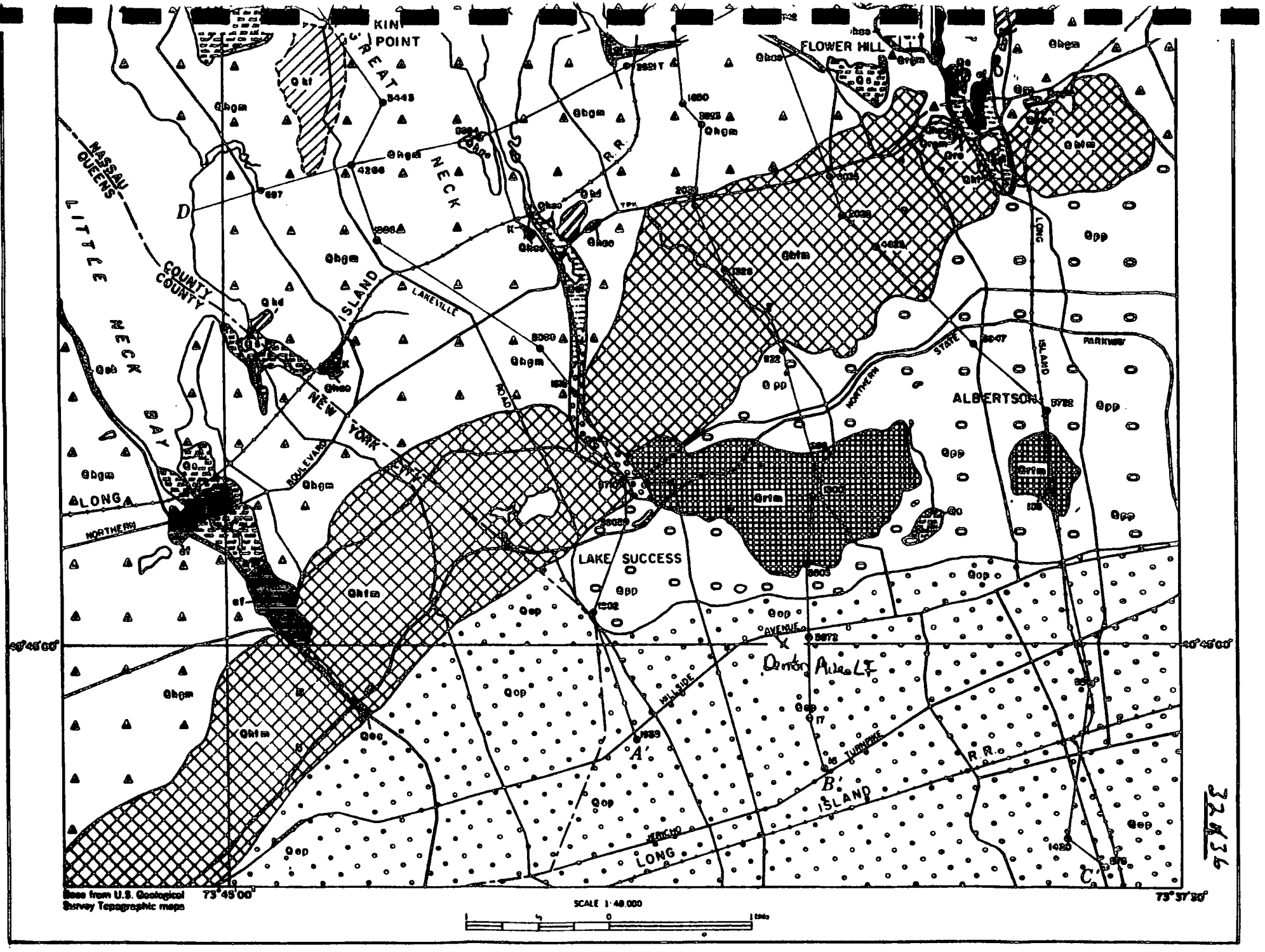

HARBOR HILL
TERMINAL MORAINE
RONKONKOMA
TERMINAL MORAINE
SOUTHEAST
B'
MANHASSET
N 2035
N 1328
N 1122
NORTH HILLS
N 268
N 1300
GARDEN CITY PARK
N 3603
N 3673
N 3672
N 17
N 16
UPPER
PLEISTOCENE
DEPOSITS
MAGOTHY(?)
FORMATION
FORMATION
Clay Member of
RARITAN
FORMATION
Sand Member
OF RARITAN
FORMATION
200'
100'
SEA LEVEL
100'
200'
300'
400'
500'
600'

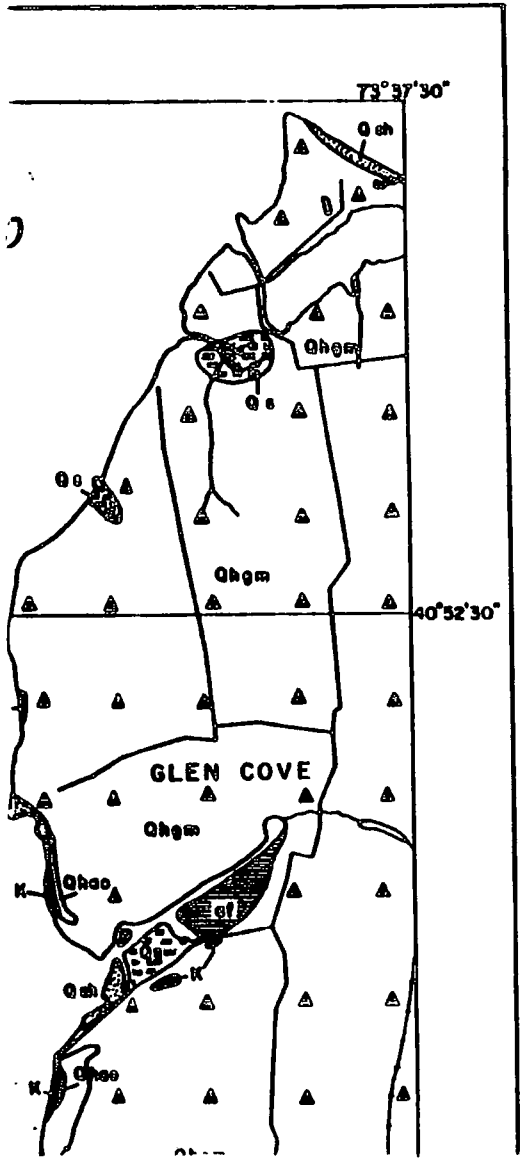

GARDINERS CLAY
JAMECO GRAVEL
BEDROCK
100'
200'
300'
400'
500'
600'
700'
EXPLANATION
Shells and (or) Foraminifera
Electrical log
SP-20 MILLIVOLTS
R-50 OHMS m²m
Screen
Boulders, till
Sand and gravel
Sand
Clay and sand
Clay
SCALE 1:24 000
½ 0 ½ 1 MILE
(For location of section see plate 8)

GEOL

31 of 36



GEOLOGIC MAP OF NORTHWESTERN NASSAU AND NORTHEASTERN QUEENS COUNTIES, NEW



EXPLANATION

Recent

Qsh — **Shoreline deposits**
Chiefly well sorted sand, gravel, and pebbles deposited by current and (or) wave action, as beaches, spits, and bars along shore

Qal — **Alluvial deposits**
Stream-deposited sand and silt; may contain small amount of organic material

Qs — **Swamp deposits**
Sand, silt, and clay, mixed with decaying plant debris accumulated in marshy areas

Pleistocene — Harbor Hill drift

Qoc — **Outwash in channels**
Stratified sand and gravel deposited in meltwater channels breaching the Harbor Hill terminal moraine

Qop — **Outwash plain**
Well sorted and stratified sand and gravel of fluvioglacial origin; may include some Ronkonkoma outwash

Qpp — **Pitted outwash plain**
Outwash plain of sand and gravel with irregular depressions that are due to melting of buried or partly buried ice blocks; may include some Ronkonkoma outwash

Qkt — **Kame terrace**
Stratified sand and gravel deposited along valley walls by glacial streams

Qkd — **Kame delta**
Horizontally bedded sand and gravel overlying steeply inclined, well-sorted sand and gravel strata

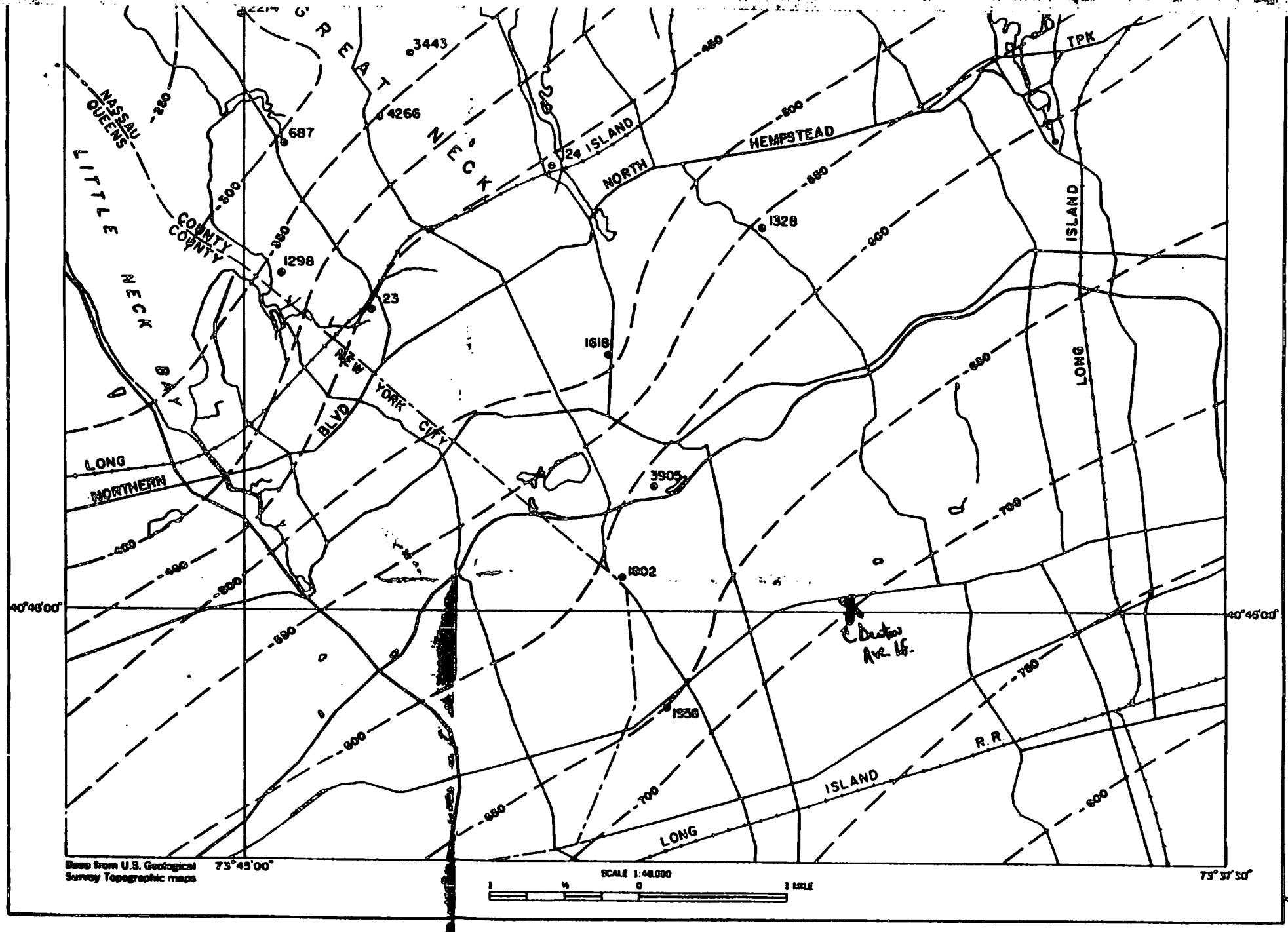
Qhgm — **Harbor Hill ground moraine**
Till, unsorted mixture of clay, sand, and boulders deposited by glacial ice. Forming thin veneer over area north of Harbor Hill terminal moraine, average thickness about 5-10 feet, locally as much as 40 feet

Qhtm — **Harbor Hill terminal moraine**
Thick accumulation of unsorted till and stratified sand and gravel marking stationary front of ice sheet

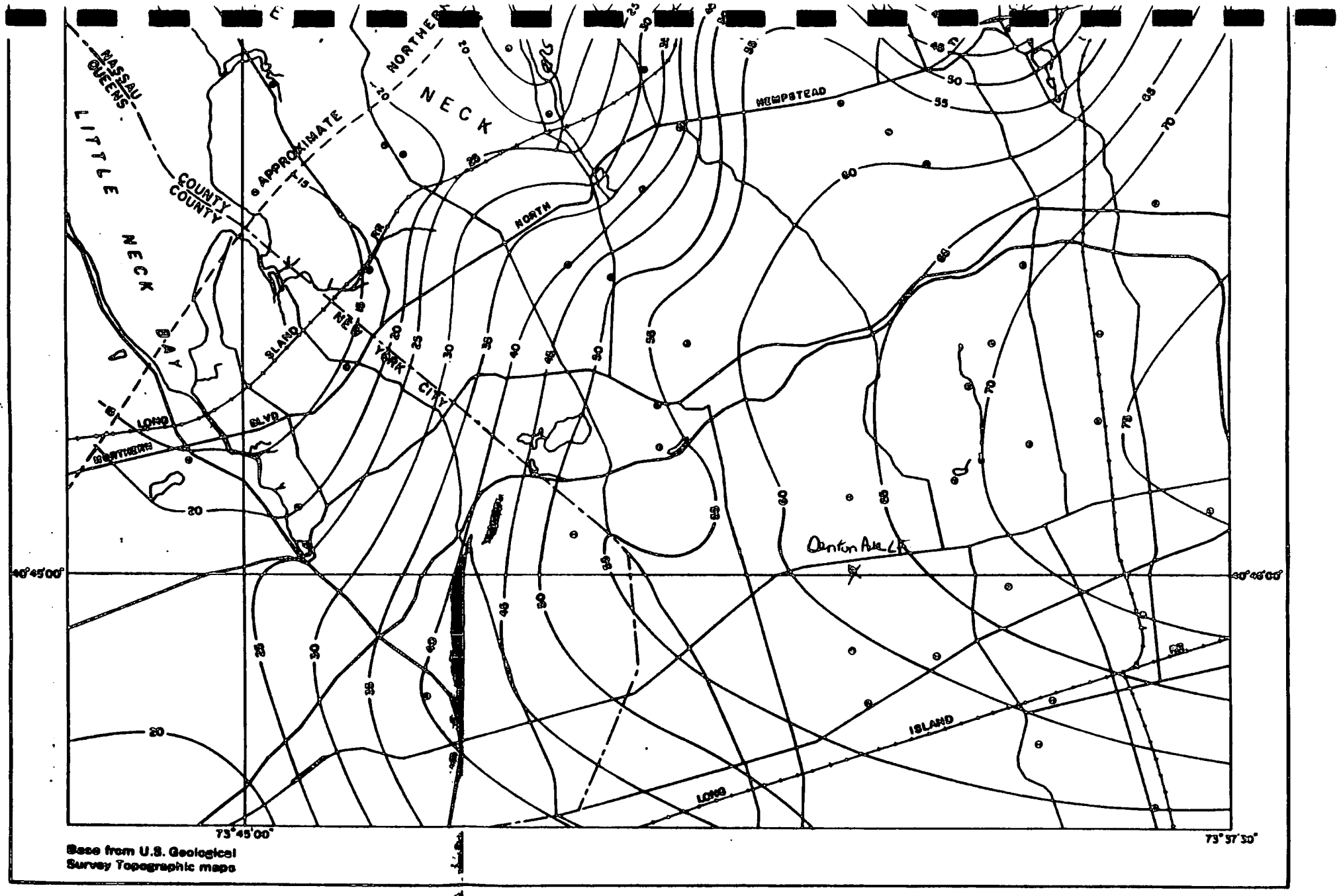
Qhao — **Harbor Hill advance outwash**
Well-stratified sand and gravel, largely proglacial outwash from Harbor Hill ice sheet; may include some Ronkonkoma retreatal outwash

QUATERNARY

33936



MAP OF NORTHWESTERN NASSAU AND NORTHEASTERN QUEENS COUNTIES, NEW YORK, SHOWING APPROXIMATE CONTOURS ON THE BURIED BEDROCK SURFACE



MAP OF NORTHWESTERN NASSAU AND NORTHEASTERN QUEENS COUNTIES, NEW YORK, SHOWING PIEZOMETRIC SURFACE OF PRINCIPAL AQUIFER IN APRIL 1957

SCALE 1:48 000

½ 0 1 MILE

CONTOUR INTERVAL 5 FEET

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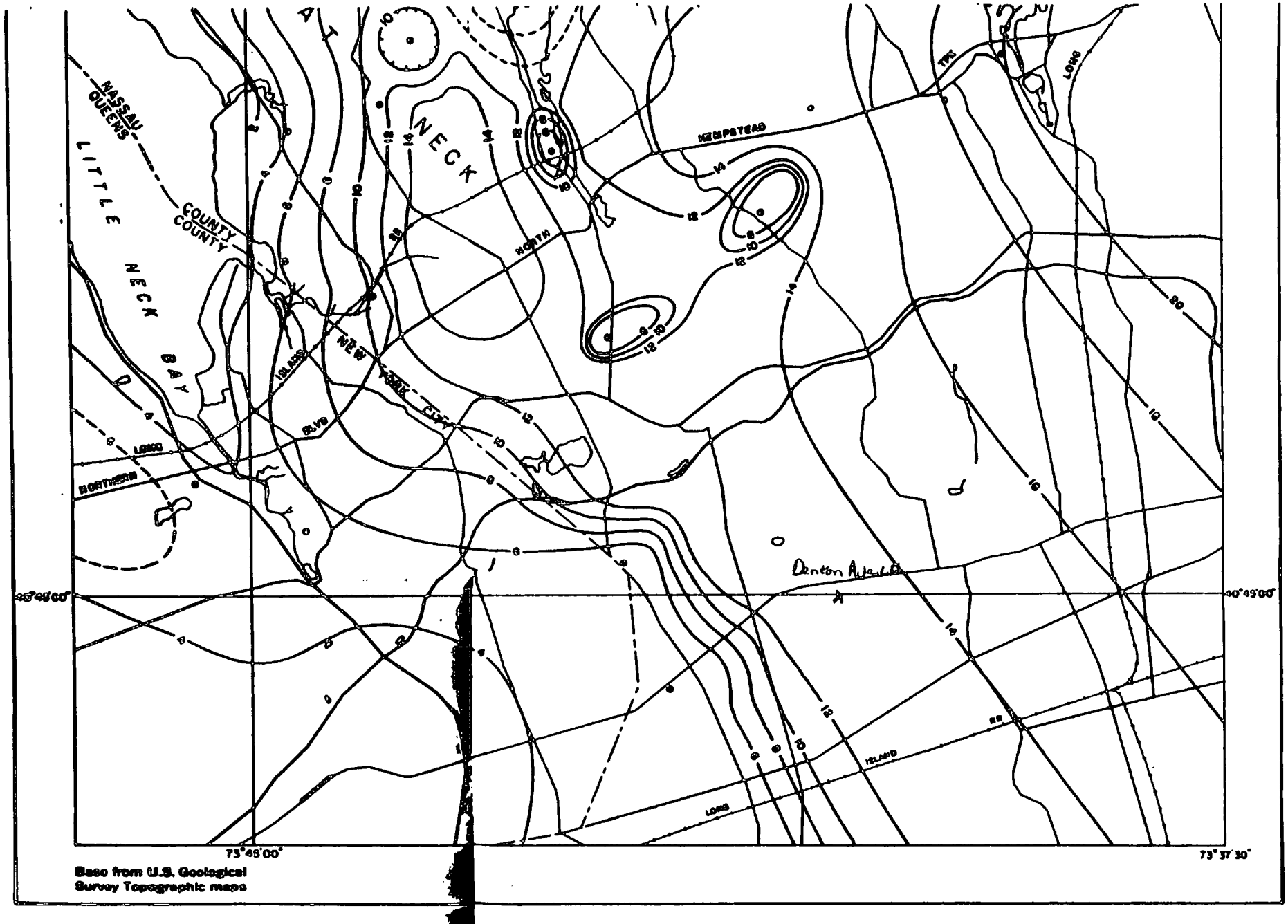


APPROXIMATE CONTOUR MAP ON PIEZOMETRIC SURFACE OF DEEP CONFINED AQUIFER IN APRIL 1957

SCALE 1:48 000

½ 0 1 MILE

36/36

Nassau

County

W.S.A 1596 + 1617

Appendix 1.3-c

Well No. V - 1066

(on preliminary report)

N-1958

GW-1

ORIGINAL—TO COMMISSION

State of New York
Department of Conservation
Division of Water Power and Control

LOG
round Surf. El. 113 ft. above sea

Top of well

COMPLETION REPORT—LONG ISLAND WELLS

(Located ~1 mile WSW of Denton Ave. Landfill)

LOG C't'd

STATE OF NEW YORK
WATER POWER AND
JUN 1 1945
CONTROL COMMISSION
RECEIVED

Owner: Farmers Water Supply Co.

Address: 191-20 89th Ave.

Location of well: 4" - Hillside Ave
New Hyde Park
Nassau county.

Depth below surface: 737 ft.

Depth to water: Ground water 110' ft.; Finished well 110' ft.

CASINGS:

Diameter	30 in.	20 in.	12 in.	8 in.
Length	115' ft.	382 ft.	369 ft.	133 ft.
Sealing	Drawing Cement			
Casings removed	—			

SCREENS: Make Layne Openings Shutter

Diameter	8 in.	in.	in.	in.
Length	60 ft.	ft.	ft.	ft.
Depth to top from top of casing	667 ft.			

PUMPING TEST: Date 5-22-45 Test or permanent pump? Permanent

Duration of Test 6 days 2 hours

Maximum Discharge 1250 gallons per minute

Static Level Prior to Test 113 ft. in. below top of casing

Level during Max. Pumping 155 ft. in. below top of casing

Maximum Drawdown 42 ft.

Approx. time of return to normal level after cessation of pumping 6 hours 25 minutes

PUMP INSTALLED:

Type Turbine Make Layne Model No. DRHC 5"

Motive power Elec. Make GE Co. H.P. 125

Capacity 1250 g.p.m. against } 150 ft. of discharge head
No. bowls or stages 8 } 300 ft. of total head

DROP LINE: SUCTION LINE:

Diameter	10" in.	10" in.
Length	199'-2" ft.	To Suction 10' ft.

Use of water Public Supply

Work started 7-19-44 Completed 5-22-45

Date 5-31-45 Driller Layne New York Co. Inc. By W. A. Hoppe

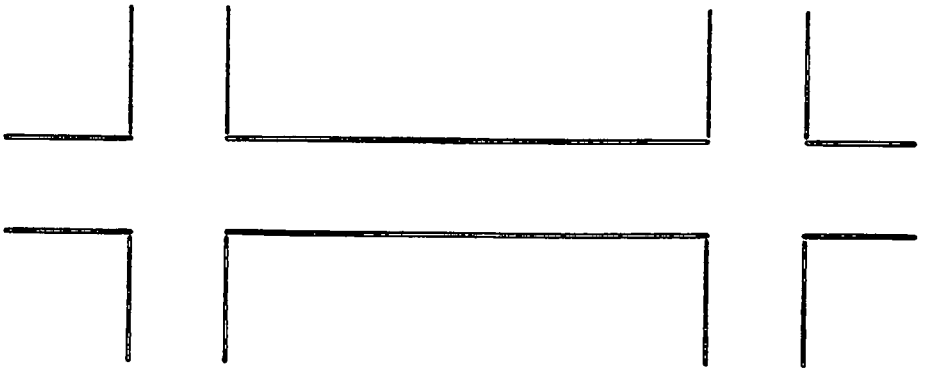
License No. 5

CHLORIDES
5/10/49 5PPM
ASSUMED 3.84
as NEERBY
N-1802
8/10/49 4.2 ppm

NOTE: Show log of well—materials encountered, with depths below ground surface, water-bearing beds and water levels in each, casings, screens, pump, additional pumping tests and other matters of interest. Describe repair job.

See Instructions as to Well Drillers' Licenses and Reports—pp. 5-7.

SKETCH OF LOCATION



Locate well with respect to at least two streets or roads, showing distance from corner and front of lot.

