130008

New York State Department of Environmental Conservation
Division of Hazardous Waste Remediation
Bureau of Hazardous Site Control
Additions/Change to Registry Summary of Approvals

Site Name DENTON AVENUE LANDFILLS DEC I.D. Number 130008

Current Classification 2a

Activity ☐ Add as Class ___ ☐ Reclassify to ___ ☑ Delist Category D1 ☐ Modify ___

Approvals.

| | | | |
|---|---|---|---|
| Regional Hazardous Waste Engineer | Yes ☐ | No ☑ | SEE STEWART TO CANDELLA MEMO ATTACHED. |
| NYSDOH | Yes ☑ | No ☐ | |
| DEE | Yes ☑ | No ☐ | |
| BHSC: a. Investigation Section | Yes ☑ | No ☐ | Robert Mauro Date 10/11/91 |
| b. Site Control Section | | | Date 12/6/91 |
| c. Director | | | Date 12/6/91 |
| DHWR Assistant Director | | | |

•1991~92•

Refer to DSW

Mailed
12/11/91

47-15-25 (11/90)—9d

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS WASTE REMEDIATION

Original—BHSC
Copy—REGION
Copy—DEE
Copy—DOH
Copy—PREPARER

# ADDITIONS/CHANGES TO REGISTRY OF INACTIVE HAZARDOUS WASTE DISPOSAL SITES

| 1. SITE NAME | 2. SITE NO. | 3. TOWN | 4. COUNTY |
|---|---|---|---|
| Denton Avenue Landfills | 130008 | North Hempstead | Nassau |

| 5. REGION | 6. CLASSIFICATION | 7. ACTIVITY |
|---|---|---|
| 1 | Current 2a /Proposed 01 | ☐ Add ☐ Reclassify ☒ Delist ☐ Modify |

8a. DESCRIBE LOCATION OF SITE (Attach U.S.G.S. Topographic Map showing site location)

The site property consists of a northern landfill and a southern landfill (each approx. 27 acres) which are seperated by a Nassau County owned recharge basin. Located in New Hyde Park, Nassau County New York. The site is bordered by Hillside Avenue on the north, Evergreen Avenue to the south, Denton Avenue on the east and Leonard Street to the West.

b. Quadrangle Lynbrook/Seacliff c. Site Latitude 40° 44' 57" Longitude 73° 40' 32" d. Tax Map Number 21-14

9a BRIEFLY DESCRIBE THE SITE (Attach site plan showing disposal/sampling locations)

The site consists of two seperate approximately 27 acre landfills seperated by a storm water recharge basin. The southern landfill is currently used as a recreational facility with the ball field, tennis courts, track and indoor pool. The northern landfill is undeveloped.
Both unlined landfills were sand and gravel excavations extending 40-45 feet below grade. The southern landfill (operation 1953-63) was brought to grade in 1963 and closed. In 1974 the northern landfill (operation 1963-74) was brought to grade, and reportedly covered with a 3-4 foot thick layer of clayey fill over 90 percent of the surface.

b. Area 54 acres c. EPA ID Number NYD981186919 d. PA/SI ☒ Yes ☐ No

e. Completed: ☒ Phase I ☐ Phase II ☐ PSA ☒ Sampling

10. BRIEFLY LIST THE TYPE AND QUANTITY OF THE HAZARDOUS WASTE AND THE DATES THAT IT WAS DISPOSED OF AT THIS SITE

There is no documentation of hazardous waste disposal at this site.

11a. SUMMARIZED SAMPLING DATA ATTACHED

☐ Air ☒ Groundwater ☒ Surface Water ☒ Soil ☐ Waste ☐ EP Tox ☐ TCLP

(see attached copies of selected pages from USEPA SI Report and NYSDEC Phase I report)

b. List contravened parameters and values source: USEPA September 20, 1989 "Site Inspection Report"

Groundwater: tetrachloroethene 32-640 ppb, 4 adjacent public water supply wells
trichloroethene 7 and 8 ppb, 2 adjacent public water supply wells
chromium (194-404 ppb), (lead 80-337 ppb), Iron (78-363ppm), Manganese (.7-1.4 ppm)

