ENVIRONMENTAL SITE ASSESSMENT
PROPERTY LOCATED AT
550 MAIN STREET
WESTBURY, NEW YORK

1-30-043

Prepared for:

ROYAL GUARD FENCE CO., INC.
550 MAIN STREET
WESTBURY, NEW YORK

Prepared by:

EEA, *Inc.*

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ROYAL GUARD FENCE CO., INC.
550 MAIN STREET
WESTBURY, NEW YORK
ENVIRONMENTAL SITE ASSESSMENT

I. INTRODUCTION

EEA, Inc. has undertaken a Phase I Environmental Site Assessment of the property at 550 Main Street, Westbury, New York. It is presently occupied by Royal Guard Fence Company, Inc.

The purpose of this investigation is the identification of significant environmental problems (concerning toxic and hazardous materials contamination) that might restrict property use or create financial liability for the current or future owners of the site. Conditions creating such liability can include regulatory non-compliance, past operations and disposal practices, spills, contamination from off-site sources, and impacts on sensitive off-site receptors. This Phase I Environmental Site Assessment investigates such potential sources of contamination in its evaluation of the property through a visual site inspection, historical research, and regulatory agency checks. The scope of work does not include testing of subsurface soils and groundwater, and therefore no definitive assessment of soil or groundwater contamination (should any exist) is made.

The recommendations stemming from the findings, if any, are summarized in Section II, below. The detailed description of audit findings is presented in Section III. The scope of work is outlined in Section IV. Copies of Freedom of Information Letters (FOILs) to agencies are attached as Appendix A. A copy of the June 1986 report titled Investigation of Contaminated Aquifer Segments - Nassau County, New York is attached as Appendix B.

II. CONCLUSIONS AND RECOMMENDATIONS

EEA's research into the history of site use indicates that there have been businesses/operations including the storage, use, or production of toxic and hazardous materials (i.e. gasoline, diesel fuel, oils (cutting, gear, motor, hydraulic, waste), transmission fluid, antifreeze, paints and paint products, and degreasing solvents) at the subject property within the time period investigated in this report.

There are three buried fuel storage tanks and an aboveground waste oil storage tank located on the subject property.

An active, underground, 4,000-gallon gasoline tank is located [illegible] the southeast corner of the subject property. This tank [illegible]sted on December 19 and 28, 1989, and failed both t[illegible]

tests. Repairs were made to the tank systems, and the 4,000-gallon gasoline tanks subsequently passed a tightness test on January 8, 1990.

An inactive, underground 2,000-gallon storage tank (once containing diesel fuel) is located on the subject property. This tank was last tested on December 19, 1989 and passed. This 2,000-gallon diesel storage tank was taken out of service and emptied of product on March 8, 1990. It should either be removed or permanently abandoned, as required by Article III of the Nassau County Fire Prevention Ordinance (see Section III.E.ii. and III.K.iv. of this report).

This buried 2,000-gallon storage tank was installed in 1974 to replace an existing 1,000-gallon underground fuel storage tank. The 2,000-gallon tank was placed in the same excavated hole from which the 1,000-gallon tank was removed. Documentation of work performed (i.e. noted observations, soil conditions or analysis, tank results) was not provided to EEA.

An active, underground 500-gallon fuel oil tank is located near the front of the subject building (along Main Street). No definitive statement can be made concerning the potential for soil contamination around this tank without tank tightness data.

Three on-site dry wells are located on accessible exterior paved storage and parking areas on the subject property. Two of these dry wells (closest to the subject building) were filled with water and appeared not to be draining properly, indicating possible blockage of these structures.

Sewage is currently discharged to the municipal sewage system. The building has been hooked up to this system since 1983, according to Mr. Guercia and Mr. Golik of Royal Guard Fence Co., Inc. Prior to connection to this sewer system, sewage was discharged to an on-site septic system (1954-1983). According to Mr. Guercia and Mr. Golik, this on-site septic system was filled in during its closure in 1983. It is not known if any samples were taken from this septic system to determine if any prior disposal of toxic or hazardous materials was made into it.

A hole with a small square plate covering it (approximately 7" x 7") was noted inside the 1st floor machine shop area of the subject building. This hole extended through the concrete foundation exposing soil beneath the building. It could not be determined upon inspection what purpose this hole serves or if it once served as an internal floor drain. No drainage plans for the original building were provided to EEA. Toxic and hazardous materials used or stored in this machine shop area could have entered this hole during accidents or sloppy housekeeping practices.

The subject business (Royal Guard Fence Co., Inc.) has occupied the subject building and property since 1963. Prior tenants of the original property and building included a milk company (warehouse and delivery facility), Clark Fork Lift (repair and servicing facility for forklifts), and a garage (possibly a vehicle maintenance and repair facility). A to Z Trailers used the vacant portion of the property for the storage of truck trailers, prior to Royal Guard Fence's acquisition of it in 1977.

