ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES

18

PHASE 1 INVESTIGATION

Montauk Landfill

Site No. 152073

Town of East Hampton, Suffolk County

Final - June 1987

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

MONTAUK LANDFILL
TOWN OF EAST HAMPTON, SUFFOLK COUNTY
NEW YORK I.D. NO. 152073

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.

June 1987

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1. EXECUTIVE SUMMARY

The Montauk Landfill site (New York I.D. No. 152073, EPA No. New) is a 30-acre active municipal landfill located north of the Montauk State Parkway and south of the Long Island Railroad, 1.6 mi west of the Hamlet of Montauk in the Town of East Hampton in Suffolk County, New York (Figures 1-1, 1-2, and Photos 1-1 through 1-8). The site is owned and operated by the Town of East Hampton for the disposal of municipal trash and septage scavenger wastes.

Prior to use as a landfill the site was operated as a sand mine by the Town of East Hampton. The Town still mines sand at the site. Residential trash and septage scavenger wastes are dumped in the excavations left by the mining and covered daily. No records were kept of the refuse received at the site. The Suffolk County Department of Health Services (SCDHS) does not believe that this site received any hazardous material.

EA has researched all pertinent agency files, interviewed the site owner, conducted a site inspection, and has found no documented or alleged hazardous waste or contamination at this site. Therefore, because the EPA Hazard Ranking System is designed to evaluate migration pathways of identified hazardous substances from a site, and because there is no documented hazardous waste or contamination in this case, it is not appropriate to provide a Hazard Ranking Score (or documentation) for this site.

In order to prepare a final HRS score for this site, complete analytical data regarding the quality of the ground water will be necessary, thus requiring performance of a Phase II investigation. The proposed Phase II study would include the installation of 4 test borings/observation wells, and the collection and analysis of ground-water samples. The estimated total cost to complete the Phase II investigation of the Montauk Landfill site is $127,200.

Site Coordinates
Latitude: 41° 02' 07"
Longitude: 71° 58' 27"

MONTAUK LANDFILL

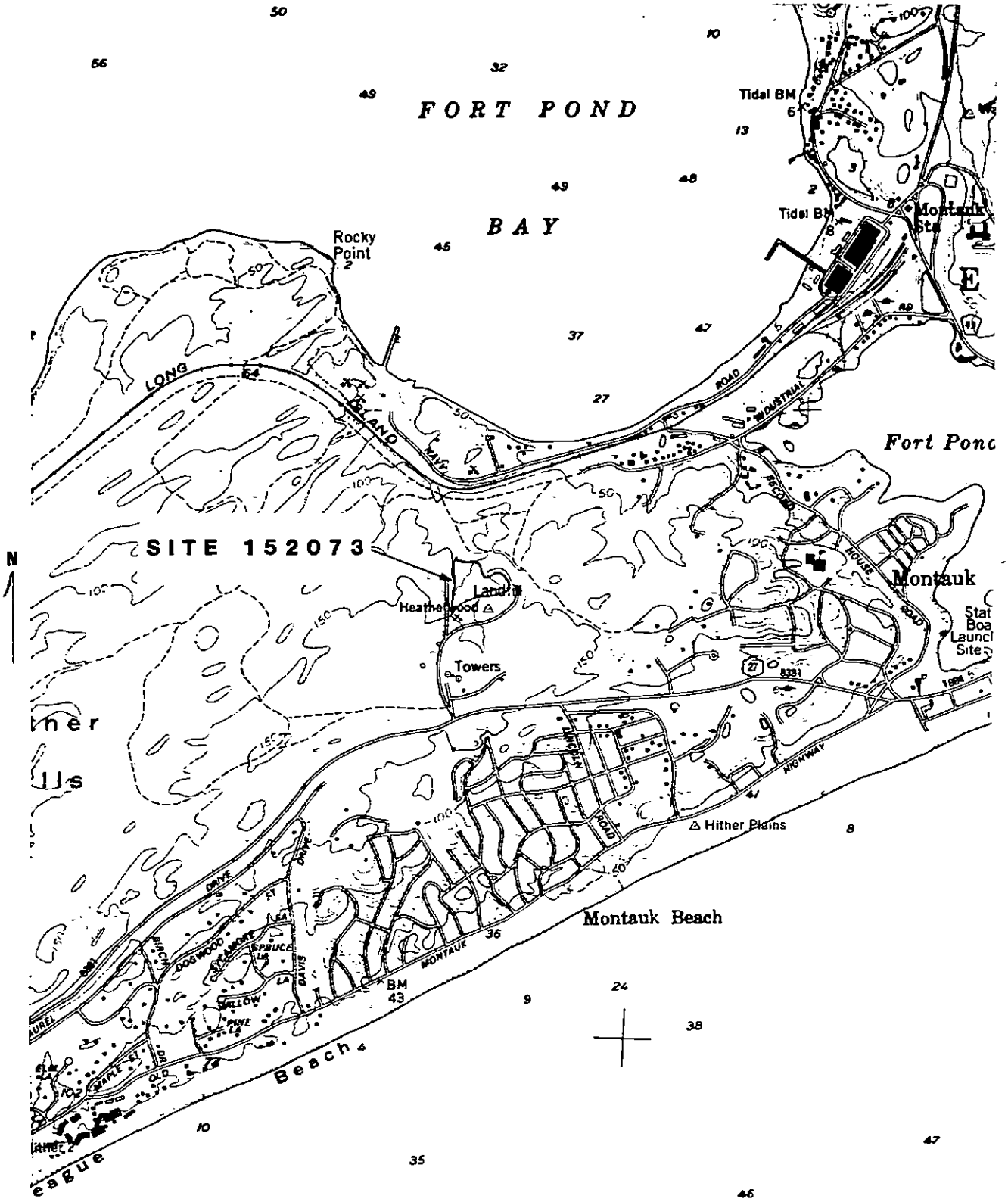


Figure 1-1.

MONTAUK POINT QUAD.

Scale 1: 24,000

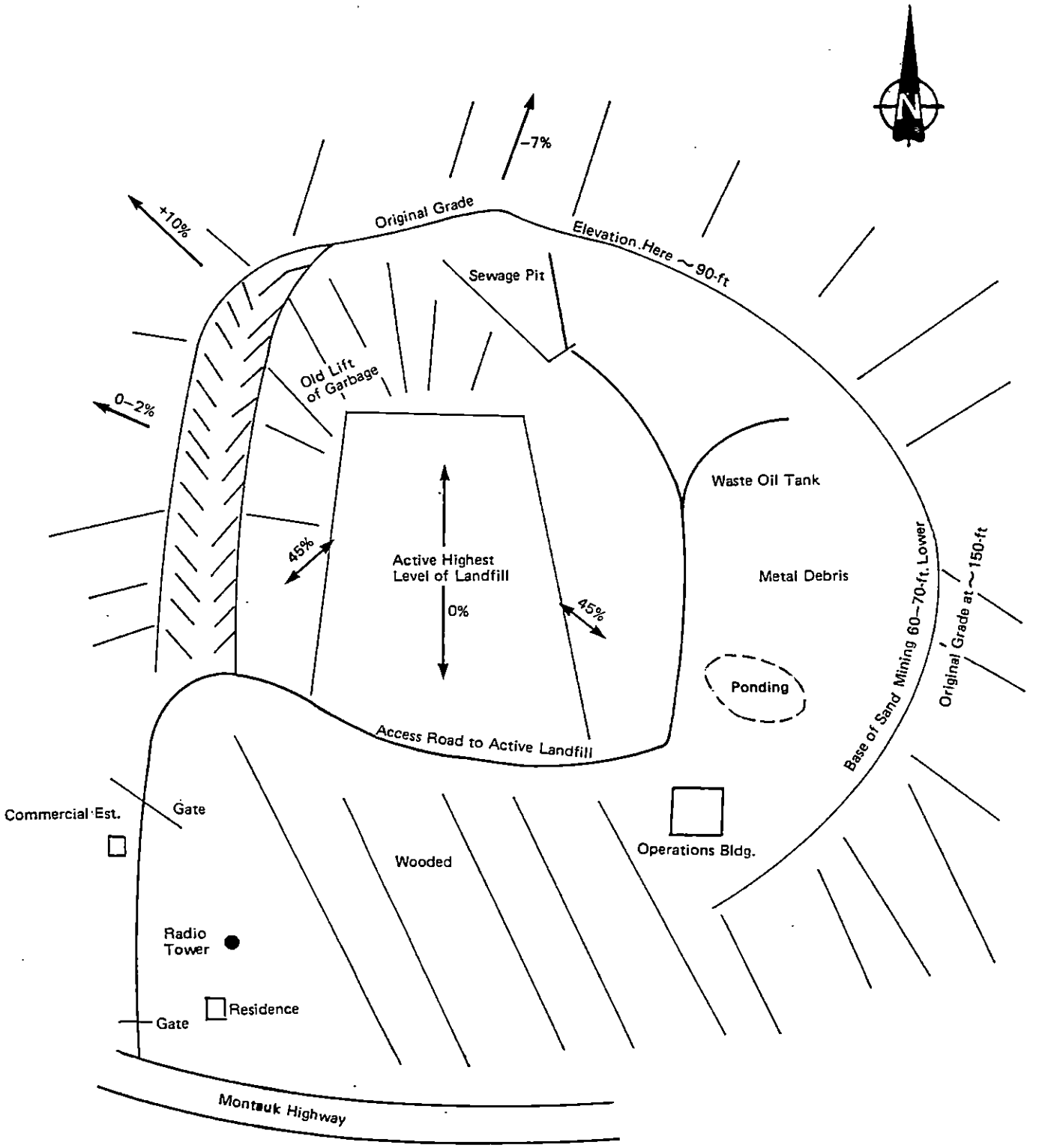
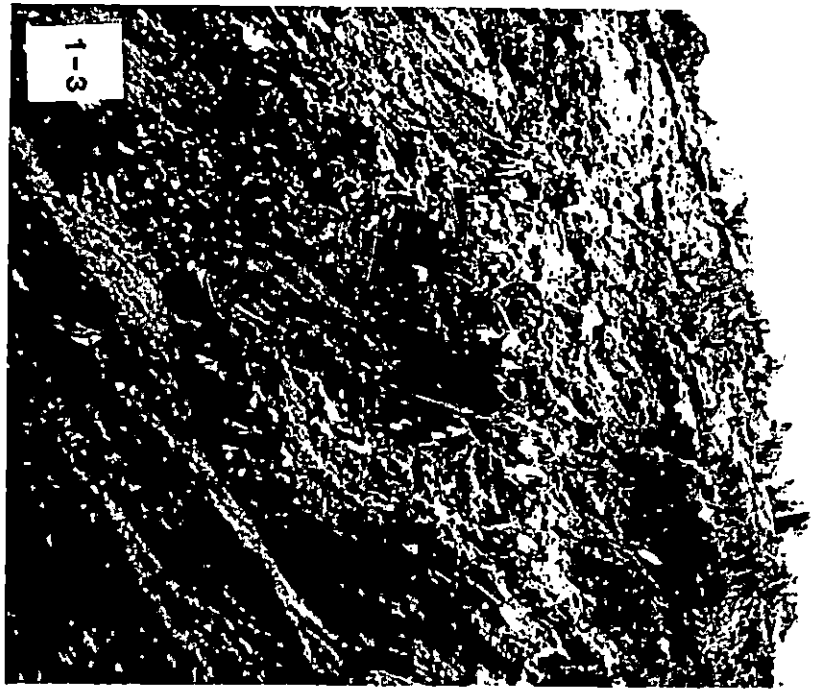


Figure 1-2. Site sketch. Montauk Landfill, 20 January 1986. (Not to scale.)

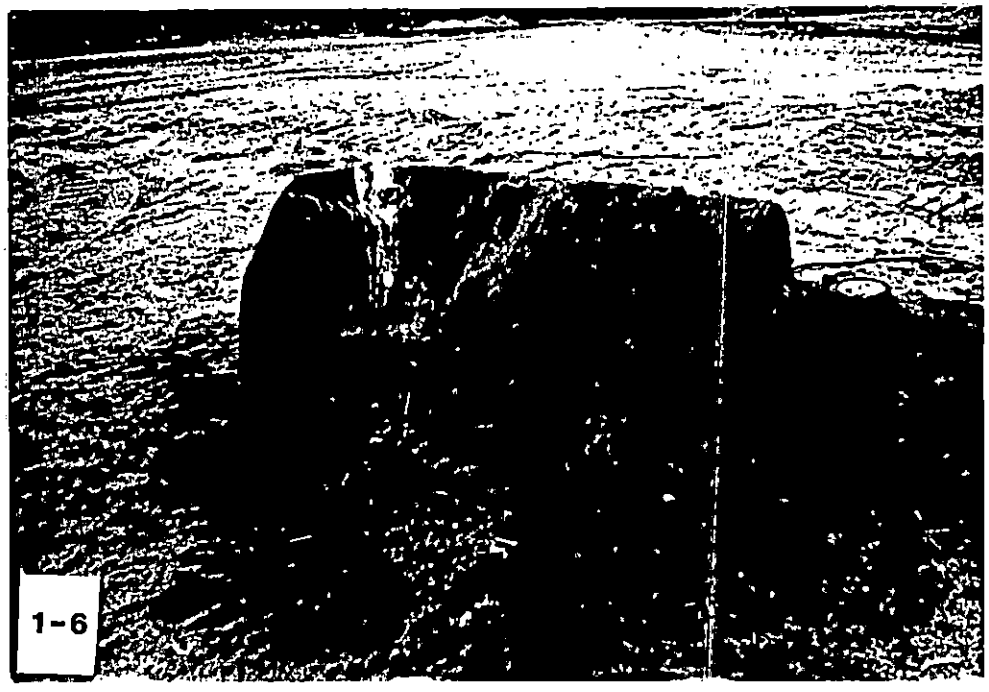

1-1


1-2


1-3


1-4


1-5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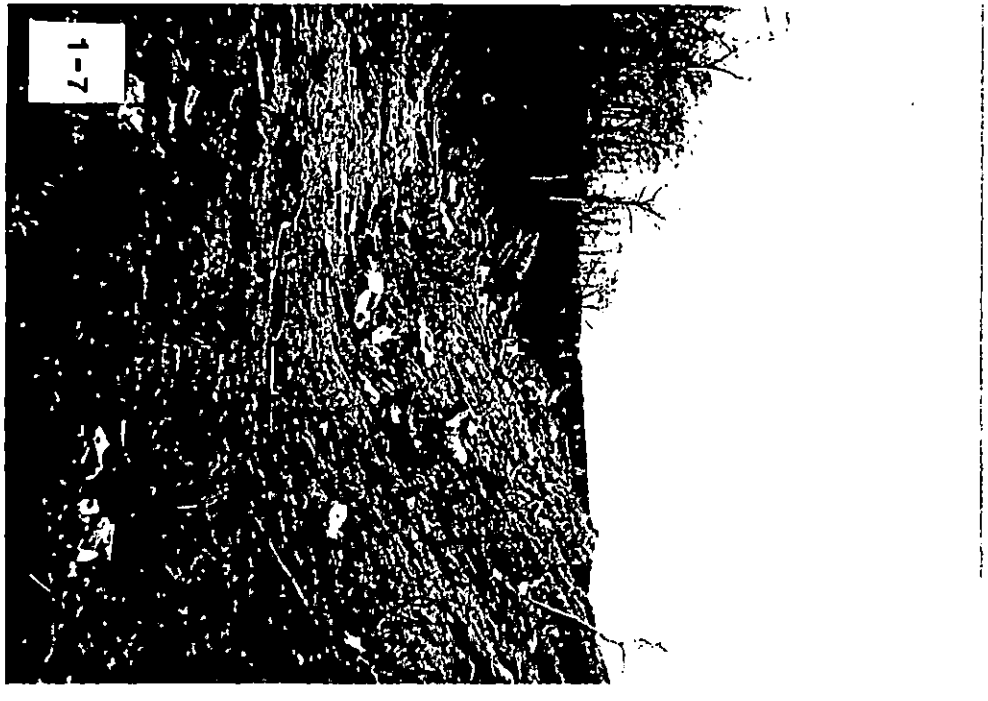

1-7

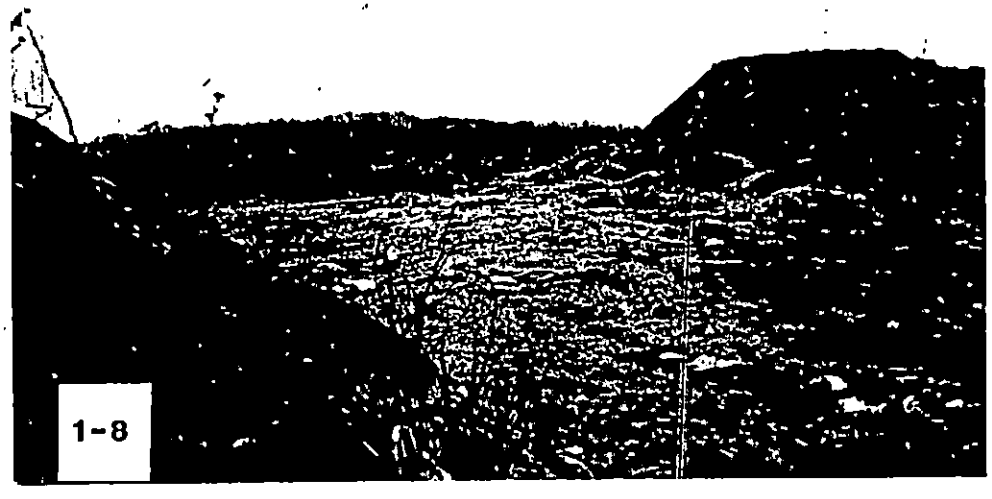

1-8

PHOTO LOG - MONTAUK LANDFILL

Photo	Description
1-1	A view of the center of the landfill (looking south). Original grade in background. Soils are sand throughout the site and vicinity. Septage pit visible in extreme left corner of photo; metal storage over center; and active landfill lifts visible in extreme right of photo.
1-2	Close-up view of the septage pit. It can be seen that a lot of wood scraps and household garbage has also been thrown in the pit. The site is covered with litter of this nature.
1-3	A view of the back side of the landfill showing many lifts of mixed municipal garbage.
1-4	A close-up view of the scrap metal storage area.
1-5	Another close-up view of empty metal tanks and cars being stored on site as scrap.
1-6	A close-up view of a small (500-gal) tank that is available for storage of used motor oil. The tank is pumped out occasionally by a local scavenger. There are incidental drips and spills of used oil that stain the soil around the tank.
1-7	A view of the western perimeter of the site looking north. The site is filled to near original grade here. Litter is scattered about.
1-8	Another view of the center of the site, i.e., active lift and heavy equipment.