On-site Soils - PCB's range of .390-4.2 ppm, elevated metals

12 SITE IMPACT DATA

a Nearest surface water: Distance 2 miles ft. Direction south Classification D1

b Nearest groundwater: Depth 68-81 ft. Flow Direction W and W-SW ☒ Sole Source ☐ Primary ☐ Principal

c. Nearest water supply: Distance 125 ft Direction south Active ☒ Yes ☐ No

d Nearest building Distance - ft. Direction on-site Use indoor pool

e. Crops or livestock on site? ■ Yes ☒ No

f Exposed hazardous waste? ☐ Yes ☒ No

g Controlled site access? ☐ Yes ☒ No

h Documented fish or wildlife mortality? ☐ Yes ☒ No

i Impact on special status fish or wildlife resource? ☐ Yes ☒ No

j. Within a State Economic Development Zone? ☐ Yes ☒ No

k. For Class 2a: Code - Health Model Score

l. For Class 2. Priority Category N/A

m. HRS Score 35.35 - NYSDEC Phase I Report, June 1987

n Significant Threat N/A ☐ Yes ☐ No ☐ Unknown

| 13. SITE OWNER'S NAME | 14. ADDRESS | 15. TELEPHONE NUMBER |
|---|---|---|
| (multiple owners) Town of North Hempstead | Town Hall, Manhasset, NY 11034 | (516) 627-0590 |

16 PREPARER

Michael J. Komoroske, Environmental Engineer 1, Bureau of Hazardous Site Control
Name, Title and Organization

2-21-91
Date

Michael J. Komoroske
Signature

17. APPROVED

Richard H. Dana, Chief, Bureau of Technical Services, OFE
Name, Title and Organization

3/14/91
Date

Richard H. Dana
Signature

**DECISION DOCUMENT**
Denton Avenue Landfills
Site No. 130008
Proposed Classification: D1
12/2/91

This document is intended to briefly summarize the technical rationale supporting the decision to delist the site from the Registry of Inactive Hazardous Waste Disposal Sites in New York State as a D1 site.

## Hazardous Waste Disposal

A review of all available information concerning hazardous waste disposal at this site including completion of a recent work assignment by Engineering Science has failed to locate documentation of hazardous waste disposal.

## Site Contamination/Significant Threat

The Groundwater contamination detected is not the result of hazardous waste disposal.

## Recommendation

The landfills are recommended to be delisted from the State Registry and will be referred to the Division of Solid Waste to oversee the completion of a proper NYCRR Part 360 closure.

WAYNE

# STATE OF NEW YORK
# DEPARTMENT OF HEALTH

Corning Tower The Governor Nelson A. Rockefeller Empire State Plaza Albany, New York 12237

Lorna McBarnette
*Executive Deputy Commissioner*

**OFFICE OF PUBLIC HEALTH**
Linda A. Randolph, M.D., M.P.H.
*Director*
Sue Kelly
*Executive Deputy Director*

October 2, 1991

OCT 8 1991
BUREAU OF HAZARDOUS SITE CONTROL

*double negative. This means that they are in concurrance...

Mr. Earl Barcomb
NYS Department of Environmental Conservation
Bureau of Hazardous Site Control
50 Wolf Road, Room 222
Albany, New York 12233

RE: Proposed Delisting
Denton Avenue Landfill Site
New Hyde Park, Nassau County
Site ID #130008

Dear Mr. Barcomb:

We have received the Delist Package for the Denton Avenue Landfill site, the above referenced facility. After reviewing the documents we do not disagree* with delisting the site if it is referred to the Division of Solid Waste for proper remediation and closure.

As indicated in the attached memorandum from Robert Stewart to Anthony Candela, sampling of monitoring wells downgradient of the landfill indicate contamination with metals including lead. A review of the analytical data sheets in the NUS site inspection reports indicates the monitoring well samples were frequently brown in color and opaque in clarity. It is possible that the elevated levels of metals are due to acidification of turbid samples. Additional studies need to be done to determine if the landfill is impacting groundwater quality; if so, appropriate remedial efforts need to be taken to minimize or eliminate the impacts.

If you have any questions, please feel free to contact me at 458-6305.