Show North Point

Reference

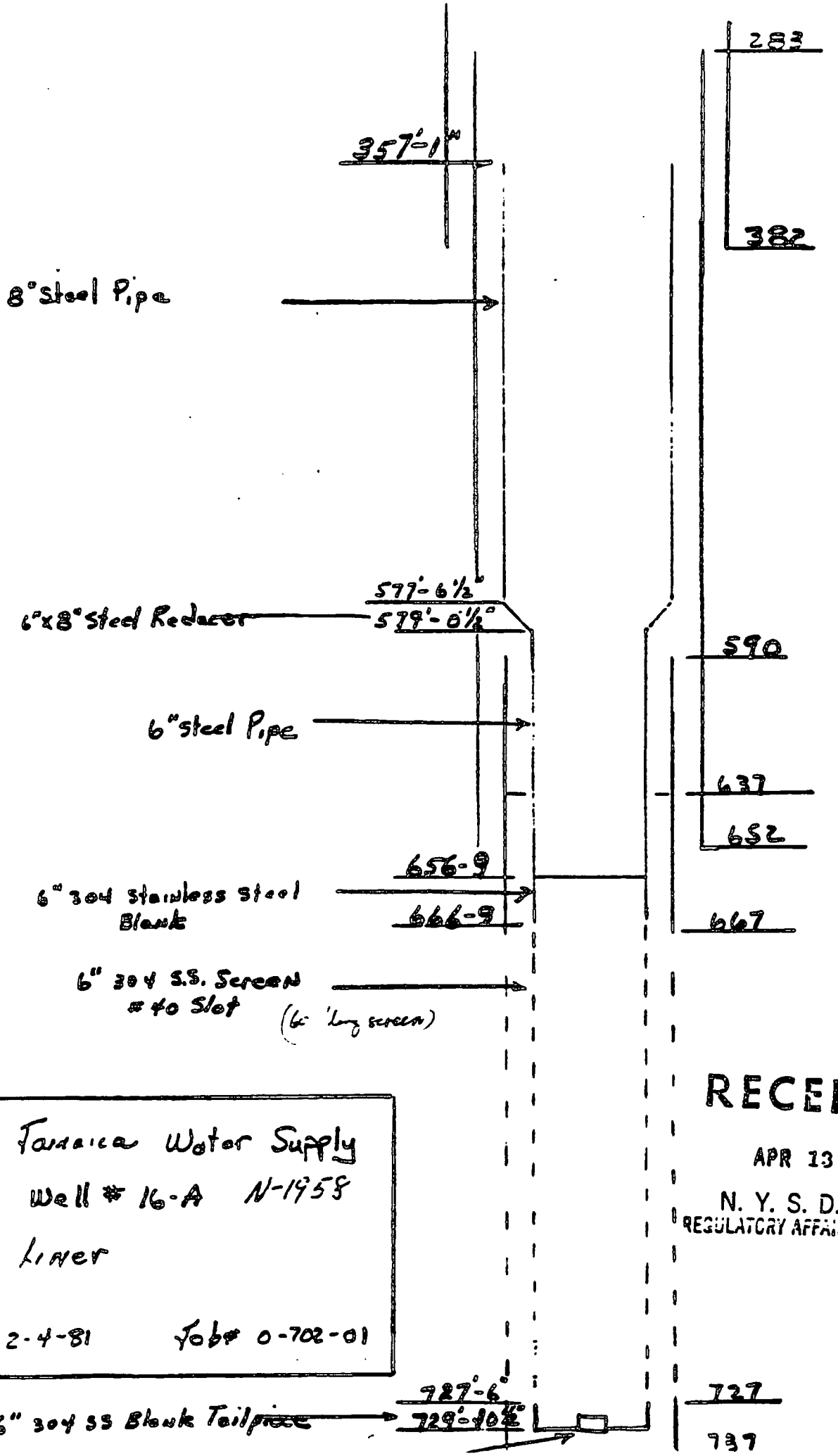
11/22/57 - Layne - Cleaned well and replaced old pump bowls with new ones. No Change in

3-11-65 - 114' to H2O - cleaned, bailed well, removed pump - no changes made in pump or well.

3/13/70 - Layne - Installed new column assembly. See print.

3/6/81 - Layne - Installed liner & new 15" DRHC 8-stage oil lube pump bowl Depth to water @ 110'.8"

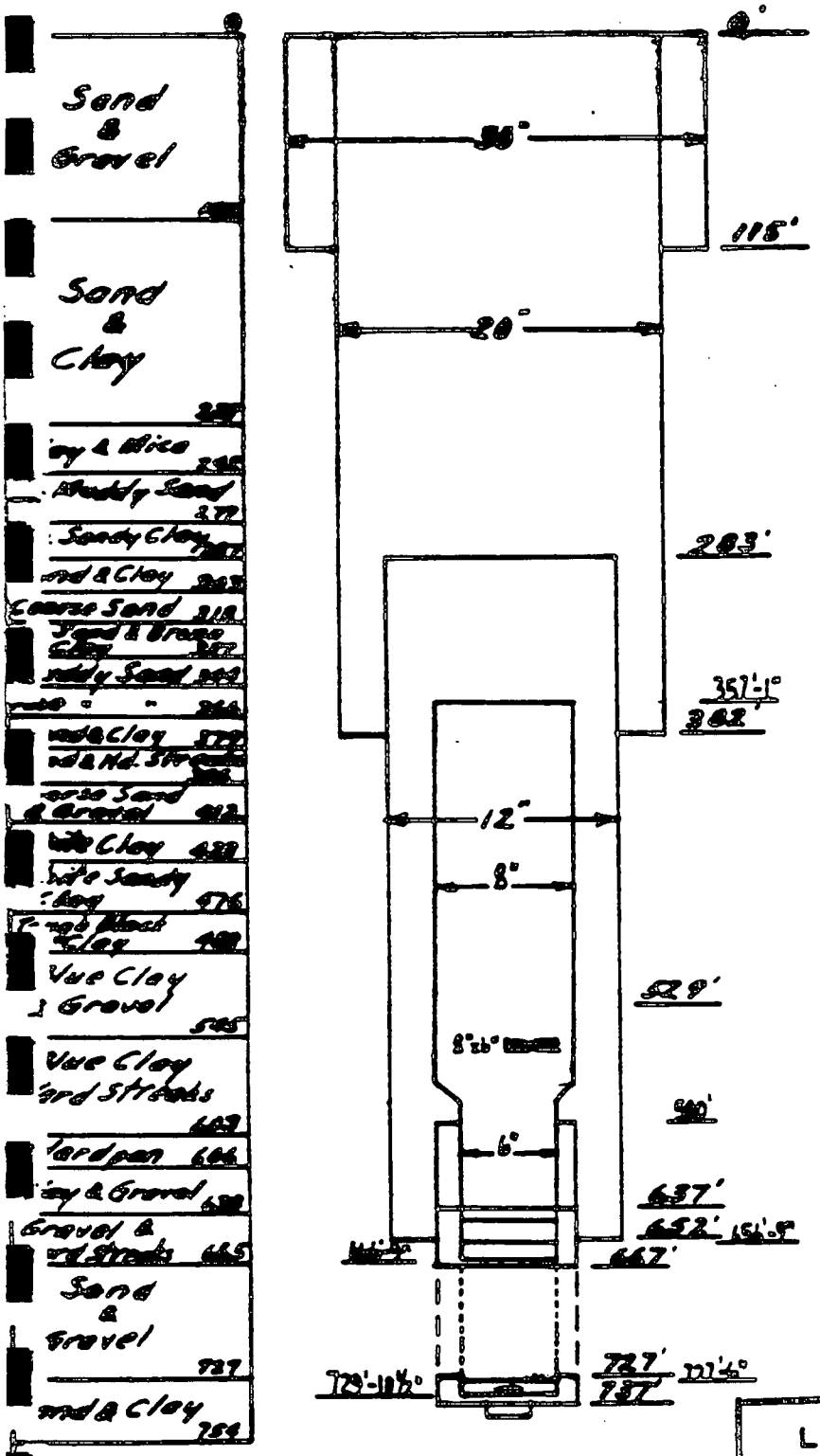
1/6/83 - Layne - Installed new 15" DRHC 8-Stage oil lube pump bowl complete.
Depth to water 110'.



Jamaica Water Supply
Well # 16-A N-1958
Liner

2-4-81 Job# 0-702-01

RECEIVED
APR 13 1981
N. Y. S. D. E. C.
REGULATORY AFFAIRS, REGION I



Material

Pit: 115' of 30" Steel Pipe, [illegible]
302' of 20" " " [illegible]
359' of 12" " " [illegible]
[illegible]

Screen: [illegible]
[illegible]

Cover: [illegible]

Pump

Type	Vertical [illegible]	Size No.	[illegible]
Setting	[illegible]	Size	[illegible]
Suction	[illegible]	Stages	[illegible]
Basket	[illegible]	Impeller	[illegible]
Discharge	[illegible]	Head	[illegible]
Tubing	3"	Press. R. P.	65#
Shafting	1⅞"	Air Line	209'

Discharge Pipe Covered Lined
ALL NEW [illegible] 3-10 W G PL. PLAS. C.L.

Motor

10-4-46

Make	Westinghouse	Type	Slip Ring
Volts	2300	Cycle	60
Phase	3	Amp.	34
H. P.	125	R. P. M.	1200
Frame	~~[illegible]~~ 772C	Form	Vertical
Model	~~[illegible]~~ 767934	Serial	~~[illegible]~~ 7681801

Well

Started	7-19-44	Static Level	110'
First Test	9-20-44	Production	[illegible]
Final Test	5-22-46	Pumping Level	[illegible]
Accepted	5-22-46	Guarantee	1200
Clear Depth	727'	Press.	65#

Driller: Ray Firestone

Installer: C. A. Jolley

LINED BY LAY. CO. N.Y. FEB. 1951
220' OF 8" DIAM. x .322" WALL BLACK STEEL PIPE WELDED
78' OF 8" DIAM. x .322" WALL BLACK STEEL PIPE WELDED
19' OF 6" DIAM. x .188" WALL - 304 STAINLESS STEEL PIPE WELDED
60' OF 6" DIAM. - [illegible] - 304 STAINLESS WIRE WRAP. SLOT # 40
15 CU. YD. OF MORIE GRAVEL #2 + #3 MIX

L-25-41
WL = 110'
WD = 448 GPM
PWL = 129'

LAYNE-NEW YORK CO., INC. NEW YORK, N. Y.
WATER SUPPLY CONTRACTORS

N 1956

JAMAICA WATER SUPPLY CO.
4th STREET & HILLSIDE AVE.
NEW HYDE PARK, N.Y.

DRAWN BY R.K.H. APPROVED BY W.A.N.

[illegible] NO. 16A DRAWING NO.

County Nassau

ORIGINAL—TO COMMISSION

5 of 6

Well No. N-3672 (on preliminary re

State of New York
Department of Conservation
Division of Water Resources

LOG

Ground Surf., El. ..... ft. ab

COMPLETION REPORT—LONG ISLAND WELL

..... ft.

Top of Well

Owner Garden City Park Water District Well #4 (Layne #2)

Address Garden City Park, L.I., N.Y.

Location of well Marcus Ave., Garden City Park, L.I.

Depth of well below surface 449 feet

Depth to ground water from surface 48' feet

~~Casings~~ Screen: Liner placed in well. Cook Everdur Wire Wrapped Screen

Diameter 5" in. ..... in. ..... in. ..... in.

Length 50 ft. ..... ft. ..... ft. ..... ft.

Sealing .....

Casings removed .....

Screens: Make Cook Openings Everdur Wire Wrapped

Diameter 5 in. ..... in. ..... in. ..... in.

Length 50 ft. ..... ft. ..... ft. ..... ft.

Depth to top from top of casing ..... ft.

Pumping Test: Date Oct. 11, 1962 Test or permanent pump? Permanent

Duration of Test ..... days 8 hours

Maximum Discharge 890 gallons per minute

Static level prior to test 48 ft. ..... in. below top of casing

Level during Max. Pumping 124 ft. ..... in. below top of casing

Maximum Drawdown 76 ..... ft.

Approx. time of return to normal level after cessation of pumping ..... hours 30 minutes

STATE OF NEW YORK WATER RESOURCES

Pump Installed:

Type Turbine Make Layne Model No. 22577

Motive power Elec. Make ..... H.P. 100

Capacity 890 g.p.m. against } 184 ft. of discharge head

No. bowls or stages 6 } 308 ft. of total head

Drop Line: Suction Line:

Diameter 10" in. 10 in.

Length 147'7" ft. 10 ft.

Use of water Public Supply

Work started June 22, 1962 Completed Oct. 11, 1962

Date Nov. 12, 1962 Driller Layne New York Co. Inc.

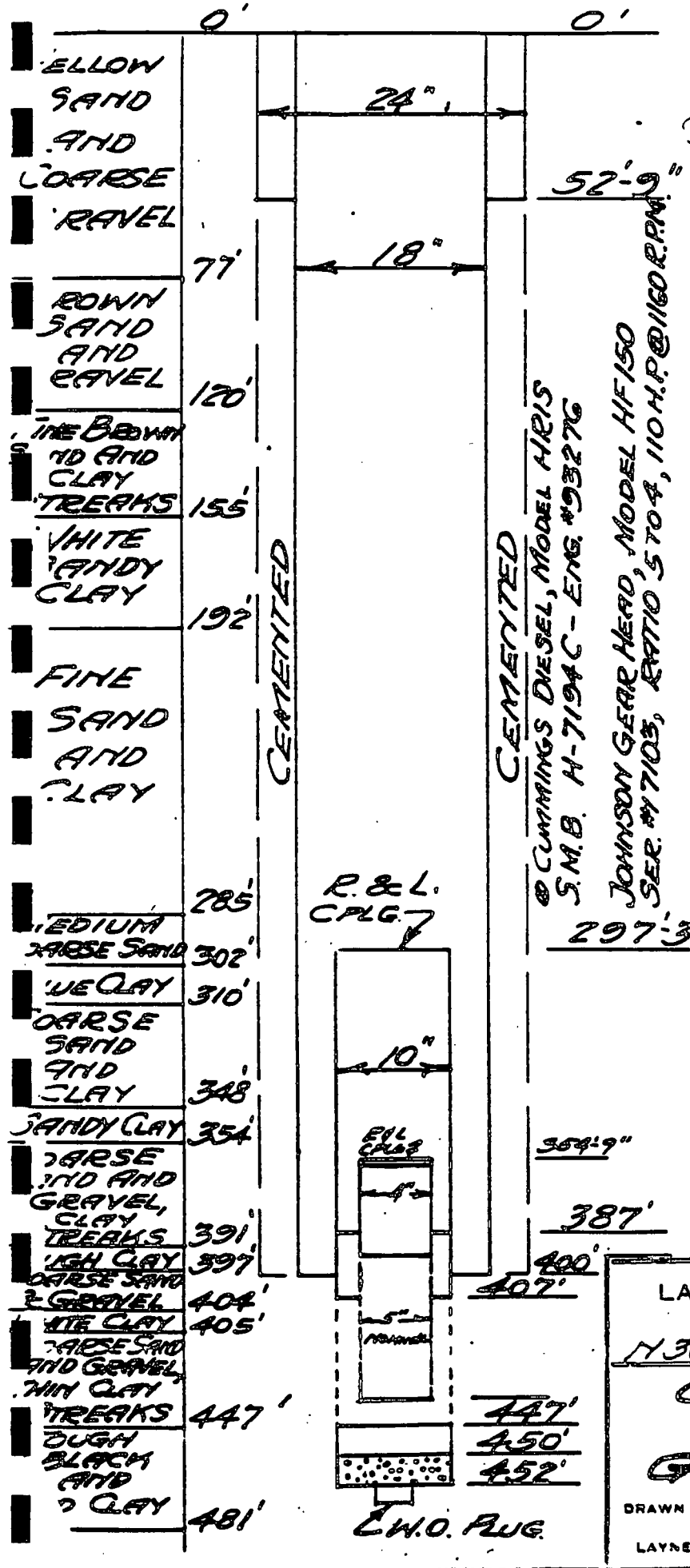
License No. 5

Note: Show log of well—materials encountered, with depth below ground surface, water bearing beds and water levels in each, casings, screens, pump, additional pumping tests and other matters of interest. Describe repair job.

See Instructions as to Well Drillers' Licenses and Reports—pp. 5-7.

Removed pump from well, installed liner, also cleaned well and reinstalled pump.

See blue print attached.



Material

Pit: 52'-9" OF 24" STEEL PIPE, WELDED
394'-4" " 18" " " "
89'-9" " 10" " " T. & C.
25' OF 10" EVERDUR BLANK, WELDED

Screen: 40' OF EVERDUR

Cone: 5' OF 10" EVERDUR & W.O. PLUG CEMENTED

LINER: 6-29-62 B. SAULTS
39'-3" OF 4" STEEL PIPE T & C
50' OF 5" NOMINAL COOK EVERDUR WIREWRAPPED 4 3/4" O.D.
SCREEN #35 SLOT
EVERDUR SCREEN PLUG.

Pump

Type	DRHC	Shop No.	22577
Setting	147'-7"	Size	15"
Suction	10' OF 10"	Stages	6
Basket	F.V.	Impellers	BRONZE
Discharge	10"	Head	TF 1025
Tubing	3"	Press B. P.	80#
Shafting	1 15/16"	Air Line	~~147'-7"~~ 157' B.P.

@ AUX. DRIVE

Motor

Make	U.S.	Type	HOLLOW SHAFT
Volts	220-440	Cycle	60
Phase	3	Amp.	242-121
H. P.	100	R. P. M.	1200
Frame	587-3	Form	VERT.
Model	CFU	Serial	863928

Well

Started	1-16-51	Static Level	41'
First Test	4-6-51	Production	1001 1000
Final Test	2-11-52	Pumping Level	111.4 104
Accepted	2-11-52	Guarantee	1000
Clear Depth	~~450'~~ 449' BP	Press.	80#

Driller: W.G. CHAPMON

Installer: Q.S. CHANDLER

10-11-62
S.L. 48
CAP. 870
P.L. 124'
P.P. 80#

LAYNE-NEW YORK CO., INC. NEW YORK, N.Y.
WATER SUPPLY CONTRACTORS

N 3672

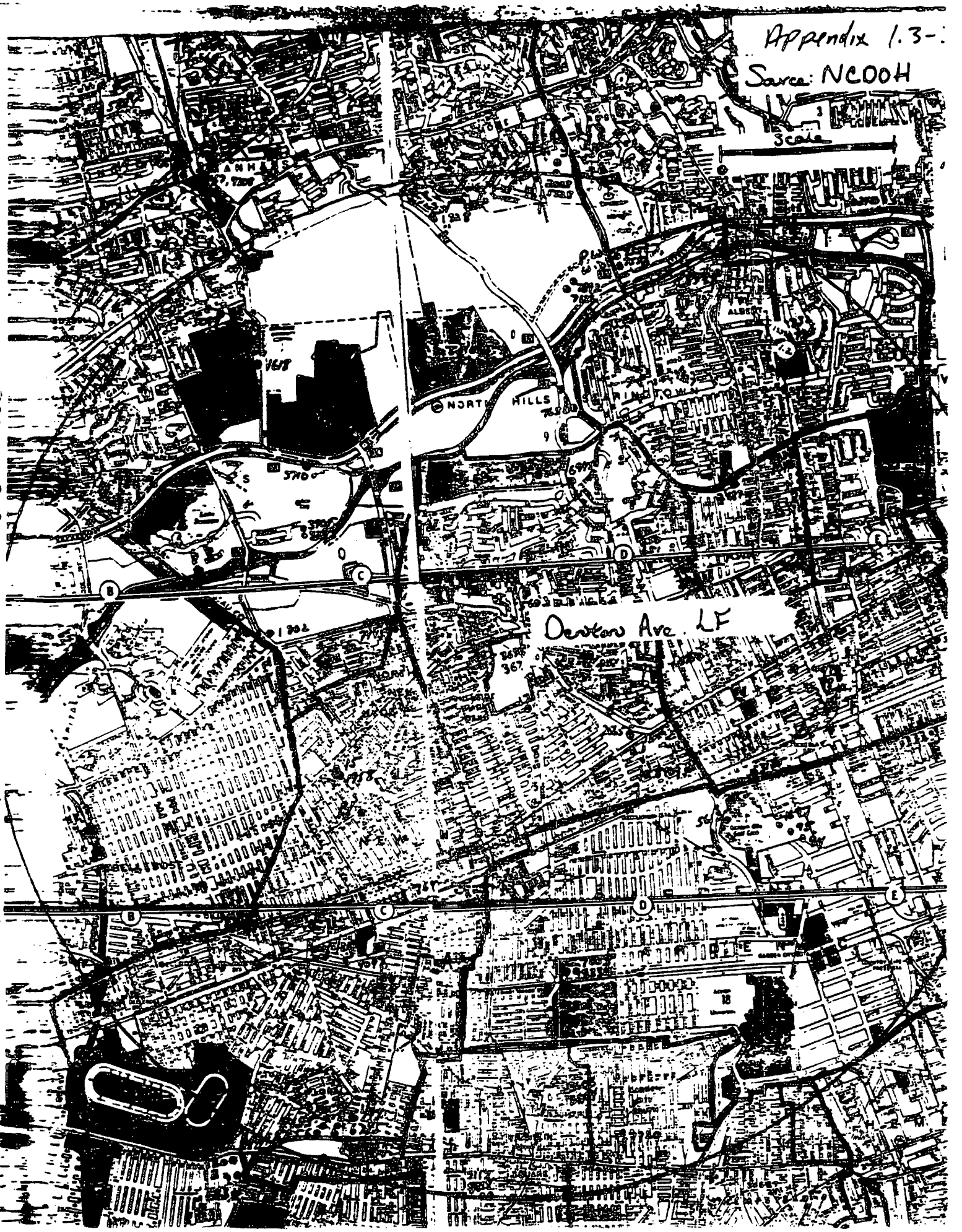
GARDEN CITY PARK
WATER DIST.
GARDEN CITY PK., N.Y.

DRAWN BY R.F.O. APPOVED BY

LAYNE WELL NO 2 (THEIR #4) DRAWING NO.

Appendix 1.3-

Source: NCDOH



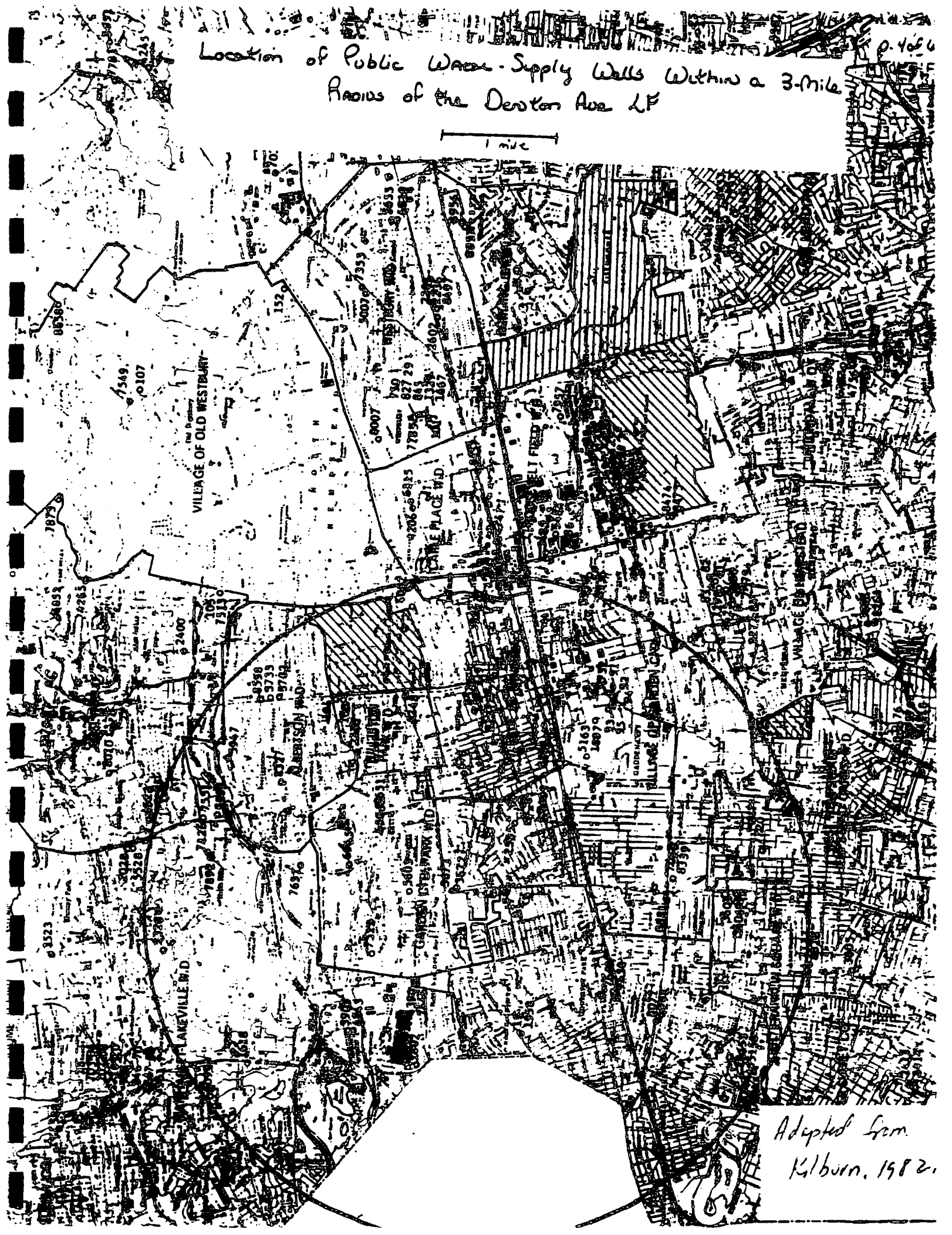
Worksheet: Community Water Supplies Within a 3-Mile Radius of the Denton Avenue LF Site

Water District	Well	Depth (ft)	Aquifer
Manhasset - Lakeville	N-7561	408	Magothy
	N-1802	703	Lloyd
	N-3905	259	Magothy
	N-1243	255	"
	N-7892	455	"
	N-7126	461	"
	N-5710	390	"
	N-1618	556	Lloyd
	N-5099	399	Magothy
	N-1328	746	Lloyd
Port Washington	N-7551	473	Magothy
	N-7552	458	"
Albertson	N-3732	355	"
	N-3733	355	"
	N-8558	415	"
	N-4327	430	"
	N-5947	370	"
Williston Park	N-103	388	"
	N-104	377	"
	N-2487	343	"
Garden City Park	N-6945	406	"
	N-650	350	"
	N-651	348	"
	N-3672	452	"
Mineola Village			
	N-8576	510	"
	N-97	369	"

Water District	Well #	Depth	Aquifer
Mineola Village (Cont'd)	N-4082	467	Magothy
	N-5596	468	"
Garden City	N-3881	470	"
	N-8339	363	"
	N-7058	445	"
	N-1697	528	"
	N-95	539	"
Jamaica	N-15	104	Upper Glaci
	N-1958	737	Lloyd
	N-14	108	Upper Glaci
	N-4077	90	"
	N-4298	390	Magothy
	N-6744	94	Upper Glacia
	N-6745	349	Magothy
	N-5155	465	"
	N-5156	336	"
	N-4390	301	"
	N-7445	453	"
Plainview	N-4097	470	"
Franklin Square	N-3603	498	"
	N-3604	498	"
W. Hempstead-Hempstead Garden	N-7720	511	"

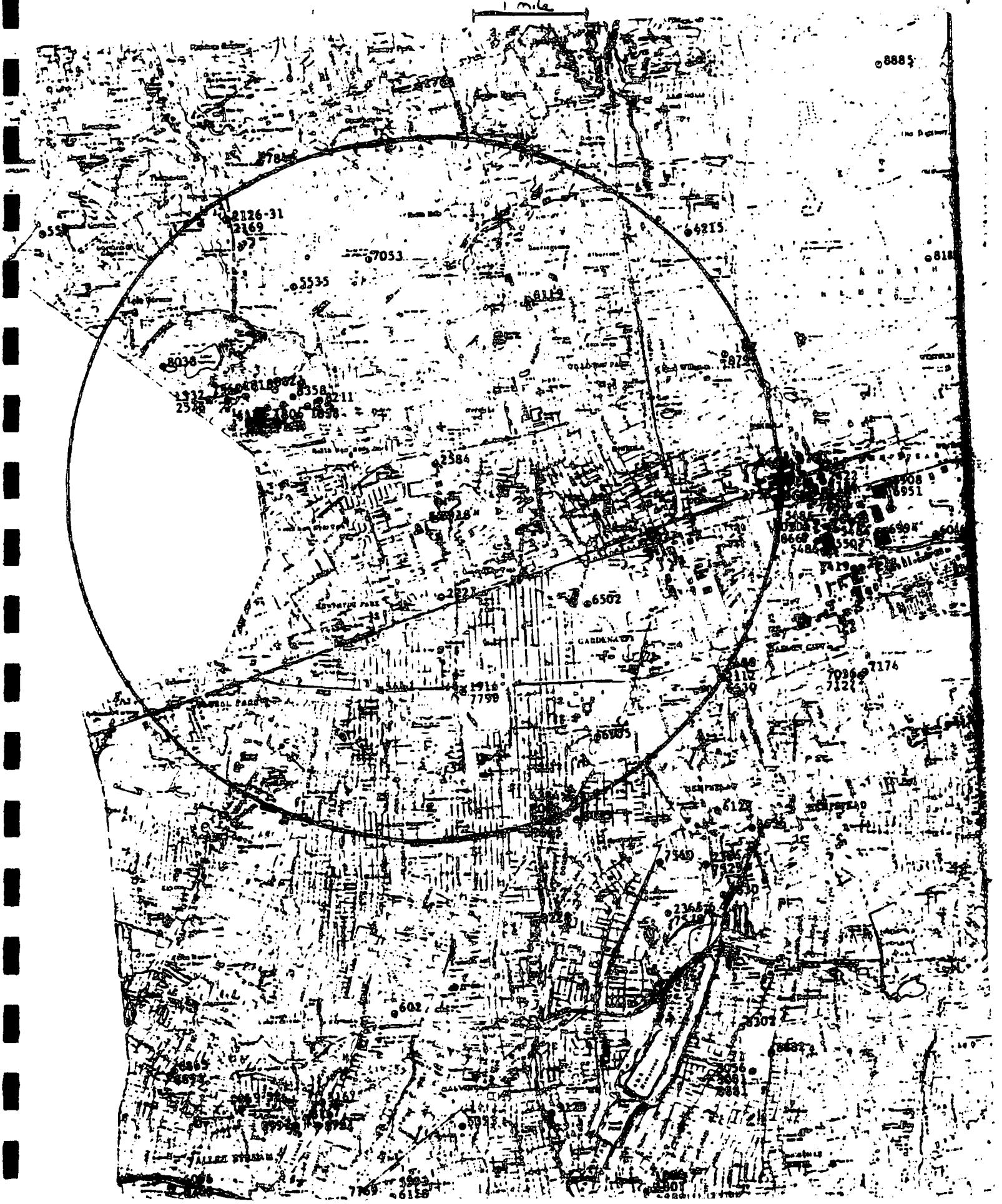
Sources: Kilburn, C. 1982. Ground-water Pumpage in Nassau County, Long Island, New York 1920-7
Introduction and User's Guide to the Data
Compilation. USGS Open File Report 81-499
Mr. Leonard Falco. 1986
Mr. Mahoney. 1986
Mr. Joseph Paragonia. 1986
Mr. George Lee. 1986
Mr. Michael Steban. 1986
Mr. Joseph Passariello. 1986.
Mr. Miranoo. 1986.
Mr. Becker. 1986.