2. PURPOSE

The Montauk Landfill site was listed in the New York State Registry of Inactive Hazardous Wastes Sites because it is an active municipal dump, and there is little known about the wastes that were buried at the site.

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 an assessment of the available information and a recommended work plan for Phase II studies.

3. SCOPE OF WORK

The Phase I investigation of the Montauk 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. Gene Garypie Town of East Hampton Pantigo Road East Hampton, New York 11937 (516) 668-5813	Site Interview/Site history
Mr. Larry Penny Town of East Hampton Pantigo Road East Hampton, New York 11937 (516) 267-8440	Interview Ground-water data
Mr. Stanley Steckowski Town of East Hampton Pantigo Road East Hampton, New York 11937 (516) 324-2199	Telephone interview
Mr. Anthony Candela, P.E. Senior Sanitary Engineer New York State Department of Environmental Conservation Division of Solid Waste SUNY Campus - Building 40 Stony Brook, New York 11794 (516) 751-7900	Site file
Mr. James H. Pim, P.E. Suffolk County Department of Health Services Hazardous Materials Management 15 Horseblock Place Farmingville, New York 11738 (516) 451-4634	Interview and site file

Contact	Information Received
Mr. Joseph H. Baier, P.E. Suffolk County Department of Health Services Bureau of Water Resources 225 Rabro Drive East Hauppauge, New York 11788 (516) 348-2898	Hydrogeologic information
Mr. Steve Carey/Mr. Dennis Moran Suffolk County Department of Health Services Bureau of Water Resources 225 Rabro Drive East Hauppauge, New York 11788 (516) 348-2893	Ground-water use; public water supplies and ground-water monitoring information
Mr. Dan Fricke Suffolk County Cooperative Extension Association 264 Griffing Avenue Riverhead, New York 11901 (516) 727-7850	Ground-water and surface water use for irrigation
Mr. William Schickler/Mr. Robert Bowen Suffolk County Water Authority Sunrise Highway and Pond Road Oakdale, New York 11769 (516) 589-5200	Public water supply and distribution
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	Ground-water use for irrigation
Mr. Allan S. Connell District Conservationist U.S. Department of Agriculture Soil Conservation Survey 127 East Main Street Riverhead, New York 11901	Ground-water use for irrigation
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

Contact	Information Received
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 Bureau of Municipal Wastes Section of 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 files
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, P.E./ 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

Contact	Information Received
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. David DiSunno Chief Fire Inspector 159 Pantigo Road East Hampton, New York 11937 (516) 267-8585	Information regarding the threat of fire and/or explosion at the site

4. SITE ASSESSMENT - MONTAUK LANDFILL

4.1 SITE HISTORY

The Montauk Landfill (also known as Hither Hills Landfill) is an active municipal landfill located north of the Montauk State Parkway and south of the Long Island Railroad, 1.6 mi west of the Hamlet of Montauk in an undeveloped section of the Town of East Hampton in Suffolk County, New York (Figures 1-1, 1-2, and Photos 1-1 through 1-8). The landfill was opened by the Town of East Hampton in approximately 1963, and is currently owned and operated by the Town. This site is estimated to be 30 acres in size and receives approximately 7,000 tons of mixed municipal refuse and scavenger wastes each year (Appendixes 1.1-1, 1.1-2, and 1.1-3). The refuse consists of residential, commercial, and light industrial material, and is currently being dumped in the southwest portion of the site. Residents and two local haulers have dumped waste at the site over the years (Appendixes 1.1-3 and 1.1-4). Brush and septage sludge is dumped north of the active face of the fill. A metal scrap pile is located northeast of the active face. The metal is periodically removed and sold. A waste oil tank is located above ground adjacent to the metal scraps (Appendix 1.1-3). The tank is emptied weekly by a local oil recovery company (Appendixes 1.1-3 and 1.1-4). Personal communication with the the Town of East Hampton and with the Suffolk County Department of Health Services (SCDHS) indicates that the Montauk Landfill did not and does not presently receive hazardous waste (Appendixes 1.1-3 and 1.1-6). SCDHS thinks that the landfill is producing leachate which is getting into ground water; however, they believe the leachate

is typical of municipal landfills in sand substrate, and not specifically a product of hazardous wastes contained in the landfill (Appendixes 1.1-7 and 1.1-8). On 25 September 1980, the NYSDEC issued a State Environmental Quality Review Act (SEQR) Negative Declaration which maintained that the existing Montauk Landfill could be extended and the extension would be lined (Appendix 1.1-9). The project was classified as Type I, meaning that the NYSDEC had determined that the project would not have a significant effect on the environment.

4.2 SITE TOPOGRAPHY

Montauk Landfill is located at the eastern end of Long Island, about 0.4 mi inland from Fort Pond Bay, at an elevation of approximately 150 ft above sea level (Appendix 1.2-1). The site slope varies from 0 percent across the top of the landfill to 45 percent across the face of the landfill. Prior to use as a landfill the site was a sand mining operation. The site has been excavated with the result that higher ground, the original grade, surrounds the site on the east, south, and west sides, but the northern boundary is level with the grade. Currently municipal trash and septage waste is dumped in the depressions left by the mining and buried in cells. To date approximately 10 of the 30 available acres have been used for waste disposal.

The terrain surrounding the site on all sides is forested with scrub oak. The nearest downgradient surface water is Fort Pond Bay approximately 0.4 mi north. However, because the overland route to Fort Pond Bay is intersected by the Long Island Railroad and because the soil in the area is highly permeable, the probability of surface water runoff from the site reaching the Bay is very

unlikely (Appendix 1.2-1). The nearest residence and private well is 0.1 mi south. The nearest public well is SCWA Well No. 51275 located 0.5 mi south of the site. The nearest commercial building is located 0.06 mi southwest (Appendix 1.2-1).

4.3 SITE HYDROGEOLOGY

The site is directly underlain by Pleistocene Age glacial deposits. This deposit is then in turn underlain by Cretaceous Age Magothy Formation, the Clay Member and Lloyd Sand Member of the Raritan Formation and finally by Precambrian Age gneiss and schist bedrock (Appendix 1.3-1). The ground surface elevation at the site ranges from approximately 100 ft above MSL in the northwestern portion to about 150 ft above MSL in the southeastern portion. In the vicinity of the site the Pleistocene deposits are estimated to be 300-350 ft in thickness (ground surface elevation and Appendix 1.3-2) and largely comprised of till (poorly sorted deposits of boulders, gravel, sand, silt, and clay) and possibly stratified drift (well graded glacial outwash ranging in texture from gravel to clay-size material) (Appendix 1.3-1). Also, a portion of the area within 3 mi of the site is apparently underlain by the Monmouth Greensand (Appendix 1.3-2). Appendix 1.3-3 provides the logs of two wells located near the site and indicates the stratigraphy penetrated to depths of approximately 200 and 300 ft below grade: Well S-70155 (320-ft total borehole depth) and Well S-51275 (196-ft total borehole depth) located approximately 0.4 and 0.8 mi, respectively, east of the site. Two monitoring wells were reportedly installed downgradient of the site in 1983 by the Town of East Hampton, however they both have been destroyed (Appendix 1.1-8). No logs of these wells were found during EA's record search.

The Magothy Formation is estimated to be 600 ft in thickness in the vicinity of the site (Appendix 1.3-2). The upper surface of this deposit is dissected by channels as deep as 300-500 ft below sea level in western Long Island. Similar channels may exist beneath eastern Long Island. Therefore, accurate prediction of formation thickness between control points (boreholes) is difficult. The Magothy, and probably other younger Cretaceous Age deposits present, contain permeable zones partly separated by lenticular beds of silt, sandy clay, and clay (Appendix 1.3-1).

Jensen and Soren (Appendix 1.3-2) estimate that in the vicinity of the site the Clay Member of the Raritan Formation is 125 ft in thickness and the Lloyd Sand Member is 275 ft in thickness. Because the existing wells are generally completed in the overlying deposits, no detailed descriptions of the Raritan Formation were found in the literature for the site vicinity.

Water pumped from aquifers underlying Suffolk County is the sole source of water for public supply, agriculture, and industry (Appendix 1.3-2). The principal aquifer in the vicinity is reported to be the lower unit of the stratified drift of the Pleistocene-Age glacial deposits. The Magothy and Lloyd aquifers apparently contain only salt water (Appendix 1.3-1). Therefore, only the glacial aquifer is designated as the aquifer of concern.

Recharge to the upper glacial aquifer is derived entirely from precipitation. The average annual precipitation in the area is 48 in., of which 12 in. is estimated to infiltrate to the water table (Appendix 1.3-1). The remainder of the precipitation is returned to the atmosphere by evaporation and transpiration, except for a small amount of runoff to streams.

Based upon the March 1985 ground-water table contour map (Suffolk County Department of Health Services), the depth to ground water is estimated to be approximately 90-150 ft below ground surface, respectively, in the northwest to southeast portion of the site. The regional ground-water natural (unaffected by pumping) flow direction appears to be toward the north-northeast. Within 3 mi of the site, the aquifer of concern has been reportedly developed by 9 Suffolk County Water Authority well fields and some private wells. Appendix 1.3-4 provides a list of the municipal wells located within 3 mi of the site. The developed area within 3 mi of the site is served by the Suffolk County Water Authority and some private wells.

4.4 SITE CONTAMINATION

Waste Types and Quantities

The site reportedly receives approximately 7,000 tons of mixed municipal refuse each year, as well as septage scavenger wastes (Appendixes 1.1-1 and 1.1-2). EA has researched all pertinent agency files, interviewed the site owner and representatives, conducted a site inspection, and has found no documented or alleged hazardous waste or contamination at this site.

Ground Water

In 1983, the Town of East Hampton installed 2 ground-water monitoring wells at the landfill. The wells have since been vandalized and/or destroyed. Three separate samples (May 1983, September 1983, and April 1984) were obtained from

a downgradient well (north side of landfill) before the wells were destroyed. The analytical data indicate that lead (0.06 ppm), iron (0.76 ppm), phenol (0.004 ppm), and arsenic (0.03 ppm) have occasionally exceeded NYS Class GA Ground-water Standards; however, there are no ambient data available for comparison (Appendix 1.1-8).

Surface Water

No data available.

Soil

No data available.

Air

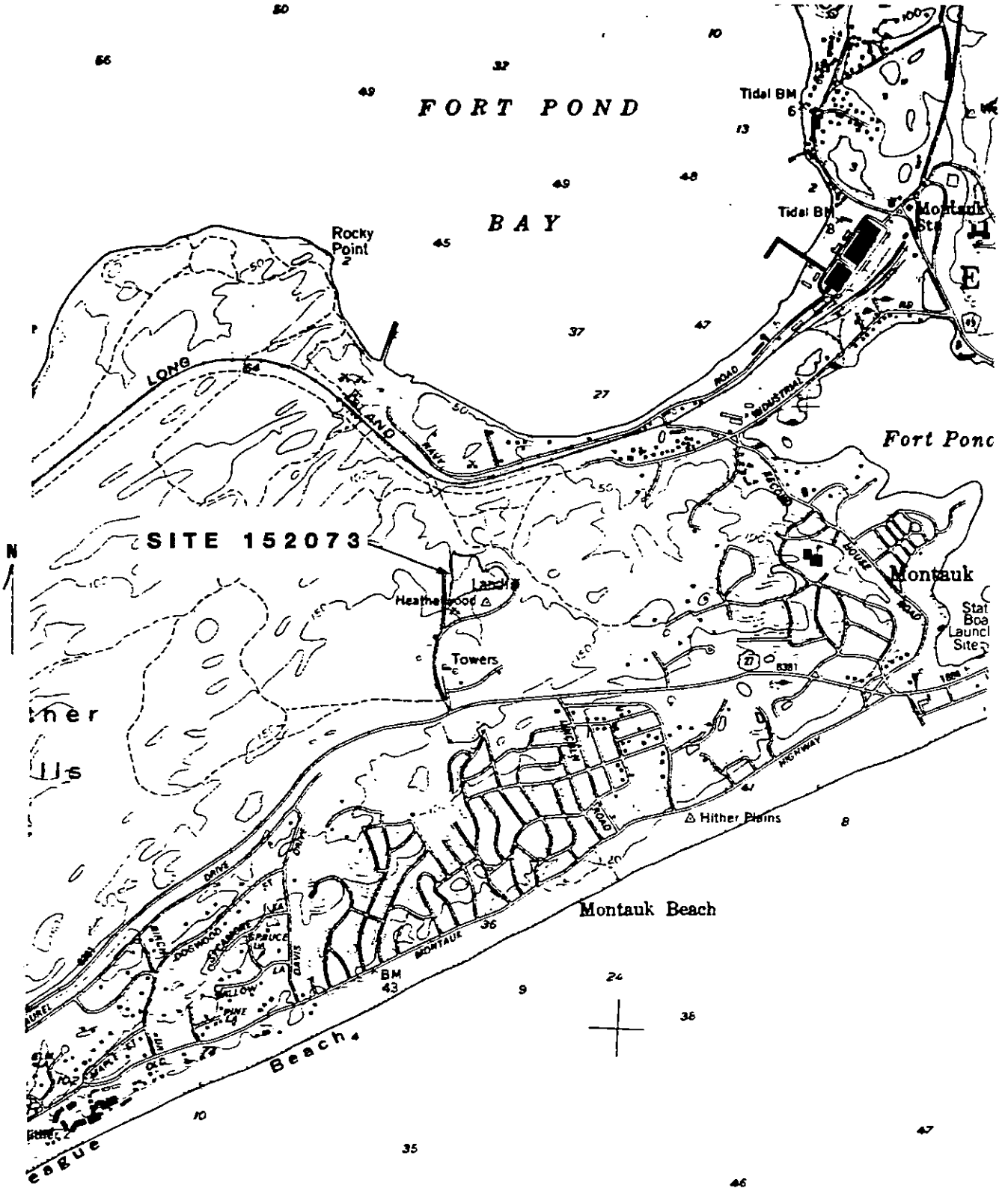
No data available.

MONTAUK LANDFILL SITE
TOWN OF EAST HAMPTON, SUFFOLK COUNTY

The Montauk Landfill site is a 30-acre municipal landfill located off the Montauk State Parkway in the Town of East Hampton, Suffolk County, New York. The area is sparsely populated and the nearest downgradient surface water is Fort Pond Bay approximately 0.4 mi north. The site was used as a sand mine by the Town of East Hampton prior to 1963. The Town has operated the site as a landfill for municipal garbage and septage scavenger wastes since 1963. Materials are buried in cells and refuse is covered daily. No records of incoming wastes have been kept by the East Hampton Sanitation Department. The Suffolk County Department of Health Services (SCDHS) does not suspect the site of containing hazardous materials. Wells have been installed downgradient of the site by the Town of East Hampton. EA has researched all pertinent agency files, interviewed the site owner and representatives, conducted a site inspection, and has found no documented or alleged hazardous waste or contamination at this site.

Site Coordinates
Latitude: 41° 02' 07"
Longitude: 71° 58' 27"

MONTAUK LANDFILL



MONTAUK POINT QUAD.

Scale 1: 24,000

Facility name: Montauk Landfill

Location: Town of East Hampton, Suffolk County

EPA Region: II

Person(s) in charge of the facility: Town of East Hampton

Pantigo Road

East Hampton, New York 11937

Name of Reviewer: EA Science and Technology Date: 16 June 1986

General description of the facility:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility, contamination route of major concern; types of information needed for rating, agency action, etc.)

The Montauk Landfill site is owned and operated by the Town of East Hampton for the disposal of residential, municipal, and sewage waste from the local residents. It has been open since 1963 and is presently active. EA has researched all pertinent agency files, interviewed the site owner and representatives, conducted a site inspection, and has found no documented or alleged hazardous waste or contamination at this site. Therefore, because the EPA Hazard Ranking System is designed to evaluate migration pathways of identified hazardous substances from a site, and because there is no documented hazardous waste or contamination in this case, it is not appropriate to provide a Hazard Ranking Score (or documentation) for this site.

Scores: S_M = (S_{gw} = S_{sw} = S_a =)

S_{FE} =

S_{DC} =

FIGURE 1
HRS COVER 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: Montauk Landfill

LOCATION: Town of East Hampton, Suffolk County

DATE SCORED: 16 June 1986

PERSON SCORING: EA Science and Technology

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

Suffolk County Department of Health Services
Town of East Hampton Department of Sanitation

FACTORS NOT SCORED DUE TO INSUFFICIENT INFORMATION:

COMMENTS OR QUALIFICATIONS:

EA has researched all pertinent agency files, interviewed the site owner, conducted a site inspection, and has found no documented or alleged hazardous waste or contamination at this site. Therefore, because the EPA Hazard Ranking System is designed to evaluate migration pathways of identified hazardous substances from a site, and because there is no documented hazardous waste or contamination in this case, it is not appropriate to provide a Hazard Ranking Score (or documentation) for this site.

Environmental Protection Agency
Remedial Response
Washington, DC 20460
July, 1981

Montauk Landfill

EPA

Potential Hazardous Waste Site

Preliminary Assessment

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

EPA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	New

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER				
Montauk Landfill	Montauk Highway				
03 CITY	**04 STATE**	**05 ZIP CODE**	**06 COUNTY**	**07 COUNTY CODE**	**08 CONG DIST**
Montauk	NY	11954	Suffolk		
09 COORDINATES LATITUDE: 41° 02' 07"	LONGITUDE: 71° 58' 27"				

10 DIRECTIONS TO SITE (Starting from nearest public road)

The site is 1.6 miles west of the Hamlet of Montauk, north of the Montauk State Parkway in an undeveloped aection of the Town.

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)			
Town of East Hampton	159 Pantigo Road			
03 CITY	**04 STATE**	**05 ZIP CODE**	**06 TELEPHONE NUMBER**	
East Hampton	NY	11937	(516) 268-5813	
07 OPERATOR (If known and different from owner)	**08 STREET** (Business, mailing, residential)			
Same as above				
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

1963 (BEGINNING YEAR) | Present (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

The site receives mixed municipal refuse.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

None known. Based on site inspection interview with owner/operator, and review of agency files there is no indication hazardous wastes were ever deposited at the site.

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 / 26 / 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	New

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 7,000/year

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
- [X] 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)

Not applicable.

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.
New York State Department of Environmental Conservation Bureau of Hazardous Site Control files

Suffolk County Department of Health Services files.