Sincerely,

Nancy K. Kim

Nancy K. Kim, Ph.D.
Director
Division of Environmental Health Assessment

tjl/91273PR00465

Attachment

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS WASTE REMEDIATION
INACTIVE HAZARDOUS WASTE DISPOSAL REPORT

CLASSIFICATION CODE: D1 REGION: 1 SITE CODE: 130008
EPA ID: NYD981186919

NAME OF SITE : Denton Ave. Landfills
STREET ADDRESS: Denton and Hillside Ave.

| TOWN/CITY: | COUNTY: | ZIP: |
|---|---|---|
| New Hyde Park | Nassau | 11040 |

SITE TYPE: Open Dump- Structure- Lagoon- Landfill-X Treatment Pond-
ESTIMATED SIZE: 54 Acres

SITE OWNER/OPERATOR INFORMATION:
CURRENT OWNER NAME....: Town of North Hempstead
CURRENT OWNER ADDRESS.: 36 Old Westbury Rd., Old Westbury, NY
OWNER(S) DURING USE...: Town of No. Hempstead
OPERATOR DURING USE...: Town of North Hempstead
OPERATOR ADDRESS.....: Town Hall - Plandome Road, Manhasset, NY
PERIOD ASSOCIATED WITH HAZARDOUS WASTE: From 1953 To 1974

SITE DESCRIPTION:
This site was used as a municipal solid waste landfill from 1953 to 1974. It consisted of two 27 acre plots separated by a large recharge basin. Both unlined landfills were located in pits excavated about 45 ft. below grade. Upon closure, the northern landfill was covered with clay. Soon after the cover was placed, methane gas began migrating off site and into nearby homes. Gas vents were installed to alleviate the problem in the 1970's. In 1982, 5 groundwater monitoring wells were installed downgradient of both landfills and sampling revealed elevated concentrations of ammonia, lead, di-methyl napthalene and pthalates. A consultant for the Nassau County Health Dept. concluded that a plume of groundwater, contaminated by lead, and iron has migrated at least 800 ft downgradient of the north landfill site. The south landfill is currently being used as a recreational facility for North Hempstead. The northern landfill is largely undeveloped.
In 1989 USEPA's consultant conducted a site investigation at this site. Groundwater, soil, surfacewater, and sediment samples were collected. Nearby public supply wells were sampled. Elevated volatiles were detected in the public supply wells which may be indicative of a regional, non-landfill related problem. All wells exhibited elevated metals. The groundwater monitoring program for these landfills are inadequate. The NYSDEC has no documentation of 6NYCRR Part 371 hazardous waste disposal at these landfills.

| HAZARDOUS WASTE DISPOSED: TYPE | Confirmed- | Suspected-X QUANTITY (units) |
|---|---|---|
| Unknown | | |

SITE CODE: 130008

ANALYTICAL DATA AVAILABLE:
Air- Surface Water-X Groundwater-X Soil-X Sediment-X

CONTRAVENTION OF STANDARDS:
Groundwater-X Drinking Water-X Surface Water- Air-

LEGAL ACTION:

TYPE..: None State- Federal-
STATUS: Negotiation in Progress- Order Signed-

REMEDIAL ACTION:

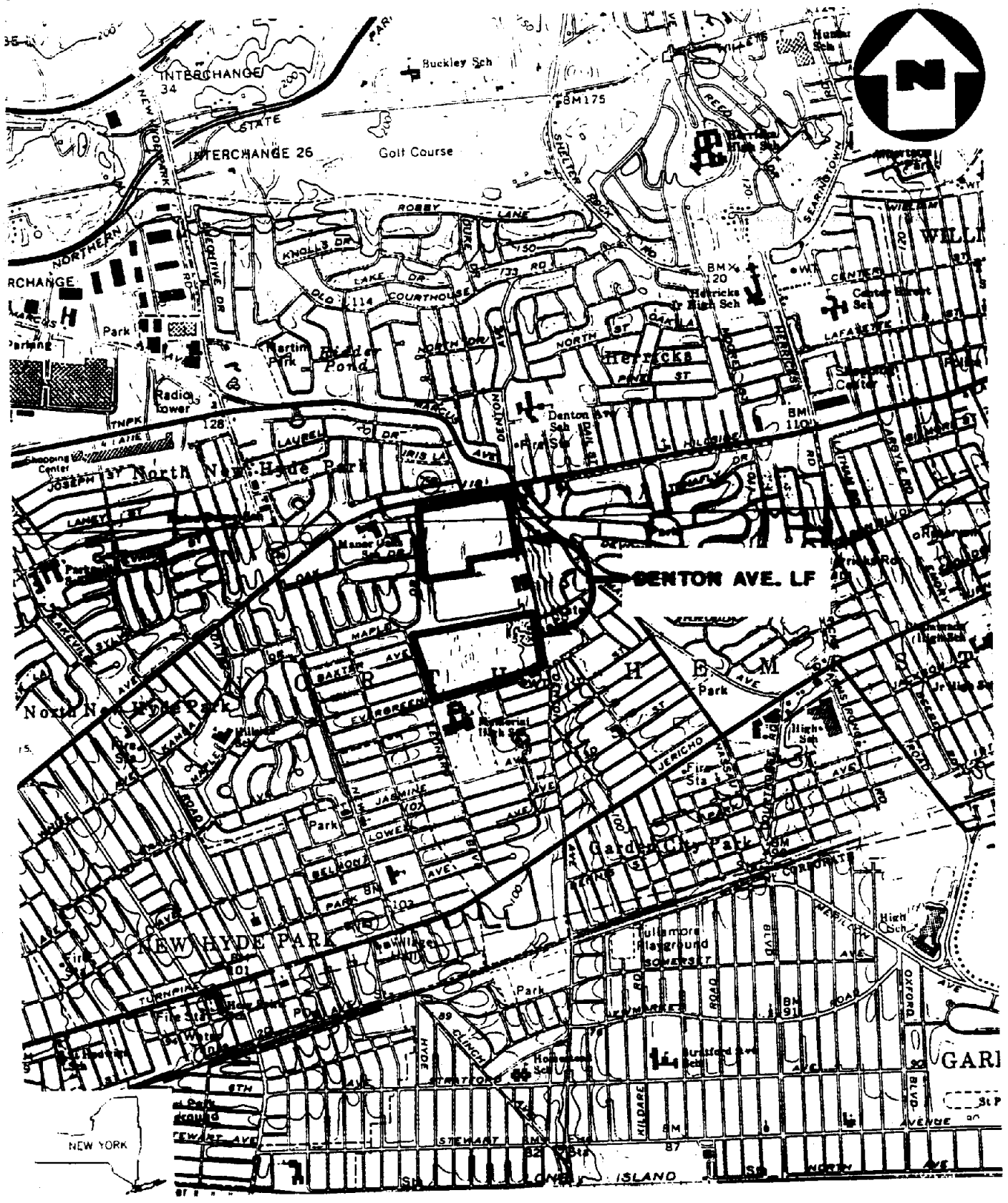
Proposed- Under design- In Progress- Completed-
NATURE OF ACTION:

GEOTECHNICAL INFORMATION:
SOIL TYPE: Sand
GROUNDWATER DEPTH: Estimated depth is 68-81 feet.

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Potential for several pathways of contaminant migration. Groundwater contamination with chromium, lead, iron, and manganese concentration above groundwater standards have been documented in site monitoring wells. PCB's in the range of 0.39-4.2 ppm have been detected in on-site surfical soils in south landfill.

ASSESSMENT OF HEALTH PROBLEMS:




(QUAD) SEA CLIFF, N.Y.