Location of Public Water-Supply Wells Within a 3-Mile Radius of the Denton Ave LF



Adapted from Kilburn, 1982.

Location of Nonpublic Water Supply Wells Within A 3-Mile Radius of the Denton Ave. LF.



p.6 of 6

GROUND-WATER PUMPAGE IN NASSAU COUNTY, LONG ISLAND, NEW YORK 1920-77

INTRODUCTION AND USER'S GUIDE TO THE DATA COMPILATION

By Chabot Kilburn

U.S. GEOLOGICAL SURVEY

Open-File Report 81-499

Prepared in cooperation with

NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS

Syosset, New York

1982

Appendix 1.3-5
1 of 2

U.S. Geol. Survey
Open-File Rept. 82-163
Plate 1A West

WATER TABLE ON LONG ISLAND, NEW YORK, MARCH 1979

by

Cynthia D. Donaldson and Edward J. Koszalka

Each year the hydrologic situation on Long Island is reviewed as new water-level data are obtained. March 1979 water-level measurements from 564 wells across the island were used to prepare this map. Measurements were made by the wetted tape method to the nearest hundredth of a foot. The water-table configuration has changed little since 1975 (Mahao and Erlichman, 1978) except for increases as great as 5 feet in central Nassau County and 9 feet in central Suffolk County.

The general configuration of the water table is an east-west mound that coincides with the glacial moraine along the center of the island, with an isolated high in central Nassau County and another in central Suffolk County. Northwestern Nassau County and the central part of the southern peninsula of eastern Suffolk County also have local highs. These highs are a product of the low hydraulic conductivity of the geologic units. The lowest recorded water level on the island in March 1979 was a depression in eastern Queens County at 6 feet below the National Geodetic Vertical Datum of 1929 (mean sea level); the highest recorded water level was 91 feet above the datum in central Nassau County. The 100-foot contour in northwest Nassau County represents the probable water level around the site of an abandoned well that consistently had water levels in excess of 115 feet above the datum.

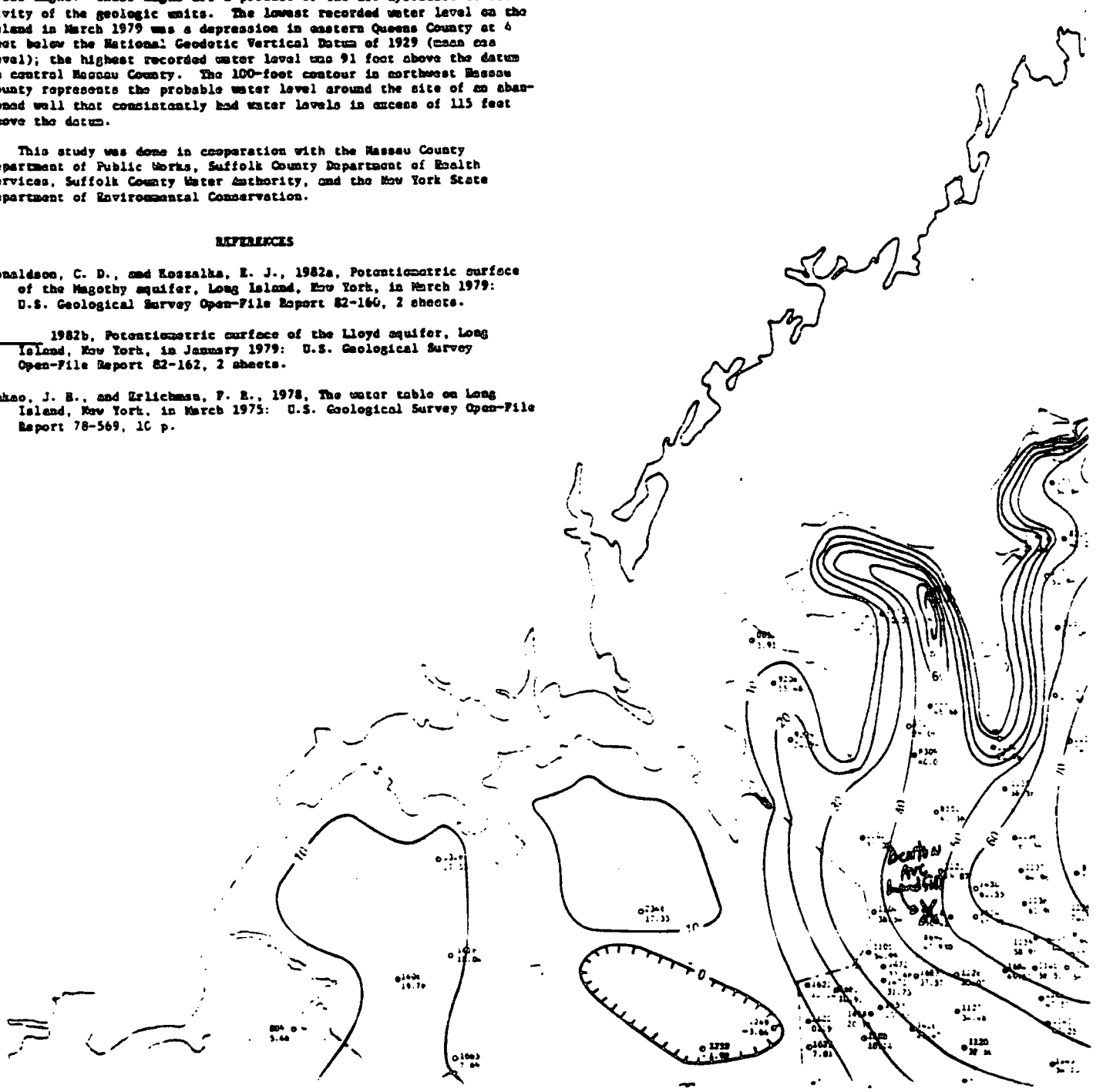
This study was done in cooperation with the Nassau County Department of Public Works, Suffolk County Department of Health Services, Suffolk County Water Authority, and the New York State Department of Environmental Conservation.

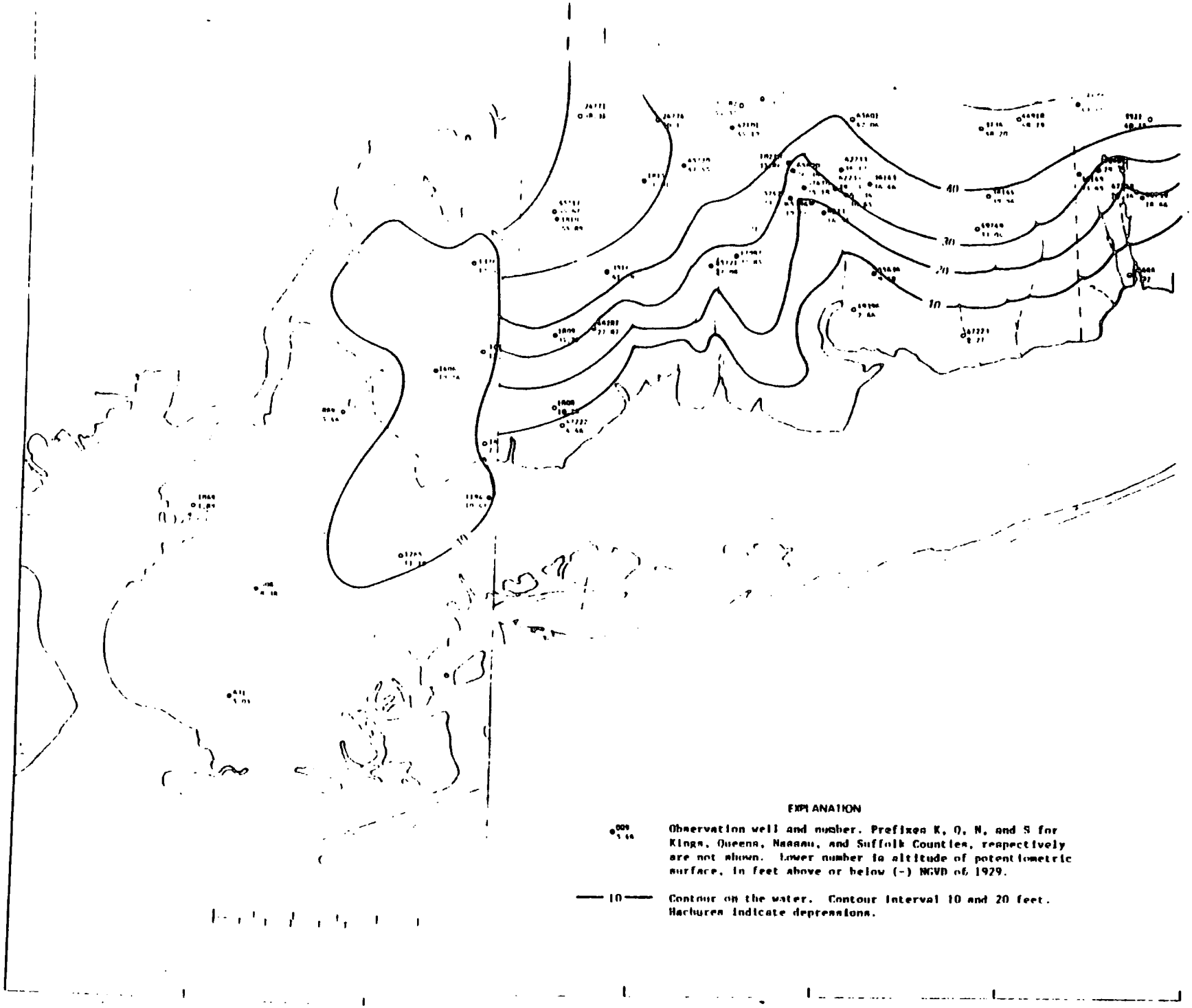
REFERENCES

Donaldson, C. D., and Koszalka, E. J., 1982a, Potentiometric surface of the Magothy aquifer, Long Island, New York, in March 1979: U.S. Geological Survey Open-File Report 82-160, 2 sheets.

_____ 1982b, Potentiometric surface of the Lloyd aquifer, Long Island, New York, in January 1979: U.S. Geological Survey Open-File Report 82-162, 2 sheets.

Mahao, J. B., and Erlichman, F. R., 1978, The water table on Long Island, New York, in March 1975: U.S. Geological Survey Open-File Report 78-569, 10 p.



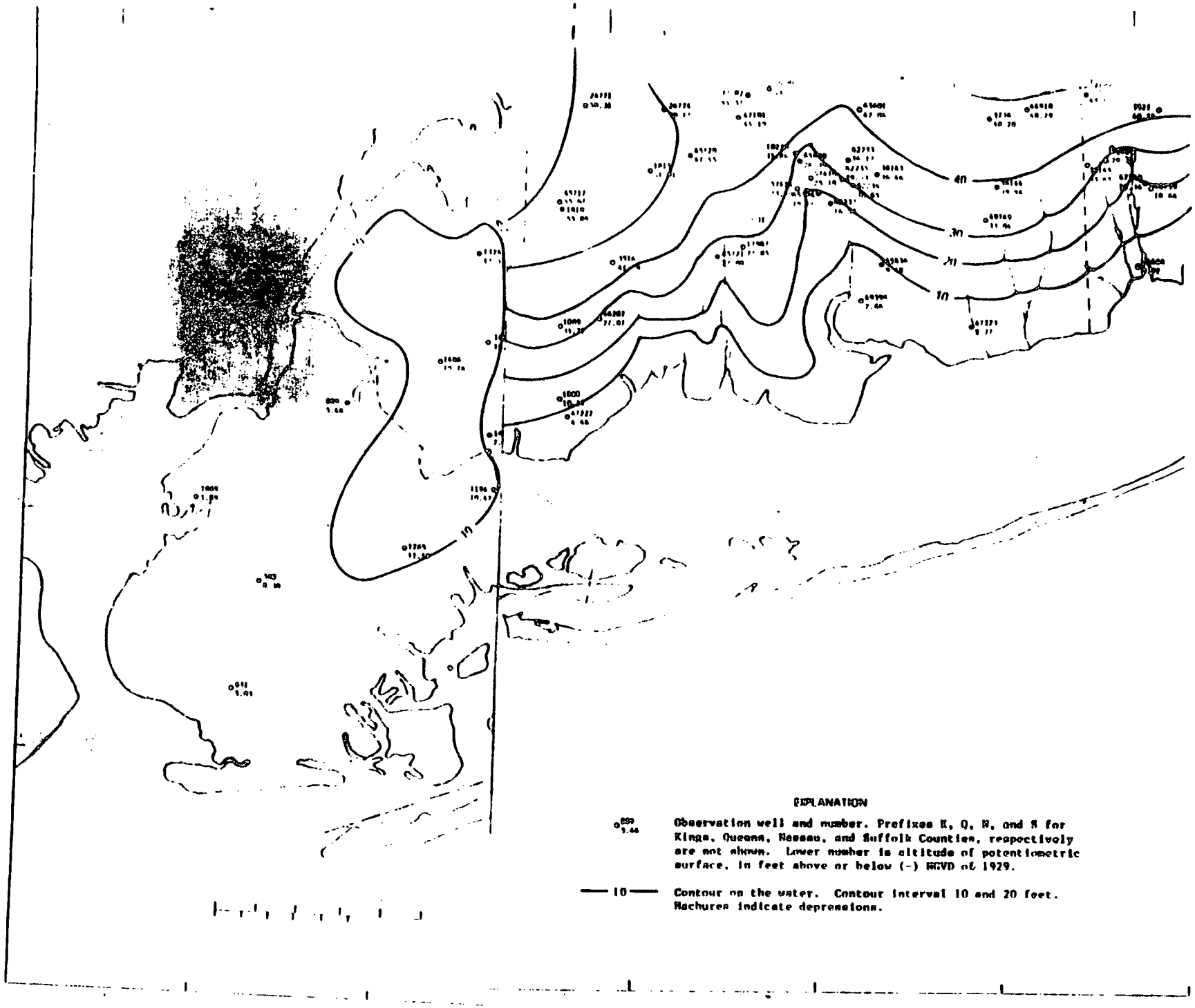


EXPLANATION

Observation well and number. Prefixes K, Q, N, and S for Kings, Queens, Nassau, and Suffolk Counties, respectively are not shown. Lower number is altitude of potentiometric surface, in feet above or below (-) NGVD of 1929.

—— 10 —— Contour on the water. Contour interval 10 and 20 feet. Hachures indicate depressions.

282


40
30
20
10
10
EXPLANATION
Observation well and number. Prefixes K, Q, N, and S for Kings, Queens, Nassau, and Suffolk Counties, respectively are not shown. Lower number is altitude of potentiometric surface, in feet above or below (-) NGVD of 1929.
10
Contour on the water. Contour interval 10 and 20 feet. Hachures indicate depressions.

282

Appendix 1.5-1

LAND USE

1981

Quantification and Analysis of Land Use for Nassau and Suffolk Counties

AREAWIDE WASTE TREATMENT MANAGEMENT 208

December 1982

Long Island Regional Planning Board

LEGEND

RESIDENTIAL

- 1 D.U. & Less/Acre (low density)
- 2–4 D.U./Acre
- 5–10 D.U./Acre
- 11 D.U. & Over/Acre (high density)

- Commercial
- Commercial Recreation
- Industrial
- Institutional
- Open Space & Recreational
- Agricultural
- Transportation & Utilities
- Vacant

Appendix 1.5-2

EA SCIENCE AND TECHNOLOGY
A Division of EA Engineering, Science and Technology, Inc.

COMMUNICATIONS RECORD FORM

Distribution: ( ) DEC63A, ( ) _____
( ) _____, ( ) _____
( ) Author

Person Contacted: John Ozard Date: 3-6-86

Phone Number: 5184397486 Title: Sr. Wildlife Biologist

Affiliation: NYS DEC Type of Contact: Phone

Address: Delmar NY Person Making Contact: W. Going

Communications Summary: Called John for clarification of the letter, dated 26 February 1986, regarding "significant habitat" ...

Q. Don't see any reference to federally listed threatened or endangered spp. on any of the 42 site location maps you sent both w/ your letter ... does this mean there is no habitat of concern for these spp? A. yes ... there is no critical habitat for (Federal spp) at any of the sites being examined.

Q. Are all the wetlands on LI in the vicinity of our sites (refer to locale maps) "coastal" wetlands? A. Yes. They all have varying amount of salt being that near the Sound or the Ocean, to be considered coastal wetlands ... also refer to the ("Natural Heritage") wetlands marked in blue.

(see over for additional space)

Signature: William Going

Appendix 1.5-3

EA SCIENCE AND TECHNOLOGY
A Division of EA Engineering, Science and Technology, Inc.

COMMUNICATIONS RECORD FORM

Distribution: ( ) _____, ( ) _____
( ) _____, ( ) _____
( ) Author

Person Contacted: Dave Bacton Date: 18 Feb 87

Phone Number: (516) 566-5800 Title: Assistant Fire Marshal

Affiliation: Nassau County Fire Marshal Type of Contact: Phone

Address: 899 Jerusalem Avenue Person Making Contact: E Metzger
Uniondale, NY 11553

Communications Summary: Mr. Bacton indicated that while years ago the Denton Avenue Landfill was plagued with methane fires, the problem has been alleviated and there are no other current potential threats on record.

(see over for additional space)

Signature: Ellen B. Metzger

(47-15-11 (10/83)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DIVISION OF SOLID AND HAZARDOUS WASTE

INACTIVE HAZARDOUS WASTE DISPOSAL SITE REPORT

PRIORITY CODE: _____ SITE CODE: 130008

NAME OF SITE: Denton Avenue Landfill REGION: I

STREET ADDRESS: Denton and Hillside Avenues

TOWN/CITY: New Hyde Park COUNTY: Nassau

NAME OF CURRENT OWNER OF SITE: Town of North Hempstead

ADDRESS OF CURRENT OWNER OF SITE: 220 Plandome Road, Manhasset, New York 11030

TYPE OF SITE: OPEN DUMP [ ] STRUCTURE [ ] LAGOON [ ]
LANDFILL [x] TREATMENT POND [ ]

ESTIMATED SIZE: 54 ACRES

SITE DESCRIPTION:

The Denton Avenue Landfill site is an inactive landfill that operated under the Town of North Hempstead from 1953 to 1966. The waste material in general has been described as municipal refuse and there is no documentation of hazardous waste disposal. Five monitoring wells were installed downgradient of the landfill in 1982 and sampling revealed contravention of drinking water standards. Because of the lack of background data, however, the release of contaminants cannot be directly attributed to the Denton Avenue Landfill.

HAZARDOUS [illegible] CONFIRMED [ ] SUSPECTED [ ]

TYPE AND [illegible] WASTES DISPOSED:

	QUANTITY (POUNDS, DRUMS, TONS, GALLONS)
Unknown	

PAGE

TIME PERIOD SITE WAS USED FOR HAZARDOUS WASTE DISPOSAL:

_____, 19 ___ TO _____, 19 ___

OWNER(S) DURING PERIOD OF USE: Town of North Hempstead

SITE OPERATOR DURING PERIOD OF USE: Town of North Hempstead

ADDRESS OF SITE OPERATOR: 220 Plandome Road, Manhasset, New York 11030

ANALYTICAL DATA AVAILABLE: AIR [ ] SURFACE WATER [ ] GROUNDWATER [x]
SOIL [ ] SEDIMENT [ ] NONE [ ]

CONTRAVENTION OF STANDARDS: GROUNDWATER [ ] DRINKING WATER [x]
SURFACE WATER [ ] AIR [ ]

SOIL TYPE: Sand and gravel.

DEPTH TO GROUNDWATER TABLE: 68-81

LEGAL ACTION: TYPE: _____ STATE [ ] FEDERAL [ ]

STATUS: IN PROGRESS [ ] COMPLETED [ ]

REMEDIAL ACTION: PROPOSED [ ] UNDER DESIGN [ ]

IN PROGRESS [ ] COMPLETED [ ]

NATURE OF ACTION: _____

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Ground-water contamination.

ASSESSMENT OF HEALTH PROBLEMS:

Potential drinking water contamination.

PERSON(S) C[illegible]

FOR NEW YORK [illegible] OF ENVIRONMENTAL [illegible]

NAME EA Science and Technology

TITLE _____

NAME _____

TITLE _____

DATE: 18 February 1987

NEW YORK STATE DEPARTMENT OF HEALTH

NAME _____

TITLE _____

NAME _____

TITLE _____

DATE: _____

REFERENCE NO. 2

NUS CORPORATION

II

0420

DENTON AVENUE LANDFILL
02-8902-06
TDD MGR.- B. DIETZ
LOGBOOK #0420
MAY 8, 1989

GUIDANCE FOR PROPER USE OF LOG BOOKS

Purpose

- Serves to document onsite activities and be understandable to an outside reader.
- Provides the basis for later written reports.
- Used as an evidentiary document and may be used in legal proceedings.

Distribution

- Controlled by the project manager and distributed as appropriate to personnel designated by the project manager.

General Procedures

- Record information in language which is objective and factual.
- Use ink. Waterproof ink is recommended.
- Leave first two pages blank. They serve as space for the table of contents to be added when the log book is complete.
- The first written page identifies the date, time, TDD number, site name, location, NUS personnel and their responsibilities, other non-NUS personnel and observed weather conditions.
- Start on a new page at the start of each day's field activities. This page should identify date, time, TDD number, site name and location, NUS personnel and their responsibilities, other non-NUS personnel and observed weather conditions.
- List all persons leaving or entering the site.
- Information recorded in the log book should be in chronological order.
- Sign and date each page, log all entries using a 24 hour clock. Entries should be time logged every 15 to 30 minutes.
- Corrections are to be lined through and initialed. No erroneous notes are to be made illegible.
- Include a sketch or map of the site which can be used to locate photo or sample locations. Note landmarks, indicate north, and if possible include an approximate scale. Include as many sketches and maps as necessary.
- A person not present when field activities were being documented should read each completed page, and countersign and date when satisfied that the written notes are understandable.