United States
Environmental Protection
Agency

Office of Emergency and
Remedial Response
Washington, DC 20460

EPA Form 2070-13
July, 1981

Montauk Landfill

EPA

Potential Hazardous Waste Site

Site Inspection Report

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	New

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Montauk Landfill	Montauk Highway

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Montauk	NY	11954	Suffolk		

09 COORDINATES	10 TYPE OF OWNERSHIP (Check one)
LATITUDE 41° 02' 07" / LONGITUDE 71° 58' 27"	☐ A. PRIVATE ☐ B. FEDERAL ☐ C. STATE ☐ D. COUNTY ☒ E. MUNICIPAL ☐ F. OTHER ☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION	02 SITE STATUS	03 YEARS OF OPERATION
1 / 20 / 86 (MONTH DAY YEAR)	☒ ACTIVE ☐ INACTIVE	1963 (BEGINNING YEAR) present (ENDING YEAR) ___ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)

☐ A. EPA ☐ B. EPA CONTRACTOR _____ ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR _____ (Name of firm)
☐ E. STATE ☒ F. STATE CONTRACTOR EA Science & Tech. ☐ G. OTHER _____ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
William Going	Scientist	EA	(914) 692-6706
09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
Ellen Bidwell	Geologist	EA	(914) 692-6706
			( )
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO
Gene Garypie	Asst. Foreman	Pantigo Road East Hampton New York	(516) 668-5813
			( )
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
☒ PERMISSION ☐ WARRANT	1420	Windy; clear, no snow cover

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
William Going		EA		6 / 16 / 86 (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	New

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

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

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

TONS approx. 154,000

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
- [X] M. NOT APPLICABLE

III. WASTE TYPE Mixed municipal wastes and septage waste

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) None known

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.
Suffolk County Department of Health Services (SCDHS) files.
Town of East Hampton
Section 3.

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	New

II. HAZARDOUS CONDITIONS AND INCIDENTS None known

01 ☐ A. GROUNDWATER CONTAMINATION 03 POPULATION POTENTIALLY AFFECTED: _____	02 ☐ OBSERVED (DATE: _____) 04 NARRATIVE DESCRIPTION	☐ POTENTIAL	☐ ALLEGED
01 ☐ B. SURFACE WATER CONTAMINATION 03 POPULATION POTENTIALLY AFFECTED: _____	02 ☐ OBSERVED (DATE: _____) 04 NARRATIVE DESCRIPTION	☐ POTENTIAL	☐ ALLEGED
01 ☐ C. CONTAMINATION OF AIR 03 POPULATION POTENTIALLY AFFECTED: _____	02 ☐ OBSERVED (DATE: _____) 04 NARRATIVE DESCRIPTION	☐ POTENTIAL	☐ ALLEGED
01 ☐ D. FIRE/EXPLOSIVE CONDITIONS 03 POPULATION POTENTIALLY AFFECTED: _____	02 ☐ OBSERVED (DATE: _____) 04 NARRATIVE DESCRIPTION	☐ POTENTIAL	☐ ALLEGED
01 ☐ E. DIRECT CONTACT 03 POPULATION POTENTIALLY AFFECTED: _____	02 ☐ OBSERVED (DATE: _____) 04 NARRATIVE DESCRIPTION	☐ POTENTIAL	☐ ALLEGED
01 ☐ F. CONTAMINATION OF SOIL 03 AREA POTENTIALLY AFFECTED: _____ (Acres)	02 ☐ OBSERVED (DATE: _____) 04 NARRATIVE DESCRIPTION	☐ POTENTIAL	☐ ALLEGED
01 ☐ G. DRINKING WATER CONTAMINATION 03 POPULATION POTENTIALLY AFFECTED: _____	02 ☐ OBSERVED (DATE: _____) 04 NARRATIVE DESCRIPTION	☐ POTENTIAL	☐ ALLEGED
01 ☐ H. WORKER EXPOSURE/INJURY 03 WORKERS POTENTIALLY AFFECTED: _____	02 ☐ OBSERVED (DATE: _____) 04 NARRATIVE DESCRIPTION	☐ POTENTIAL	☐ ALLEGED
01 ☐ I. POPULATION EXPOSURE/INJURY 03 POPULATION POTENTIALLY AFFECTED: _____	02 ☐ OBSERVED (DATE: _____) 04 NARRATIVE DESCRIPTION	☐ POTENTIAL	☐ ALLEGED

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	New

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued) None known

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

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

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

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

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

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

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

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

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

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

EA Site Inspection Section 3.
SCDHS Files
Town of East Hampton

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	New

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) SEQR	52-S -04	9-25-80		
☐ 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	154,000	TN
☐ G. LANDFARM		
☐ H. OPEN DUMP		
☐ I. OTHER (Specify)		

04 TREATMENT (Check all that apply)
- ☐ A. INCENERATION
- ☐ 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
30 (Acres)

07 COMMENTS

Sludge lagoons of scavenger wastes.
Solid waste is municipal refuse.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

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

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

One small tank for recycled oil, an open sludge lagoon, no liner.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☒ YES ☐ NO

02 COMMENTS

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

EA Site Inspection 20 January 1986
New York State Department of Environmental Conservation (NYSDEC) Bureau of Hazardous Site Control files.
Town of East Hampton - site file.
Section 3.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	New

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)

	SURFACE	WELL
COMMUNITY	A. ☐	B. ☒
NON-COMMUNITY	C. ☐	D. ☒

02 STATUS Unknown

ENDANGERED	AFFECTED	MONITORED
A. ☐	B. ☐	C. ☐
D. ☐	E. ☐	F. ☐

03 DISTANCE TO SITE

A. 0.4 (mi)
B. 0.1 (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☒ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING (Other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available) ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) ☐ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER 6,422

03 DISTANCE TO NEAREST DRINKING WATER WELL 0.2 (mi)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
100 (ft)	NNE	100 (ft)	unknown (gpd)	☒ YES ☐ NO

09 DESCRIPTION OF WELLS (Including usage, depth, and location relative to population and buildings)

The SCWA has developed 9 well fields in the Upper Glacial and Magothy aquifers within 3 miles of the site. The wells range in depth from 55 feet to 240 feet. A total population of 6,422 is served. There are also some private wells south (upgradient) of the site.

10 RECHARGE AREA		11 DISCHARGE AREA	
☒ YES ☐ NO	COMMENTS	☐ YES ☒ NO	COMMENTS

IV. SURFACE WATER No viable overland route

01 SURFACE WATER USE (Check one)

☒ A. RESERVOIR, RECREATION DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☐ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
	☐	(mi)
	☐	(mi)
	☐	(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. 770 NO. OF PERSONS	B. 1,102 NO. OF PERSONS	C. 1,766 NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION

0.1 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE

04 DISTANCE TO NEAREST OFF-SITE BUILDING

0.06 (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)

The site is in a sparcely populated area of Suffolk County at the east end of Long Island. The nearest population concentration is the Village of Montauk.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	New

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A. $10^{-6} - 10^{-8}$ cm/sec ☐ B. $10^{-4} - 10^{-6}$ cm/sec ☐ C. $10^{-4} - 10^{-3}$ cm/sec ☒ D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one) Unknown

☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☐ B. RELATIVELY IMPERMEABLE ($10^{-4} - 10^{-6}$ cm/sec) ☐ C. RELATIVELY PERMEABLE ($10^{-2} - 10^{-4}$ cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
~1,300 (ft)	Unknown (ft)	4.8

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
12 (in)	2.5-3.0 (in)	0-45 %	N	7 %

09 FLOOD POTENTIAL

SITE IS IN None YEAR FLOODPLAIN

10 ☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum) None

ESTUARINE: A. _____ (mi)

OTHER: B. _____ (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species) None (mi)

ENDANGERED SPECIES: _____

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AG LAND
A. 0.06 (mi)	B. 0.1 (mi)	C. None (mi)	D. None (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

The site is approximately 150 feet above sea level, north of the Montauk State Parkway and south of the Long Island Railroad. The site was a sand mine prior to use as a dump with the result that the fill site is excavated below grade on all but the north side. Site slope is from 0-45 percent. The intervening slope to Fort Pond Bay, the nearest surface water, is 7 percent northward.

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

EA Site inspection
Section 4.2 and 4.3
USGS. 1956. 7.5-Minute series Topographic Map. Montauk Point Quad.
LIRPB. 1982. Quantification and Analysis of Land Use for Nassau and Suffolk Counties.
LIRPB. 1985. Population Survey. 1985: Current Population Estimates for Nassau and Suffolk Counties. Hauppauge, NY.
U.S.Dept. of Interior Geological Survey. 1967. Map of Flood-Prone Areas. 7.5-Minute Series. Montauk Point Quad.
Ozard, J. 1986. NYSDEC. Personal Communications. 6 March

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	New

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
Organic: Volatiles	Measured with a photoionization-detection device; no levels above background were detected.
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)

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

EA Site Inspection.

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	New

II. CURRENT OWNER(S)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
Town of East Hampton		159 Pantigo Road		East Hampton	NY	11937

PARENT COMPANY *(If applicable)*

08 NAME	09 D+B NUMBER	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE	12 CITY	13 STATE	14 ZIP CODE

III. PREVIOUS OWNER(S) *(List most recent first)*

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

IV. REALTY OWNER(S) *(If applicable; list most recent first)*

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

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

Town of East Hampton Sanitation Department

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	New

II. CURRENT OPERATOR (Provide if different from owner)

01 NAME	02 D+B NUMBER
Town of East Hampton	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
159 Pantigo Road	

05 CITY	06 STATE	07 ZIP CODE
East Hampton	NY	11937

08 YEARS OF OPERATION	09 NAME OF OWNER
1963-present	Town of East Hampton

OPERATOR'S PARENT COMPANY (If applicable)

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

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

Town of East Hampton Sanitation Department.

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	New

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
None	
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
Town of East Hampton			
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)

Town of East Hampton Sanitation Department.

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	New

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	02 SITE NUMBER
NY	New

II PAST RESPONSE ACTIVITIES (Continued) None

01 ☐ R. BARRIER WALLS CONSTRUCTED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ S. CAPPING/COVERING 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ T. BULK TANKAGE REPAIRED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ U. GROUT CURTAIN CONSTRUCTED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ V. BOTTOM SEALED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ W. GAS CONTROL 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ X. FIRE CONTROL 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ Y. LEACHATE TREATMENT 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ Z. AREA EVACUATED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ 1. ACCESS TO SITE RESTRICTED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ 2. POPULATION RELOCATED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ 3. OTHER REMEDIAL ACTIVITIES 04 DESCRIPTION	02 DATE	03 AGENCY

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

Section 3.

EPA

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

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

II. ENFORCEMENT INFORMATION None

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, reports)*

Section 3.

6. ASSESSMENT OF DATA ADEQUACY AND RECOMMENDATIONS

6.1 ADEQUACY OF EXISTING DATA

The available data are considered insufficient to prepare a final HRS score for this site. There is no documentation of hazardous waste disposal and no records available related to specific waste types or quantities. Also, ground-water quality data are lacking for the full Hazardous Substance List (HSL) of parameters. Although trace amounts of lead, iron, phenol, and arsenic have been detected at concentrations slightly above the NYS Class GA Ground-water Standards in ground-water samples collected downgradient of the site, no samples were collected upgradient of the site for comparison with ambient conditions. Thus a release of contaminants from the site cannot be documented.

6.2 RECOMMENDATIONS

In order to prepare a final HRS score for this site, complete analytical data regarding the quality of the ground water will be necessary, thus requiring performance of a Phase II investigation. The proposed Phase II study would include the installation of 4 test borings/observation wells, and the collection and analysis of ground-water samples.

6.3 PHASE II WORK PLAN

6.3.1 Task 1 - Mobilization and Site Reconnaissance

Project mobilization includes review of the Phase I report and updating the site data base with any new information made available since completion of the Phase I report. Based on that review, a draft scope of work for this site will be agreed to and a project schedule developed. At this time, a draft Quality Assurance/Quality Control (QA/QC) document will be prepared in accordance with the most up-to-date NYSDEC guidelines.

Site reconnaissance will be performed to examine general site access for Phase II studies. Site reconnaissance will familiarize key project personnel with the site, enable the project geologists to evaluate potential boring/well locations, and enable the project Health and Safety Officer to develop specific health and safety requirements for the field activities. Emergency, fire, and hospital services will be identified. Standard practice during site reconnaissance is an air survey with a photoionization detector (HNU or similar instrument). The air survey would be performed around the site perimeter and throughout the site for safety purposes. Detection of releases to air during site reconnaissance may warrant further confirmation studies. Based on the Phase I study, it is expected that field activities will require only Level D health and safety protective measures.

6.3.2 Task 2 - Geophysics

Multidepth EM and earth resistivity surveying will be performed around the site area perimeter to evaluate the potential presence of ground-water contaminant plumes and stratigraphic conditions. The number of stations and value of depth settings will be determined on the basis of field conditions. Results of the geophysics will be used to refine the specifications for locations, depths, and number of observation wells to be installed.

6.3.3 Task 3 - Preparation of Final Sampling Plan

All data collected during Tasks 1 and 2 will be evaluated to finalize sampling and boring/well locations. The final sampling plan will be developed and submitted to NYSDEC for approval. The plan will include final sampling locations, boring and well specifications, and reference pertinent portions of the QA/QC Plan. A final budget will be developed to complete the drilling and sampling program.

6.3.4 Task 4 - Test Borings and Observation Wells

Because there are hundreds of feet of unconsolidated sediment underlying the site, EA recommends that the subsurface investigation be confined, at this time, to the water table aquifer to confirm if ground-water contamination related to the site is present. If ground-water contamination is detected, then the investigations could be expanded to include the installation and sampling of monitoring wells completed to greater depths. Based upon currently

available information, EA recommends the installation of 4 test borings/ observation wells. This work would be performed under the fulltime supervision of a geologist. It is anticipated that the hollow-stem auger drilling method, or perhaps rotary wash drilling, will be used. Prior to the drilling of each boring/well, and at the completion of the last boring/well, the drilling equipment which comes in contact with subsurface materials will be steam-cleaned, as well as the split-spoon sampler after obtaining each sample. Soil sampling will be performed using a split-spoon sampler at approximately 5-ft intervals and at detected major stratigraphic changes. An HNU, or similar instrument, would be used to monitor the potential organic vapors emitted during drilling operations and from each soil sample. Samples of major soil/unconsolidated sediments will be collected for grain-size and/or Atterburg Limits analysis.

It is anticipated that the wells to be installed at this site will be completed in the unconsolidated sediment, approximately 10-20 ft below the ground-water table. Standard construction of such a well would include 10-20 ft of 2-in. diameter threaded-joint PVC screen and an appropriate length of PVC riser with a bottom plug cap, sand pack, bentonite seal, and protective surficial steel casing with a locking cap.

Upon completion and development of the wells by air surging/pumping, the vertical elevation of the upper rim of each well casing and the horizontal location will be surveyed in order to aid in evaluation of the ground-water flow direction. Depending upon the yield of each Phase II well, a short-term, low-yield pumping test will be performed in each well.

For cost estimating purposes, it is assumed that:

a. The depth of each of the 3 downgradient monitoring wells will be 110 ft below ground surface. The depth of the upgradient monitoring well will be 170 ft below grade.

b. The 4 wells will require 25 mandays to install, develop, and test.

c. All drill sites are accessible by truck-mounted drilling rigs as determined by the driller.

d. There are no excessive amounts of cobbles/boulders which would increase drilling time.

e. Steam-cleaning of drilling/sampling equipment will be performed at each boring/well location. The fluids will be discharged to ground surface.

f. All drill cuttings, fluids, and development water will be left on, or discharged to, the ground surface in the immediate area of the activity.

g. That permission from appropriate land owners to drill borings/wells on their property will be a simple process (expedited by the NYSDEC, if necessary) so that delays during field operations are not incurred.

6.3.5 Task 5 - Sampling

All sampling and analysis will be conducted in accordance with the project QA/QC Plan. The analytical program for every water and sediment sample will include the 130 organic and 25 inorganic parameters listed in Statement of Work No. 784, New York State Department of Environmental Conservation Superfund and Contract Laboratory Protocol, January 1985. Also, all additional non-priority pollutant GC/MS major peaks will be identified and quantified. Major peaks will be considered as those whose area is 10 percent or greater than the calibrating standard(s). Based upon the currently available information, collection and analysis of the following numbers and types of samples is recommended:

4 Ground-water samples (one from each Phase II well).

6.3.6 Task 6 - Contamination Assessment

EA will evaluate the data obtained during the records search and field investigation: prepare final HRS scores and documentation forms; complete EPA Form 2070-13; summarize site history, site characteristics, available sampling and analysis data; and determine the adequacy of the existing data to confirm release, and if there is a population at risk.

6.3.7 Task 7 - Remedial Cost Estimate

EA will evaluate remedial alternatives for the site and develop a list of potential options given the information available on the nature and extent of contamination. Approximate cost estimates for the selected potential remedial options will be computed. This work is not intended to be, or a substitute for, a formal cost effectiveness analysis of potential remedial actions.

6.3.8 Task 8 - Final Phase II Report

In accordance with current (January 1985) NYSDEC guidelines, the Phase II report will include:

a. The results of the Phase II investigation, complete with boring logs, photos, and sketches developed as part of the Phase II field work.

b. Final HRS scores with detailed documentation.

c. Selected potential remedial alternatives and associated cost estimates.

In addition to the final Phase II report, the following raw data and resulting reduction would be provided to NYSDEC:

a. geophysical

b. well logs

c. all sampling forms and data

d. all analytical data

e. chain-of-custody forms

f. other pertinent collected information.

6.3.9 Task 9 - Project Management/Quality Assurance

A Project Manager will be responsible for the supervision, direction, and review of the project activities on a day-to-day basis. A Quality Assurance Officer will ensure that the QA/QC Program protocols are maintained and that the resultant analytical data are accurate.

6.4 PHASE II COST ESTIMATE

Based on the scope of work and assumptions described above, the estimated costs to complete the Phase II investigation of the Montauk Landfill site are as follows:

Consultant Costs (including labor, direct costs, fee)	$ 50,000
Drilling Contractor	68,000
Laboratory	9,200
Total	$127,200

Appendix 1.1-1
p1 of 2

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID AND HAZARDOUS WASTE
INACTIVE HAZARDOUS WASTE DISPOSAL SITE REPORT

CLASSIFICATION CODE: 2a REGION: 1 SITE CODE: 152073

NAME OF SITE : Montauk Landfill
STREET ADDRESS:
TOWN/CITY: Montauk
COUNTY: Suffolk
ZIP: 11968

SITE TYPE: Open Dump- Structure- Lagoon- Landfill-X Treatment Pond-
ESTIMATED SIZE: 30 Acres

SITE OWNER/OPERATOR INFORMATION:
CURRENT OWNER NAME....: Town of East Hampton
CURRENT OWNER ADDRESS.: 159 Pantigo Rd, East Hampton, NY 11968
OWNER(S) DURING USE...: Town of East Hampton
OPERATOR DURING USE...: Town of East Hampton
OPERATOR ADDRESS.....: 159 Pantigo Rd, East Hampton, NY 11937
PERIOD ASSOCIATED WITH HAZARDOUS WASTE: From To

SITE DESCRIPTION:
Active municipal landfill.