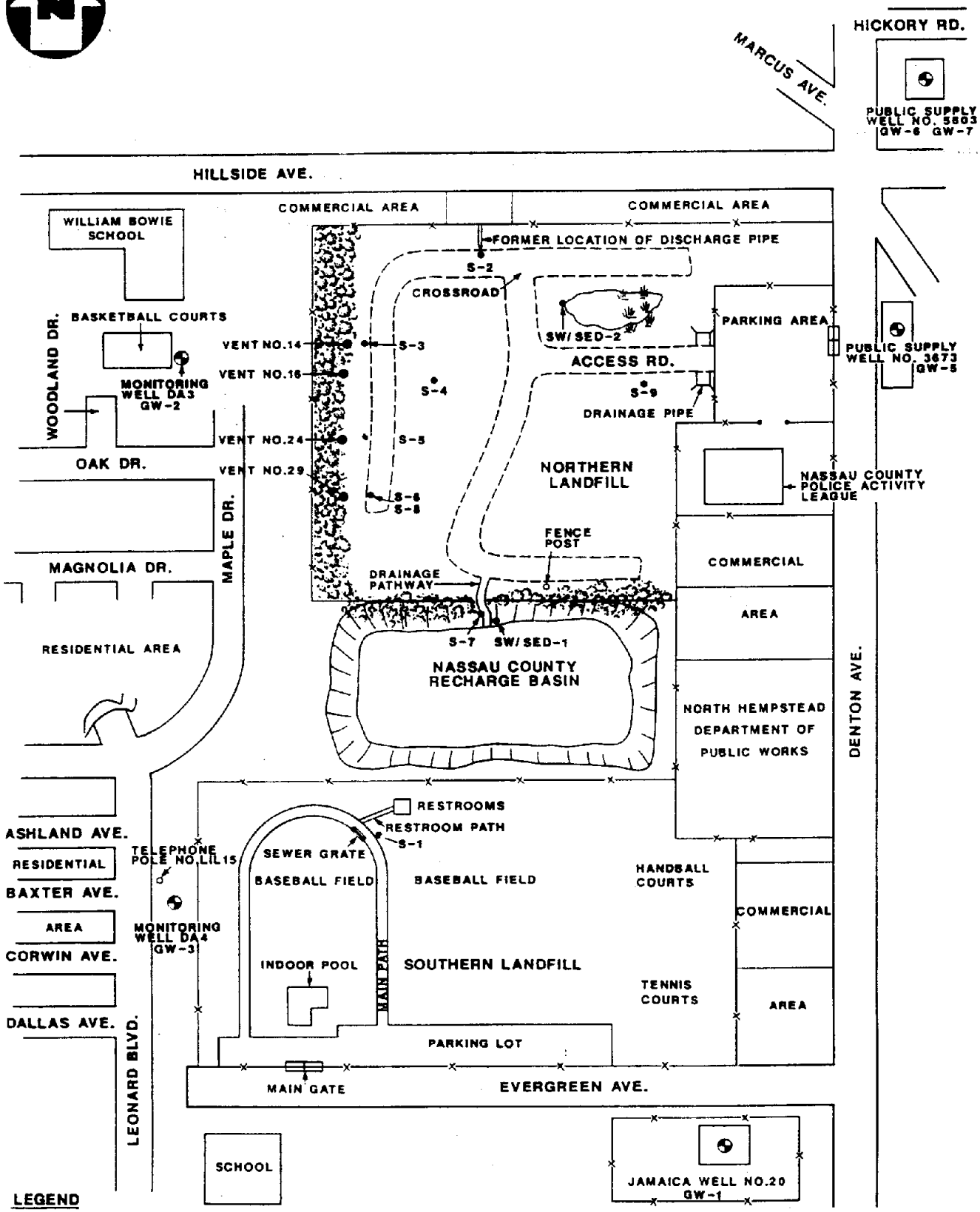
FIGURE 1

## 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

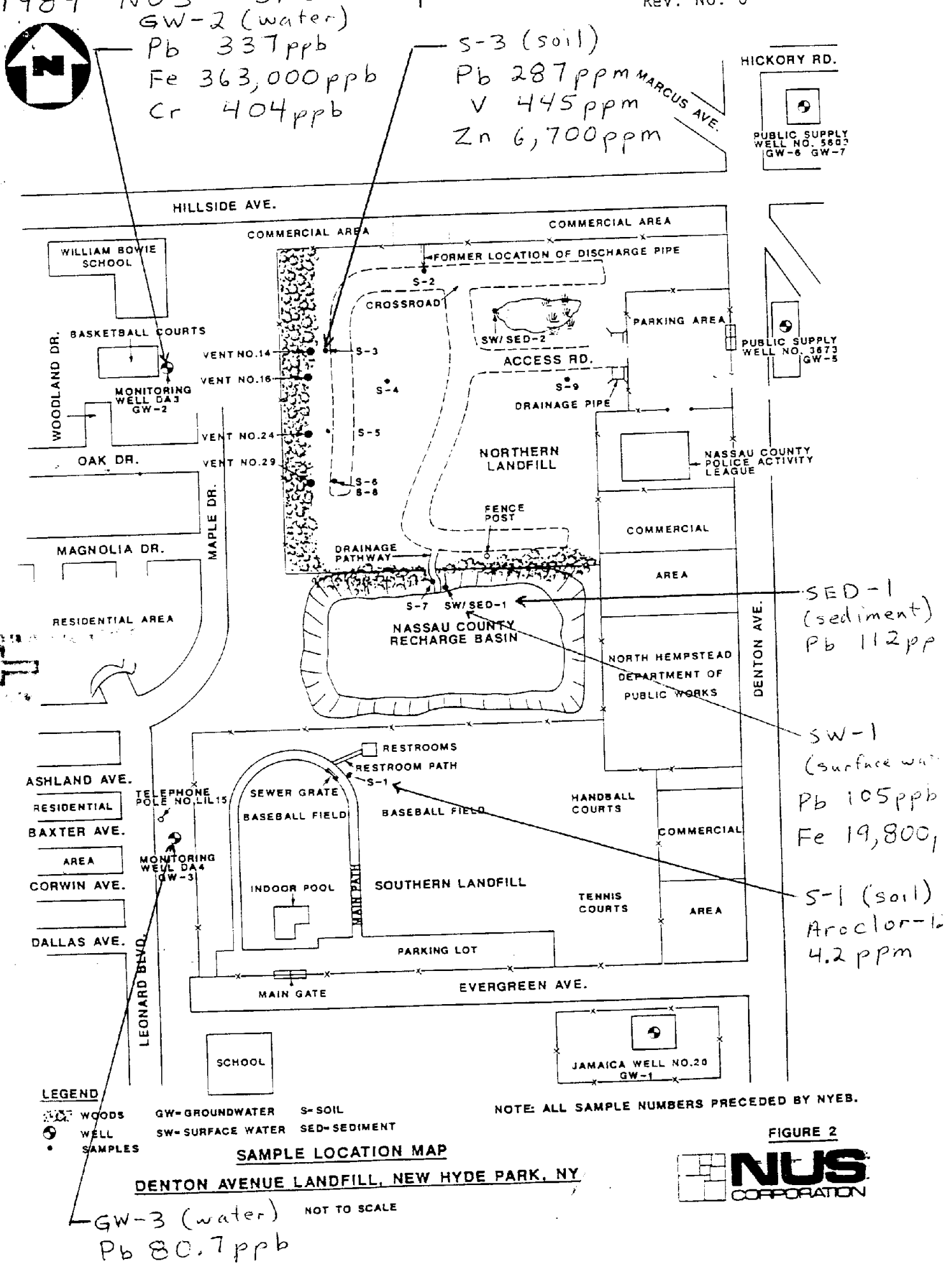


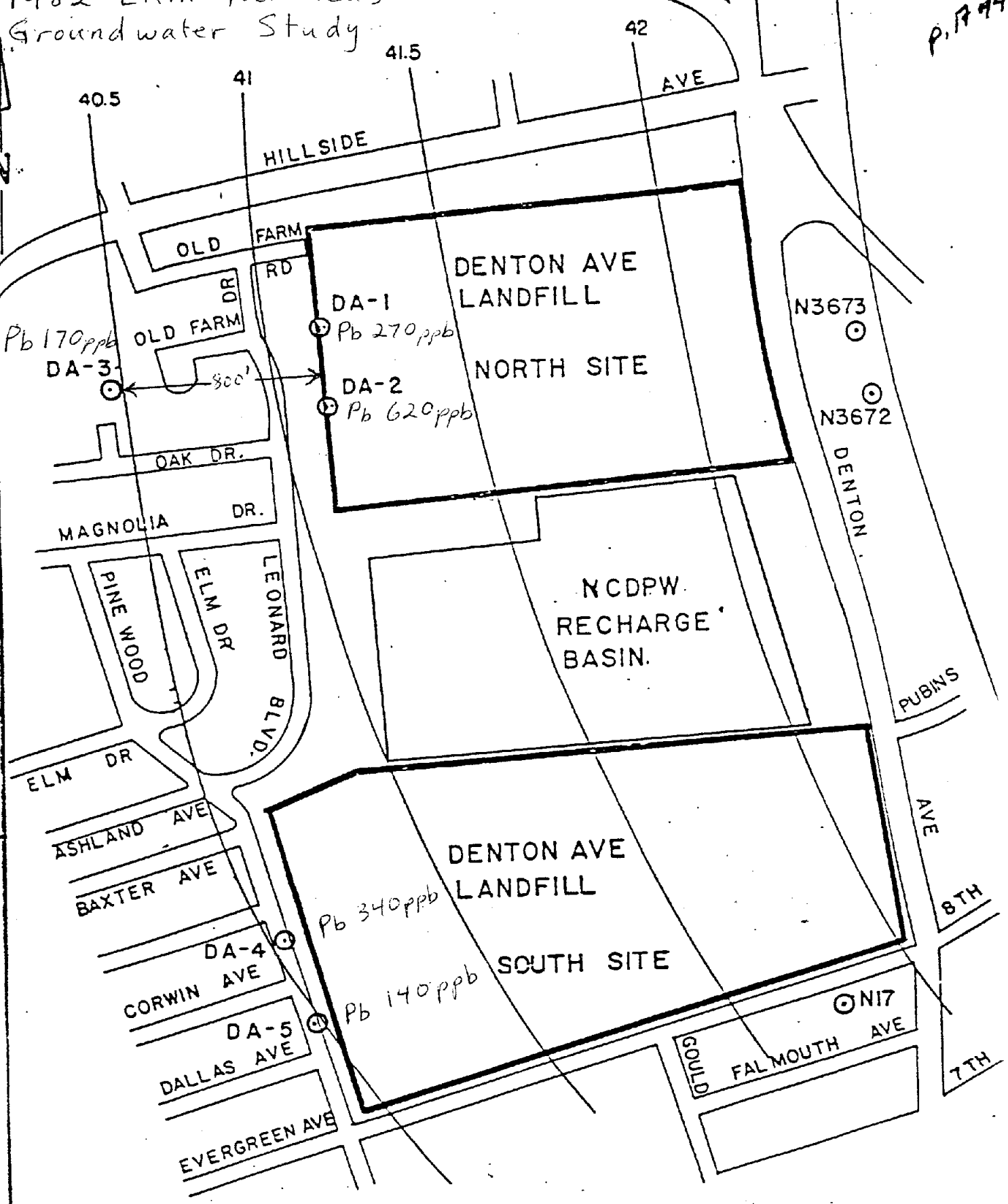

FIGURE 2

SAMPLE LOCATION MAP

DENTON AVENUE LANDFILL, NEW HYDE PARK, NY

NOT TO SCALE

NUS CORPORATION




ALE: 1"= 400

200 0

FIGURE 8-2 LOCAL WATER TABLE CONTOUR

DENTON AVE LANDFILL

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

# FINAL DRAFT
# SITE INSPECTION REPORT
# DENTON AVENUE LANDFILL S
# 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

SUBMITTED BY:

Diane Trube

DIANE TRUBE
PROJECT MANAGER

Brian Dietz

BRIAN DIETZ
SITE MANAGER

REVIEWED/APPROVED BY:

for RM

RONALD M. NAMAN
FIT OFFICE MANAGER

| | | | |
|---|---|---|---|
| **SITE NAME:** | Denton Avenue Landfill | **EPA ID NO.:** | NYD981186919 |
| **ADDRESS:** | Denton & Hillside Avenues<br>New Hyde Park, Nassau County,<br>New York | **LATITUDE:** | [redacted] 40°44'57" N |
| | | **LONGITUDE:** | [redacted] 73°40'32" |
| | | **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.

Were any of these implemented?

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

# 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).

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