Specific Field Activities To Be Documented

- Record the who, what and where of field activities.
- Indicate sampling and photo locations on a site sketch or map.
- As part of the chain of custody procedure, recorded in-situ sampling information must include sample number, date, time, sampling personnel, sample type, designation of sample as a grab or composite, and any preservative used.
- Information for in-situ measurements must include a sample ID number, the date, time, and personnel taking measurements. Pertinent in-situ measurements include but are not limited to pH, temperature, conductivity, flow measurements, continuous air monitoring measurements, and stack gas analysis. If infield calculations are necessary they must be checked and signed by a second team member.
- Create a photo log to document photos taken in the field. These must include date, time, photographer, sample number, roll number, frame number, photo ID number and description. Indicate if the film is for slides or prints in the column for roll number. Photo ID numbers can be added at the time the photo log is assembled.
- Record onsite health and safety measures used. Describe observed potential hazards to health and safety. Document the level of protection used, decontamination procedure used and specific decontamination solutions.
- When sampling is complete, a summary log is to be completed. It must include date, time, sample number, description, field book reference page, and the number and date of the chain of custody from on which the sample is listed. Indicate whether or not the sample was split.
- Record details regarding relevant information obtained during onsite interviews. Include names of persons interviewed, the interest group represented, their address and phone number.
- Record any other relevant information which would be difficult to generate at a later date.

~~6/6/89~~ BD Denton Ave. Landfill BD 6/5/89 6/6/89 02-8902-06 2

~~Off-site~~ BD 6/5/89

BD On-site Reconnaissance

Date: June 6, 1989

Time of Arrival 0725

Time of Departure 1330

NUS Personnel on site		Duties
Brian Dietz	BDietz	SM
Anthony Culmone	AC	BD site ~~SSO~~/surveillance
Winthrop Frame	Winthrop Frame	Surveillance
Diane Trube	Diane Trube	SSO/ Community relations

Work Plan / QA Requirements were discussed with the above-listed personnel

Weather Conditions: 64° F overcast, humid, light rain.

Site Contacts / Personnel	Title
John Delaney	(Town Attorney) Site Representative
Thomas Mohrman	(Parks Commissioner) Site Representative

EQUIPTMENT	EPA I.D. No(s).
OVA Flame ionization detector	K-469782 / A-469758 (Field ready cc 6/5/89)
HNu Photoionization detector	(11.7 eV) M-469749 / C-307140 (10.2 eV) (Field ready cc 6/5/89)
Mini-radiation alert	428604
BD ~~Cannon~~ Canon Camera (loaded w/ prints)	469756
Cannon Camera (loaded w/ slides)	307128
Self Contained Breathing Apparatus (SCBA)	(Win) 307169 (Tony) 307168 (Diane) 307170

Field ready cc 6/5/89

Brian Dietz 6/6/89

Denton Ave. Landfill 6/6/89 02-8902-06 3

Radios 683521, 683525

Escape Packs 683496, 683499, 683497, 683498

Draeger Pump / tubes A-192105

0715 met w/ Don Spiess of the NCDOH

0720 mobilized to DA-3 ~~to~~ BD 6/6/89 and ~~began~~ Diane, Tony, and Winthrop begin setting up command post. BD 6/6/89

0730 met with Henry Janssen school janitor of the William Bowie Manor Oaks Elementary School. I informed him of our presence on school property.

0735 Mr. Spiess left to ~~locate his~~ BD 6/6/89 meet with two other ~~NCDOH personnel~~ BD 6/6/89 people from NCDOH who were meeting him @ the landfill. He will return in approximately 30 min.

0740 mini rad 11cpm
OVA(A) 0 ppm
HNU(M) 0 ppm
} background readings

DT 6/9/89

Diane conducts tailgate H & S meeting.

0745 Diane in Tyvek w/ latex booties will be back-up SCBA, ~~[illegible]~~ BD 6/6/89 Win in saranex w latex booties, l/b/v & Tony gloves.

0750 ~~well~~ BD 6/6/89 water level in well DA-3 will ~~Mscope #629765~~ be determined using M-scope #629765. BD 6/6/89

0751 Mr. Janssen stopped by to ask what we'll be doing. Told him we'll be determing water level in well. Gave him my card. Brian Dietz 6/6/89 [illegible] 7/13/89

Denton Ave Landfill 6/6/89 02-8902-06 4

0755 Tap water will be used in the place of deionized water for rinsing the m-scope after it is washed w/ alconox and water.

0800 Mr Speiss returned and informed me ~~0756~~ 6/6/89 that 2 people from NCDOH are @ the northern landfill attempting to locate wells DA-1 and DA-2.

0806 Tony and Wm finish taping up

0810 mobilize to well, to measure stickup. Tony and Wm set up plastic sheet around stick up. Well consists of a 2" diam pvc pipe flush w/ ground surface. Well is capped w/ a screw-on PVC cap and is covered by a metal trap which is secured by a 5 sided nut. Pit is filled w/ ponded rain water. BD 6/6/89 ~~cap~~

0812 Tony & Wm return to command post and don SCBAs.

0814 Children begin arriving at school. Several adults observing from school entrance. Go inside after a few minutes

0816 Tony, Duane, & Wm return to well w SCBAs, OVA, HNu. ~~Tom~~ BD 6/6/89

Brian Dietz 6/6/89 R Calhoun 7/13/89

Denton Ave. Landfill 6/6/89 02-8902-06 5

0818 Diane takes reading from closed well head.
OVA 0 ppm] @ well head.
HNu 0 ppm

0819 Tony and Win on air
Tony takes reading from open well
OVA >1000 ppm methane flush test
(11.7) HNu 0 cpm confirms methane
No readings in breathing zone. presence of

0820 well pipe is galvanized steel

0821 Tony & Win take water level measurements.

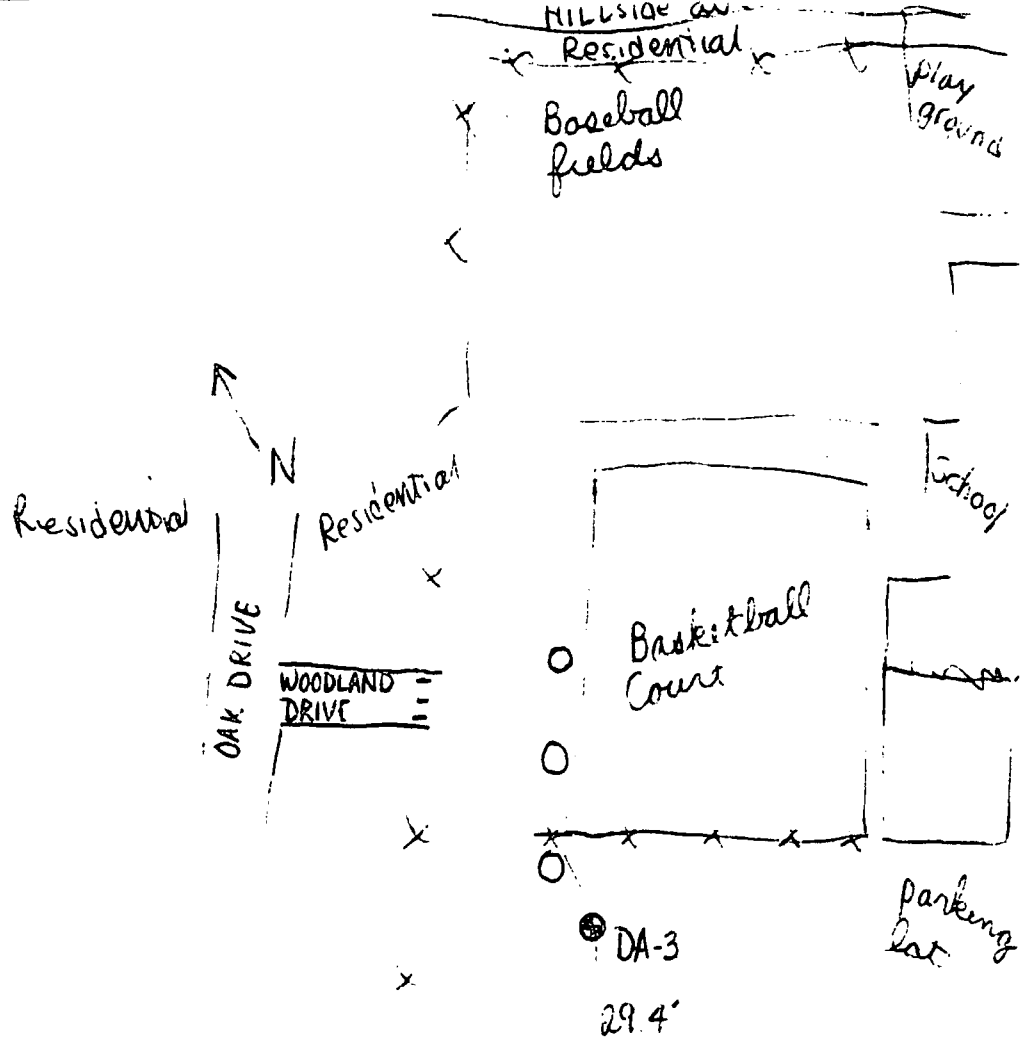
0826 OVA 100 ppm] still taking water level
HNu 0] measurement
No readings in breathing zone

0828 OVA 600 ppm] when break water table
HNu 0 No readings in breathing zone

0830 local resident stops by to inquire what we are doing. Told them routine groundwater study for EPA. Gave her Jeff Goal's number and referred all questions to him. (Patricia Buletti, 30 Oak Dr. New Hyde Park, N.Y.)

0832 OVA 500-800 ppm] methane venting
HNu 0 ppm.
mini rad no readings above norm.

Brian Lietz 6/6/89 A Culmone 7/13/89



Not to scale

Brian Dietz
6/15/99
A. Culmone 7/13/99

Denton Ave Landfill 6/6/89 02-8902-06 6

0832 no readings in b.z. on HNu/OVA.

0833 no readings once sealed. [b.z. = breathing zone - DT 6/9/89]

0834 Tony & Win off air.

0835 Depth to water was 73' from groundsurface.

0839 sealing meter pit
approx 4-6 children have gathered along fence and are watching us work.

0840 well trap is locked tight

0842 Mr. Jannsen stopped by to check our progress. Told him we'd be done in 5-10 minutes.

0844 ~~[illegible]~~ BD 6/6/89 well is 65.2' ~~N~~ ESE BD 6/6/89 from fenceline
29.4' ~~W~~ NNE BD 6/6/89 6-7 ~~past~~

0846 P1, S1 looking W from E fence line @ well trap

0850 Mr. Speiss ~~didn~~ had cleaned out water from pit day before, not certain of integrity of cap (water tight)

0855 local resident asked what we were doing told them routine gw study.

0900 mobilize to DA-5. ~~[illegible]~~ BD 6/6/89 Tony & Win begin setting up ~~command post~~ BD 6/6/89. All unnecessary

~~0904~~ equiptment will be put back in truck

BD 6/6/89

Brian 6/6/89 R. Culman 7/13/89

Denton Ave. Landfill 6/6/89 02-8902-06 7

0904 Mr. Speiss opened up DA-5 well trap.

0904 Diane puts plastic sheet down around well head. Well similar to DA-3, well head flush w/ groundsurface and covered by metal trap. Well cap ~~[illegible]~~ appears to be made of ~~[illegible]~~ rubber. BD 6/10/89 BD 6/16/89

0905 Mr. Speiss ~~going~~ to open DA-4 trap, then proceeding to check on two people from NCDOH who are looking for DA-1 and DA-2. Will return shortly

0910 area around ~~the~~ BD 6/16/89 wells DA-4 and 5 very residential

0913 Tony, Wm, & Diane have remained dressed in saranex, tyvek, suburban lined w/ plastic.

0914 OVA 0ppm] prior to opening well
HNu 0ppm] cap.
mini rad. nothing above normal.
No readings in breathing zone

0916 Tony & Wm on air.

0918 cap removed when checking w/ OVA/HNu.
OVA 800ppm (from casing)
methane flush test confirms presence of CH_4
HNu 0ppm

0919 Tony & Wm begin taking water level measurements
OVA still 800 ppm
no readings in breathing zone

Brian Dietz 6/6/89 A. Calmar 7/13/89

Denton Ave. Landfill 6/6/89 02-8902-06 8

0921 still taking water level measurement
0922 homes right across the street, fence 6' patched chain link
water level measured
0924 62.5' below ground surface

OVA up to 150 ppm (no readings in breathing zone)

0926 Tony & Win begin deconning m-scope w/ alconox & water as it comes up out of the hole.

0927 Win's bell ~~goes~~ BD 6/6/89 went off. Win seals well cap.

0928 Win off air. Tony replaces well trap and seals it.
Diane and Win are switching air tanks. Win's tank has enough air for ~~Diane to~~ BD 6/6/89 backup purposes.

0931 Tony off air.

0934 having trouble sealing the well trap.

0935 well approximately 11' from ~~to~~ BD 6/6/89 leonard blvd.

0937 well trap was secured.
P2, S2

0939 Looking NNE toward DA-5. Mound on far side of fence.

Euan Dietz 6/6/89 A Lehman 7/13/89

Denton Ave. Landfill 6/6/89 02-8902-06

0940 mobilize to DA-4. Tony & Wm set up plastic sheet around well head.
0941 Tony removes well trap (well same as DA-3, 5) flush w/ ground
0942 OVA 10-20 ppm
HNu 0 ppm
] before cap removed (steel cap)
min rad - no above background readings
- may be bad seal on cap
No readings in breathing zone.
0943 move suburban to well location

0946 beginning to rain very lightly. muggy, overcast conditions persist w/ light breeze from the south.
0947 Tony & Wm on air.
~~0947~~
~~0948 Wm~~ BD 6/6/89
0948 Tony & Wm off air. Wm had problem w/ bypass. Corrected.
0949 Tony & Wm back on air.

0950 OVA >1000 ppm in casing - methane flush test confirms presence of CH_4
HNu 0 ppm.

0951 Tony & Wm began taking water level measurements.
OVA ≈500ppm fluctuating
HNu - 0 ppm.
] no readings in breathing zone

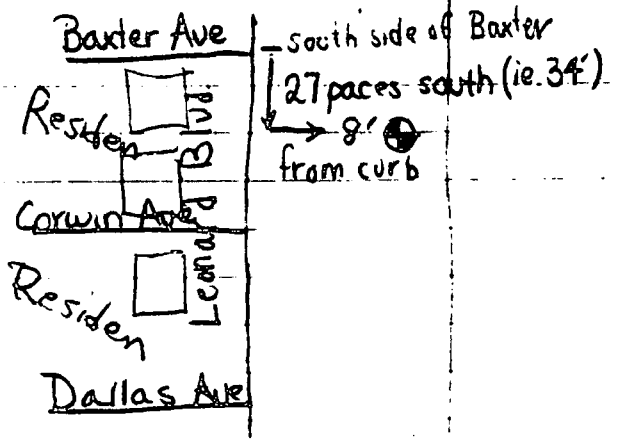
0952 P3, S3 Tony & Wm measuring water level in DA-4.
0954 water level measured at 6.7' from ground surface.
0955 OVA >1000ppm in casing
no readings in breathing zone
Wm replaces well cap.
0956 Tony off air. Wm sealing well trap.

Brian Dietz 6/6/89 A. Cabana 7/10/89

Denton Ave. Landfill 6/6/89 02-8902-06 10

0958 Win off air. Diane finishes sealing well trap.

1000 begin breaking down equiptment. Tony & Win removing SCBAs.



1004 Don Spiess returned ~~to~~ NCDOH having trouble finding DA-1 and DA-2.

1010 Tony & Win taking a break. Diane deconning well trap key w/ alconox & water & water rinse. Don left site will meet us @ N. Landfill in approx. 90 min.

1013 Diane, Win, Tony finish breaking equiptment down.

1020 Tony & Win Diane meas off DA-5 NYT32 &

1023 72' NNE of Dallas Ave & 12' E of Leonard Blvd. North along sidewalk (parallel to Leo Blvd) 72' ~~N along~~ from telephone pole NYT32 on E side Leonard Blvd (a intersec. w/ Dallas Ave. 12' E from E curb of Leo Blvd.

BD 6/6/89

Quant

Denton Ave Landfill BD 6/6/89 6/6/89 02-8902-06

#LIL15 11

BD 6/6/89

1028 ~~LIL15~~ 109' South of telephone pole & Cramer Leo Barber ~~along~~ along sidewalk parallel to Leonard Blvd.
13.8' east of E curb of Leonard Blvd.

1030 Tony & Win loading up equipment

1035 mobilizing to do recon of southern landfill The whole area has been developed into a recreational facility and playing fields.

1040 arrive at southern landfill.

1044 checked in w/ security office. Gate is manned 24 hrs. and is fenced all around.

1049 Tony starting up air instruments for on-site recon. Everyone dressed in field clothes. SSO has determined PPE is unnecessary for the recon. HNU M - went dead. Will be using OVA/HNU throughout

1050 Tony changing HNU's. All HNU screening from this point onward will be done with HNU-C (10.2eV).

BD 6/6/89

1054 ~~R~~ S 4-11 ~~S~~ P 4-12 panoramic view West to east looking North from parking lot on south side of southern landfile.

1055 Eager recon. Will walk around sites perimeter

Brian Dietz 6/6/89 A Culmann 7/13/89

Denton Ave. Landfill 6/6/89 02-8702-06 12

1059 storm drains evident throughout the site

1100 HNu 5-6 ppm] in area of excavated pavement
OVA 10ppm] ≈ 20 feet SW restroom; ≈ 1' NE foot path
methane flush test ~~does~~ indicates reading
is not methane between 2nd & 3rd
No readings in breathing zone. floodlights on baseball
a yellow substance field (septic system)
was also observed
≈ 10'N of area of reading (no readings on HNu/OVA

1105 HNu 2ppm
OVA 10ppm

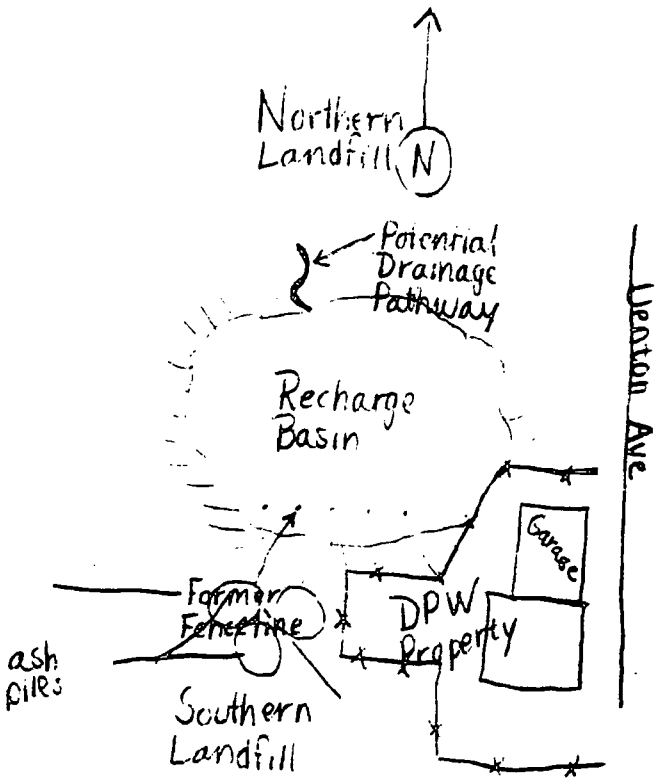
1106 P13 S12 area of elevated readings; restroom
1107 P14 S13 yellow substance visible in background.

1110 a ~~q~~ locked gate was observed along the north fence line. Berms and hills are prevalent throughout the site. Whether they are made of landfilled material is unknown. Recharge basin was observed, heavily wooded on all sides. More storm drains observed.

1112 contractor for rebuilding the site stopped by and asked what we're doing. No information was given.

1116 P15 Looking ← W | 10 10 ~~mounds~~
S14 W @ largest mound. 15 20'

Dean Tietz 6/6/89 A. Gilmore 7/13/89



A. Calmone 7/13/89

Denton Avenue Landfill 6/6/89 02-8902-06 13

1119 looking NW from SW corner of parking lot towards mounds on west side of site
P15 BD 6/6/89
S16

1120 P16 looking E along S parking
S17 lot from S.W. corner

1121 complete ~~fw~~ BD 6/6/89 recon of s. landfill perimeter

1122 name on main building is N. Hempstead Park/Physical Activities Center

1123 returning to the suburban.

1125 finish recon of southern landfill.
~~return~~ BD 6/6/89

1130 mobilizing for recon of recharge basin.

1133 P17-22] panoramic view of recharge
S18-22] basin looking NW from
BD 6/6/89 dept. hway garage, a potential drainage pathway
~~1134~~ was observed on the NW side of the basin.

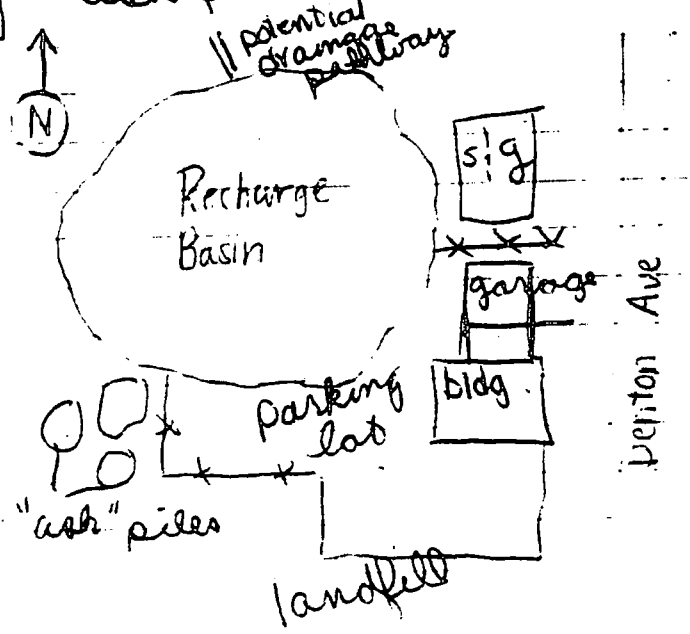
1134 a driver from the dept. of highways stopped by; informed us that the former incinerators have been completely removed from the garage area. Actual area of the recharge basin is much larger than originally because excavation activities uncovered several natural springs line of paper in basin demarks original

[illegible] 6/6/89 [illegible] 7/13/89

boundaries of the basin. Dept. of Public Works operates a garage along the SE edge of basin. Office for sand & gravel operation is just north of the PW garage. Stormdrains ~~are~~ were present in the garage area; almost definitely drain into the recharge basin. Numerous trucks, buses, and other highway dept. vehicles were parked throughout this area. May be some piles of ash & soil in SW corner of DPW facility.

1144 S 22] looking from garage W @ former boundary
P 23 — line of recharge basin

1145 S 23] looking S,W from garage toward "ash piles"
P 24]



1148 drive to end of lot past ash piles

1153 making for recon of northern landfill

Brian Dietz 6/6/89 R. Lehman 7/13/89

Denton Avenue Landfill 6/6/89 02-8902-06 15

1200 arrive @ northern landfill, located Don Speiss and began setting up command post. ~~Tony~~ Diane & Win

1203 Tony starting up air instruments.

1205 ~~Tony~~ BD 6/6/89, Diane, ~~Win~~ BD 6/6/89 goes to talk to Don & crew. They have not been able to locate DA-1 and DA-2.

1210 All NUS personnel suited up in tyvek (blue) w/ latex booties & gloves

1214 wells should have been between vents 13 & 14, surveyors tape found 45' E of fence @ this point no stickup found

off metal pipe running ~~S to~~ BD 6/6/89 N to S approx 50 W of vents 13 & 14 (counting from N side). OVA, HNu 0 ppm. (NCDOH dug up area between 13 & 14 where reasonable).

1219 Tony checks pipe branch of N to S metal pipe w/ OVA 5 ppm (flush test indicates methane plus something)

1220 former well location completely overgrown else

OVA 0 ppm] in area of Mr. Speiss had been digging
HNu 3.6 ppm] No readings on HNu or OVA in the breathing zone.

1225 ~~21 & 22~~ BD 6/6/89 Mr. Speiss stated that well DA-2 should be located between vent pipes #s 21 & 22 ≈ 45' NE from W border of N Landfill.

~~TIDE~~ BD 6/6/89 30' from venting pipes #

1130 ~~in area of~~ approximately BD 6/7/89 21 & 22 OVA 9 ppm → b.g. in b.z. 0 ppm @ ground
HNu 20 ppm @ ground

we did not proceed any further toward area & where DA-2 should be located. Brian Dietz 6/6/89 A. Culmer 7/13/89

Denton Avenue Landfill 6/6/89 02-8902-06 16

1234 OVA 0ppm] oily stain ≈ 40' from vent 17
HNu 4ppm]

1235 an area of settled ground was observed almost directly E of vent 15.

1236 OVA 30ppm] crushed pail E of 14 may be getting CH_4
HNu]

1239 return to suburban & removing PPE
1240 P1-8 S1-8 panoramic view looking S from road east of vent 9.

1241 Tony, Win, Diane breaking down the equiptment & packing up the instruments When everything is loaded we will continue recon using the suburban

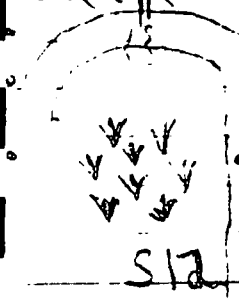
1250 suburban packed up continuing the recon

ABC Rental

1254 pvc pipe from neighboring business trickle of resin-like liquid (clear goldish color), definite odor detected. Flowing down ~~into landfill~~ marshy area of the landfill

N↑

P 8, 10] PVC pipe and puddled effluent
S 9, 10]



P 10 S11 reference picture for locating pipe

S12, R12 drainage area

S12 R12 looking E from road

1304 evidence of recent dumping (inc. vegetative wastes)

[illegible] 7/17/89 Brian Dietz 6/6/89

Denton Avenue Landfill 6/6/89 02-8902-06 17

1306 drainage pathway to recharge basin investigated, no leachate observed however probably want to collect soil sample @ base of slope. N Landfill is a much higher elevation than basin.

BD 6/6/89

1308 P13 S12 picture of drainage pathway looking S toward DPW garage.

BD 6/6/89

1310 P14 S13 looking SE @ DPW garage

1311 P15-22 S 14-22 panoramic view of northern landfill looking NE to W from recharge basin.

1315 continuing recon.

1318 finish recon of northern landfill.