HAZARDOUS WASTE DISPOSED: Confirmed- Suspected -X

TYPE	QUANTITY (units)
Mixed municipal refuse	Unknown

NYDEC Bureau of Hazardous
Site Control

SITE CODE: 152073

ANALYTICAL DATA AVAILABLE:

Air- Surface Water- Groundwater-X Soil- Sediment- None-

CONTRAVENTION OF STANDARDS:

Groundwater- Drinking Water- Surface Water- Air-

LEGAL ACTION:

TYPE..: State- Federal-
STATUS: In Progress- Completed-

REMEDIAL ACTION:

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

GEOTECHNICAL INFORMATION:
SOIL TYPE:
GROUNDWATER DEPTH:

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Possible groundwater contamination

ASSESSMENT OF HEALTH PROBLEMS:

Insufficient information

PERSON(S) COMPLETING THIS FORM:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

NAME.: T. Sanford, P.E.
TITLE: Senior Sanitary Engineer

NAME.: R.A. Olazagasti.
TITLE: Solid Waste Mgmt.Spec.

DATE.: 01/24/85

NEW YORK STATE DEPARTMENT OF HEALTH

NAME.: Ronald Tramontano
TITLE: Bur. of Toxic Sub. Asses.

NAME.:
TITLE:

DATE.: 01/24/85

Appendix I.I-2

47-19-2 (5/77)
Formerly SW-7

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

APPLICATION FOR APPROVAL TO ~~CONSTRUCT~~ Operate A SOLID WASTE MANAGEMENT FACILITY

SEE APPLICATION INSTRUCTIONS ON REVERSE SIDE

FOR STATE USE ONLY

PROJECT NO.	DATE RECEIVED
52-5-08	2/14/79
DEPARTMENT ACTION ☐ Approved ☐ Disapproved	DATE

1. OWNER'S NAME	2. ADDRESS (Street, City, State, Zip Code)	3. Telephone No.
Town of East Hampton	159 Pantigo Road, East Hampton, NY 11937	(516)324-2620
4. OPERATOR'S NAME	**5. ADDRESS (Street, City, State, Zip Code)**	**6. Telephone No.**
Thomas Bennett, Foreman	159 Pantigo Road, East Hampton, NY 11937	(516)324-2620
ENGINEER'S NAME	**8. ADDRESS (Street, City, State, Zip Code)**	**9. Telephone No.**
Greenman-Pedersen, Associates,PC	100 West Main Street, Babylon, NY 11702	(516)587-5060

7b. ENGINEER'S N.Y.S. LICENSE NO.: 30488

10. TYPE OF PROJECT FACILITIES:
☐ Composting ☐ Transfer ☐ Shredding ☐ Baling ☒ Sanitary Landfill ☐ Incineration
☐ Pyrolysis ☐ Resource Recovery-Energy ☐ Resource Recovery-Materials ☐ Other _____

11. Briefly describe the project including the basic process and major components: Montauk Landfill - This is the sole facility for solid wastes in the eastern section of the Town, east of Hither Hills Park. The site receives approximately 7,000 TPY.

12. Describe location of facility. (Attach a USGS Topographic Map showing the exact location of the facility) The landfill is located 1.6 miles west of the hamlet of Montauk, north of the Montauk State Parkway in an undeveloped section of the Town.

13. County in which facility is located: Suffolk

14. Environmental Conservation Region in which facility is located: -1-

Municipalities Served by Facility	County	No. of Municipalities
Town of East Hampton	Suffolk	1

15. Describe briefly how the proposed facility relates to the Comprehensive Solid Waste Management Plan for the Municipality. Explain any deviation from that Plan. The Montauk Landfill was evaluated in the Town Comprehensive Plan, and is in conformance with that plan.

16. If the facility is other than a sanitary landfill, describe the residues in terms of quantities and types. Also indicate the methods and locations of residue disposal or, if recyclable, indicate markets:

N/A

17. If the facility is a sanitary landfill, provide the following information:
a. Total useable area – 25. Acres
b. Distance to nearest surface water – 3,000 Feet
c. Depth to nearest ground water – 120 Feet
d. Depth to nearest rock – N/A Feet
e. Distance to nearest airport – 3.8 miles
f. Expected life of site – 40 years
g. Is site on a flood plain? ☐ Yes _____ Year Flood ☒ No
h. Predominant type of soil on site: BhB, CpC, CpE (Use Unified Soil Classification System)

19. Anticipated construction starting and completion dates From	To	20. Estimated Population Served Current	Design
N/A		4,000	6,000
21. Estimated Cost Initial	**Annual**	**22. Estimated Daily Tonnages of Solid Waste Current**	**Design**
N/A		20	30

23. Operating Hours per Day: 8 - 8:00 AM - 4:30 PM

24. Are attached plans and specifications in substantial conformance with "Content Guidelines for Plans and Specifications"? ☒ Yes ☐ No

25. CERTIFICATION:
I hereby affirm under penalty of perjury that information provided on this form and attached statements and exhibits is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

8/23/79
Date

Larry Penfield, Councilman
Signature and Title

CENTRAL OFFICE COPY

Appendix 1.1-3
p1 of 2

VIEW ACKNOWLEDGEMENT FORM

Site Name: Montauk Landfill

I.D. Number: 152073

Person Contacted: Gene Garypie

Date: 20 January 1986

Title: Assistant Foreman

Affiliation: Town of East Hampton

Phone No.: (516) ~~268-5813~~ 668-5813

Address: Town of East Hampton Landfill
Panpigo Road
East Hampton, New York 11937

Persons Making Contact:
EA Representatives:

William Going
Ellen Bidwell

Type of Contact: In person

Interview Summary:

The Montauk Landfill began operation approximately 23 years ago in a large valley owned by the Town of East Hampton. Municipal garbage was dumped by Town residents and two local haulers. The garbage, consisting of residential, commercial, and light industrial material, was dumped in the southwestern portion of the site. The landfill grew vertically up and northward. Brush material is dumped north of the active face of the landfill, adjacent to a large sewage pit. The landfill has accepted raw septage since the operation began but intends to end this practice when the local sewage treatment plant is completed. A metal scrap pile sits northeast of the active face, and is periodically sold. The Town operates a sand mine along the eastern perimeter of the landfill, and material is sold as clean fill. There is a waste oil tank sitting above ground and adjacent to the scrap pile. This tank is emptied on a weekly basis.

Mr. Garypie indicated that there were several monitoring wells onsite, and they had been sampled periodically. He did not know of their location or who had analytical data, but he did inform us that the wells were no longer sampled as they were no longer sound (i.e., they had been buried and/or filled in).

Mr. Garypie informed us that nearby residences use private wells. The Village of East Hampton is served by a community well, but he was unaware of the location. The land has always been owned and used by the Town of East Hampton. Mr. Garypie did not know of any liner or surface water diversion system yet he had seen no evidence of leachate at the landfill. To the best of his knowledge, Mr. Garypie had never seen nor heard of any hazardous material being disposed of at the Montauk Landfill.

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: Eugene H. Huffman Jr. Date: 2-18-1986

Appendix 1.1-4

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

COMMUNICATIONS RECORD FORM

Distribution: ( ) Montauk L.F. , ( ) _____
( ) _____ , ( ) _____
( ) **Author**

Person Contacted: Stanley Stacoursky **Date:** 6-13-86

Phone Number: (516) 324-2199 **Title:** Landfill Foreman

Affiliation: Town of East Hampton **Type of Contact:** Phone

Address: Pantigo Road, East Hampton NY **Person Making Contact:** L Wilson

Communications Summary:

1) Oil waste is picked up by Scrapies Oil Recovery

2) The local trash haulers that deposited refuse at Montauk were; Volk and Leroy (Leroy is now owned by Volk)

3) Sewage was dumped by Crimo and Muller

4) The test wells were installed by the Town Suggested calling Mr. Tramp (267-8440) for any Data

(see over for additional space)

Signature: Larry Wilson

Appendix 1.1-5

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

COMMUNICATIONS RECORD FORM

Distribution: ( ) Montauk LF , ( ) _____
( ) _____ , ( ) _____
( ) **Author**

Person Contacted: Volk's Montauk Disposal Service **Date:** 6-16-86 6-13-86 6-12-86 6-16-86

Phone Number: (516)668-2203 **Title:** _____

Affiliation: _____ **Type of Contact:** _____

Address: Essex Rd. Montauk **Person Making Contact:** L. Wilson

Communications Summary: phone out of order, No Trash Service

(see over for additional space)

Signature: L. Wilson

Appendix 1.1-6

p1 of 2

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

COMMUNICATIONS RECORD FORM

Distribution: ( ) Montauk LF , ( ) _____
( ) _____ , ( ) _____
( ) Author

Person Contacted: Jim Pim, P.E. Date: 12/10/86

Phone Number: 516 451 4634 Title: Public Health San. - Director

Affiliation: SCDHS-Hazardous Mat. Mgt. Type of Contact: In person

Address: 15 Horseblock Rd Person Making Contact: Ligatus-Going
Farmingville NY 11738

Communications Summary: Site 152073
Jim's comments based on interview:
Site is also called "Hither Hills" L.F.
Probably did not receive hazardous waste
Pim's opinion was that Montauk LF should not be on Superfund List (per attached list).

(see over for additional space)

Signature: William L. Going

LANDFILL LOCATION MAP NOS. 1 & 2

INFORMATIONAL STATUS SHEET

A - Active
C - Closed
T - Transfer
B - Brush
S - Scavenge
L - Compost
W - Waste Oi
R - Resource Recovery

NO.	LOCATION	STATUS
1	Babylon - Gleam St., W. Babylon	A S
2	Huntington - Old Deposit Rd., E. Northport	A, R, W
3	Smithtown - Baler & Landfill, Old Northport Rd., Kings Park	A, R, W, B
4	Smithtown Landfill - Old Northport Rd., Kings Park	C
5	Islip - Sonja Rd., Deer Park	C S
6	Saltaire Incineration - Fire Island, NY	A
7	Fire Island Pines - Utilizing Barges	C
8	Montclair Avenue, Smithtown	C
9	S. Montclair Avenue, Rear Highway Dept.	C
10	Islip Landfill, Blydenburgh Rd., Hauppauge	A S
11	Islip Landfill, Lincoln Avenue, Sayville	A, B, W, R S
12	Brookhaven Landfill, Holtsville	C
13	Pine Road Ecology, Coram	A, L
14	Brookhaven Landfill, Horseblock Rd., Yaphank	A, B, R, W
15	Brookhaven National Laboratory	A
16	Brookhaven Landfill, Paper Mill Rd., Manorville	A, T, L S
17	Brookhaven Landfill, Yaphank Rd., Center Moriches	C
18	Riverhead Landfill, N/S Youngs Rd., Riverhead	C S
19	Riverhead Landfill, S/S Youngs Rd., Riverhead	A, R, N S
20	Eastport Landfill, Rte. 27, Eastport	C
21	Westhampton, Old Country Rd., Westhampton Beach	A, C, T, S
22	Westhampton Landfill, S. Country Road, Quogue	C S
23	Old Quogue Landfill, S. Country Road, Quogue	C
24	Hampton Bays, Jackson Ave., Hampton Bays	A, T, B, C
25	Southold Landfill, Sound Ave., Cutchogue	A, S, R, W
26	Old North Sea Landfill	C S
27	North Sea Landfill, Major Path	A, S
28	Shelter Island Landfill	A, R, S
29	Sag Harbor Landfill, Sag Harbor Tpke., Bridgehampton	A, B, T S
30	Bulls Path Landfill	A, B C
31	East Hampton Landfill, Springs, East Hampton	A, R, S
32	Hither Hills Landfill, Main Rd., Montauk	A, R, S
33	Fishers Island Landfill	A S

● Landfills which may have received hazardous wastes

Appendix 1.1-7
p1 of 3

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

COMMUNICATIONS RECORD FORM

Distribution: ( ) Montauk LF, ( ) _____
( ) _____, ( ) _____
( ) Author

Person Contacted: Joseph H. Baier, P.E. Date: 7-14-86

Phone Number: 5163482898 Title: Chief, Water Resources

Affiliation: SCDHS Type of Contact: Phone

Address: 225 Rabro Dr Person Making Contact: Going
Hauppauge NY 11788

Communications Summary: Site 152-073

Regarding the attached Memorandum (9-13-79) Town of East Hampton Landfills:

Mr Baier indicates that the statement on the second page regarding leachate and possible contamination of fresh groundwater --- means that SCDHS reading the Montauk landfill (like all landfills) is going to produce leachate and because it is in sand, the leachate is going to go to groundwater; and there was no specific data to suggest the leachate is hazardous or a product of hazardous waste.

(see over for additional space)

Signature: William Going

Received from:
Suffolk Co. Dept. of
Health

COUNTY OF SUFFOLK

DEPARTMENT OF HEALTH SERVICES

p 2 of 3

JK
J. maloney
JCM

MEMORANDUM

TO: Robert A. Villa, P.E.

FROM: Joseph H. Baier, P.E.

DATE: September 13, 1979

SUBJECT: LANDFILLS - TOWN OF EAST HAMPTON

The writer attended a meeting on 9/11/79 at the New York State Department of Environmental Conservation office along with the Town of East Hampton and the Town's Engineer (Greenman-Pedersen) regarding leachate monitoring included in Part 360 of the State Code.

Bull Path Landfill

1) The town will install a deep boring on the landfill site approximately 300 feet deep. Cores will be taken approximately every 20 feet; and when the hole is completed, the department will request the U.S. Geological Survey to perform a multi-point resistivity log. A monitoring well will be left in place.

2) A methane detection system will be installed on the perimeter of the landfill. The town will reimburse the department for materials used for the wells.

3) The town will ascertain the number of private wells downgradient of the landfill in the plume and attempt to sample each one. They will be in contact with the department's General Engineering Unit to determine age and depth of the wells.

4) The Town of East Hampton will be approached to institute regulations with regard to further development downgradient of the landfill. It is hoped that the deep boring will uncover a satisfactory source of fresh water below the plume which could be used for future development. Nevertheless, the town would have to require that special samplings and possibly deeper wells be installed for any further development in the path of the plume.

5) Additional monitoring wells will be needed, but they would be selected after the deep boring and private well samplings have been completed.

Fireplace Road Landfill

Similar requirements as for the Bull Path landfill (items 1-5) will be followed. More private wells are located around this landfill. In addition, there are two existing wells on site which will be tested to provide background water quality.

Montauk Landfill

This landfill appears to have approximately a 150-foot fresh-water lens below it--after which saltwater is encountered (3+ ft. ground-water elevation). The land in the direction of ground-water flow is vacant. It is quite possible that the entire fresh-water zone has been contaminated by leachate and, thus, it would be impossible to locate a satisfactory zone of fresh water in the area. It was recommended that:

1) No deep boring be installed.

2) The department well upgradient of the landfill be used for background water quality.

3) Two 75-foot deep (into ground water) monitoring wells be installed at the north face of the landfill.

4) The town will again be asked to place restriction on water supply development downgradient of this landfill. This would not preclude development such as: using the area for a parkland dedication; part of a subdivision utilizing cluster development and providing water from outside the plume; or providing public water supply if the area were developed.

The above recommendations appear to be acceptable to the Town of East Hampton. They are based upon the most current knowledge about the shape and movement of a leachate plume and ground-water dynamics--and with the sole purpose of protecting the ground-water resource and insuring that the consumer, whether public or private, will receive a satisfactory drinking water source.

JHB/jb JHB

cc H. W. Davids, P.E.
J. Maloney, P.E.
R. Markel, P.E.

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

COMMUNICATIONS RECORD FORM

Distribution: ( ) Montauk LF, ( ) _____
( ) _____, ( ) _____
( ) Author

Person Contacted: Larry Penny 8462 Date: 6-16-86

Phone Number: (516) 267-8440 Title: _____

Affiliation: Town of East Hampton Type of Contact: phone

Address: Pantigo Rd. East Hampton N.Y. Person Making Contact: L. Wilson

Communications Summary: Mr. Penny checked his file on the Montauk site. Found ground water data and will send a copy. Indicated the data shows no measurable pollution. The wells were installed by the Town of East Hampton and sampling was handled by the town. Will send copy of data. (Attached 7-14-86).

Verification call 7-26-86:
Mr Penny says 2 wells were installed in 1983 downgradient of the landfill, data from one well was obtained (attached) the other well was destroyed. The second well was also destroyed in 1984.

(see over for additional space)

Signature: L. Wilson

VOLUMETRIC TECHNIQUES, LTD.
317 BERNICE DRIVE
BAYPORT, NEW YORK 11705
516-472-4848

SANDER R. STERNIG
DIRECTOR OF LABORATORIES

SAMPLED BY Don Roberts
DATE:
COLLECTED 5/23/83
RECEIVED 5/23/83
COMPLETED 6/13/83
REPORTED BY

TO: Randall T. Parsons
Town of East Hampton
159 Pantigo Road
East Hampton, NY 11937

SAMPLE: Montauk Point Landfill

SAMPLE No. 83052307

PARAMETERS	RESULTS	PARAMETERS	RESULTS ppm (mg/l)*
pH	6.4	Calcium	23.66
	ppm (mg/l)*	Chemical Oxygen Demand	<3.0
Specific Gravity	1.000	Nickel	0.10
Total Dissolved Solids	217.0	Silver	0.03
Chloride	36.46	Zinc	<0.05
Barium	<0.2	Lead	0.06
Color Units	5	Phenol	0.004
Sodium	90.8	Total Coliform	<2.2 0/5
Selenium	<0.01	Hardness mg/l CaCO3	96.0
Arsenic	<0.01	Alkalinity mg/l CaCO3	54.0
Manganese	0.32	Acidity mg/l CaCO3	10.0
Cadmium	<0.01	Sulfate	0.4
Chromium Total	<0.01	Detergent	0.30
Copper	<0.05	Aluminum	0.15
Iron	0.60	BOD	327.0

*Unless otherwise noted

Comments:

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516-472-4848

SANDER R. STERNIG
DIRECTOR OF LABORATORIES

SAMPLED BY Laboratory
DATE:
COLLECTED 9-26-83
RECEIVED 9-26-83
COMPLETED 10-12-83
REPORTED BY

TO: Montauk Point
Randall T. Parsons
Town of East Hampton
159 Pantigo Road
East Hampton, N.Y. 11937

SAMPLE: Montauk Point	SAMPLE No. 83092604

PARAMETERS	RESULTS	PARAMETERS	RESULTS ppm (mg/l)*
pH	6.19	Lead	0.02
	ppm (mg/l)*	Arsenic	0.03
Color Units	5	Selinium	<0.01
Specific Gravity	0.980	Manganese	0.17
Total Dissolved Solids	187.0	Sodium	32.19
Chloride	32.9	Total Coliform	<2.2 0/5
Sulfate	6.0	Phenol	<0.001
Detergent	0.54	Chemical Oxygen Demand	<3.0
Cadmium	0.01	BOD	96.93
Chromium Total	<0.01	Alkalinity	110.0mg/lCaC
Copper	<0.05	Acidity	10.0mg/lCaC
Iron	0.76	Hardness	116.0mg/lCaC
Nickel	0.04	Barium	<0.2
Silver	<0.01	Calcium	21.3
Zinc	0.06	Aluminum	0.08

*Unless otherwise noted

Comments: Please note: Well containing rocks unable to determine at what level water is being taken out of, also unable to know how deep well actually is.