BD 6/6/89

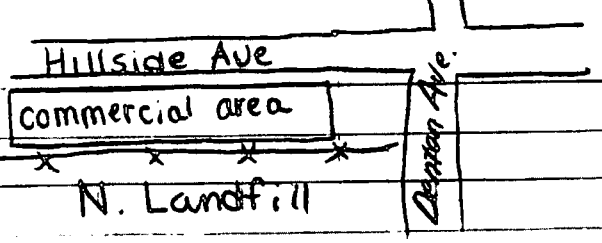
1320 begin reloading the vehicle

1325 sunny overcast, slight breeze

1330 Depart site.

1340 There are numerous businesses located along the S side of Hillside Ave which border the landfill on the north. Included in these businesses are a lumber yard, an pest control business, and ABC Rental.

BD 6/7/89



A. Calmore 7/13/89

Brian Dietz 6/6/89

Denton Ave Landfill 6/6/89 02-8902-06

On-site recon photo log

Date	Time	Photographer	Roll No.	Picture No.	Descrip
6/6	846	BD	1	P1, S1	Looking W from Eastern fence line toward MW-DA3.
6/6	939	BD	1	P2, S2	Looking NNE @ MW-DA5 (note mound in background)
6/6	952	BD	1	P3, S3	A Culmone and W. Frame measuring water level ~~depth~~ in MW-DA 4.
6/6	1054	BD	1	P4-~~12~~/S4-11	Panoramic (W→E) view of southern landfill looking north from parking lot.
6/6	1106	BD	1	P13/S12 BD ~~P13/S12~~ 6/15/89	Area of elevated readings near restroom
6/6	1107	BD	1	P14/S13	Yellow substance in area of elevated readings
6/6	1116	BD	1	P15/S14	Looking west from access road @ largest mound in burned area on southern landfill.

Brian Dietz 6/6/89 A Culmone 7/10/89

Denton Ave LF 02-8902-06 6/6/89 19

~~Site Inspe~~ BD 6/6/89

On-site Reconnaissance

Photo Log (Cont'd)

Date	Time	Photographer	Roll No.	Frame No.	Description
6/6	1119	BD	1	P15, S-16	Looking NW from SW corner of parking lot toward bermed area
6/6	1120	BD	1	P16, S17	looking E along parking lot (from SW) corner
6/6	1133	BD	1	P17-22 S-18-22	panoramic view of recharge basin as seen from DPW garage.
6/6	1144	BD	1	P23, S22	former S boundary line of recharge basin as seen from DPW.
6/6	1145	BD	1	P-24, S-23	looking SW @ ash piles on DPW property.
6/6	1240	BD	2	P1-8, S-1-8	panoramic view looking south from access road @ vent 9.
6/6	1254	BD	2	P9,10 S9,10	→ discharge pipe w/ puddled effluent.
6/6	1255	BD	2	P10,11 S10,11	→
6/6	1256	BD	2	P12, S12	E from access road @ ~~drainage~~ area marshy
6/6	1308	BD	2	P13, S13	→ Looking S along drainage pathway.
6/6	1310	BD	2	P14, S14	Looking SE @ DPW 6/6
6/6	1311	Brian Dietz ~~7/11/89~~ 6/6/89	2	P15-22, S15-22	Panoramic view of LF

Denton Avenue Landfill 02-8902-06 6/14/89 22

	EPA I.D #	Assigned to:
SCBAs	1920354	A. Culmone
	428552 BD 6/15/89	B. Carson A. Culmone BD 6/15
BD 6/14/89	1920365	S. Okulewicz
	1920036 ~~307186~~ BD	
Draeger Pump		
~~M-Scopes BD 6/15/89~~ M-scopes.	192112	
	629765 (DA-3)	
	629766	
Radios	683525	
	683528	
	683521	

Note: Phil Solinski will be replacing S. Lenczyk as SMO; however, all sample custody seals will retain S. Lenczyk's signature.

0746 begin setting up c.p.

0820 decon pad/c.p. set up; Steve has gone for ice.

0840 Tony begins deconning sample equipment.

Abbreviations
bz = breathing zone
c.p. = command post
P = pace ≈ 3' (used for measuring)

Background readings
mini rad: 10 cpm
OVA: 0 ppm
HNu: 0 ppm

0845 Steve returns to site; assists Tony w/ decon

0940 Trip blanks are done

0942 Bob conducts tailgate safety meeting
Brian Dietz 6/15/89 A. Culmone 7/13/89

SUPERFUND DIVISION

TO: Field Notebook No. 0420 DATE: 7/10/89

FROM: B. Dietz COPIES:

SUBJECT: Mis-numbered sample placard for S-1

REFERENCE:

Date on placard for soil sample no. 1 should read 6/14/89.

Brian Dietz
7/10/89

A. Culmone
7/13/89

NUS 443A 59 1182

TO: Field Notebook No. 0420 DATE: 7/10/89

FROM: B. Dietz COPIES:

SUBJECT: Conversation w/ representative from Hoeffner Industries, Inc.

REFERENCE:

While collecting soil sample no. S-1 a representative from Hoeffner Industries, Inc. stopped by to see what we were doing. This individual did not give his name. He informed me of the following:

1. His firm has been contracted by the park (North Hempstead) to replace the steps and water pipes at the restroom bldg. on the north side of the park.

2. The restroom bldg. is connected to the public sewer system (not septic system).

3. There are a lot of "settling" problems associated with the park (southern landfill). In the area of the restroom bldg. the ground has sunk as much as 14".

Brian Dietz
7/10/89

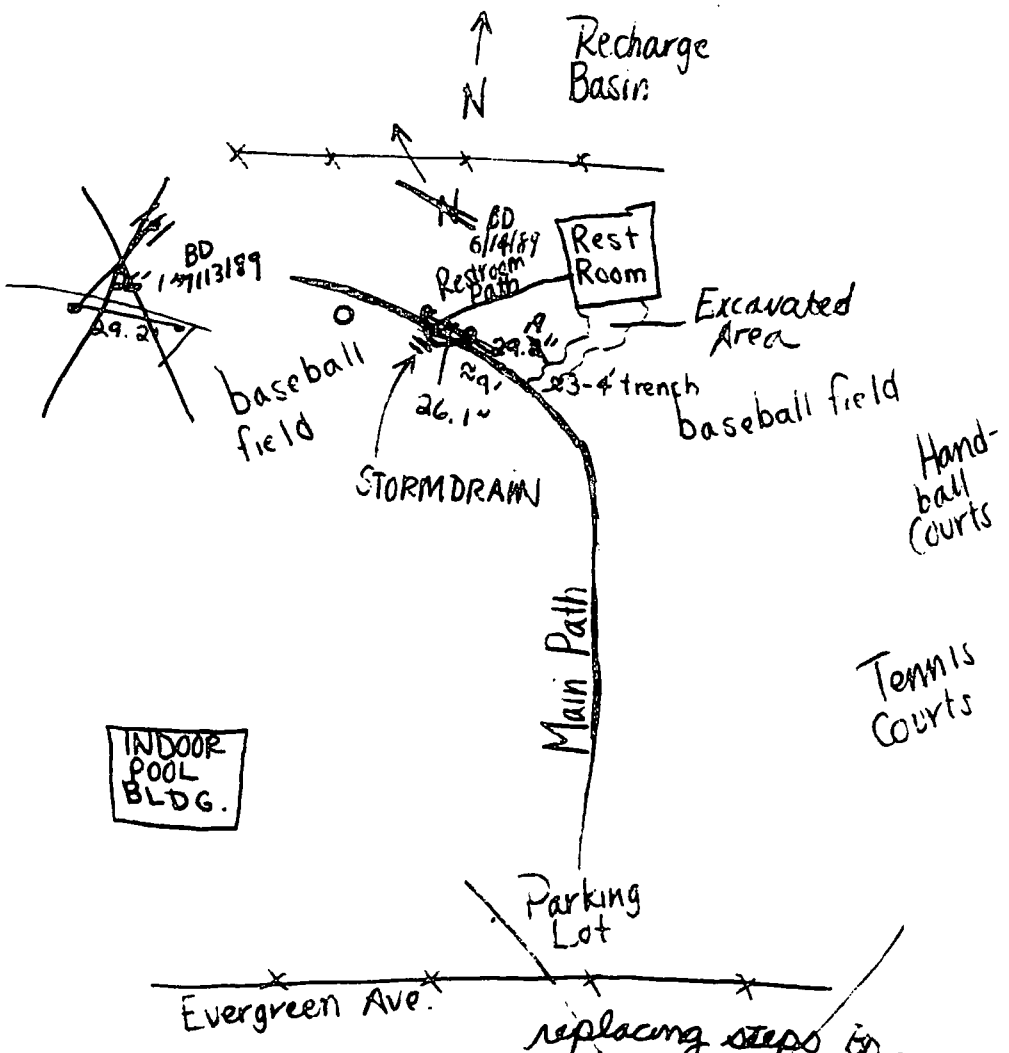
A. Gilmore
7/13/89

516/234-9881

HOEFFNER INDUSTRIES INC.
GENERAL CONTRACTING

Frederick W. Hoeffner
President

219 N. Shafter St.
Hauppauge, N.Y. 11788



replacing steps BD 6/14/89
settling
water pipe
n. to sewered
contractors
4" drop.

P1-S1 Date on placard should be 6/14/89

A. Calmar
7/12/89

Denton Avenue Landfill 02-8902-06 6/15/89 23

0950 All soil samples will be collected as 0- to 6-inch composites.

0954 Mobilizing to S-1 sample location.

1007 checked in w/ security office & N
referred to Deputy Commissioner Raymond Cross
~~Mr. Cross~~ BD 6/14/89

1015 BD 6/14/89 met w/ Mr. Cross; he gave us permission to drive into the sample location. He wanted to know where we would be working. I informed him that we would be collecting our sample in vicinity of restroom building. Gave him my card.

1034 ~~Tony, Bob, Steve on air~~ BD 6/14/89 Tony & Bob screening sample location
No readings on HNu/~~OVA~~ Initial reading 3 ppm on OVA which subsequently dropped to 0 ppm.

1037 Tony & Bob; Steve on air; Bob backup.
BD 6/14/89

1039 Tony begins collecting VOAs.

1040 ~~Steve~~ BD 6/14/89 Steve screens area of sample collection:
OVA 5.2 ppm ~~from area of sample collection~~] methane flush test BD 6/14/89
HNu 0 ppm] No readings in b.z. BD 6/14/89

1045 there is some excavation being done in the area of the sample location. It appeares ~~this~~ that they are installing new pipes. BD 6/14/89

1046 soil is a fill type material w/ clay & pebbles mixed in. sandy texture (sample collected from 0-6")

1050 PI, SI, T. Culmone collecting S-1; Steve assisting (see project note #2) BD 6/14/89
1055 Tony finishes collecting S-1. 1056 contractor stops by to see what we're doing (see project note #2)
1057 Tony & Steve off air
1100 contractor leaves the site.
1105 check in w/ security & depart site

Brian Dietz 6/15/89 A. Culmone 7/18/89

USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE

Field Notebook No. 0420

DATE: 7/11/89

FROM: B Dietz

COPIES:

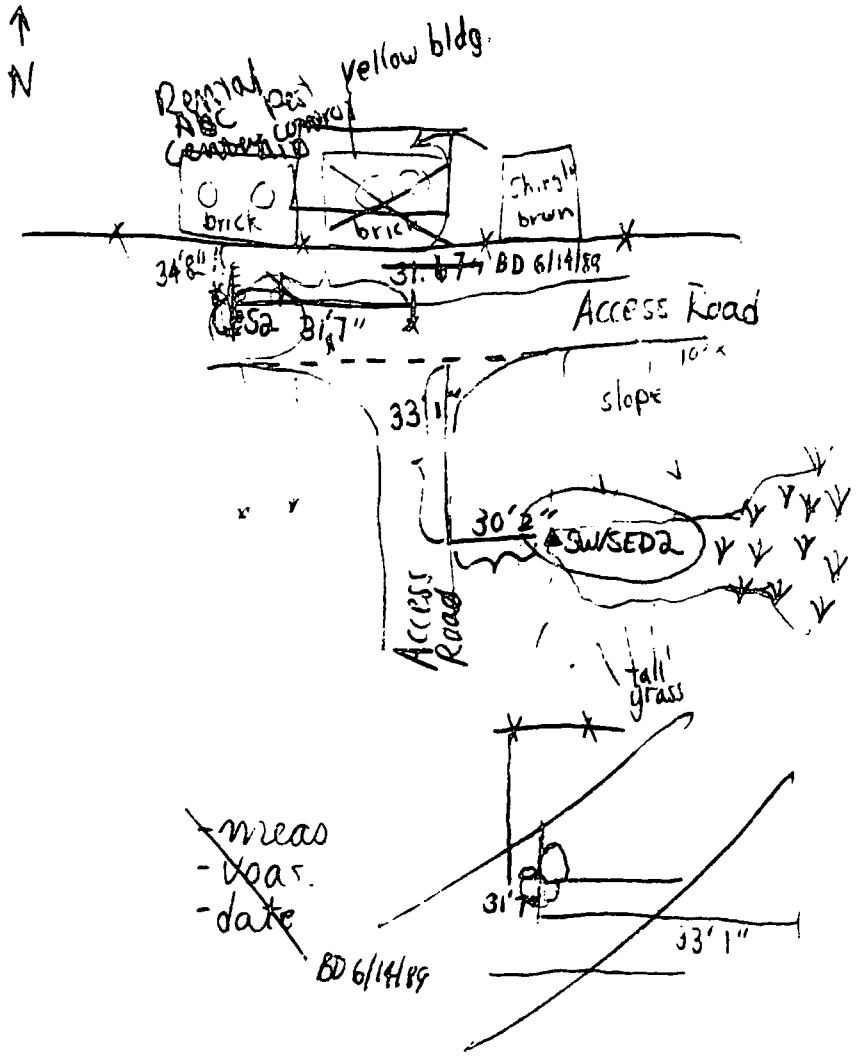
SUBJECT: Mis-numbered sample placard for SED-2

REFERENCE:

Sample placard should read Sed-2, Time: 1214

Brian Dietz
7/11/89

A. Culmore
7/13/89



A. Calmore
7/13/89

Denton Avenue Landfill 02-8902-06 6/~~15~~ 14/89 24

1045 Rin 1] completed
1110 Rin 2]

1112 mobilizing to collect S-2, SW/SED 2 ; ~~S2~~ S-3 BD 6/14/89

1138 arrive @ SW/SED 2 ; ~~begin~~ Tony, Bob, Steve ~~get~~ put on SCBAs ~~on~~ BD 6/14/89 BD 6/14/89 BD 6/14/89

1145 l return to c.p to get ~~acid~~ HCl ; pH paper BD 6/14/89

1149 Tony ; Steve on air, screen sample location
OVA 1.5 ppm @ broken H_2O surf. ; 1 ppm in
HNu 0 ppm alot of aquatic b.z.
1152 Tony ; Steve off air organisms present in the
~~1153 return~~ BD 6/14/89 water (-eg. tadpoles, dragon
1153 l return to sam fly nymphs)
1154 Tony ; Steve on air, Bob as backup

~~Phil Solinski will be replacing Susan Lenczyk as SMO; however, all custody seals will have S. Lenczyk's signature.~~ BD 6/15/89 BD 6/14/89

1158 pH of sw is 6

1159 Tony begins collecting SW-2

1202 ~~1202~~ P2, S2 Tony C. collecting SW-2. BD 6/14/89

1204 ~~1204~~ finish collecting SW-2. BD 6/14/89

1206 ~~1206~~ Tony begins collecting Sed-2 VOAs BD 6/14/89

~~1214 3 workers on an adjacent property watching us collect people observing from neighboring build property~~ BD 6/14/89 BD 6/14/89 BD 6/14/89
samples

Brian Dietz 6/~~15~~ 14/89 A. Culmone 7/13/89

USEPA CONTRACT LABORATORY PROGRAM

1206 Steve screens ~~for~~ BD 6/14/89 disturbed sediments @ SED-2
OVA: 2 ppm
HNu: 0 ppm
1207 Tony's bell begins to sing.

1213 Tony off air.

1214 P3, 53 Steve O. collecting Sed-2. Alot of organic material in the soil. ~~Note: sample placard reads Sed-3 1314 This is incorrect~~ BD 6/14/89
1215 Bob on air, Steve off air
1216 Bob off air. (See project note #3)

1221 mobilizing to S-2.

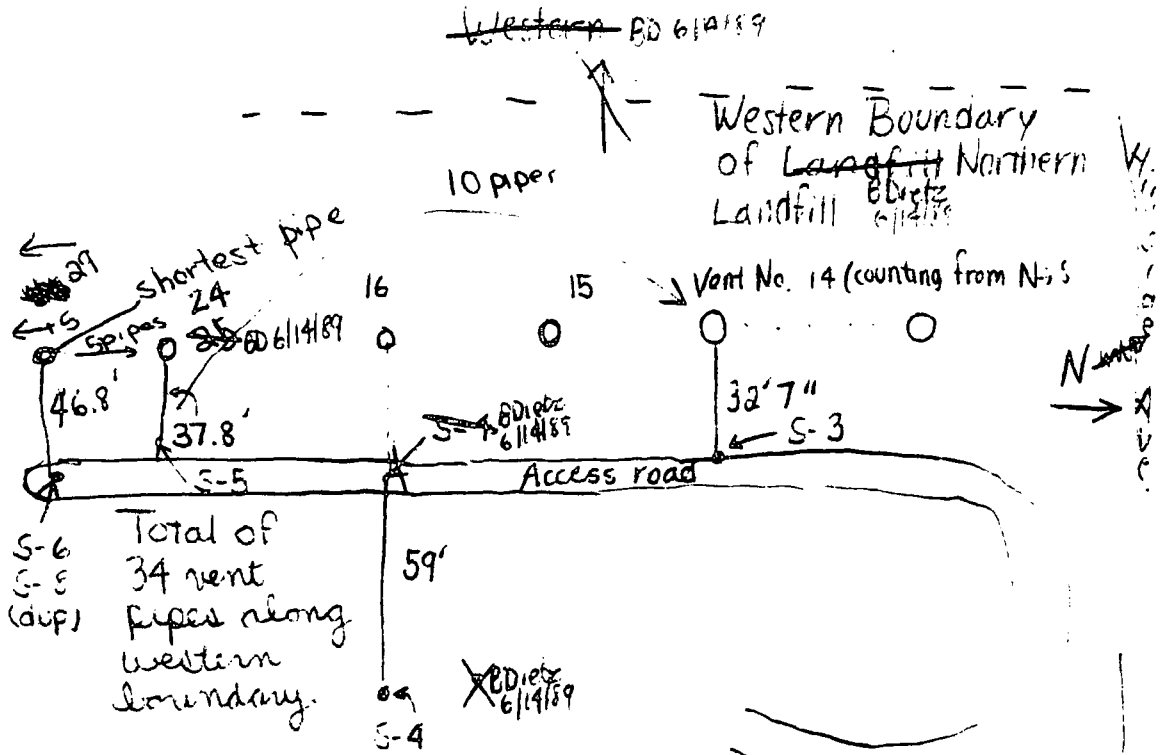
1225 Since the recon on 6/6/89 the discharge
~~1325~~ pipe has been capped w/cement and it appears that ≈12' BD 6/14/89
HNu 0ppm BD 6/14/89 length of pipe has been removed.
OVA - not responding to marker test. The impression the pipe made has been covered over w/ debris. (See
1229 OVA re-ignited! responds to sharpie

1232 Steve! Tony screens sample location w/ HNu / OVA
OVA 0ppm
HNu 0 ppm

1235 Steve begins collecting S-2 sample. Soil is very sandy. Film floating on ponded water @ sample location.
P4, 54
1243 Steve O. collecting S-2.
~~1246 finish collecting sample S-2.~~ BD 6/14/89

Brian Dietz 6/15/89 (14) A. Cohmore 7/13/89

USEPA CONTRACT LABORATORY PROGRAM



Note: Vent pipes were assigned numbers for landmarking purposes from north to south (i.e., Vent No. 1 (northernmost) to Vent No. 34 (southernmost).

Denton Ave.

Brian Dietz
6/14/89

A-Culmore
7/13/89

PROJECT NOTES

TO: Field Notebook 0420 DATE: 7/11/89

FROM: B. Dietz COPIES:

SUBJECT: ~~Blurry~~ BD sample placard for S-4.

REFERENCE: Illegible

Sample placard should read Sample: S-4, Time: 1526

Brian Dietz
7/11/89

A. Culmone
7/13/89

Denton Avenue Landfill 02-8902-06 6/~~15~~ 14/89 27

1500 mobilizing to collect S-4, S-5, S6 (S8 dup)

1519 Tony & Steve on air.

1520 HNu 0 ppm] in area of sample location S-4 soil mixed w/ compost very moist tire tracks observed in area of sample collection.
OVA ≈ 9-10ppm]

1522 Tony begins collecting S-4 VOAs

1525 Bob on air to hold sample placard. (See project note #4)

1526 P6, S6 Tony C. collecting S-4. Steve O. assisting

1527 Bob off air.

1529 Tony off air

1532 Steve off air

1535 mobilizing to collect S-5.

1537 screen sample location w/ OVA/HNu
HNu 0ppm] ~~to thick layer~~ BD 6/14/89
OVA 0ppm] BD 6/14/89

1540 Steve begins collecting S-5 (MS/MSD) VOAs.

1547 P7, S7 Steve O. collecting S-5. Soil very sandy ~~& high water table; hole filling w/ water~~ BD 6/14/89 and ~~water begins~~ BD 6/14/89 encounter water a few inches below ground surface

Brian Dietz 6/~~15~~ 14/89 A Culmer 7/18/89

1554 Steve finishes collecting S-5.

1602 mobilizing to S-6/S-8 (dup)

1604 Tony! Steve on air

1605 muni rad 18cpm.
Tony; Steve screening sample location
S-6/S-8 w/ HNu OVA
HNu 0ppm] prior to and after disturbing
OVA 0ppm] the soil
1608 Steve off air
1609 Tony's bell went off, tony begins collecting
S-6/S-8 VOAs.

1610 Tony off air.

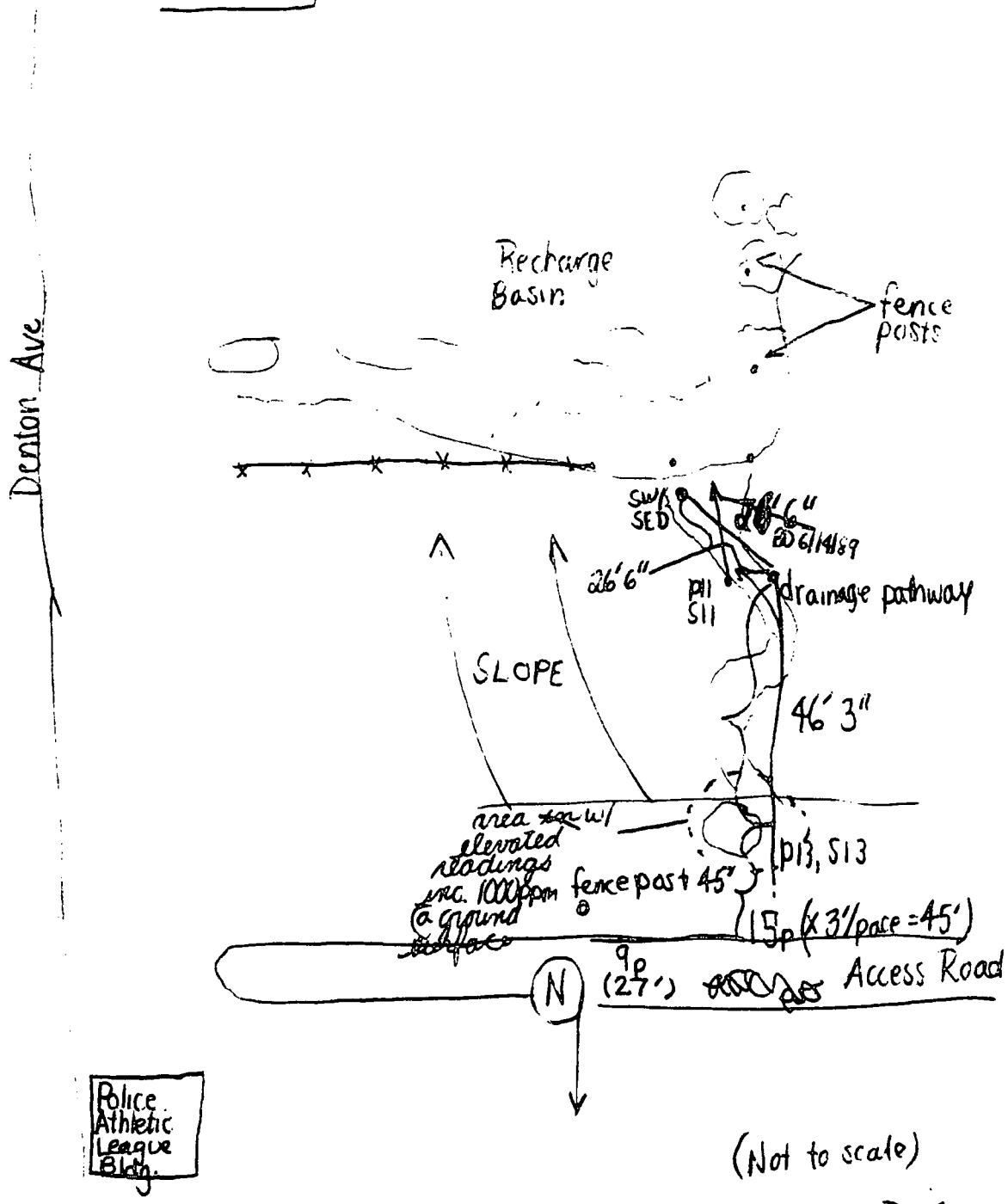
1612 soil is very sandy w/ clay @ about 2"
below groundsurface

1615 S7, P8 Tony C. collecting S-6/S-8.

1620 Tony C. finishes collecting S-6/S-8.

1636 return to c.p. ~~prepare~~ BD 6/14/89 mobilizing for
SW/SED1, S-7, S-9
1645 Bob! myself recon drainage pathways. The drainage
culvert that was mentioned in background info was
located. This culvert will
not be sampled because ~~of the~~ it is inaccessable. BD 6/14/89

Brian Dietz 6/15/89 A. Cohen 7/13/89



(Not to scale)

Brian Dietz
6/14/89

A Cubro
7/10/89

Denton Avenue Landfill 02-8902-06 6/~~15~~ 14/89

29

1700 S-7, SW1/SED1 will be collected from the drainage pathway that was observed during the 6/6/89 recon. (See page 13)

1715 HNu 0 detected in b.z. in the vicinity of drainage pathway

OVA ≈50-~~60~~ 70 ppm BD 6/14/89

a second reading taken 5 minutes revealed:

1720 OVA ≈10-14 ppm | methane flush test does not confirm presence of methane

HNu 0 ppm

as a result: SW1/SED1, S7 will be collected on level B.