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BAYPORT, NEW YORK 11705
516-472-4848

SANDER R. STERNIG
DIRECTOR OF LABORATORIES

SAMPLED BY Dan Roberts
DATE:
COLLECTED 4/30/84
RECEIVED 4/30/84
COMPLETED 6/1/84
REPORTED BY

TO:
Town of East Hampton
159 Pantigo Road
East Hampton, N.Y. 11937

Att: Randall Parsons

SAMPLE:	SAMPLE No.
Montauk Point	84043014

PARAMETERS	RESULTS
pH	6.95
	ppm (mg/l)*
Cadmium	0.01
Chromium Total	0.01
Copper	0.05
Iron	0.07
Nickel	0.01
Silver	0.01
Zinc	0.05
Lead	0.01
Sulfate	1.0
Color Units	5
Phenol	0.001
Chloride	26.60
Detergent	0.17

PARAMETERS	RESULTS ppm (mg/l)*
Specific Gravity	1.000
Total Dissolved Solids	128.0
Manganese	0.14
Sodium	40.5
Aluminum	0.2
Acidity	5.0 mg/lCa Co
Alkalinity	50.0mg/l CaCo
Hardness	76.0mg/l CaCo
Barium	<0.2
Calcium	9.60
Arsenic	<0.01
Selinium	<0.01
BOD mg/l	6.88
Mercury	<0.001

*Unless otherwise noted

Comments:

p1of4

Appendix 1.1-9

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233

Robert F. Flack
Commissioner

Received from:
Suffolk Co. Dept. of Health

IDENTIFYING NO. 52-S-04

UNIFORM PROCEDURES
NOTICE OF COMPLETE APPLICATION
NON-MINOR PROJECTS
and
SEQR NEGATIVE DECLARATION

NAME OF APPLICANT:

TOWN OF EAST HAMPTON

DATE:

9/25/80

PERMIT(S) APPLIED FOR:

SOLID WASTE FACILITY OPERATION

APPLICATION NUMBER(S):

PROJECT TITLE:

MONTAUK LANDFILL

SEQR STATUS: Type I [X] Unlisted [ ] applicable threshold(s) 10 ACRES

DESCRIPTION OF ACTION:

Operate existing landfill by lining future 14 acres area and eventual capping of entire landfill.

LOCATION:

Town of EastHampton landfill located North of Montauk State Parkway, South of Long Island Railroad in Montauk.

(Attachment of a location map of appropriate scale is recommended)

The application is comp ete for purposes of commencing review. (If necessary, addit onal information may be requested from the applicant at a future date to process the application.)

A copy of the application(s) may be reviewed by the public at XXX this office or _____. Written comments on this project may be submitted to this office until October 22, 1980.

This project has been classified major. Accordingly, a decision will be made within 90 days. If it is necessary to conduct a public hearing on this application, the applicant will be notified of that decision within 60 days of this notice and the hearing will commence within 90 days of this notice. If a hearing is held, a final decision will be made within 60 days after the hearing record is complete.

The Department of Environmental Conservation has determined that pursuant to Part 617, the implementing regulations pertaining to the State Environmental Quality Review Act (SEQR):

(1)_____This project is unlisted: no other agencies are involved so DEC is automatically the lead agency. DEC has deemed that the project will not have a significant effect on the environment.

(2)_____This project is unlisted; other agencies may be involved but the optional coordinated procedures for designating lead agency and determining significance will not be followed. DEC has determined that the project will not have a significant effect on the environment.

(3)_____This project is unlisted; other agencies are involved and the optional coordinated procedures for designating lead agency have been followed. DEC, as the lead agency, has determined that the project will not have a significant effect on the environment.

(4) XXXX This project is listed as Type I. DEC, as lead agency, has determined that the project will not have a significant effect on the environment.

REASONS SUPPORTING THIS DETERMINATION:

(Attach additional sheets as needed)

FOR FURTHER INFORMATION:

Contact Person: Mr. Morris Bruckman
Address: NYSDEC - Bldg.#40, SUNY, Stony Brook, NY 11794
Telephone No.: (516) 751-7900 Ext. 237

REASONS SUPPORTING DETERMINATION

This is an extension of an existing landfill. This extension will be lined, and conditions will be imposed on the permit.

GENERAL COMMENTS

The Town of East Hampton is proceeding with resource recovery alternative via feasibility study. Future areas other than area needed for lead construction time for lining will be lined.

Details for upgrading the landfill to include leachate collection, treatment, groundwater monitoring, methane gas control, capping, drainage control and proper cover control will be addressed in the landfill upgrading plan.

The studying of resource recovery and hopefully eventual implementation while the landfill is upgraded is in accordance with 208 Study recommendation and regional policy.

PL/ef
9/25/80

Appendix 1.2-1

MONTAUK POINT, N. Y.

SW/4 MONTAUK 15' QUADRANGLE
N4100—W7152.5/7.5

1956

AMS 6666 III SW—SERIES V821

SCALE 1:24000

1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

FOR SALE BY U. S. GEOLOGICAL SURVEY, WASHINGTON, D. C. 20242
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

Appendix 1.3-1
1067

Availability of Fresh Ground Water Montauk Point Area Suffolk County Long Island, New York

By NATHANIEL M. PERLMUTTER *and* FRANK A. DeLUCA

RELATION OF SALT WATER TO FRESH GROUND WATER

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1613-B

Prepared in cooperation with the U.S. Air Force

UNITED STATES GOVERNMENT PRINTING OFFICE, WASHINGTON : 1963

Thirteen observation wells, 2 inches in diameter and ranging in depth from about 70 to 150 feet, were installed at nine sites (test well symbols, pl. 1). At four of these sites, pairs of shallow and deep wells were installed to observe heads at different depths in fresh and salt water. The wells were developed and pumped by compressed air with a gasoline-driven jet pump.

Water from four of the observation wells was analyzed for chemical content. About 100 analyses were made of the chloride content of water from the observation wells and pumping wells in the report area. A water-level measurement program, begun immediately after the construction of the observation wells, was continued through September 1961. Water-stage recorders were installed on several wells for periods ranging from a few days to several weeks. The altitude of measuring points on observation wells were related to mean sea level by spirit leveling, and a water-level contour map (pl. 1) was prepared.

Thirty-four active and abandoned wells were inventoried (table 3), and a brief examination was made of the surficial geology, particularly of the exposures in cliffs along the south shore.

PREVIOUS INVESTIGATIONS

The surficial geology of the Montauk Point area has been described briefly by Fuller (1914) in a report, which contains a geologic map of Long Island and a few sketches of outcrops at Montauk Point. As part of another island-wide study of the ground-water resources, Suter, deLaguna, and Perlmutter (1949) prepared contour maps showing the depth to the Cretaceous deposits and bedrock beneath Long Island, including the Montauk area. A report by Perlmutter and Crandell (1959, p. 1064) presents generalized sections of the southshore beaches of Long Island, which suggest the presence of salt water in the deep aquifers beneath Montauk Point. However, no detailed study of the water resources of the area had been made prior to the present investigation.

ACKNOWLEDGMENTS

The writers acknowledge the cooperation of the U.S. Army Corps of Engineers, who supplied large-scale maps and other engineering data on former Camp Hero; the New York State Water Resources Commission, which provided records of existing wells; land owners who gave permission to enter their property to measure and install observation wells; and several well drilling firms which provided advice in planning the construction of the observation wells. The close cooperation of military and civilian personnel at both the Suffolk County Air Force Base, Westhampton, N.Y., and the Montauk Air Force Station expedited the drilling of the test wells and the collection of hydrologic data.

GEOLOGY

The Montauk Point area is underlain by crystalline bedrock of Precambrian age upon which rest, in succession, unconsolidated deposits of Cretaceous, Pleistocene, and Recent age. As the bedrock and the Cretaceous formations are believed to contain salt water and are not penetrated by any wells in or near the project area, only a brief description of them, condensed from Suter, deLaguna, and Perlmutter (1949, p. 13–46 and pls. 10, 13), is given.

PRECAMBRIAN BEDROCK

The bedrock probably consists of gneiss and schist. Its surface is about 1,000 to 1,300 feet below sea level and slopes southeastward about 80 feet per mile. Very salty water is probably contained in openings along joints and other fractures in the rock. Because the bedrock has low permeability and contains only salty water, it is not considered an aquifer.

CRETACEOUS FORMATIONS

Immediately above the bedrock is the Raritan formation, which is about 300 to 400 feet thick. The Raritan is divided into a lower unit called the Lloyd Sand Member and an upper unit called the clay member. The Lloyd Sand Member is an artesian aquifer that contains fresh water in the western part of Long Island, but at Montauk Point it probably contains salty water only. The overlying clay member confines the water in the Lloyd.

The Raritan Formation is overlain by undifferentiated deposits of Cretaceous age that include the Magothy and probably several younger Cretaceous formations (Perlmutter and Crandall, 1959). These deposits contain permeable zones partly separated by lenticular beds of silt, sandy clay, and clay. The permeable zones probably could yield as much as 1,000 gpm to individual large wells, but the water is believed to be nearly as salty as the ocean. The Cretaceous surface in western Long Island is dissected by channels as deep as 300 to 500 feet below sea level. Similar deep channels probably exist beneath parts of the Montauk Point area, but the data are scanty as the deepest test well in the report area is terminated in glacial deposits at a depth of 130 feet below sea level.

PLEISTOCENE DEPOSITS

GENERAL CHARACTER AND STRATIGRAPHY

The Pleistocene deposits of Long Island are end products of the advance and melting of several ice sheets during the Pleistocene Epoch. Because of the complex geologic history of these deposits, which are important sources of ground water, a summary of the general character of glacial deposits and of the sequence of glacial units in Long Island is given below, followed by a description of the strata in the Montauk Point area.

Glacial deposits may be divided into two principal types: (1) till and (2) stratified drift. Till is predominantly composed of unsorted or poorly sorted deposits of boulders, gravel, sand, silt, and clay, dropped directly from melting ice. Till deposited as an irregular surficial mantle is called ground moraine. A ridge composed chiefly of till and marking the former front of an ice sheet is called an end moraine. Stratified drift is deposited by meltwater streams as outwash deposits, in lakes as glaciolacustrine deposits, and in the sea as glaciomarine deposits. Stratified drift is generally distinctly bedded and well graded, owing to the sorting action of the water from which it is deposited. The beds may range in texture from gravel to clay size, depending on the velocity of the water and the size of the source material. A detailed account of the origin and nature of glacial deposits is given in Flint (1957).

The lowermost formation of Pleistocene age on Long Island is the Jameco Gravel, a coarse-grained outwash deposit. Above the Jameco is the Gardiners Clay, a fossiliferous marine interglacial formation composed chiefly of beds of silt and clay. The beds above the Gardiners Clay consist of several sequences of outwash and till. Fuller (1914, p. 114–157) divided these units into the Jacob Sand and the Manhasset Formation. He subdivided the Manhasset Formation into two outwash members separated by a till member called the Montauk Till, after the type area at Montauk Point. According to Fuller, erosion of the Manhasset Formation was followed by deposition of more outwash and till during the last, or Wisconsin Stage of glaciation. The uppermost deposits of till were laid down as part of the Ronkonkoma end moraine, which forms the surface of most of the Montauk Point area.

Because of the difficulty in recognizing discrete units of till and outwash in many well logs and outcrops, the Geological Survey generally uses the informal name upper Pleistocene deposits for glacial deposits of post-Gardiners age. Although Fuller believed that the post-Gardiners deposits were partly Illinoian and partly Wisconsin in age, later workers, including Wells (1934, p. 121–122), and Mac-

Clintock and Richards (1936, p. 332), have suggested that they were laid down entirely during the Wisconsin Stage.

PLEISTOCENE STRATIGRAPHY OF THE MONTAUK POINT AREA

Because the evidence from generalized well logs and well samples was scanty and because not enough time was available to make a detailed examination of the lithology and structural features of the outcrops along the south shore, the glacial deposits in the report area were not correlated specifically with known Pleistocene formations but have been broadly divided into (1) a lower unit of stratified drift and (2) an upper unit consisting of undifferentiated deposits of till and stratified drift (pl. 2).

LOWER UNIT OF STRATIFIED DRIFT

The lower unit of stratified drift is composed chiefly of nonmarine grayish-brown medium to coarse sand and gravel and some thin lenses of clay and silt. It does not crop out, hence is known entirely from well logs and a few samples. A sample from a depth of 120–126 feet below land surface at well S17231 (pl. 1) consists chiefly of angular to subangular clear and iron-stained quartz (about 80 percent) and miscellaneous grains (about 20 percent), which include granite, gneiss, schist, and the minerals garnet, biotite, chlorite, and hornblende, and other dark minerals. Because of their high permeability, thickness, and extensive distribution, the beds of the lower unit comprise the principal aquifer in the report area (see "Ground Water").

UNDIFFERENTIATED DEPOSITS OF TILL AND STRATIFIED DRIFT

Immediately above the lower unit of stratified drift is an undifferentiated unit of varied lithology composed of interbedded deposits of till and stratified drift about 30 to 100 feet thick (see diagonally ruled area on pl. 2). Although not clearly discernible in plate 2, a study of the well logs and outcrops suggests that, in general, the lower 20 to 40 feet of the undifferentiated deposits consists of interbedded gray and brown clay, laminated green and gray silt and clay, and some thin lenses of fine brown sand (figs. 2, 3, pl. 2). Samples of micaceous silt from depths of 55–75 feet below land surface, near S19849, consisted chiefly of quartz, biotite, and muscovite. No forams or diatoms were found in the material. The middle part of the undifferentiated deposits is probably composed largely of gray and brown compact clayey and gravelly till, which grades laterally into fine-grained stratified drift in some places. Immediately above the compact till is generally stratified drift, which ranges in thickness from a featheredge to about 30 feet and is composed chiefly of beds and lenses of brown and gray silt, fine to medium sand, and clayey

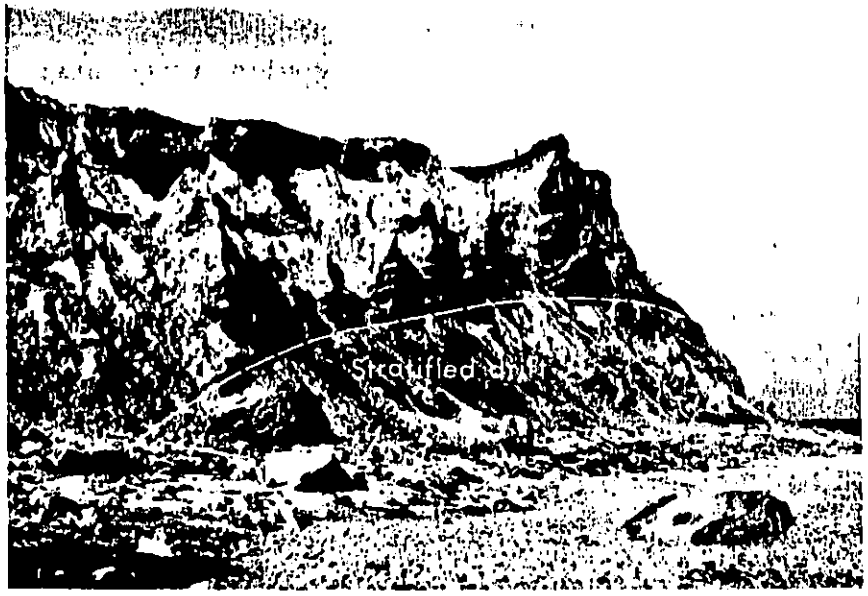


FIGURE 2.—Outcrop showing till above stratified drift composed chiefly of interbedded silt and clay, south side of Montauk Air Force Station. (Photograph by U.S. Geological Survey.)

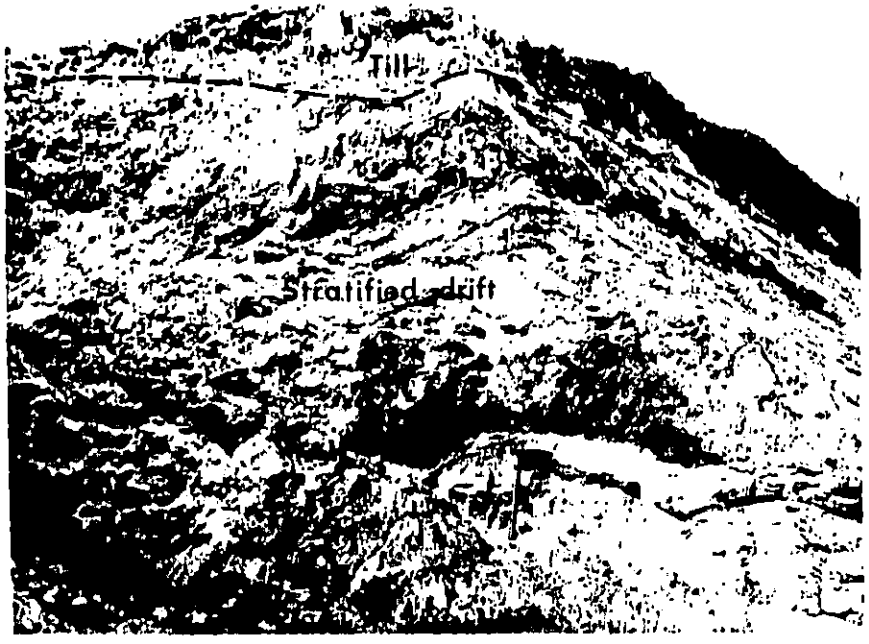


FIGURE 3.—Close-up view of till and underlying stratified drift composed chiefly of silt and clay, south side of Montauk Air Force Station. The trencher is lying against a lens

sand (fig. 4 and pl. 2). The uppermost part of the undifferentiated unit is generally a loose brown clayey till, about 5 to 20 feet thick, which contains some boulders. In some outcrops the intervening stratified drift is missing, and the upper till apparently rests directly on the lower till.

The till sheets and stratified drift, which crop out and are penetrated by wells in the report area, are probably correlative mostly with the upper Pleistocene deposits of western Long Island, but conceivably older Pleistocene units such as the Gardiners Clay and Jameco Gravel also may be present. Lohman (1939, p. 231–232) reports an assemblage of marine, brackish-water and fresh-water species of Pleistocene diatoms in a greenish-gray clay, reported to be the Gardiners, collected at an outcrop about half to three-quarters of a mile west of Montauk Lighthouse (pl. 1). The assemblage represents climatic conditions similar to or warmer than those of the present, which suggests an interglacial stage. As most of the species are living at present in the same region, Lohman concluded that the stage could not be named with the data on hand. It is not certain whether the clay examined by Lohman is correlative with the Gardiners Clay or "20-foot" clay found in western Long Island or neither. Additional field examination of the outcrops and more detailed laboratory study of samples are required before more specific correlations of the beds can be made.

FIGURE 4.—Outcrop showing stratified drift above till, south side of Montauk Air Force Station. (Photograph by U.S. Geological Survey.)

RECENT DEPOSITS

Thin deposits of sand, gravel, and boulders deposited in Recent time are distributed along the narrow beaches of Montauk Point. Large boulders and cobbles are most common on the southern and eastern shores (figs. 2 and 3). Sand and swamp deposits are more common along the low-lying north shore. Reddish lenses of garnet and ilmenite-rich sand can be seen in many places in beach deposits bordering the bluffs. The Recent deposits are uninmportant as aquifers because of their thinness, small intake area, and proximity to sea water.

GROUND WATER

SOURCE AND OCCURRENCE

The source of all fresh ground water in the report area is precipitation on the land surface, which averages about 48 inches annually. If all the precipitation were available for ground-water recharge, it would be equivalent to 2.3 million gallons per day per square mile. However, part is lost by direct evaporation from the soil and plants and from ponds and swamps that occupy numerous kettle holes; part is transpired by numerous trees and other forms of vegetation; part runs off to the sea in several small streams (pl. 1) whose discharge reaches a peak during and immediately after heavy precipitation; part is lost by seepage from cliffs along the south shore; and part percolates downward to replenish the ground-water reservoir.

Although no detailed studies have been made, general comparison of conditions at Montauk Point with those in western Long Island suggests that about 25 percent of the precipitation (12 inches, or about 570,000 gpd per sq mi) reaches the water table during a year of average precipitation. During years of above- or below-average precipitation, ground-water recharge is proportionately greater or lesser than average.

After seeping through the soil zone the water percolates downward through the pore spaces in the sand, gravel, silt, and clay to the main zone of saturation in the lower part of the undifferentiated deposits of till and stratified drift (pl. 2). The upper surface of the zone of saturation is called the water table. Scattered perched water bodies are found above the main water table, owing to lenses and beds of silt and clay, which retard downward movement of water. Some water in the upper part of the main zone of saturation moves to discharge areas at the shoreline, and some percolates slowly downward through confining beds of till, silt, and clay to the underlying principal aquifer. Water in the principal aquifer is under artesian pressure owing to the relatively low permeability of the overlying beds. The imaginary surface to which water in wells tapping the principal aquifer rises is

called the piezometric surface (pl. 1). Except for withdrawals through wells, most water in the principal aquifer discharges to the sea by upward seepage at and near the shoreline.

WATER IN THE UNDIFFERENTIATED DEPOSITS OF TILL AND STRATIFIED DRIFT

Undifferentiated deposits of till and stratified drift form the upper unit shown on plate 2. Owing to the poor sorting and clay content of the till and to the predominance of silt and sandy clay in the stratified part of the unit, the undifferentiated deposits probably cannot yield substantial amounts of water to individual wells in most parts of the area. Some water occurs in the undifferentiated deposits as perched water bodies above the main water table, and some is contained in minor permeable zones below the water table. The lower part of the undifferentiated unit consists chiefly of saturated deposits of till, silt, and clay, which serve mainly as confining beds for the underlying principal aquifer.

PERCHED WATER BODIES

Perched water bodies are generally small isolated bodies of water temporarily stored above the main water table in scattered lenses of permeable material underlain by clay and silt. During the drilling of most of the observation wells and during the foundation test borings for several structures at the Montauk Air Force Station, water was reported at depths ranging from about 5 to 25 feet below land surface, or about 35 to 100 feet above sea level. These altitudes, which are as much as 40 to 95 feet above the water level in the principal aquifer (pl. 1), are a strong indication of the existence of perched water bodies as they are too high to represent the main water table.

The fact that perched water is common was verified further by the history of test well S19486 in the northeast corner of the U.S. Military Reservation (pl. 1). Land surface at the well is about 70 feet above sea level. During the drilling of the auger hole for the well, the material from 0–8 feet was reported as dry; 8–16 feet as moist; and at 16 feet as a perched water zone of unknown thickness. A well driven in the auger hole to a depth of 65 feet below land surface remained dry for several months. To determine whether the well was plugged, it was filled with water, which seeped out through the screen in a few days. In March 1961 the well was driven about 12 feet deeper and penetrated the main zone of saturation between about 68 and 70 feet below land surface.

Perched water bodies may yield sufficient water for intermittent domestic use, but they generally are not dependable if large amounts are required for long periods. During months of low precipitation, wells tapping perched water-bearing zones may go dry, owing to the

large declines in water level in short periods of time, which are characteristic of these zones. An example of the large fluctuations which may be expected in perched water tables is given by the record of a test boring for a building near well S19495 in the center of the Montauk Air Force Station. When the boring was completed at a depth of 30 feet on November 22, 1955, the water level was 10 feet below land surface (about 50 feet above sea level). The water level declined during the next several days and by November 26 it was 23 feet below the land surface, a decline of 13 feet.

MINOR WATER-BEARING ZONES

Scattered minor water-bearing zones occur below the main water table in lenses of sand and gravel in the undifferentiated deposits of till and stratified drift. The location, thickness, extent, and continuity of these zones in most of the area is not apparent from present data. The upper limit of these zones is the main water table; the lower limit is unknown. As nearly all the wells terminate in the underlying principal aquifer, the altitude and configuration of the water table can only be estimated. Scanty data from test holes, drilled with a power auger, suggest that it may be as high as 10 to 17 feet above sea level in the central part of the area, about 16 feet above sea level in the southwestern part (S19500, table 3), and about at sea level at the shoreline. The water table is mainly in beds of silt, clay, and till, which are not suitable for development of large supplies.

In some shallow minor water-bearing zones, the water is under watertable, or unconfined, conditions; but at greater depths where these zones are overlain by thick beds of silt and clay, the water may be confined. Indirect evidence of the low yield of the minor water-bearing zones is the fact that all the active wells, including those constructed for domestic use, were drilled through these zones and completed in the principal aquifer. Two wells, S19500 and S1202, originally completed in the shallow beds were abandoned and replaced by wells screened in the principal aquifer. However, as the data are scanty and to make the maximum use of all available supplies, all future wells should be logged carefully and samples should be taken at 5-foot intervals to evaluate further the possible existence of productive zones at shallow depths.

CONFINING BEDS

The data shown on plate 2, and records of other wells not on the line of these sections, indicate that the lower part of the undifferentiated deposits consists chiefly of beds of silt, clay, sandy clay, and possibly some deposits of till. At several wells (for example, S17231, pl. 2) the confining beds are at least 20 to 30 feet thick, and at one

place they are about 65 feet thick (S1245, pl. 2). The effectiveness of these confining beds is confirmed hydraulically by the differences in head between the water table and the piezometric surface of the principal aquifer, which are estimated to be as much as 8 to 12 feet in the central part of the area. At well S19500 (26 feet deep) in the southwestern part of the area, the water table is about 16 feet above sea level, or about 13 feet above the piezometric surface (pl. 1). The barometric effects and the distinct tidal effects shown by the hydrographs (figs. 5 and 6) of wells which are as much as 0.4 mile from the shore and screened in the principal aquifer, is additional evidence of the wide extent and low permeability of the confining beds.

WATER IN THE LOWER UNIT OF STRATIFIED DRIFT

PRINCIPAL AQUIFER

The principal aquifer is in the lower unit of stratified drift shown in plate 2. The upper limit of the aquifer, which is the bottom of the overlying confining beds, ranges in altitude from about sea level to 40 feet below sea level. The lower limit, for purposes of this report, is set at the top of the zone of diffusion between fresh and salty water, which ranges in altitude from about sea level to 130 feet below sea level. The principal aquifer consists chiefly of beds of medium to very coarse sand and gravel, about 10 to 80 feet thick. Scattered thin lenses of silt and silty clay are interbedded in some places with the more permeable beds.

Water in the principal aquifer is replenished by slow downward leakage from the overlying confining beds. The amount and rate of leakage per unit area of confining beds probably is small owing to their low permeability; however, the leakage over a large area may be substantial. Water in the principal aquifer is under artesian pressure, but the head is not sufficient to cause wells to flow. The depth to the static water level in existing wells ranges from about 13 to 70 feet below land surface (table 3). The depth to water is greatest in the center of the area where the altitude of the land surface is highest, and is least at the shoreline.

The principal aquifer is the only source of fresh water tapped by active wells. Wells 8 to 10 inches in diameter and finished with screens 10 to 20 feet long yield as much as 150 gpm. Reported specific capacities of wells range from 4 to 11 gpm per foot of drawdown. The history of pumping at Montauk Air Force Station suggests that sustained pumping at rates of 50 gpm or more will probably induce salt-water encroachment laterally or from below in most of the area.

PIEZOMETRIC SURFACE

The imaginary surface to which water in wells tapping the principal aquifer will rise is called the piezometric surface. The piezometric surface responds to changes in pressure in the aquifer caused by tidal and barometric fluctuations and by variations in natural recharge and discharge, and pumping. Plate 1 shows contours on the piezometric surface for April 12, 1961. The surface generally mirrors the shape and, in a very subdued manner, the topographic profile of the Montauk peninsula, except for the cone of depression formed around the pumping wells at the Montauk Air Force Station. The cone was roughly circular and had a diameter of about 0.5 mile in 1961. Its diameter and depth varies with the duration and rate of pumping, as well as with changes in natural recharge and discharge. The maximum depth of the cone is unknown as no readings were obtained in the main supply well S17231.

The contours shown on plate 1 are based on the measurements of water levels made chiefly on April 12, 1961. The measurements were adjusted to a common tidal stage. A few, made on April 7 and 8, were adjusted by comparison of regional water-level trends, to conform with the April 12 measurements. The highest known points on the piezometric surface of April 12 were about 3.5 feet above sea level at well S19484 at the north side of the Montauk Air Force Station and at well S2150 in the western part of the project area. The lowest measured altitude was about 1.3 feet above sea level in well S3599 near Montauk Lighthouse. The altitude in the center of the cone of depression was not determined but probably was as low as several feet below sea level.

MOVEMENT OF FRESH WATER

The following description of movement of water applies chiefly to water in the principal aquifer as few or no data were collected on flow in the shallow minor water-bearing zones in the upper part of the main zone of saturation.

In general, ground water moves from points of high head to points of low head (that is, from areas of recharge to areas of discharge). Before the start of pumping at the Montauk Air Force Station, ground water in the principal aquifer probably moved radially away from a mound on the piezometric surface near the center of the Montauk Air Force Station. The mound may have been as much as 7 feet above sea level, according to estimates from drillers' records. As a result of relatively heavy intermittent pumping, a cone of depression has formed around supply well S17231 (pl. 1) at the Air Force Station. The arrows oriented perpendicular to the piezometric contours show the horizontal component of movement of the water

and indicate that a part of the flow which formerly discharged to the sea now moves inland toward the center of the cone of depression.

Plate 2 illustrates the pattern of movement in the vertical section. The arrows show that during pumping some fresh water and salt water move radially toward the screen of supply well S17231. The remainder of the fresh water moves toward discharge areas at and near the shoreline. Some mixes with salt water to form the zone of diffusion and ultimately discharges to the sea. (See "Salt-water encroachment.") The hydraulic gradient under which the fresh water is moving probably ranges from about 2 to 10 feet per mile in most of the area, but near pumping wells it is higher.

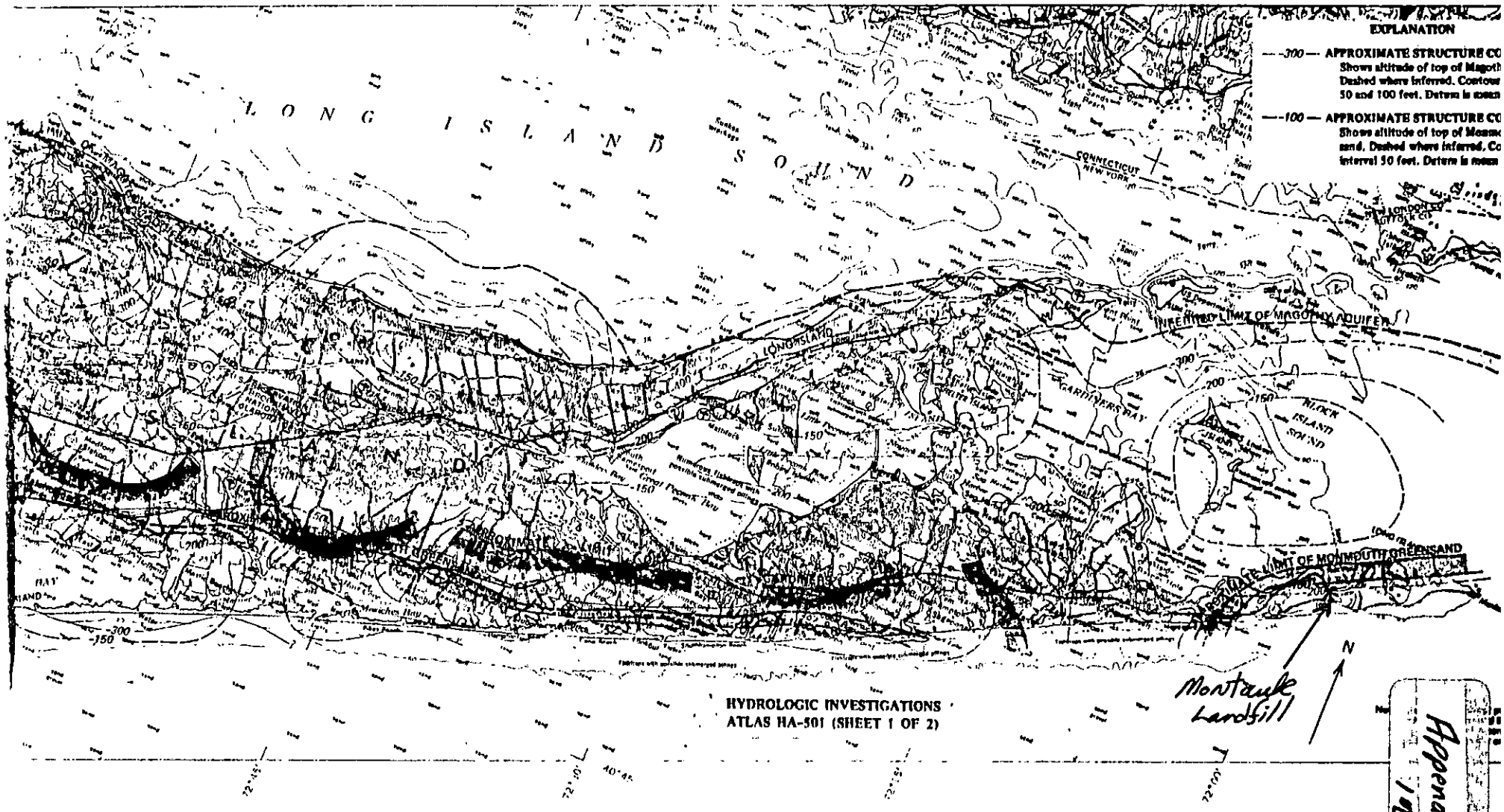
Measurements in the observation wells and continuous records from waterstage recorders show that the artesian heads in the principal aquifer are constantly changing, owing to tidal, barometric, and pumping effects. Although the altitude of the piezometric surface fluctuated a foot or two during the period of record, the shape remained about the same, and consequently the general pattern of movement of fresh water was approximately as shown on plates 1 and 2.

FLUCTUATIONS OF WATER LEVELS

Fluctuations of water levels in wells are the result of changes in the balance between recharge and discharge in aquifers. Analysis of both short- and long-term fluctuations provides important data on the hydraulic characteristics of an aquifer. For example, the altitude and character of the fluctuations of water levels in wells screened at different depths give evidence of hydraulic interconnection or of separation between aquifers and indicate whether the water in the aquifer is confined or unconfined.