1730 Tony, Steve, Bob on air

1730 Tony begins collecting SW-1

1734 I went on air ~~to change bottle~~ BD 6/14/89

~~1750 Steve off air - going to change bottle~~

PH of surface water in basin #6 there is a lot of organic matter and debris (cups, wood, cans, floating @ edge of basin out to approx 10' ~~out~~ from shore BD 6/14/89

1737 P9 S9 Tony collecting SW-1

1739 While in this area a steady 6 ppm is being detected on the OVA in b.z.

1740 Tony begins collecting SED-1 VOAs.

1743 P10-S10, Tony Collecting Sed-1 VOAs.

1744 Steve's bell ~~went~~ BD 6/14/89 began ringing, we sent him back to vehicle w/ sample SW-1 ! To change bottles.

~~175~~ BD 6/14/89

1746 Steve off air.

Brian Dietz 6/~~15~~ 14/89 A. Cahnon 7/13/89

USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT

BD 6/14/89

Brian Dietz 6/14/89
a. [illegible] 7/13/89

1847 Steve & myself off air. Bob taking a reading w/ OVA/HNu @ groundsurface in area of elevated readings OVA: >1000ppm HNu: 0ppm
1849 Bob off air. Mobilizing to collect S-9.

Denton Ave Landfill 02-3902-06 6/14/89

1746 Tony says alot of organic matter in the sediments.

1750 Tony finished collecting SW/SED; Steve off air; changing bottles.

1751 P11, S11 showing organic film on sw @ sample location SW1/SED1

1753 Tony's bell goes off

~~P12, S12 Tony collecting S-7~~ BD 6/14/89

1755 OVA ≈ 50-60 ppm as soon as get to top of the hill. ~~Getting of a reading~~ BD 6/14/89

1758 Bob, Tony, & myself off air ~~Phil~~ BD 6/14/89

1800 return to C.P. for fresh air bottles.
and Bob is switching OVAs, will now be using #469784

1824 return to drainage pathway, OVA ≈ 4-8 ppm w/ peaks ~~(20-30)~~ of 20-30 ppm ~~backup~~ BD 6/14/89 BD 6/14/89

1830 Steve, Bob, & myself on air

1835 Steve begins collecting S-7.
soil, sandy w/ clay and cobbles

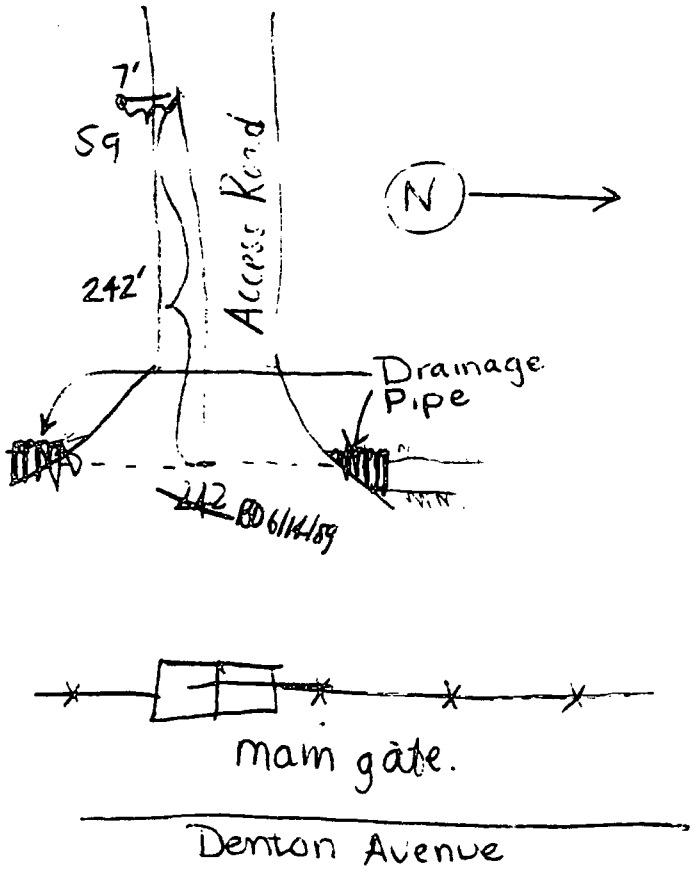
1837 P12 S12 Steve collecting S-7.

1840 no readings b.z. on OVA, only @ the top of the hill. ~~Bob takes a reading @ groundsurface in area of elevated readings~~ BD 6/15/89 ~~OVA 1000 ppm~~ ~~HNu 0 ppm~~

1845 finished collecting S-7, ~~mobilizing to sample location~~ ~~S-9~~ BD 6/15/89

Brian Dietz 6/14/89 A. Calvin 7/13/89 BD 6/15/89

USEPA CONTRACT LABORATORY PROGRAM



Brian Dietz
6/14/89

A. Calmore
7/13/89

Trenton Ave Landfill 02-8902-06 6/14/89

1850 Steve O. begins collecting S9-VOCs.

1852 S-9 will be a background soil sample.

1855 P14, S14 Steve O. collecting S-9.

1900 finish collecting S-9.

~~1902 Steve, Bob, & myself off air~~ BD 6/15/89

1905 back to C.P. breaking down & preparing samples for shipping. Phil informs me that Steven Cipot from U.S.EPA Fed Plaza stopped by the C.P. to see how we were doing. Mr. Cipot lives in the area of the site and this was an informal visit.

1924 Phil & myself going to Fed-X.

1940 drop samples off @ Fed-X.

2000 depart site

Brian Dietz 6/14/89 A. Calmer 7/13/89

USEPA CONTRACT LABORATORY PROGRAM

Brighton Avenue Landfill 02-8902-06 6/15/89 33

Site Inspection

Date: 6/15/89

Time of Arrival: 0620

Time of Departure: 1810

NUS Personnel On Site		Task
Brian Dietz	BD 6/15/89	SM
Robert Carson	Robert Carson	SSO
Phil Solinski	Philip Solinski 6/15/89	SMO
Diane Trube	Diane Trube	Community Relations
Anthony Culmone	AC 6/15/89	sampler
Steven Okulewicz	Steven Okulewicz 6/15/89	sampler

All QA and Workplan requirements were discussed w/ the above personnel.

Weather Conditions: ≈65°F, overcast, misting rain; wind 0-5 mph out of the north

Site Contacts	Title
John Delaney	Town Attorney
Thomas Mohrman	Parks Commissioner
Don Myott	NCDOH

Equipment:	EPA ID No.
HNu photoionization detector	G-469753
	469752
OVA flame ionization detector	M-469784*
	469760
mini-radiation detector	428604

USEPA CONTRACT LABORATORY PROGRAM

...ton Ave. Landfill 02-8902-06 6/15/89

	EPA I.D No.
...on camera loaded w/	428512
...on camera loaded w/	469757
...BAs.	192034 (A. Culmone)
	192035 (S. Okulewicz)
	192036 (backup)
	428552 (B. Carson)
...scopes	(DA-5) 192112
	(DA-3) 629765
	(DA-4) 629766
Radios	683525
	683528
	683521

Draeger pump w/ tubes

BD 6/15/89

~~Background Readings~~ ~~DA-3~~ ~~DA-4~~ ~~DA-5~~

~~HNu :~~

~~OVA :~~

~~mini-rad : 12-18 ppm~~

Note: Conductivity pens ~~was~~ were not available for field work BD 6/15/89, therefore, conductivity readings ~~were~~ will not be taken during groundwater sampling on 6/15/89

0620 drive to wells DA-4 - 5 Cordon off area w/ traffic cones and caution tape.

0635 mobilize to ~~decon~~ BD 6/15/89 parking lot on Denton Ave begin setting up c.p. & decon pad. We will ~~be to~~ BD 6/15/89 decon all sampling equipt @ c.p. and transport samplers by vehicle to sampling locations GW-2, GW-3, GW-4. After sampling, Dirty equipt will be wrapped in plastic and returned to c.p. for decon.

0655 we will be using OVA 469784 ~~for all screening~~ BD 6/15/89 for today's sampling ~~This instrument~~ BD 6/15/89 This instrument was only used for approximately 36 minutes during yesterday's sampling ~~and~~ BD therefore, recalibration has been deemed unnecessary.

Brian Dietz 6/15/89

USEPA CONTRACT LABORATORY PROGRAM

0705 SM ! SSO decided that samplers will wear rain gear in place of saranex w/ tyvek due to rainy conditions (which will cause the blue tyvek to run ! tear) and to minimize visibility

0725 SMO ~~organizing~~ organizing ~~preparing~~ sample bottles BD 6/15/89 BD 6/15/89

0745 suburban lined w/ plastic for transport of samplers BD 6/15/89 sampling equipt., Tony ! Steve deconning sample equipt.

0800 still deconning sampling equipt.

0806 Bob C. conducts tailgate safety meeting

0808 Tony ! Steve finish decon of equipt. BD 6/15/89

0810 Phil prepares Trip Blank and gives it to Steve to carry during sampling.

0826 mobilize to MW-DA3 to collect GW-2 (for location of MW-DA3 refer to pg. 6)

0840 arrive @ Bowie school, park vehicles

0845 begin setting up for sampling of monitoring well DA-3.

0847 Diane ! myself go to check in w/ school officials

0850 meet w/ Ned Price school supt. Inform him of our presence on property. He would like us to be finished by noon. I tell him that that should be no problem

0900 open meter pit cap ! bail out pooled rainwater to below the level of ~~stickup~~ BD 6/15/89 well cap, ~~to avoid~~ ~~[illegible]~~ prior to opening well. Brian Dietz 6/15/89 BD 6/15/89 [illegible] 7/13/89

...ton Ave. Landfill 02-8902-06 6/15/89 36

0907 Tony Bob Steve getting SCBAs

BD 6/15/89
0909 ~~Decision~~ SM & SSO have decided that all of the wells will be initially screened on level B. If readings detected ~~the~~ BD 6/15/89 we will back off & allow well to vent. If no readings detected after venting, and when water column is disturbed, sampling will be conducted on level D.

0911 Tony & Steve on air, Bob C. backup

BD 6/15/89
0912 ~~Tony~~ Steve tries to open well cap but its stuck tight ~~due to suction in the well~~ BD 6/15/89 (probably due to suction ~~caused~~ created BD 6/15/89 by fluctuating water level in well).

0917 cap opened, ~~[illegible] cap was held on by suction~~ BD 6/15/89

0918 initial reading in casing OVA 2ppm ~~subsequently~~ → 0 no ~~read in~~ readings in b.z. BD 6/15/89
HNu 0ppm

0919 Tony & Steve off air.

0922 Tony & Steve taking initial H_2O level measurements
~~71'~~ below grade
71.6' BD 6/15/89
[water table ≈ 1.5' higher than what it was during recon on 6/6/89]

b.z = breathing zone

0928 OVA flue 0→10-30 ppm @ well head 0 in b.z. after venting ≈ 10 min BD 6/15/89] readings after well allowed to vent ≈ 10 min.
HNu 0ppm.

0931 begin bailing

0940 water was initially clear → muddy; we are bailing from top to bottom of column. BD 6/15/89

0944 OVA 4ppm in ~~barrel~~ drum w/ rinse H_2O, 0ppm in b.z.

Ave. Landfill 02-8902-06 6/15/89 37

1045 Tony notes that the well seems to have good recharge.

1047 OVA ~~pe~~ BD6/15/89 > 10 ppm in well ~~head~~ BD6/15/89 casing
OVA 0ppm bz.
3ppm in drum; 0ppm in b.z. in area of drum

0954 water still muddy

reading fluctuating ~~w/rising bailer~~ as bailer being pulled out of well increas.

1003 OVA ing to a max of ~~≈~~30 ppm as well ~~head~~ BD6/15/89; 0 ppm in b.z. in area of well casing
OVA: 1ppm in ~~barrel~~ bailer rails drum; 0 ppm ~~in b.z.~~ BD 6/15/89 in b.z. ~~outside drum~~ BD6/15/89 around drum

methane flush test does not indicate the presence of CH_4 at well or drum

1008 well ~~is~~ seems to be recharging ~~so~~ faster (~~not~~ BD6/15/89 screen may be being cleaned out) BD 6/15/89 BD6/15/89

1010 water still muddy

1017 person from the area stopped by inquired ~~about~~ BD 6/15/89 what we're doing. No information given.

~~Routine gw sampling~~ BD 6/15/89

1018 Phil radios a ~~rinsate~~ summary of rinsate completion times

Run-3 ~~bail~~ BD6/15/89 funnel run 0925

Run-4 bailer run 1000

1020 two people stopped by decon area to cut the grass outside the fence. Phil radios that

1024 OVA ≈ 60ppm in well ~~head~~ BD6/15/89 casing 1" down; 0ppm in b.z.
0ppm in drum

1025 water ~~not as~~ BD 6/15/89 less silty; water becoming darker grey, it was originally ~~reddy~~ BD 6/15/89 orange/brown.

1029 consis. hitting H_2O @ same level (screen prob. clear)
OVA 0ppm in drum after disturbing water surface.

Brian Dietz 6/15/89

H Cabana 7/12/89

USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE

NUS CORPORATION
SUPERFUND DIVISION

PROJECT NOTES

TO: Field Notebook No. 0420 DATE: 7/11/89

FROM: B. Dietz COPIES:

SUBJECT: Simultaneous documentation of field activities at 2 sample locations during

REFERENCE: Denton Ave LF SI on 6/15/89.

At 1313 A Culmone and myself went to collect samples NYEB-GW1 ~~at public supply~~ BD, NYEB-GW5, NYEB-GW6/7, while remainder of crew continued bailing MW-DA5 and MW-DA4. During my absence Duane Trube continued ~~field~~ the documentation of field activities at the monitoring wells. A summary of these field activities is presented below:

1314 OVA: >1000 ppm detected in ~~well~~ BD casing of ~~MW-DA5~~ MW-DA5. BD 7/11/89
0 ppm in breathing zone in area of well
Water from the well is clear.

1322 Phil radios that landscapers near command post inquired about our presence on site. Phil ~~said~~ told them that we are conducting routine sampling.

1328 OVA: 140 ppm in casing (MW-DA5); 0 ppm in breathing zone

1341 Bailer separates from rope and ~~to lost~~ BD falls down the well. (MW-DA5).

1356 Steve and Bob move to MW-DA-4 and begin ~~bailing~~ BD setting up.

1400 Bob returns to c.p. to get another bailer.

(over)

A. Culmone 7/13/89

Brian Dietz 7/11/89

NUS 443A 88 1182

1415 Bob returns w/ bailer. Bob & Steve finish setting up at MW-DA4.
1503 ~~X~~ Open MW-DA4
1505 Bob takes initial readings OVA: 150ppm (in casing); 0ppm b.z.
HNu: 0ppm.

1511 Bob & Steve take an initial water level measurement in MW-DA4. ∇ = 59.8' below grade

1520 begin bailing
~~1605 ~~X~~ Tony & myself rejoin crew at MW-DA4~~. BD 7/12/89

1530 bailer in MW-DA5 is retrieved.
1532 well cap ~~and mat~~ to MW-DA5 resealed.
1533 OVA: 0ppm in b.z.] @ MW-DA4
HNu: 0ppm

1550 OVA: >10ppm (in well casing); 0ppm (b.z)] @ MW-DA4
HNu: 0ppm

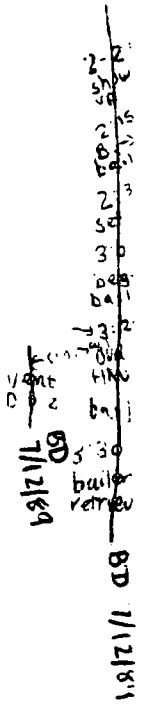
1605 Tony & myself rejoin crew at MW-DA4.

1615 OVA: 0ppm (in well casing); 0ppm (b.z)] @ MW-DA4
HNu: 0ppm

1635 OVA: ~~0ppm~~ BD 7/12/89 0.5ppm (in well casing); 0ppm (~~in~~ b.z.) BD 7/12/89] @ MW-DA4
HNu: 0ppm

Brian Dietz
7/12/89

A Colmore
7/12/89



(5)

NUS CORPORATION
SUPERFUND DIVISION

PROJECT NOTES

TO: ~~File~~ BD Field Notebook #0420 DATE: 6/15/89 (date of calibration)

FROM: B. Dietz COPIES:

SUBJECT: Field Calibration of OVA-H EPA ID No. 469784

REFERENCE:

Calib Gas: Methane
Cyl: # 197723
Calib Std: 97 ppm
Calib: Primary Calib.
Person calibrating OVA: R. Carson
Result of calibration: everything checked out

Brian Dietz
6/15/89

A. Culmone
7/13/89

NUS 443A 68 1182

1037 water still dark grey, turbid

1040 finish bailing; ≈ 15-17 gallons evacuated

1043 Tony & Steve taking water level meas.
OVA 10-20ppm in well casing; 0ppm in b.z. — while measuring water level
fluctuating readings w/ maximum readings ~~while measuring water level~~ BD 6/15/89 BD 6/15/89

▽ 71.3' below grade. (0.3' inc. in water lvl)

1049 note: VOA samples from well DA-3 will not be preserved w/ HCl due to the turbidity of the water BD 6/15/89

1050 Steve & Tony ~~be~~ measure ~~take~~ pH ~~w/ pH paper~~ 6/15/89 6/15/89
pH ≈ 6.

1052 Tony & Steve begin collecting GW-2 VOAs.

1055 P15 S15 Tony & Steve collecting GW-2.

1101 finish collecting GW-2. ~~Diane f. up cos to~~ BD 6/15/89 local make final arrangements for collecting GW-4, 5, 6, 7
BD 6/15/89 ~~W/ She will also call the office!~~

1102 well re-capped. Diane takes GW-2 to SMO back @ cp. Remainder of crew breaking down ~~to~~ sampling area.

1105 meter pit trap re-sealed.
Diane will also call the office.

1150 mobilize to GW-4 and begin setting up

Brian Dietz 6/15/89 A. Cukman 7/13/89

USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE

Denton Ave. Landfill 02-8902-06 6/15/89 39

-469760
1200 OVA#M dies. I will return to cp. to get replacement (469784). Replacement OVA will have to be calibrated.

1215 return to sample location GW-4 w/new OVA.

BD 6/15/89
1220 calibrating OVA - ~~M~~ H (469784) (see project note # 5) BD 6/15/89

BD 6/15/89
1243 OVA calibrated, Tony, Bob, Steve ~~donning level~~ mobilizing to open well DA-5 and begin initial screening.

1246 Tony! Steve on air (Bob backup) Tony uncaps well. DA-5.

1247 Bob on air. screening well head.
OVA ≈900 ppm (max) in casing; 0 ppm b.z.

1248 Tony! Steve taking H_2O level measurements water = 62'. 1' below grade. Bob off air.
1253 Steve's bell goes off

1256 Tony! Steve off air.

1259 Tony! Myself will go collect GW-1 while remainder of crew bails well no. DA-5. Bob C. will be SSO, Steve will bail, Diane will continue documentation (See project note #6)

1310 Steve begins bailing

Brian Dietz 6/15/89 A. Cubmae 7/13/89

USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE

1316 Drop Tony @ Jamaica No 20 ; go get receipt for samples

BD 6/15/89

1329 GW-1 was collected prior to treatment. Water from 20 → air stripper plant → holding tank (Tower) → system

1330 pH 6, tech stated that H_2O from this well

BD 6/15/89 R was pH 6.3-6.5 but it is adjusted to pH 7.5

1336 alot of (metal plating, dye) industry in this area

1341 P16, S16 A. Culmone collecting GW-1 (MS/MSD)

Note: all GW-1 VOAs preserved w/ HCl

BD 6/15/89

1333 Tony begins collecting GW-1 VOAs.

1343 Tony finishes collecting GW-1.

1345 I call Dennis Saccone, not in. left message.

1350 take GW-1 → SMO

1400 called ~~back~~ BD 6/15/89 D. Saccone, he will meet us @ 2:30 @ Well 3673

1415 Checked in w/ crew, @ DA-5. They had a bailer down DA-5. Diane has gone for fishing wire & hooks.

1442 battery went dead in radio #525 683

1443 Waiting for D. Saccone @ GCPWD office.

1446 D. Saccone on her way to meet us, held up @ Dept. of Health.

1450 Met w/ D. Saccone, ran the rod 3673 from 1300 to 1320 ~~10 min.~~ BD 6/15/89

1500 ran well 3673 another 10 min 1502 Tony begins collecting VOAs.

1507 P-17/S-17 Tony collecting GW-5

1508 finished collecting sample 1501 pH (initial) 6; VOAs preserved w/ HCl. Water from 3673 is untreated and is contaminated w/ PCE and nitrates.

~~No LS, nitrates pce, treatment plant~~ BD 6/15/89

Brian Dietz 6/15/89 B. Dietz 6/15/89

USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA

CASE NO.

Denton Ave Landfill public supply well No. 5603 C2-8902-06 6/15/89

1510 mobilize to collect GW6/7 (41)

1515 ~~[illegible]~~ @ 5603 BD 6/15/89

(this well is currently active and has an air stripper)

Note: Documentation of field activities will now continue on back page

for PCE up to ↑ 360ppb

1516 collected sample from ~~spigot prior~~ to air stripper

→ booster station → system (water tanks / mixture of water)

5603 | air stripper (wet well on site) (press from towers.)

6500 households X 3.8 ~~2 clean/1~~ BD 6/15/89 24,700 people

out of GCPWS: wells only are clean.

1520 pH 6 (initial)

1521 Tony begins collecting GW6/7 VOAs

All VOAs preserved w/ HCl ~~to below~~ BD 6/15/89

~~p115~~ - BD 6/15/89

1525 P18 S58 A. Culmone Collecting GW 6/7 (dup).

1538 finish collecting GW6/7

1535 drop samples off @ CP.

Kids are riding Dirt bikes on N Parcel. SMO reports that kids been playing on N parcel off / on all day

1554 the bailer that was used to take the bailer rinsate ~~to~~ ~~being~~ used to ~~collect~~ collect GW43 will BD 6/15/89 BD 6/15/89

BD 6/15/89 4 min slower [illegible]

1605 Tony / myself ~~return~~ to rest of the crew at MW-DA4. ~~to~~ BD 6/15/89

~~GW-4 will not be collected because GW-2~~ BD 6/15/89

GW-1 ~~or~~, GW-2, ~~and~~ and GW-3 will serve as our down gradient samples. GW-4 will not be collected because retrieving the last ~~now~~ bailer took too much time. ~~and~~ BD 6/15/89

1612 Tony is bailing DA-4; giving Steve a rest.

1650 Tony finishes bailing. We have evacuated ≈17 gallons from DA-4.

Brian Dietz 6/15/89 A Culmone 7/13/89

Denton Ave. Landfill 02-3902-06 6/15/89

cap como off easy.

1632 Tony & Steve take water level measurements.

▽ ≈ 59.7' below grade

~~3573 478~~ BD 6/15/89

~~5603 418~~

1636 local resident stopped by to see what we were doing. No information given.

1638 observer left sampling area.

1639 BD 6/15/89 pH ≈ 6. Water is very turbid, suspended particles present, dark grey black color

1640 begin collecting GW-3 VOAs. For this reason VOA samples for GW-3 will not be preserved w/HCl.

1646 P19, S19 Steve O. & Tony C. collecting GW-3.

1651 finish collecting GW-3.

1655 well re-sealed & meter pit trap re-sealed.

1656 breaking down sampling area

1710 return to c.p.

1716 Nassau County Police Officer stops by c.p to see what were doing (someone had called

Brian Dietz 6/15/89 A. Wilmer 7/13/89

Denzon Ave. Landfill 02-8902-06 6/15/89 at the site. (43)

in a report of suspicious behavior. Letter of introduction given to him. Explained that we're taking soil/groundwater samples.

17-2 crew is ~~breaking~~ BD 6/15/89 deconning sample equipment. Samples being prepared for shipment.

1810 depart site

1835 drop samples off at Fed-X.

A. Carlson
7/13/89

CPA-Well

W.N. Mem. F.S.

TDD
DATE
WELLS
NON-HAD PURGE
WATER

BD 6/15/89

BD 6/15/89
~~Map o~~

Industrial properties Located in Vicinity of the Site:

PDC

Steel Fab

Pioneer Mason

DPW of NH

Scrap Metal

Allied Welding Gas Distrib.

Evergreen

Lithoplating

Denton

Dakon ECCO

Gilford

Jericho Die! Mold.

Southside Carbon

Garbages

Highlan

Ironworks

Imper

Jasm

Brian Dietz 6/15/89

7/13/89

Axelrod Aero Sol

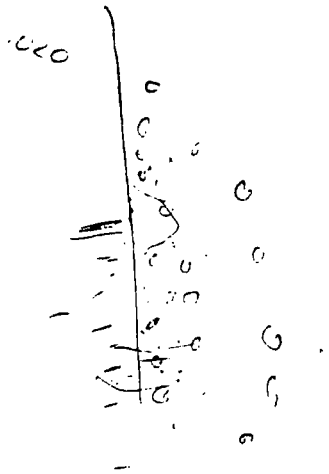
Zoo Chem Bu. Prp

American Lado

Cosmic Tools

Leather Tanners

Fotmouth



lower as you go pump to prevent

stag
pumping
clean only

3-5 volumes.

- want clear H_2O on top & sand pack

- want to clear screen to allow fresh recharge

want bail diff depth

-

pump 1x
re.
pump. again

BD
7/13/89

Denton Ave. Landfill 02-8902-06 6/15/89

(47)

Site Investigation Photo Log

BD 6/15/89

Date	Time	Photographer	Roll No.	Frame No.	Descrip.
6/14	1050	BD	1	P1, S1	A. Culmone collecting S-1 S. Okulewicz assisting
6/14	1202	BD	1	P2, S2	A. Culmone collecting SW-2
6/14	1214	BD	1	P3, S3	S. Okulewicz collecting Sed-3.
6/14	1243	BD	1	P4, S4	S. Okulewicz collecting S-2.
6/14	1317	BD	1	P5, S5	S. Okulewicz collecting S-3.
6/14	1526	BD	1	P6, S6	A. Culmone collecting S-4.
6/14	1547	BD	1	P7, S7	S. Okulewicz collecting S-5 (MS/MSD).
6/14	1615	BD	1	P8, S8	A. Culmone collecting S-6/S-8.
6/14	1737	BD	1	P9, S9	A. Culmone collecting SW-1.
6/14	1743	BD	1	P10, S10	A. Culmone collecting Sed-1.
6/14	1751	BD	1	P11, S11	Organic film on sw in vicinity of SW-
6/14	1837	BD	1	P12, S12	S. Okulewicz collecting S-7
6/14	1846	BD	1	P13, S13	Area of elevated OVA reading
6/14	1855	BD	1	P14, S14	S. Okulewicz collecting S-9.

A. Culmone 7/13/89 (cont'd on pg. 49) Brian Dietz 7/11/89

Volumes to be evacuated from Denton Ave. LF monitoring wells.

	Well Depth	Casing Diameter	Water Lvl	Evac
DA-3	100' (surf. 121.50')	2"	73' below ~~g.s.~~ grade (column: 27') 22' 3.52 / 5' 0.80	1 volume = 4.32 gal 3-5(12.96 - 21.6)
DA-4	95' (surf. 108.97')	2"	60.7' ~~62.5'~~ below grade (column: 34.3') 24' 3.84 / 10' 1.60	1 volume = 5.44 gal 3-5(16.32-27.2)
DA-5	114' (surf. 109.67)		62.5' below grade (column: 51.5') 2[24'/3.84] + 3[1'/0.16)]	1 volume = 8.16 gal 3-5(24.48-40.8)

Brian Dietz 7/11/89
A. Cubman 7/13/89

BD 6/15/89

3, GW-4
, decomed

, to

(45)

Denton Ave Landfill 02-8902-06 6/15/89 (49)

Site Inspection Photo Log (Continued)

Date	Time	Photographer	Roll No.	Frame No.	Description
6/15	1055	BD	1	P15, S15	A. Culmone and S. Okulewicz collecting GW-2.
6/15	1341	BD	1	P16, S16	A. Culmone collecting GW-1 (MS/MSD)
6/15	1507	BD	1	P17, S17	A. Culmone collecting GW-5.
6/15	1525	BD	1	P18, S18	A. Culmone collecting GW-6/GW-7 (dup)
6/15	1646	BD	1	P19, S19	S. Okulewicz and A. Culmone collecting GW-3.

Brian Dietz BD 7/11/89

USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703-557-2490 FTS-557-2490

CASE NO: 12105

SAS NO: (IF APPLICABLE)

INORGANIC TRAFFIC REPORT

TYPE OF ACTIVITY (CIRCLE ONE) ①
SUPERFUND—PA (SI) ESI RIFS RD RA ER NPLD O&M OTHER _____
NON-SUPERFUND—_____ PROGRAM

SITE NAME: DENTON AVENUE LANDFILL
CITY, STATE: NORTH HEMPSTEAD, NY
SITE SPILL ID: ZZ

REGION NO: 2
SAMPLING COMPANY ②: NUS-FIT
SAMPLER: (NAME) PHIL SOLINSKI
~~SUSAN LENCZYK~~

SHIP TO: ③
SKINNER + SHERMAN, INC.
300 SECOND AVENUE
WALTHAM, MA 02254

ATTN: MARILYN FONSECA

SAMPLING DATE: ④
BEGIN: 6/14/89 END: 6/14/89

DATE SHIPPED: 6/14/89 CARRIER: F ⑤
AIRBILL NO: 3488727572

SAMPLE DESCRIPTION ⑥
(ENTER IN BOX A)
1. SURFACE WATER
2. GROUND WATER
3. LEACHATE
4. SOIL
5. SEDIMENT
6. OIL (SAS)
7. WASTE (SAS)

DOUBLE VOLUME REQUIRED FOR MATRIX SPIKE/DUPLICATE AQUEOUS SAMPLE

SHIP MEDIUM AND HIGH CONCENTRATION SAMPLES IN PAINT CANS

SEE REVERSE FOR ADDITIONAL INSTRUCTIONS

CLP SAMPLE NUMBER (FROM LABELS)	Ⓐ SAMPLE DESCRIPTION (FROM BOX 1) 1 2 3 4 5 6 7	Ⓑ CONCENTRATION L = LOW M = MED H = HIGH (SAS)	Ⓒ RAS ANALYSIS: TOTAL METALS	CYANIDE	DISSOLVED METALS	HIGH ONLY (SAS): SULFIDE	pH	CONDUCTIVITY	OXIDANTS	Ⓓ SPECIAL HANDLING	Ⓔ STATION LOCATION
MBY854	4	L	✓								NYEBS1
MBY855	4	L	✓								NYEBS2
MBY856	4	L	✓								NYEBS3
MBY857	4	L	✓								NYEBS4
MBY858	4	L	✓							MS/MSD	NYEBS5
MBY859	4	L	✓								NYEBS6
MBY860	4	L	✓								NYEBS7
MBY861	4	L	✓								NYEBS8
~~MBY862~~	~~4~~	~~L~~	~~✓~~								~~NYEBS9~~
MBY865	1	L	✓								NYEBSW1
MBY866	1	L	✓								NYEBSW2
MBY868	5	L	✓								NYEBSED1
MBY869	5	L	✓								NYEBSED2
MBY871	3	L	✓							RINSATE-TROWEL	NYEBRIN1
MBY872	3	L	✓							RINSATE-BOWL	NYEBRIN2
~~MBY873~~	~~3~~	~~L~~	~~✓~~							~~RINSATE-[illegible]~~	~~NYEBRIN3~~
MBY 862	4	L	✓								NYEBS9

EPA Form 2075-6 (8-87)

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB COPY

B Dietz 6/15/89 A. Culmer 7/13/89

United States Environmental Protection Agency
Contract Laboratory Program Sample Management Office
PO Box 818 Alexandria, VA 22313
703-557-2490 FTS 557-2490

EPA

Organic Traffic Report
(For CLP Use Only)

Case Number: 12105
SAS No. (if applicable):

1. Type of Activity (Check one): ENF, NPLD, RA, ✓ SI, STSI, ER, O&M, RD, ST, Other (Specify), ESI, PA, RIFS, STPA

2. Region Number: 2
Sampling Co.: NUS-FIT
Sampler (Name): PHIL SOLINSKI ~~SUSAN LENGZYK~~

3. Ship To: COMPUCHEM LABORATORIES (COMPU)
3308 CHAPEL HL/NELSON HWY
P.O. BOX 12652
RTP, NC 27709
ATTN: LARRY JAKES

4. Date Shipped: 6/14/89
Airbill Number: 3488727561
Carrier: FEDERAL EXPRESS

Triple volume required for matrix spike/duplicate aqueous sample.
Ship medium and high concentration samples in paint cans.
See reverse for additional instructions.

5. Sample Description (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Rinsate
5. Soil/Sediment
6. Oil (SAS)
7. Waste (SAS)
8. Other (SAS) (Specify)

Non-Superfund Program:
Site Name: DENTON AVENUE LANDFILL
City, State: NORTH HEMPSTEAD, NY
Site Spill ID: ZZ

CLP Sample Number (From labels)	(A) Sample Description (From box 1)	(B) Concentration L=low M=med H=high	(C) RAS Analysis VOA	BNA	Pest/PCB	(D) Special Handling	(E) Station Location	(F) Date/Time of Sample Collection	(G) Corresponding CLP Inorganic Sample Number
BAS97	5	L	✓	✓	✓		NYEBS1	6/14 1050	MBY854
BAS98	5	L	✓	✓	✓		NYEBS2	6/14 1243	MBY855
BAS99	5	L	✓	✓	✓		NYEBS3	6/14 1317	MBY856
BAW25	5	L	✓	✓	✓		NYEBS4	6/14 1526	MBY857
BAW26	5	L	✓	✓	✓	MS/MSD	NYEBS5	6/14 1547	MBY858
BAW27	5	L	✓	✓	✓		NYEBS6	6/14 1615	MBY859
BAW28	5	L	✓	✓	✓		NYEBS7	6/14 1837	MBY860
BAW29	5	L	✓	✓	✓		NYEBS8	6/14 1625	MBY861
~~BAW30~~	~~5~~	~~L~~	~~✓~~	~~✓~~	~~✓~~		~~NYEBS9~~		~~MBY862~~
BAW33	1	L	✓	✓	✓		NYEBSW1	6/14 1737	MBY865
BAW34	1	L	✓	✓	✓		NYEBSW2	6/14 1302	MBY866
BAW36	5	L	✓	✓	✓		NYEBSED1	6/14 1743	MBY868
BAW37	5	L	✓	✓	✓		NYEBSED2	6/14 1314	MBY869
BAW46	3	L	✓			TRIP BLANK	NYEBTBLK1	6/14 940	NA
BAW84	4	L	✓	✓	✓	RINSATE - TROWEL	NYEBRIN1	6/14 1045	MBY871
BAW85	4	L	✓	✓	✓	RINSATE - BOWL	NYEBRIN2	6/14 1110	MBY872
~~BAW86~~	~~4~~	~~L~~	~~✓~~	~~✓~~	~~✓~~	~~RINSATE - AUGER~~	~~NYEBRIN3~~		~~MBY873~~
BAW 30	5	L	✓	✓	✓		NYEBS9	6/14 1855	MBY 862

B. Dietz 6/15/89 A Lalanne 7/10/89

USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 A. EXANDRIA, VA 22313
703/557-2490 FTS-557-2490

CASE NO: 12105

SAS NO: (IF APPLICABLE)

INORGANIC TRAFFIC REPORT

TYPE OF ACTIVITY (CIRCLE ONE) ①
SUPERFUND—PA (SI) ESI RIFS RD RA ER NPLD O&M OTHER _____
NON-SUPERFUND—_____ PROGRAM

SITE NAME: DENTON AVENUE LANDFILL
CITY, STATE: NORTH HEMPSTEAD, NY
SITE SPILL ID: ZZ

REGION NO: 2
SAMPLING COMPANY ②: NUS-FIT
SAMPLER: (NAME) PHIL SOLINSKI ~~SUSAN LENCZYK~~

SHIP TO: ③
SKINNER + SHERMAN, INC
300 SECOND AVENUE
WALTHAM, MA 02254

ATTN: MARILYN FONSECA

SAMPLING DATE: ④
BEGIN: 6/15/89 END: 6/15/89

DATE SHIPPED: 6/15/89 CARRIER: F ⑤
AIRBILL NO: 3488727594

SAMPLE DESCRIPTION ⑥
(ENTER IN BOX A)
1. SURFACE WATER
2. GROUND WATER
3. LEACHATE
4. SOIL
5. SEDIMENT
6. OIL (SAS)
7. WASTE (SAS)

DOUBLE VOLUME REQUIRED FOR MATRIX SPIKE/DUPLICATE AQUEOUS SAMPLE

SHIP MEDIUM AND HIGH CONCENTRATION SAMPLES IN PAINT CANS

SEE REVERSE FOR ADDITIONAL INSTRUCTIONS

CLP SAMPLE NUMBER (FROM LABELS)	Ⓐ SAMPLE DESCRIPTION (FROM BOX 1) 1 2 3 4 5 6 7	Ⓑ CONCENTRATION L = LOW M = MED H = HIGH (SAS)	Ⓒ RAS ANALYSIS: TOTAL METALS	CYANIDE	DISSOLVED METALS	HIGH ONLY (SAS): SULFIDE	pH	CONDUCTIVITY	OXIDANTS	Ⓓ SPECIAL HANDLING	Ⓔ STATION LOCATION
MBY874	2	L	✓							MS/MSD	NYEBGW1
MBY875	2	L	✓								NYEBGW2
MBY876	2	L	✓								NYEBGW3
~~MBY877~~	~~2~~	~~L~~	~~✓~~								~~NYEBGW4~~
MBY912	2	L	✓								NYEBGW5
MBY913	2	L	✓								NYEBGW6
MBY914	2	L	✓								NYEBGW7
MBY915	3	L	✓							RINSATE BAILER	NYEBRIN4
MBY 873	3	L	✓							RINSATE FUNNEL	NYEBRIN3

EPA Form 2075-6 (8-87)

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB COPY

B. Dietz 6/15/89 A Culmone 7/13/89

United States Environmental Protection Agency
Contract Laboratory Program Sample Management Office
PO Box 818 Alexandria, VA 22313
703-557-2490 FTS 557-2490

EPA

Organic Traffic Report
(For CLP Use Only)

Case Number: 12105

SAS No. (if applicable):

1. Type of Activity (Check one): [ ] ENF [ ] NPLD [ ] RA [✓] SI [ ] STSI [ ] ER [ ] O&M [ ] RD [ ] ST [ ] Other (Specify) [ ] ESI [ ] PA [ ] RIFS [ ] STPA

2. Region Number: 2
Sampling Co.: NUS-FIT
Sampler (Name): PHIL SOLINSKI ~~SUSAN LENCZYK~~

4. Date Shipped: 6/15/89
Airbill Number: 3488727583
Carrier: FEDERAL EXPRESS

5. Sample Description (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Rinsate
5. Soil/Sediment
6. Oil (SAS)
7. Waste (SAS)
8. Other (SAS) (Specify)

Non-Superfund Program: DENS al

Site Name: DENTON AVENUE LANDFILL

City, State: NORTH HEMPSTEAD, NY

Site Spill ID: ZZ

3. Ship To:
COMPUCHEM LABORATORIES (COMPU)
3308 CHAPEL HL/NELSON HWY
P.O. BOX 12652
RTP, NC 27709
ATTN: LARRY JAKES

Triple volume required for matrix spike/duplicate aqueous sample.

Ship medium and high concentration samples in paint cans.

See reverse for additional instructions.

CLP Sample Number (From labels)	(A) Sample Description (From box 5)	(B) Concentration L=low M=med H=high	(C) RAS Analysis VOA	BNA	Pest/PCB	(D) Special Handling	(E) Station Location	(F) Date/Time of Sample Collection	(G) Corresponding CLP Inorganic Sample Number
BAW39	2	L	✓	✓	✓	MS/MSD	NYEBGW1	6/15 1341	MBY874
BAW40	2	L	✓	✓	✓		NYEBGW2	6/15 1055	MBY875
BAW41	2	L	✓	✓	✓		NYEBGW3	6/15 1446	MBY876
~~BAW42~~	~~2~~	~~L~~	~~✓~~	~~✓~~	~~✓~~		~~NYEBGW4~~	~~6/15~~	~~MBY877~~
BAW43	2	L	✓	✓	✓		NYEBGW5	6/15 1507	MBY912
BAW44	2	L	✓	✓	✓		NYEBGW6	6/15 1526	MBY913
BAW45	2	L	✓	✓	✓		NYEBGW7	6/15 1545	MBY914
BAW87	4	L	✓	✓	✓	BAILER RINSATE	NYEBRIN4	6/15 1000	MBY915
BAW88	3	L	✓			TRIP BLANK	NYEBTBLK2	6/15 0810	NA
BAW 86	4	L	✓	✓	✓	FUNNEL RINSATE	NYEB-RIN3	6/15 0925	MBY 873

A. Cuhan 7/13/89
A. Dirts 7/13/89

SITE NAME Denton Avenue Landfill

TDD/BRICS NO. 02-8902-06

DATE June 13, 1989

SIGNATURE Susan Lenczyk

BOTTLE LOT NO. FORM

NUS Sample Number	No. of 8 oz. jars	Supplier/ Lot No.	No. of 40 mL vials	Supplier/ Lot No.	No. of 80 oz. or 1L amber	Supplier/ Lot No.	No. of 1L Poly Bottles	Supplier/ Lot No.
S4	2	I-CHEM F9053253		ESS. 8832601A				
S5	4	↓		↓				
S6	2	I-CHEM F9052103		↓				
S7	2	↓		↓				
S8	2	↓		↓				
S9	2	↓		↓				
S10	2	↓		↓				
S11	2	↓		↓				
RIN1			2	ESS 8832601A	2	IC A9058373		0105389A
RIN2			2	↓	2	IC A9032023		↓
RIN3			2	↓	2	↓		↓
RIN4			2	↓	2	↓		↓
TBLK1			2	↓				
TBLK2			2	↓				

IC = I-CHEM EP = Eagle-Picher

B. Dietz, CAS/TAB. Cashman 7/13/89

SITE NAME Denton Avenue Landfill

TDD/BRICS NO. 02-8902-06

DATE June 13, 1989

SIGNATURE [illegible]

BOTTLE LOT NO. FORM

NUS Sample Number	No. of 8 oz. jars	Supplier/ Lot No.	No. of 40 mL vials	Supplier/ Lot No.	No. of 80 oz. ~~or 1L amber~~	Supplier/ Lot No.	No. of 1L Poly Bottles	Supplier/ Lot No.
GW1			6	(ESS) 8832601A	4	IC/A9032033	3	0105389A
GW2			2		2	IC/A903303	1	
GW3			2		2		1	
GW4			2		2		1	
GW5			2		2		1	
GW6			2		2		1	
GW7			2		2		1	
SW1			2		2	IC/A9032033	1	
SW2			2		2	IC/A9058373	1	
SW3			2		2	IC/A9058373	1	
SED1	2	I-CHEM/F9052103						
SED2	2							
SED3	2							
S1	2	I-CHEM F9053253						
S2	2							
S3	2							

IC = I-CHEM EP = Eagle-Picher

B. Dietz 6/15/89

[illegible] 7/13/89

SITE NAME Denton

TDD/BRICS NO. 02-8902-06

8475 NYEBSI

DATE 6/14/89

SIGNATURE [signature]

H-W

BOTTLE LOT NO. FORM

NUS Sample Number	No. of 8 oz. jars	Supplier/ Lot No.	No. of 40 mL vials	Supplier/ Lot No.	No. of ~~[illegible]~~ 1L amber	Supplier/ Lot No.	No. of 1L Poly Bottles	Supplier/ Lot No.
TBLK 1	6/14	1	2 1/2	ESS 8832602A				
Rin 1	↓	T Bowl	2 1/2	ESS 8832602A	4 1/2	IC H8239163	1	ESS 0105389A
Rin 2	↓	Bowl	2 1/2	ESS 8832602A	4 1/2	IC H8239163	1	ESS 0105389A
Rin 3	6/5	Funnel	2 1/2	ESS 8832602A	4	IC H8239183	1	ESS 0105389A
Rin 4	↓	Bailer	2 1/2	ESS 8832602A	4	IC H8239183	1	ESS 0105389A
TBLK2	↓	TBLK2	2 1/2	ESS 8832602A				

IC = I-CHEM EP = Eagle-Picher

A Dietz 6/15/89 A Cabrera 7/13/89

REFERENCE NO. 3

GSC-TR8645

GRAPHICAL EXPOSURE MODELING SYSTEM

(GEMS)

USER'S GUIDE

VOLUME 2. MODELING

Prepared for:

U.S. ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF PESTICIDES AND TOXIC SUBSTANCES
EXPOSURE EVALUATION DIVISION
Task No. 3-2
Contract No. 68@2397@
Project Officer: Russell Kinerson
Task Manager: Loren Hall

Prepared by:

GENERAL SCIENCES CORPORATION
8401 Corporate Drive
Landover, Maryland 20785

Submitted: December 1, 1986

GEMS> I

DENTON AVENUE LANDFILL
LATITUDE 40:45:20 LONGITUDE 73:42:20 1980 POPULATION

KM	0-1/4 0.00-.400	1/4-1/2 .400-.810	1/2-1 .810-1.60	1-2 1.60-3.20	2-3 3.20-4.80	3-4 4.80-6.40	SECTOR TOTALS
S 1	590	1223	19487	68959	120795	178995	390049
RING TOTALS	590	1223	19487	68959	120795	178995	390049

GEMS> I

DENTON AVENUE LANDFILL
LATITUDE 40:45:20 LONGITUDE 73:42:20 1980 HOUSING

KM	0-1/4 0.00-.400	1/4-1/2 .400-.810	1/2-1 .810-1.60	1-2 1.60-3.20	2-3 3.20-4.80	3-4 4.80-6.40	SECTOR TOTALS
S 1	203	422	7612	23738	42799	60880	135654
RING TOTALS	203	422	7612	23738	42799	60880	135654

Distance	Population	Houses
0-1/4	590	203
0-1/2	1,813	625
0-1	21,300	8,237
0-2	90,259	31,975
0-3	211,054	74,774
0-4	390,049	135,654

REFERENCE NO. 4

Uncontrolled Hazardous Waste Site Ranking System

A Users Manual
(HW-10)

Originally Published in
the July 16, 1982, *Federal Register*

United States
Environmental Protection
Agency

1984

TABLE 2

PERMEABILITY OF GEOLOGIC MATERIALS*

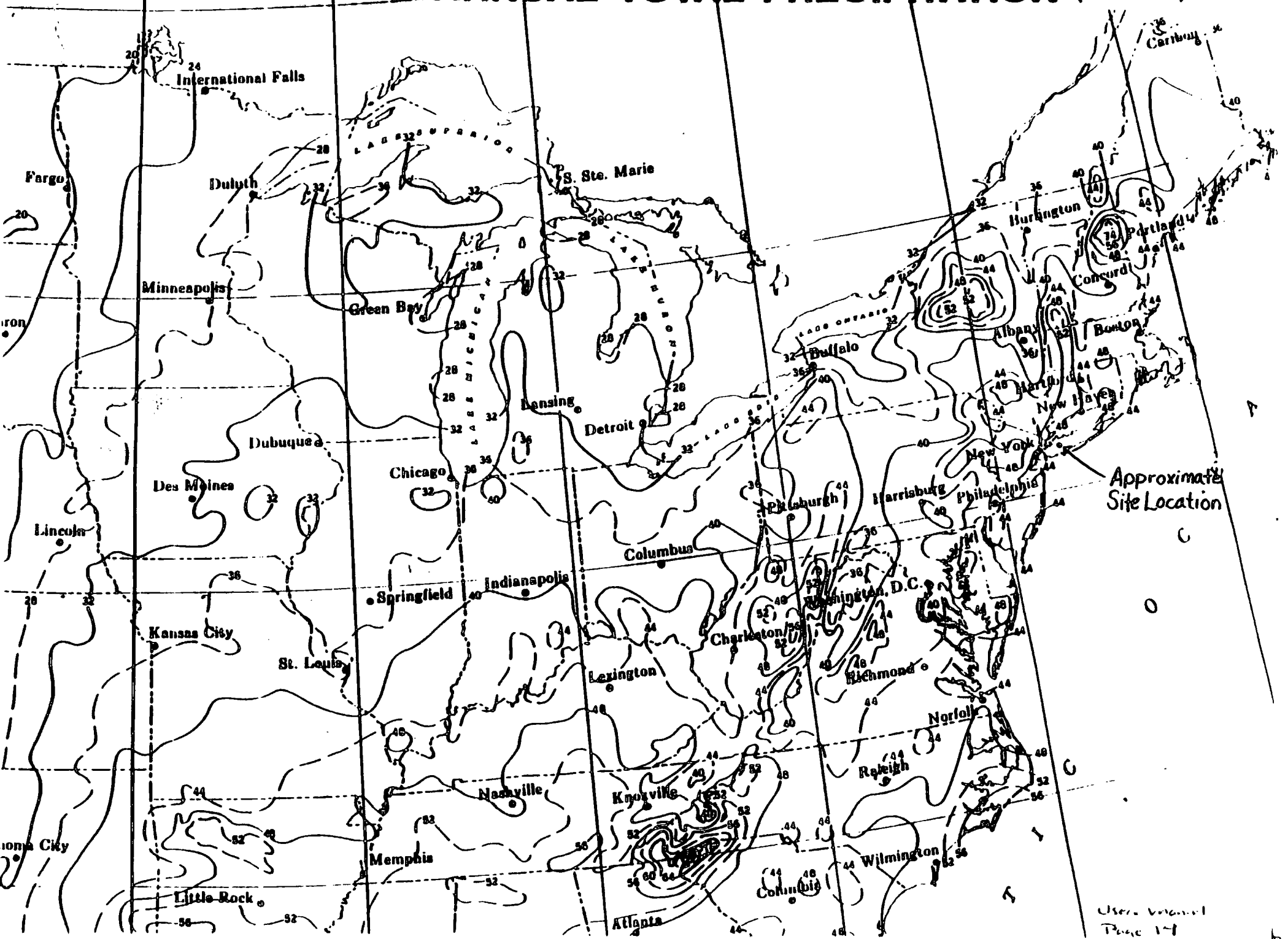
Type of Material	Approximate Range of Hydraulic Conductivity	Assigned Value
Clay, compact till, shale; unfractured metamorphic and igneous rocks	$<10^{-7}$ cm/sec	0
Silt, loess, silty clays, silty loams, clay loams; less permeable limestone, dolomites, and sandstone; moderately permeable till	$10^{-5} - 10^{-7}$ cm/sec	1
Fine sand and silty sand; sandy loams; loamy sands; moderately permeable limestone, dolomites, and sandstone (no karst); moderately fractured igneous and metamorphic rocks, some coarse till	$10^{-3} - 10^{-5}$ cm/sec	2
Gravel, sand; highly fractured igneous and metamorphic rocks; permeable basalt and lavas; karst limestone and dolomite	$>10^{-3}$ cm/sec	3

*Derived from:

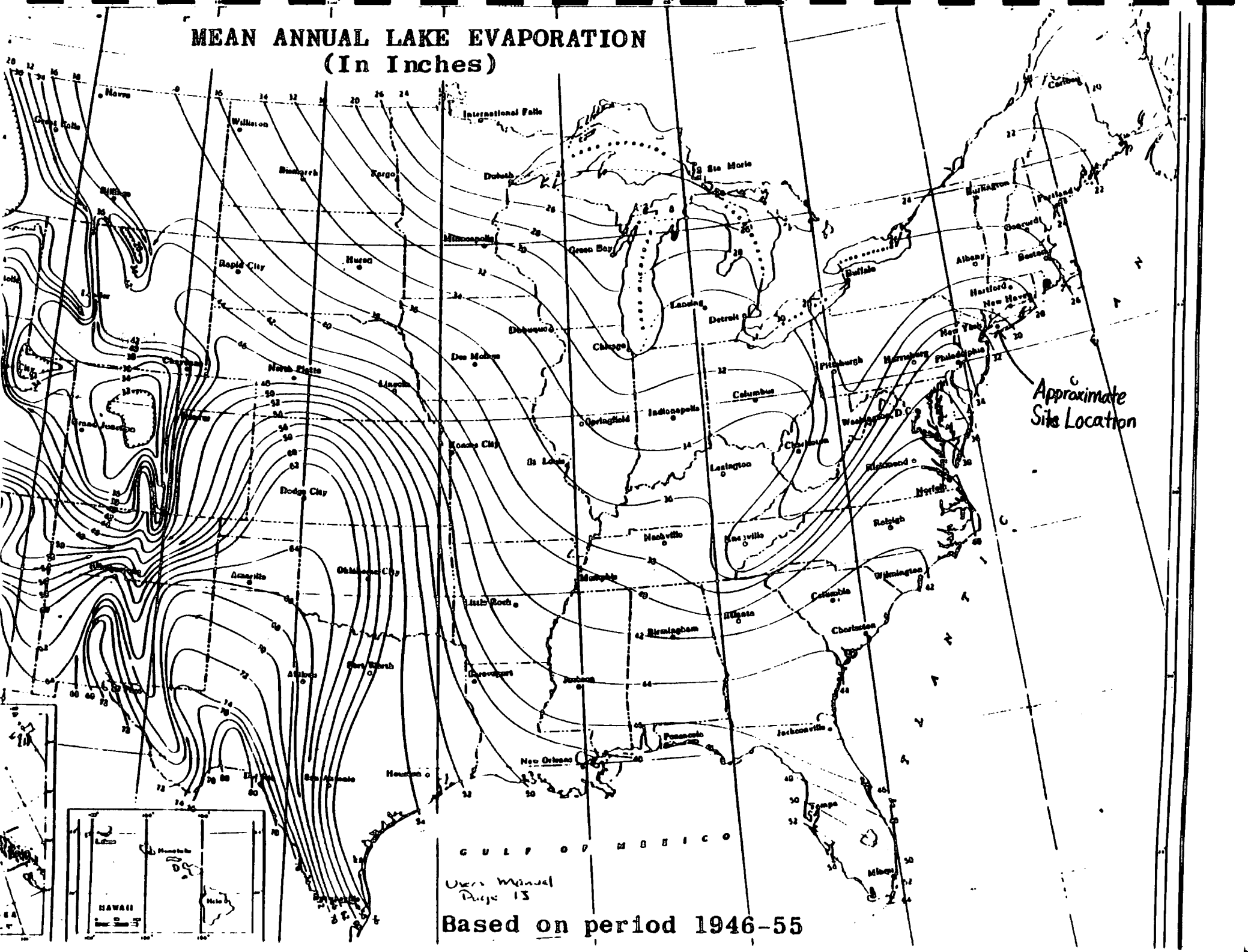
Davis, S. N., Porosity and Permeability of Natural Materials in Flow-Through Porous Media, R.J.M. DeWest ed., Academic Press, New York, 1969

Freeze, R.A. and J.A. Cherry, Groundwater, Prentice-Hall, Inc., New York, 1979

NORMAL ANNUAL TOTAL PRECIPITATION (Inches)



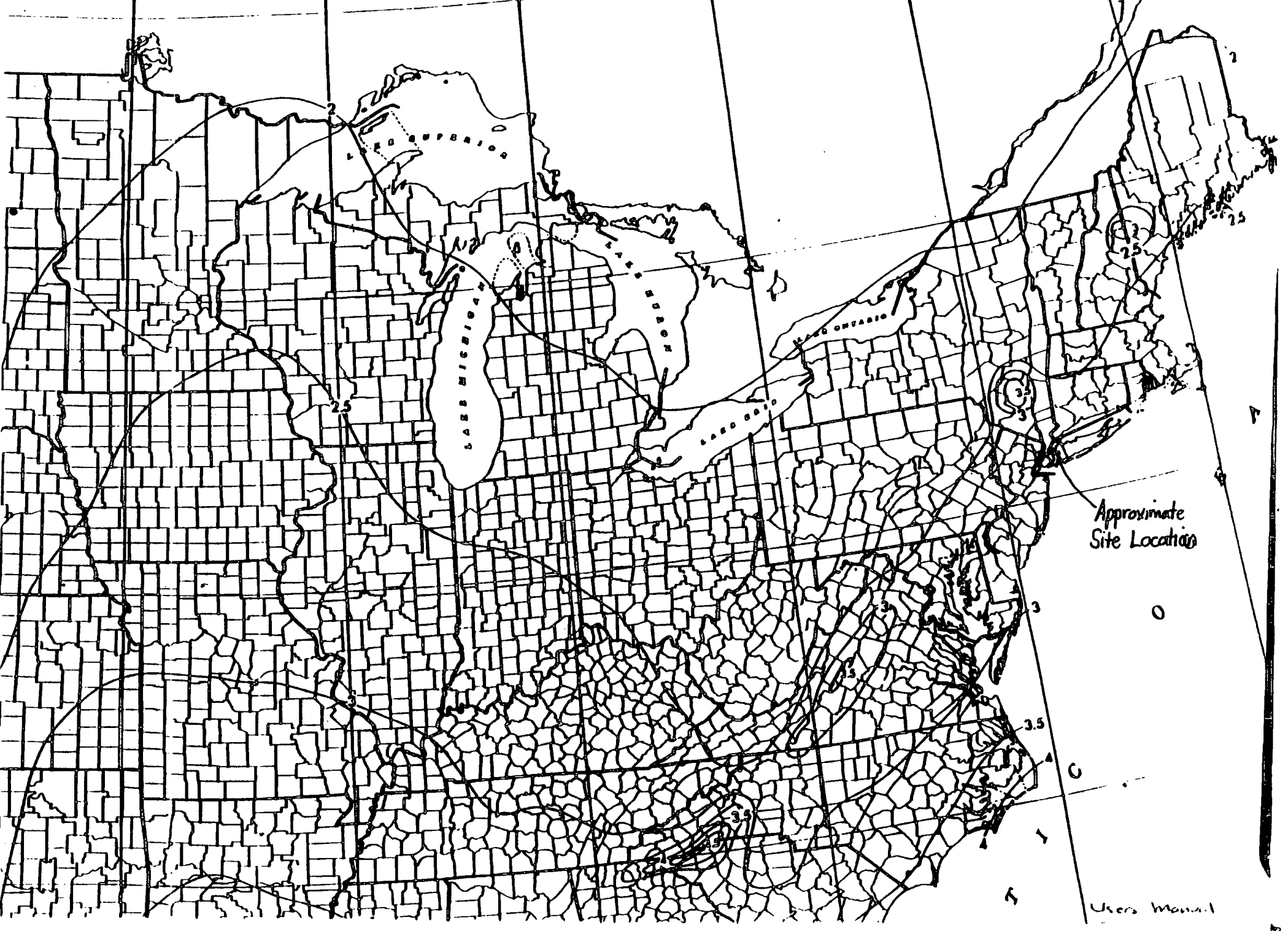
MEAN ANNUAL LAKE EVAPORATION
(In Inches)



User Manual
Page 13

Based on period 1946-55

1 YEAR 24-HOUR RAINFALL (inches)



REFERENCE NO. 5

code of federal regulations

Protection of Environment

40

PARTS 100 TO 149

Revised as of July 1, 1986

THE NATIONAL ARCHIVES OF THE UNITED STATES • 1934 •

nity water systems. Compliance with MCLs for inorganic chemicals is calculated pursuant to § 141.23.

(b) The following are the maximum contaminant levels for inorganic chemicals other than fluoride:

Contaminant	Level, milligrams per liter
Arsenic	0.05
Barium	1
Cadmium	0.010
Chromium	0.05
Lead	0.05
Mercury	0.002
Nitrate (as N)	10
Selenium	0.01
Silver	0.05

(c) The Maximum Contaminant Level for fluoride is 4.0 mg/l. See 40 CFR 143.3, which establishes a Secondary Maximum Contaminant Level at 2.0 mg/l.

(d) At the discretion of the State, nitrate levels not to exceed 20 mg/l may be allowed in a non-community water system if the supplier of water demonstrates to the satisfaction of the State that:

(1) Such water will not be available to children under 6 months of age; and

(2) There will be continuous posting of the fact that nitrate levels exceed 10 mg/l and the potential health effects of exposure; and

(3) Local and State public health authorities will be notified annually of nitrate levels that exceed 10 mg/l; and

(4) No adverse health effects shall result.

[40 FR 59570, Dec. 24, 1975, as amended at 45 FR 57342, Aug. 27, 1980; 47 FR 10998, Mar. 12, 1982; 51 FR 11410, Apr. 2, 1986]

§ 141.12 Maximum contaminant levels for organic chemicals.

The following are the maximum contaminant levels for organic chemicals. The maximum contaminant levels for organic chemicals in paragraphs (a) and (b) of this section apply to all community water systems. Compliance with the maximum contaminant levels in paragraphs (a) and (b) of this section, is calculated pursuant to § 141.24. The maximum comtaminant level for total trihalomethanes in paragraph (c) of this section applies only to community water systems which serve a population of 10,000 or more individuals and which add a disinfectant (oxidant) to the water in any part of the drinking water treatment process. Compliance with the maximum contaminant level for total trihalomethanes is calculated pursuant to § 141.30.

	Level, milligrams per liter
(a) Chlorinated hydrocarbons:	
Endrin (1,2,3,4,10, 10-hexachloro-6, 7-epoxy-1,4, 4a,5,6,7,8,81-octahydro-1,4-endo, endo-5,8-dimethano naphthalene)	0.0002
Lindane (1,2,3,4,5,6-hexachlorocyclohexane, gamma isomer)	0.004
Methoxychlor (1,1,1-Trichloro-2, 2-bis (p-methoxyphenyl) ethane)	0.1
Toxaphene ($C_{10}H_{10}Cl_8$-Technical chlorinated camphene, 67-69 percent chlorine)	0.005
(b) Chlorophenoxys:	
2,4-D, (2,4-Dichlorophenoxyacetic acid)	0.1
2,4,5-TP Silvex (2,4,5-Trichlorophenoxypropionic acid)	0.01
(c) Total trihalomethanes (the sum of the concentrations of bromodichloromethane, dibromochloromethane, tribromomethane (bromoform) and trichloromethane (chloroform))	0.10 mg/l.

[40 FR 59570, Dec. 24, 1975, as amended at 44 FR 68641, Nov. 29, 1979]

§ 141.12 Maximum contaminant levels for turbidity.

The maximum contaminant levels for turbidity are applicable to both community water systems and non-community water systems using surface water sources in whole or in part. The maximum contaminant levels for turbidity in drinking water, measured at a representative entry point(s) to the distribution system, are:

(a) One turbidity unit (TU), as determined by a monthly average pursuant to § 141.22, except that five or fewer turbidity units may be allowed if the supplier of water can demonstrate to the State that the higher turbidity does not do any of the following:

(1) Interfere with disinfection;

(2) Prevent maintenance of an effective disinfectant agent throughout the distribution system; or

(3) Interfere with microbiological determinations.

(b) Five turbidity units based on an average for two consecutive days pursuant to § 141.22.

five individuals daily at least 60 days out of the year. Such term includes (1) any collection, treatment, storage, and distribution facilities under control of the operator of such system and used primarily in connection with such system, and (2) any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system. A public water system is either a "community water system" or a "non-community water system."

(d) "State" means the agency of the State government which has jurisdiction over public water systems.

(e) "Supplier of water" means any person who owns or operates a public water system.

(f) "Secondary maximum contaminant levels" means SMCLs which apply to public water systems and which, in the judgement of the Administrator, are requisite to protect the public welfare. The SMCL means the maximum permissible level of a contaminant in water which is delivered to the free flowing outlet of the ultimate user of public water system. Contamimants added to the water under circumstances controlled by the user, except those resulting from corrosion of piping and plumbing caused by water quality, are excluded from this definition.

§ 143.3 Secondary maximum contaminant levels.

The secondary maximum contaminant levels for public water systems are as follows:

Contaminant	Level
Chloride	250 mg/l.
Color	15 color units.
Copper	1 mg/l.
Corrosivity	Noncorrosive.
Fluoride	2.0 mg/l.
Foaming agents	0.5 mg/l.
Iron	0.3 mg/l.
Manganese	0.05 mg/l.
Odor	3 threshold odor number.
pH	6.5–8.5.
Sulfate	250 mg/l.
Total dissolved solids (TDS)	500 mg/l.
Zinc	5 mg/l.

These levels represent reasonable goals for drinking water quality. The States may establish higher or lower levels which may be appropriate dependent upon local conditions such as unavailability of alternate source waters or other compelling factors, provided that public health and welfare are not adversely affected.

[44 FR 42198, July 19, 1979, as amended at 51 FR 11412, Apr. 2, 1986]

§ 143.4 Monitoring.

(a) It is recommended that the parameters in these regulations should be monitored at intervals no less frequent than the monitoring performed for inorganic chemical contaminants listed in the National Interim Primary Drinking Water Regulations as applicable to community water systems. More frequent monitoring would be appropriate for specific parameters such as pH, color, odor or others under certain circumstances as directed by the State.

(b) Analyses conducted to determine compliance with § 143.3 should be made in accordance with the following methods:

(1) Chloride—Potentiometric Method, "Standard Methods for the Examination of Water and Wastewater," 14th Edition, p. 306.

(2) Color—Platinum-Cobalt Method, "Methods for Chemical Analysis of Water and Wastes," p. 36–38, EPA, Office of Technology Transfer, Washington, DC, 20460, 1974, or "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 160–162, 14th Edition, p. 64–66.

(3) Copper—Atomic Adsorption Method, "Methods for Chemical Analysis of Water and Wastes", pp. 108–109, EPA, Office of Technology Transfer, Washington, DC, 20460, 1974, or "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 210–215, 14th Edition, p. 144–147.

(4) Foaming Agents—Methylene Blue Method, "Methods for Chemical Analysis of Water and Wastes," pp. 157–158, EPA, Office of Technology Transfer, Washington, DC, 20460, 1974, or "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 339–342, 14th Edition, p. 600.

REFERENCE NO. 6

NUS CORPORATION AND SUBSIDIARIES **TELECON NOTE**

CONTROL NO:	DATE:	TIME:
02-8902-06	9/11/89	1430

DISTRIBUTION:

Denton Avenue Landfill

BETWEEN:	OF:	PHONE:
DON SPEISS	Nassau County Health Department	(516) 535-2201

AND: Brian Dietz

DISCUSSION:

I spoke to Mr. Speiss regarding the discharge pipe that we observed at the northern landfill on 6/6/89. Mr Speiss stated that the NCDOH Bureau of Land Pollution investigated the situation, and I should speak with them directly.

I received a phone call from Howard Schaeffer of the Bureau of Land Pollution later in the day. According to Mr. Schaeffer, the discharge pipe was owned by ABC Rental, Inc (of Hillside Ave.), BD ~~according to the owners and that the pipe allegedly discharged was used and that~~ BD It was allegedly used to ~~dis~~ BD channel rainwater (from the store's roof gutters) away from ~~their~~ BD ABC's property.

ACTION ITEMS:

Brian J. Dietz
9/11/89

NUS 067 REVISED 0685

REFERENCE NO. 7

[6560-01]

[FRL 910-3]

AQUIFERS UNDERLYING NASSAU AND SUFFOLK COUNTIES, NEW YORK

Determination

Notice is hereby given that pursuant to Section 1424(e) of the Safe Drinking Water Act (42 U.S.C. 300f, 300h-3(e); 88 Stat. 1660 et seq.; Pub. L. 93-523) the Administrator of the Environmental Protection Agency has determined that the aquifer system underlying Nassau and Suffolk Counties, Long Island, New York, is the principal source of drinking water for these counties and that, if the aquifer system were contaminated, it would create a significant hazard to public health.

BACKGROUND

The Safe Drinking Water Act was enacted on December 16, 1974. Section 1424(e) of the Act states: "If the Administrator determines, on his own initiative or upon petition, that an area has an aquifer which is the sole of principal drinking water source for the area and which, if contaminated, would create a significant hazard to public health, he shall publish notice of that determination in the FEDERAL REGISTER. After the publication of any such notice, no commitment for Federal financial assistance (through a grant, contract, loan guarantee, or otherwise) may be entered into for any project which the Administrator determines may contaminate such aquifer through a recharge zone so as to create a significant hazard to public health but a commitment for Federal financial assistance may, if authorized under another provision of law, be entered into to plan or design the project to assure that it will not so contaminate the aquifer."

On January 21, 1975, the Environmental Defense Fund petitioned the Administrator to designate the aquifers underlying Nassau and Suffolk Counties, Long Island, New York, as a sole source aquifer under the provisions of the Act. A notice of receipt of this petition, together with a request for comments, was published in the FEDERAL REGISTER, Thursday, June 12, 1975. Written comments were submitted by the Environmental Defense Fund (EDF) on August 7, 1975, supporting their petition. A letter from the Director of the Nassau-Suffolk Regional Planning Board, dated October 1, 1976, requested that designation be delayed until after the completion of the areawide waste management (208) planning process for Long Island.

Because of the limited response to the FEDERAL REGISTER notice, EPA issued a press release and mailed an information sheet to elected officials and environmental groups on Long Island in March 1977. In addition, a presentation was made to the Citizens Advisory Committee (CAC) of the 208 planning agency and to the executive committee of the Long Island Water Conference. In response to these activities EPA received three comments: a letter from EDF questioning why project review would exclude direct Federal projects, a letter from a member of the East Hampton Planning Board expressing support for the designation, and a letter from the CAC requesting that designation be delayed until after the completion and approval of the Long Island 208 plan.

In considering the comments received, we could not agree with the letters requesting further delay since we do not believe that the review process under Section 1424(e) will constrain the options of 208 planning.

On the basis of the information which is available to this Agency, the Administrator has made the following findings, which are the basis for the determination noted above:

(1) The aquifers underlying Nassau and Suffolk Counties are the sole or principal drinking water source for the area. They supply good quality water for about 2.5 million people. Current water supply treatment practice for public supplies is generally limited to disinfection for drinking purposes, with some plants capable of nitrate removal. There are also numerous private sources. There is no alternative source of drinking water supply which could economically replace this aquifer system.

(2) The aquifer system is vulnerable to contamination through its recharge zone. Since contamination of a ground-water aquifer can be difficult or impossible to reverse, contamination of the the aquifer system underlying Nassau and Suffolk Counties, New York, would pose a significant hazard to those people dependent on the aquifer system for drinking purposes.

Among the determinations which the Administrator must make in connection with the designation of an area under Section 1424(e) is that the area's sole or principal source aquifer or aquifers, "if contaminated, would create a significant hazard to public health * * *" Obviously, threats to the quality of the drinking water supply for such a large population could create a significant hazard to public health. The EPA does not construe this provision to require a determination that projects planned or likely to be constructed will in fact create such a hazard; it is sufficient to demonstrate that approximately 2.5 million people depend on the aquifer system underlying Nassau and Suffolk Counties as their principal source of drinking water, and that the aquifer system is vulnerable to contamination through its recharge zone.

Section 1424(e) of the Act requires that a Federal agency may not commit funds to a project which may contaminate the aquifer system through a recharge zone so as to create a significant hazard to public health. The recharge zone is that area through which water enters into the aquifer system. Because of groundwater movement within these aquifers, the recharge zone is considered to be the entire area of Nassau and Suffolk Counties. However, both horizontal and vertical boundaries of the recharge zone are discussed in the background document under the section entitled "Area of Consideration."

The data upon which these findings are based are available to the public and may be inspected during normal business hours at the office of the Environmental Protection Agency, Region II, 26 Federal Plaza, New York, New York 10007. It includes a support document for designation of the aquifers underlying Nassau and Suffolk Counties, New York, and maps of the area within which projects will be subject to review.

A copy of the above documentation is also available at the U.S. Waterside Mall, Environmental Protection Agency, Public Information and Reference Unit, Room 2922, 401 M Street S.W., Washington, D.C. 20460.

The EPA has issued proposed regulations for the selective review of Federal financially assisted projects which may contaminate the aquifer system underlying Nassau and Suffolk Counties, New York, through the recharge zone so as to create a significant hazard to public health. These proposed regulations were published in the FEDERAL REGISTER issue of September 29, 1977, and public comments were requested. They will be used as interim guidance for project review until their promulgation during 1978.

EPA, Region II, is working with the Federal agencies which may in the near future fund projects in the area of concern to EPA to develop interagency procedures whereby EPA will be notified of proposed commitments for projects which could contaminate the bicounty area's sole source aquifer system. Although the project review process cannot be delegated, the Regional Administrator in Region II will rely to the maximum extent possible upon any existing or future State and local control mechanisms in protecting the ground-water quality of the aquifer system underlying Nassau and Suffolk Counties, New York. Included in the review of any Federal financially assisted project will be coordination with the State and local agencies. Their determinations will be given full consideration and the Federal review process will function so as to complement and support State and local mechanisms.

Dated: June 12, 1978.

DOUGLAS M. COSTLE,
Administrator.

[FR Doc. 78-17067 Filed 6-20-78; 8:45 am]

REFERENCE NO. 8

New York State Department of Environmental Conservation

Wildlife Resources Center
Delmar, New York 12054-9767

Thomas C. Jorling
Commissioner

April 10, 1989

Mr. Brian Dietz
NUS Corporation
1090 King Georges Post Road, Suite 1103
Edison, New Jersey 08837

Dear Mr. Dietz:

We have reviewed the Significant Habitat Program and the Natural Heritage Program files with respect to the Denton Landfill site in New Hyde Park, Nassau County, N.Y.

We did not identify any potential impacts on endangered, threatened, or special concern wildlife species, rare plant, animal or natural community occurrences, or other significant habitats.

The absence of data does not necessarily mean that rare or endangered elements, natural communities or other significant habitats do not exist on or adjacent to the proposed site, but rather that our files currently do not contain any information which indicates the presence of these. Our files are continually growing as new habitats and occurrences of rare species and communities are discovered. In most cases, site-specific or comprehensive surveys for plant and animal occurrences have not been conducted. For these reasons, we cannot provide a definitive statement on the presence or absence of species, habitats or communities. This information should not be substituted for on-site surveys that may be required for environmental assessment.

If this proposed project is still active one year from now we recommend that you contact us again so that we can update this response.

If we can be of further assistance please do not hesitate to contact us.

Sincerely,

Lawrence Brown

Lawrence Brown
Significant Habitat Unit

cc: H. Knoch, Reg. 1

New York Natural Heritage Program is supported in part
by The Nature Conservancy

REFERENCE NO. 9

NUS CORPORATION TELECON NOTE

CONTROL NO:	DATE:	TIME:
02-8902-06	3/27/89	1000

DISTRIBUTION:

Denton Avenue Landfill

BETWEEN:	OF:	PHONE:
—	Nassau County Tax Assessor's Office	(516) 535-2901

AND: Brian Dietz, NUS Corporation (NUS)

DISCUSSION:

call in reference to current ownership of site property

- northern parcel (i.e., south of hillside avenue, west of denton avenue) Block No. 211-14, Lot No. 679, Sec. 8, 14 acres, current owner: Town of North Hempstead (516) 627-0590

- middle parcel ([redacted] i.e., between northern and southern parcels) west of denton ave, Block No. 211-14, Lot No. 681, Sec. 8, 22 acres, current owner: County of Nassau (516) 535-3000

- southern parcel (i.e., west of denton ave., north of evergreen ave) Block No. 211-14, Lot No. 673, Sec. 8, 36 acres, current owner: Town of Hempstead (516) 538-1500

North Hempstead is a town, New Hyde Park is a village within the town.

ACTION ITEMS:

Brian Dietz
3/27/89

Nassau County Tax Assessor's Office is located @ 240 Old Country Road in Mineola, NY (4th floor)

Brian Dietz
3/27/89

NUS 057 REVISED 0581

REFERENCE NO. 10

NUS CORPORATION
SUPERFUND DIVISION

PROJECT NOTES

TO: Denton Ave. LF File 02-8902-06 DATE: 7/21/89

FROM: B. Dietz COPIES:

SUBJECT: Meeting w/ J. Guarino, Garden City Park Water District (7/19/89)

REFERENCE:

Met w/ Mr. Guarino to collect the following information:

(1) - GCP WD has 11 wells; 9 of these are contaminated with volatiles and/or nitrates. Wells closed due to contamination are: 3673, ~~72~~ BD, 3672, 2565, 0650, 0651.

(2) GCPWD is an integrated system with water from each of the wells being mixed together ~~in storage towers~~ BD 7/21/89 prior to distribution. The depths of the wells in this district range from 348' (N-0651) - 450' (N-9768) and all of the wells are screened in the Magothy Formation. The system serves approximately 21,000 - 27,000 people.

(3) Well No. 5603, 415' deep, active, currently being air stripped to remove VOCs including tetra-, tri-, dichloroethylene; max level of PCE detected in this well is 720 ppb (3/8/89). Static water level: ~~58'~~ 79' drawdown ~~36'~~ 37'

(4) Well No 3673, 428' deep, inactive (due to VOC & nitrate contamination) - max level of PCE detected in this well is 190 ppb (10/17/83). Well was shut down in 1974. There are plans to install a stripper and nitrate removal plant ~~on~~ at this well in near future. Static water level: 58', drawdown: 36'.

(5) Groundwater flow in the area of the site is roughly east to west. VOC ~~and metal~~ contamination of the aquifer is due to dry cleaning businesses formerly located on Hillside Ave. Nitrate contamination due to fact that the Garden City Park area used to be all farmland at one time.

Brian Dietz
7/21/89

NUS 442A 88 1182