SHORT-TERM FLUCTUATIONS

Minor and recurring fluctuations of water levels in the principal aquifer in the report area, are caused by transient influences such as changes in barometric pressure and oceanic tides. A rise in barometric pressure causes water levels in wells to decline; a decline in pressure causes water levels to rise. Tidal effects produced by the pull of the moon and the sun on the oceans cause pressure changes in both the fresh and salty ground-water bodies as illustrated by the water-level fluctuations shown on the hydrographs in figures 5 and 6. The magnitude of the fluctuations is due partly to the tidal efficiency and partly to the barometric efficiency of the well, which are related to the degree of confinement of the aquifer. Tidal effects diminish with increased distance from the shoreline. The hydrographs show typical pairs of high and low water levels in fresh-water wells produced chiefly by daily tidal changes in the Atlantic Ocean and Block Island



MAP SHOWING ALTITUDE OF TOP OF MAGOTHY AQUIFER AND MONMOUTH GREENSAND AND APPROXIMATE LIMIT OF THE GARDINERS CLAY

Prepared in cooperation with the
SUFFOLK COUNTY WATER AUTHORITY
and
SUFFOLK COUNTY DEPARTMENT OF ENVIRONMENTAL CONTROL

SCALE 1:250 000

5 0 5 10 15 20 25 MILES

5 0 5 10 15 20 25 30 35 KILOMETERS

CONTOUR INTERVALS 25, 50, AND 100 FEET
DATUM IS MEAN SEA LEVEL

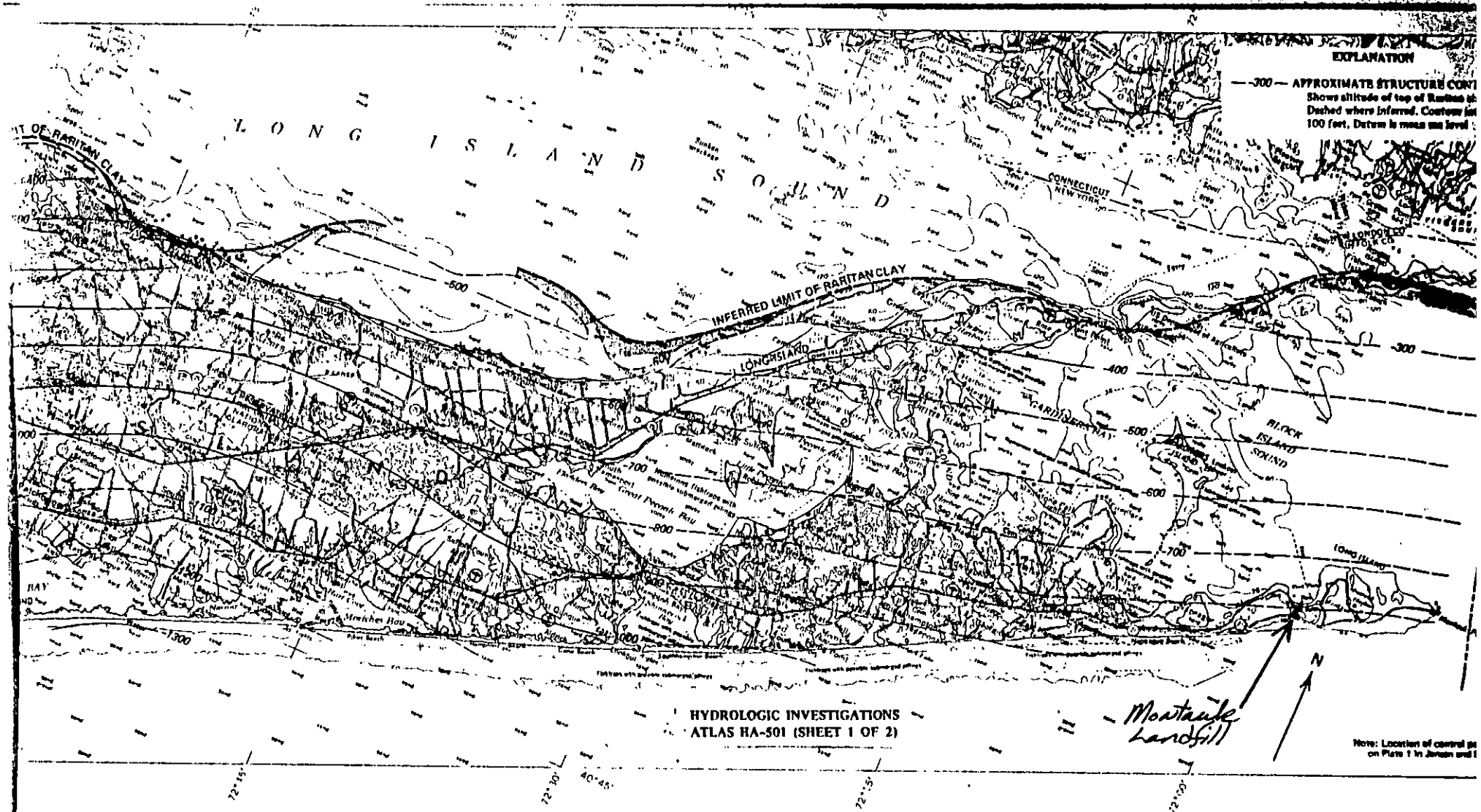
Appendix 1.3-2
1985

HYDROGEOLOGY OF SUFFOLK, COUNTY, LONG ISLAND, NEW YORK

By

H. M. Jensen and Julian Soren

1974



HYDROLOGIC INVESTIGATIONS
ATLAS HA-501 (SHEET 1 OF 2)

MAP SHOWING ALTITUDE OF TOP OF RARITAN CLAY

Prepared in cooperation with the
SUFFOLK COUNTY WATER AUTHORITY
and
SUFFOLK COUNTY DEPARTMENT OF ENVIRONMENTAL CONTROL

SCALE 1:250 000

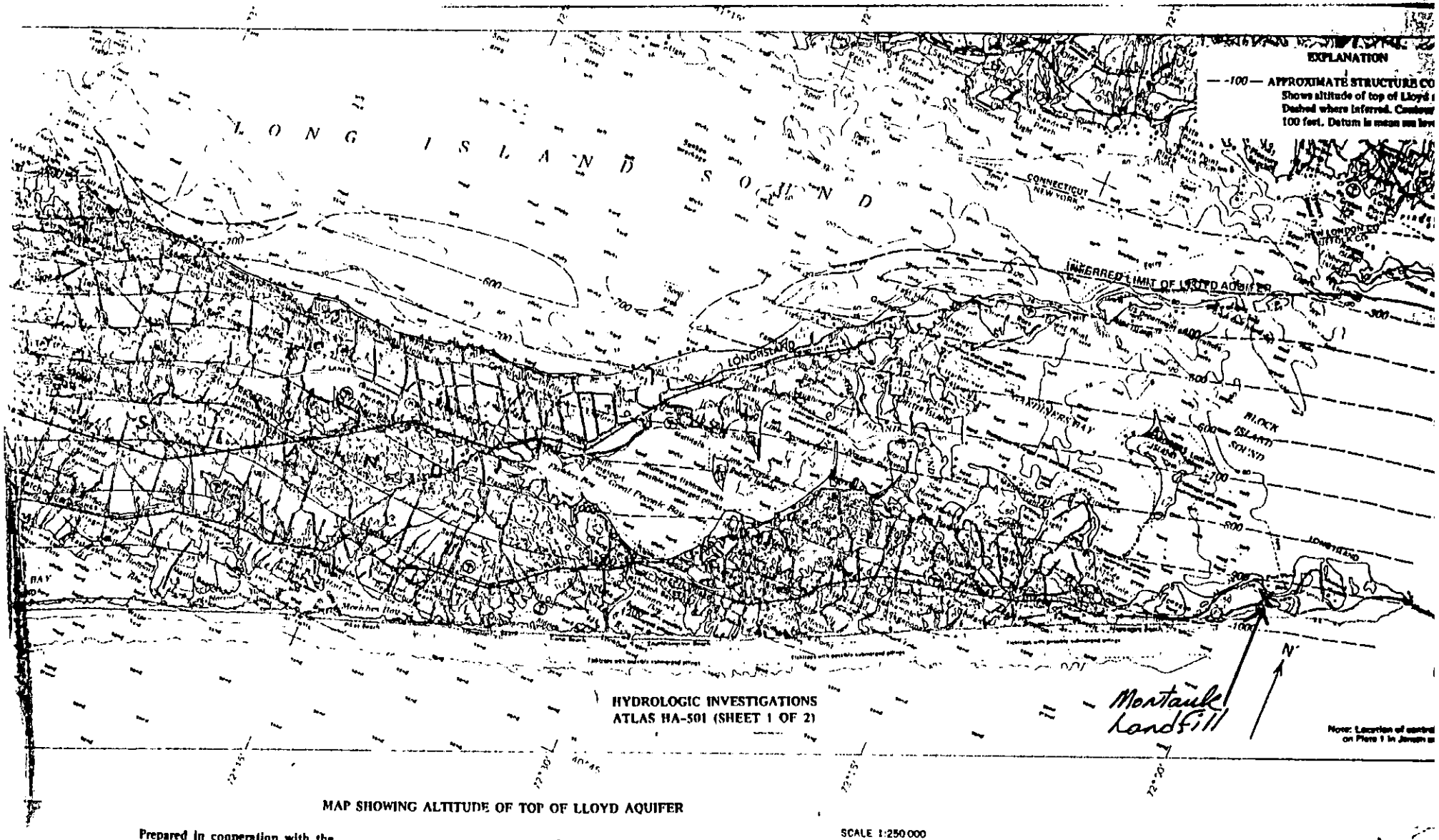
CONTOUR INTERVALS 25, 50, AND 100 FEET
DATUM IS MEAN SEA LEVEL

HYDROGEOLOGY OF SUFFOLK, COUNTY, LONG ISLAND, NEW YORK

By

H. M. Jensen and Julian Soren

1974



MAP SHOWING ALTITUDE OF TOP OF LLOYD AQUIFER

Prepared in cooperation with the
SUFFOLK COUNTY WATER AUTHORITY
and
SUFFOLK COUNTY DEPARTMENT OF ENVIRONMENTAL CONTROL

SCALE 1:250 000

5 0 5 10 15 20 25 MILES

5 0 5 10 15 20 25 30 35 KILOMETERS

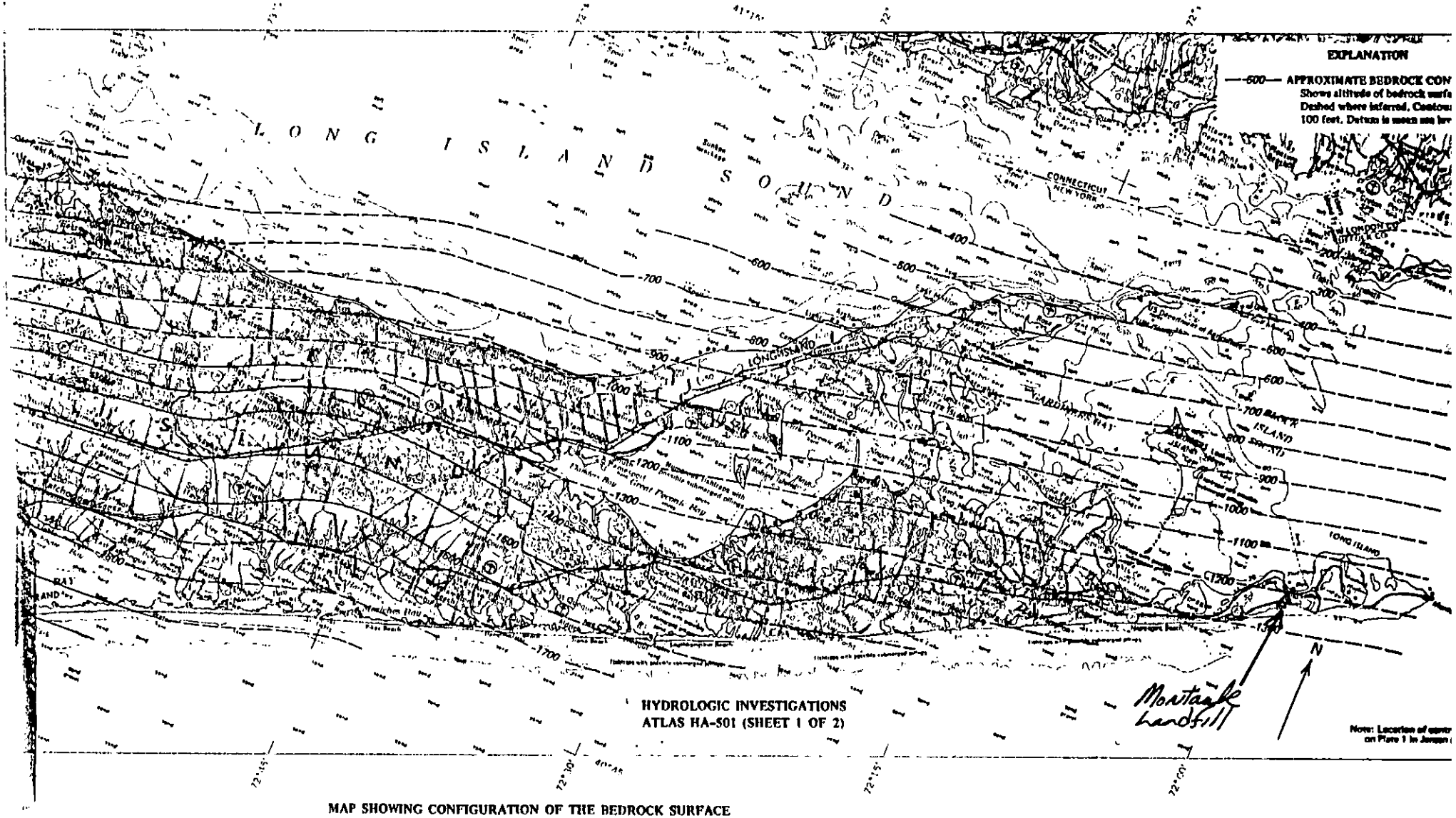
CONTOUR INTERVALS 25, 50, AND 100 FEET
DATUM IS MEAN SEA LEVEL

HYDROGEOLOGY OF SUFFOLK, COUNTY, LONG ISLAND, NEW YORK

By

H. M. Jensen and Julian Soren

1974



MAP SHOWING CONFIGURATION OF THE BEDROCK SURFACE

Prepared in cooperation with the
SUFFOLK COUNTY WATER AUTHORITY
and
SUFFOLK COUNTY DEPARTMENT OF ENVIRONMENTAL CONTROL

SCALE 1:250 000

5 0 5 10 15 20 25 MILES

5 0 5 10 15 20 25 30 35 KILOMETERS

CONTOUR INTERVALS 25, 50, AND 100 FEET
DATUM IS MEAN SEA LEVEL

HYDROGEOLOGY OF SUFFOLK, COUNTY, LONG ISLAND, NEW YORK

By

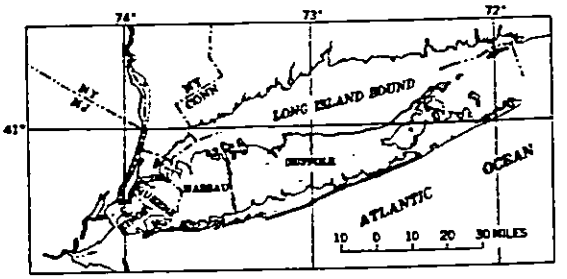
H. M. Jensen and Julian Soren

1974

INTRODUCTION

WATER NEEDS OF SUFFOLK COUNTY

Water pumped from aquifers underlying Suffolk County (index map) is the sole source of water used for public supply, agriculture, and industry. The county's population grew from less than 200,000 in 1940 to 1.1 million in 1970. Most of the growth occurred after 1950. Ground-water pumpage increased from 40 mgd (million gallons per day) in 1950 to 155 mgd in 1970 (New York State Department of Environmental Conservation, written commun., June 1, 1971). The projected ground-water use for an anticipated population of 2 million in the county by 1990 is 300 mgd (New York State Conservation Department, 1970, p. 26–27).



INDEX MAP SHOWING LOCATION (SHADED) OF SUFFOLK COUNTY

PURPOSE AND SCOPE

The large and growing demand for ground water in Suffolk County has created a need for a detailed knowledge of the geometry and the hydrologic characteristics of the ground-water reservoir. Mapping of subsurface geology and hydraulic heads in the aquifers are important prerequisites to obtaining this information. Maps of the subsurface geologic units of Long Island were first shown in a report by Suter and others (1949, pls. VIII to XXI). But those maps were highly generalized, because there were few data on deep borings and wells in the county when the report was prepared. Since 1949, additional data from many deep borings and wells in the county have been collected.

In 1968, as part of a continuing cooperative program of water-resources studies with the Suffolk County Water Authority and Suffolk County Department of Environmental Control, the U.S. Geological Survey began an updating of the hydrogeologic and hydrologic maps of all the county. The basic data in Jensen and Soren (1971), the first product of the program, are the basis for the hydrologic maps in this report.

ACKNOWLEDGMENTS

The authors appreciate the cooperation of well-drilling companies, their employees, and the many officials of public and private water companies who furnished geologic and hydrologic data for use in this report.

GEOLOGIC AND HYDROGEOLOGIC UNITS

Pleistocene glacial drift generally mantles the county's surface. Pleistocene deposits overlie unconsolidated deposits of Late Cretaceous age. The Cretaceous strata lie on a peneplain that was developed on Precambrian(?) crystalline rocks.

Major landforms include ridges, valleys, and plains. These landforms are roughly oriented in belts parallel to the county's length. The northern and the central parts are traversed by irregular sandy and gravelly ridges of terminal moraine. The crest of the northern ridge ranges in height from 100 to 300 feet above sea level and the crest of the central ridge from 150 to 400 feet. The highest altitudes in the inter-ridge area range from 100 to 200 feet. Irregular plains and rolling hills, formed from sandy and gravelly ground moraine and outwash deposits of sand and gravel lie in the area between the ridges. An outwash plain slopes at a near-uniform gradient from the southern base of the central ridge, which is about 100 feet above sea level, southward to Great South Bay and the ocean. Along the north shore, steep bluffs as high as 100 feet and generally narrow sandy and gravelly beaches face Long Island Sound. The barrier-bar system at the southernmost side of the county is composed of sandy beach and dune deposits. The highest altitudes of the barrier bars generally range from 10 to 45 feet.

The ground-water reservoir system of Suffolk County is composed of hydrogeologic units that include lenses and layers of clay, silt, clayey and silty sand, sand, and gravel. A hydrogeologic unit consists of a geologic unit or a group of contiguous geologic units classified by hydraulic characteristics. These units include aquifers, which are principal water sources, and confining layers, which separate the aquifers. The aquifers are, from the land surface downward, the upper glacial aquifer, the Magothy aquifer, and the Lloyd aquifer. The major areal confining layers are, in descending order, the Gardiners Clay, the Monmouth greensand, and the Raritan clay. The base of the ground-water reservoir is the crystalline bedrock. Characteristics of the geologic and the hydrogeologic units are summarized in the table, and the following data of hydrologic significance are shown on the maps: base of ground-water reservoir, altitudes of aquifers, altitudes and limits of confining layers, and distribution of surficial deposits. The hydrogeologic sections show the vertical relations of the units to each other.

The sharp angular shapes of some of the contours reflect the fact that in places the contours are drawn on stratigraphic tops of the hydrogeologic units and in places the contours are drawn on erosional surfaces. The sharp angles result from the juncture of a stratigraphic top and an eroded surface.

Appendix 1.3-3
10 of 5

ORIGINAL—TO COMMISSION

County Suffolk

N.S.A-C 3C 8

State of New York
Department of Conservation
Division of Water Resources

Well No. S-51275

LOG

Ground Surf., El.....ft. above

^
.....ft.
v
Top of Well

COMPLETION REPORT—LONG ISLAND WELL

Owner Suffolk County Water Authority

Address Sunrise Highway at Pond Road Oakdale, N.Y.

Location of well South Davis Ave. Montauk, N.Y.

Depth of well below surface 178 feet

Depth to ground water from surface 119'-11" feet

CASINGS:

Diameter	10 in.	in.	in.	in.
Length	154'-8" ft.	ft.	ft.	ft.

Sealing Lead Packer

Casings removed

SCREENS: Make Johnson Openings 25

Diameter	10 in.	in.	in.	in.
Length	20 ft.	ft.	ft.	ft.

Depth to top from top of casing 153'-8" ft.

PUMPING TEST: Date March 18, '74 Test or permanent pump? Test

Duration of Test ..... days 50 hours

Maximum Discharge 305 gallons per minute

Static level prior to test 119' ft. 11 in. below top of casing

Level during Max. Pumping 128 ft. 11 in. below top of casing

Maximum Drawdown 9 ft.

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

PUMP INSTALLED:

Type Sub Make ~~None~~ Layne Model No. BHC

Motive power Elec. Make Franklin H.P. 30

Capacity 300 g.p.m. against } ..... ft. of discharge head

No. bowls or stages 5 } ..... ft. of total head

Pump data submitted by driller 4.5 on 12/11/75

DROP LINE: None

SUCTION LINE: C.

Diameter	..... in.	..... in.
Length	135'5½" ft.	..... ft.

Method of Drilling (Rotary, cable tool, etc.) .....

Use of Water Public Supply 2/7/75

Work started February 21, 1974 Completed April 25, 1974

Date November 4, 1974 Driller Layne N.Y.

License No. 52 .5

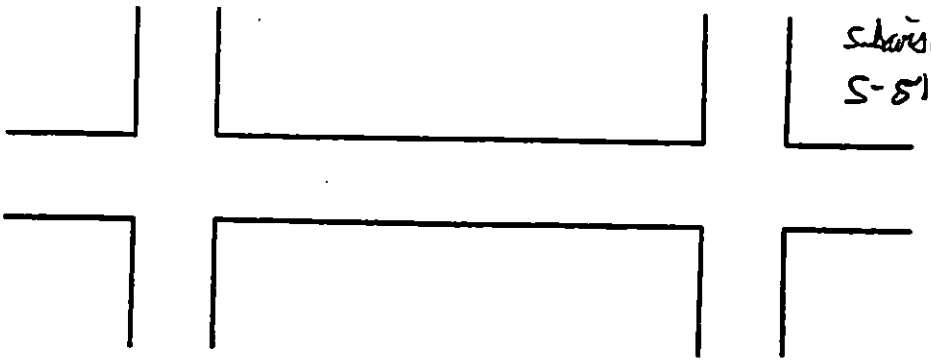
D. E. C. REGION 1
ENVIRONMENTAL ANALYSIS UNI
NOV 6 1974
RECEIVED

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.

285

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

0'-1' Top Soil
1'-10' Brown Sand with Gravel
10'-20' Brown Sand with Brown Clay with Large Gravel
20'-30' Fine Brown Sand with Large Gravel and Rocks
30'-40' Coarse Brown Sand with Grits and Gravel
40'-50' Coarse Brown Sand with Grits and Gravel
50'-60' Coarse to Fine Brown Sand with Grits and Gravel
60'-70' Coarse Brown Sand with Grits
70'-80' Coarse to Fine Brown Sand with Grits and Large Gravel
80'-90' Coarse Brown Sand
90'-100' Coarse to Fine Brown Sand
100'-101' Coarse to Fine Brown Sand
101'-110' Fine Brown Sand
110'-115' Fine Gray Sand with Gray Clay
115'-119' Brown Clay
119'-127' Gray Clay with Large Gravel
127'-131' Coarse to Fine Brown Sand with Large Gravel
131'-138' Brown Clay
138'-139' Coarse to Fine Brown Sand with Grits
139'-142' Coarse to Fine Brown Sand with Grits
142'-145' Coarse Brown Sand with Grits
145'-155' Brown Clay
155'-156' Grits with Gravel
156'-170' Coarse Brown Sand with Grits and Gravel
170'-175' Coarse to Fine Tan Sand with Grits and Gravel
175'-185' Coarse Tan Sand with Grits
185'-186' Coarse Tan Sand
186'-194' Coarse White Sand with Lignite
194'-196' Coarse White Sand

Suffolk
County

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
N.Y.S.A. - 7078

COMPLETION REPORT – LONG ISLAND WELL

385
S-70155
Well No.

OWNER: Suffolk County Water Authority
ADDRESS: Fond Road, Oakdale, N.Y.
LOCATION OF WELL: Montauk Pt. State Blvd. Montauk N.Y.

DEPTH OF WELL BELOW SURFACE	DEPTH TO GROUND WATER FROM SURFACE
243'-1¼" ft.	153'10½" ft.

CASINGS

DIAMETER	12" in.	in.	in.	in.
LENGTH	198-8" ft.	ft.	ft.	ft.

SEALING: None
CASINGS REMOVED:

SCREENS

MAKE	UOP Johnson 31655	OPENINGS	#20 slot
DIAMETER	12" in.	Nominal in.	DIA. in.	in.
LENGTH	40' ft.	ft.	ft.	REGUL ft.

DEPTH TO TOP FROM TOP OF CASING: 199'-8" (12" Packer at 196'-3")

PUMPING TEST

DATE	3/20/81	TEST OR PERMANENT PUMP?	Test
DURATION OF TEST	days 8 hours	MAXIMUM DISCHARGE	351 gallons per min.
STATIC LEVEL PRIOR TO TEST	153' ft. 10½" in. below top of casing	LEVEL DURING MAXIMUM PUMPING	159' ft. 10½" in. below top of casing
MAXIMUM DRAWDOWN	6 ft.	Approximate time of return to normal level after cessation of pumping	hrs. 5 min.

PUMP INSTALLED

TYPE: DWT	MAKE: Jacuzzi By Others	MODEL NO.: 8MC210
MOTIVE POWER: Elec	MAKE: US	H.P.: 25
CAPACITY: 300 g.p.m. against		ft. of discharge head
NUMBER BOWLS OR STAGES: 10		247 ft. of total head

DROP LINE	SUCTION LINE
DIAMETER: 6 in.	DIAMETER: 6 in.
LENGTH: 180 ft.	LENGTH: 2 ft.

METHOD OF DRILLING: ☐ rotary ☒ cable tool ☐ other
USE OF WATER: Public Supply
WORK STARTED: 11/27/80 7/13/81
COMPLETED: 3/27/81 7/20/81
DATE COMPLETED: 4/15/81
DRILLER: Benson Contracting Co. Strata Well Corp.
REGISTRATION NO.: 1000/497

* LOG
Ground Surface
El. _____ ft. above
A / V _____ ft.
TOP OF WELL

SEE ATTACHED

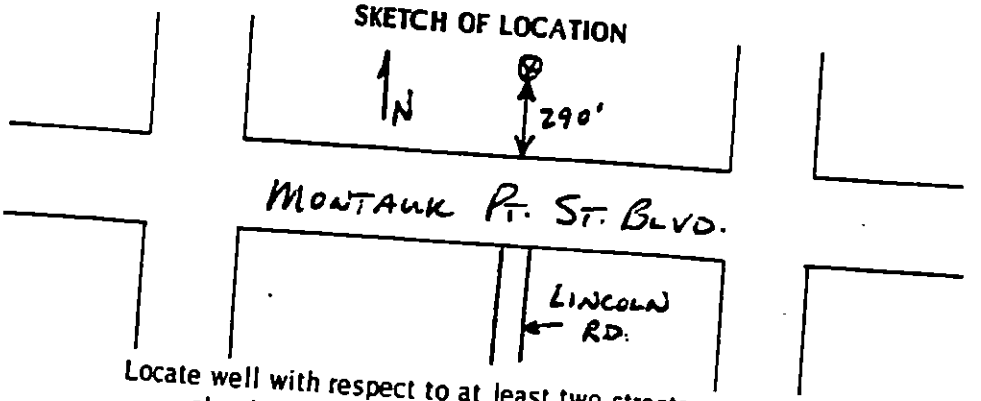
✓

Pump data submitted by Driller #497 on 6/2/82

***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' Certificates of Registration and Reports. Pages 5 - 7.

ORIGINAL – Environmental Conservation Copy

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

Check the Town in which the project is located:

Nassau County:

- ☐ Hempstead
- ☐ North Hempstead
- ☐ Oyster Bay

Suffolk County:

- ☐ Babylon
- ☐ Huntington
- ☐ Shelter Island
- ☐ Southold
- ☐ Brookhaven
- ☐ Islip
- ☐ Smithtown
- ☒ East Hampton
- ☐ Riverhead
- ☐ Southampton

STRATA WELL CORP.

585

2 Beech St.
ISLIP, N. Y. 11751
Phone 516 581-7100

WELL LOG

NAME SCWA - MONTAUK STATE BLVD #1

LOCATION MONTAUK STATE BLVD, MONTAUK W.R.C. WELL NO. S-70155

REFERENCE PT. GRADE S. W. L. 153'-10½"

DATE STARTED 11/27/80 COMPLETED 3/27/81 DRILLER ARCHER, RYBAK

SAMPLE No.	Actual Depth	Lgth	Blows	Formation	Thickness	Depth	Remarks
				TOPSOIL, LOAM CLAY & STONES	2'	2'	
				Lg STONES, COBBLES & BR SANDY CLAY	8'	10'	
				MED - CRSE BR SAND, GRIT, GRAVEL, STONES, SOME CLAY	4	14	
				MED - CRSE BR SAND, GRIT, GRAVEL, STONES	65	79	CLEAN
				MED - CRSE BR SAND, GRIT & GRAVEL	24	103	
				FI BR SILTY SANDY CLAY	35	138	DIRTY
				EMBEDDED GRAVEL IN CLAY, SOME SILT, STONES	25	163	
				FI - MED BR SAND, GRIT GRAVEL & STONES	53	216	
				MED BR SAND, GRIT, SOME GRAVEL	13	229	
				FI - MED CRSE BR SAND, GRIT, GRAVEL, STONES	5	234	
				LIGNITE, FI - MED GRAYISH SAND, GRIT, SOME GRAVEL, MICA	24	258	
				FI GRAY SILTY SAND, MICA, LIGNITE, SOME GRAVEL	10	268	
				FI - MED GRAY SAND, GRIT, SOME GRAVEL	10	278	CLEAN
				MED - CRSE BR SAND, GRIT, GRAVEL	3	281	CLEAN
				SILTY GRAY SAND (GREEN TINT)	29	310	
				SILTY & GRAY SANDY CLAY	10	320	

HOLE TERMINATED AT 320'

WORKSHEET: COMMUNITY WATER SUPPLIES AND MONITORING WELLS WITHIN A 3-mi RADIUS OF THE SITE Montauk Landfill

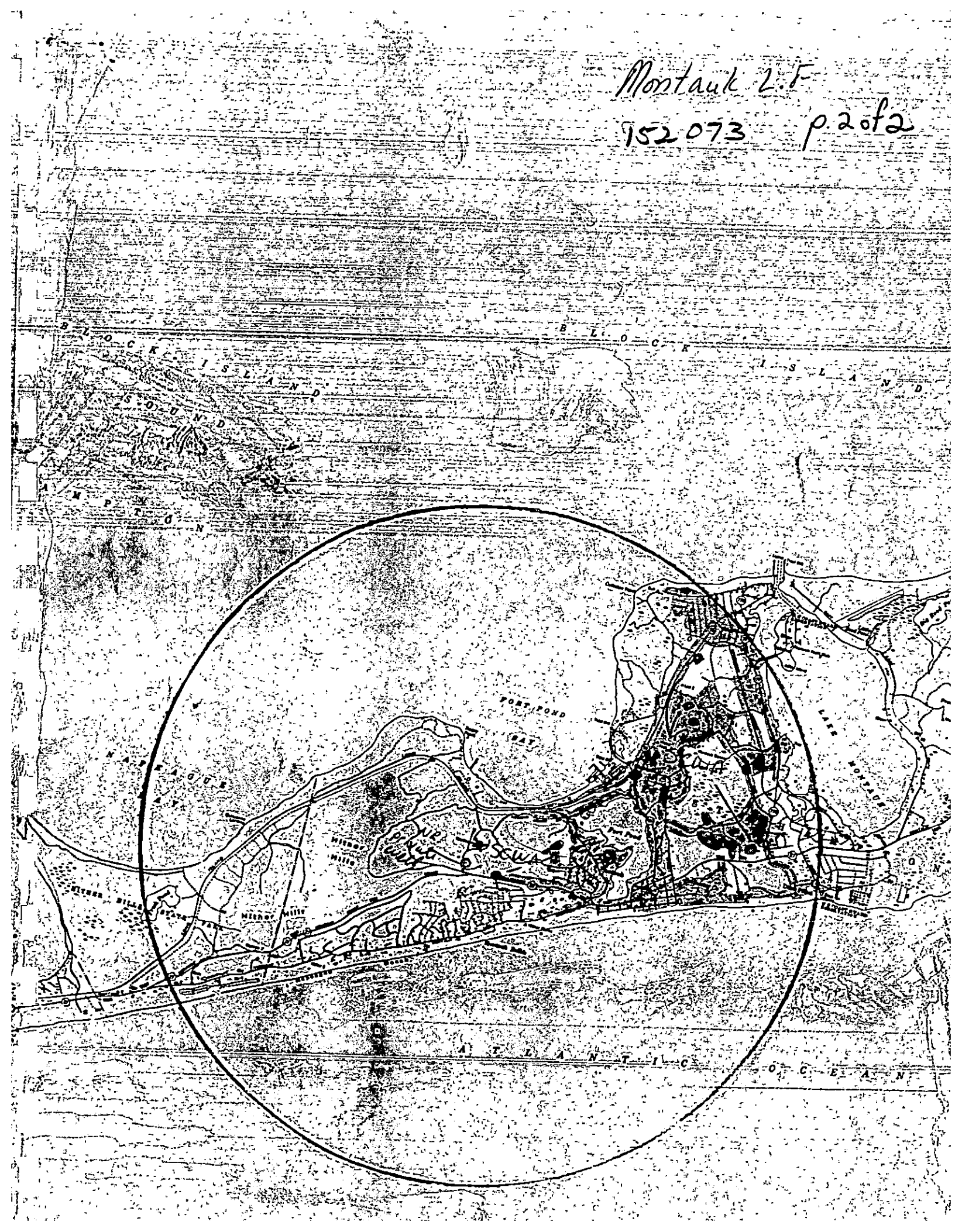
Community Water Supply	Water District	Well Field	Well	Depth (ft)	Aquifer
SCWA	East Hampton	Fairmont Ave	16S-18762	167	Glacial
		N. Flamingo Ave	1S-70008	135	Glacial
		Farrington Rd	18S-30208	175	Glacial
		Flamingo Ave.	10S-03615	111	Glacial
		S. Davis Ave	1S-51275	93	Glacial
		S. Fulton Dr.	1S-57357	178	Magothy (?)
		Montauk Pt. St. Blvd.	1S-70155	240	Glacial
		Flanders Rd.	17S-30207	177	Glacial
		Edgemere St.	1AS-51274	55	Glacial

Sources:

SCDHS. Water Resources Division. Supply and Monitoring Well Location Maps.
SCWA. 1984. Well Descriptions.
SCWA. 1985. Distribution System Plates.
SCWA. 1986. Active Services Estimates and Service Area Map.

Montauk 2.5-

152073 p. 2 of 2



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

Appendix 1.5-1

COMMUNICATIONS RECORD FORM

Distribution: ( ) Montauk L.F., ( ) _____
( ) _____, ( ) _____
( ) Author

Person Contacted: Mrs. Cameron **Date:** 23 June 1986

Phone Number: (516) 324-0959 **Title:** Customer Service Representative

Affiliation: Suffolk County Water Auth. **Type of Contact:** Telephone

Address: _____ **Person Making Contact:** E. Bidwell

_____

Communications Summary: Mrs. Cameron indicated that the East Hampton Water District actually consists of two distinct districts. The Montauk section has 1,690 services and uses water taken only from its portion of the district. The East Hampton section has 9,151 services and uses water taken only from its portion of the district.

(see over for additional space)

Signature: Evan Bidwell

(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: 152073

NAME OF SITE: Montauk Landfill REGION: 1

STREET ADDRESS: Montauk Highway

TOWN/CITY: East Hampton COUNTY: Suffolk

NAME OF CURRENT OWNER OF SITE: Town of East Hampton

ADDRESS OF CURRENT OWNER OF SITE: Pantigo Road, East Hampton, New York 11937

TYPE OF SITE: OPEN DUMP ☐ STRUCTURE ☐ LAGOON ☐

LANDFILL [X] TREATMENT POND ☐

ESTIMATED SIZE: 30 ACRES

SITE DESCRIPTION:

Household, municipal, septage wastes buried in sand mine excavation, covered daily. Site operated from 1963 until present.

HAZARDOUS WASTE DISPOSED: CONFIRMED ☐ SUSPECTED ☐

TYPE AND QUANTITY OF HAZARDOUS WASTES DISPOSED:

TYPE	QUANTITY (POUNDS, DRUMS, TONS, GALLONS)
None known	None known

TIME PERIOD SITE WAS USED FOR HAZARDOUS WASTE DISPOSAL:

_____, 19___ TO _____, 19___

OWNER(S) DURING PERIOD OF USE: Town of East Hampton

SITE OPERATOR DURING PERIOD OF USE: Same

ADDRESS OF SITE OPERATOR: Pantigo Road, East Hampton, New York 11937

ANALYTICAL DATA AVAILABLE: AIR ☐ SURFACE WATER ☐ GROUNDWATER ☒
SOIL ☐ SEDIMENT ☐ NONE ☐

CONTRAVENTION OF STANDARDS: GROUNDWATER ☐ DRINKING WATER ☐
SURFACE WATER ☐ AIR ☐

SOIL TYPE: Sand and sandy loam

DEPTH TO GROUNDWATER TABLE: 100 feet

LEGAL ACTION: TYPE: _____ STATE ☐ FEDERAL ☐
STATUS: IN PROGRESS ☐ COMPLETED ☐
REMEDIAL ACTION: PROPOSED ☐ UNDER DESIGN ☐
IN PROGRESS ☐ COMPLETED ☐

NATURE OF ACTION: _____

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

None known.

ASSESSMENT OF HEALTH PROBLEMS:

None known.

PERSON(S) COMPLETING THIS FORM:

FOR NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

NAME EA Science and Technology
TITLE _____
NAME _____
TITLE _____
DATE: 16 June 1986

NEW YORK STATE DEPARTMENT OF HEALTH

NAME _____
TITLE _____
NAME _____
TITLE _____
DATE: _____