The subject property was entirely paved and enclosed with fencing around 1978; open portions of the subject property were bare ground prior to paving. No definitive assessment can be made concerning potential past clandestine dumping on the unpaved property grounds prior to paving and enclosure in 1978 without specific subsurface sampling of the soils underlying the paved areas.

The subject property lies within the New Cassel Industrial Area, which has been designated as an Inactive Hazardous Waste Site by the New York State Department of Environmental Conservation (NYSDEC). This 170-acre area, which includes the subject property, will be the subject of testing during the next few years to determine the required remediation measures and responsible parties that will be financially liable for the clean up. There is the possibility that if all properties within the industrial area are assessed the cost, the owner of the subject property could have some future liability for the remediation of this area. The NYSDEC list of Potential Responsible Parties (PRPs) for the New Cassel area includes all of the owners of property within the boundaries of the site or defined by the Registry of Inactive Hazardous Waste Disposal Sites (see Sections III.K.ii.a. and III.K.ii.b. - New Cassel Industrial Area) and interrogatories have been sent to the PRPs. To date, the following parcels have been excluded from the site as a result of the petition process: Tax Map Section II, Block 328, Lots 144, 157, 167, 174, and 175 and Block 73, Lots 27-28 and 56-62.

EEA's Phase I site assessment found that there is
for property contamination from on-site sources.
definitive conclusions concerning the possible natu
such soil and groundwater contamination from on-s
made without testing or further investigat
whether or not the NYSDEC could be petitio
from the New Cassel Inactive Hazardous Wa
development of work plan and negotia
the NYSDEC to perform an investiga

The information obtained in th
the following recommendations sho
development of a work plan. Such a
negotiate with the NYSDEC regarding
testing. Such on-site testing would

potentially establish a basis for delisting Royal Guard Fence Co., Inc. as a PRP.

- A complete subsurface testing protocol should be undertaken on the subject property to determine if subsurface contamination exists. Sampling should include, but not be limited to, such areas as around or below the old septic system, on-site dry wells, 4,000-gallon buried gasoline tank and specific areas below the paved parking and storage areas of the subject property. If unacceptable levels of contamination are found in these areas upon testing, then further testing and/or excavation of contaminated soils may be necessary.

- Further assessment of the interior hole located within the subject building is needed to determine what purpose this hole serves, if it is an old drainage structure, and if it discharged to any on-site drainage structures. A sample of the soils at the bottom of this hole should be taken and analyzed to determine if there is any contaminations. Old building plans may be helpful in determining if this hole was once a drainage structure.

  If it is determined that this hole was or is an interior drainage structure, then this structure may be subject to federal and local permitting and closure requirements imposed by the U.S. Environmental Protection Agency (USEPA) Underground Injection Control Program (under the Safe Drinking Water Act (Sections 1421, 1422 40 CFR 144)).

- The inactive underground 2,000-gallon fuel storage tank must be either removed or permanently abandoned as required by Article III of the Nassau County Fire Prevention Ordinance. All work should be conducted in accordance with Nassau County Fire Marshall regulation

- Perform tank tightness tests on the 5[illegible] underground fuel oil tank. Tank tightnes[illegible] establish whether leaks have occurred, wil[illegible] integrity of the tank.

- Obtain a Department of Health Haza[illegible] Facility Permit (Nassau County Article XI registration). required when more than 2[illegible] materials, or more than[illegible] hazardous waste, are store[illegible] and waste degreasing solv[illegible] combined storage of petroleum gallons.

gure 1

- The outside aboveground 250-gallon waste oil storage tank and all bulk storage of toxic and hazardous materials stored on-site should comply with all Nassau County Article XI regulations (Article XI, Section 16, of the Nassau County Public Health Ordinance). This includes containment areas (dikes or berms) to contain potential spills, overhangs to protect the aboveground waste oil tank from outside elements, etc.

INVESTIGATOR:

Anthony Lucchese
Hazardous Materials Site Assessments

REVIEWER:

Allen Serper

Allen Serper, P.E.
Vice President

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III. REPORT OF FINDINGS

A. Property Description

The subject property is located at the southeasterly corner of Main Street and Hopper Street in Westbury (New Cassel), Town of North Hempstead, Nassau County, New York (see Figure 1).

Tax map identification of this parcel is: Section 11, Block 72, Lots 1, 2, 3, 5, 10, 11, 12, 13, 63, 64, 65, 66, 67 and 68 (see Figure 2).

The subject property is approximately 35,000 square feet in area. The site is occupied by a single building. This 1-story and part 2-story industrial building has approximately 7,100 square feet of floor space (not including 400 square feet storage space). Two prefabricated trailers and two shed enclosures are also situated on the subject property.

The remaining area of the subject property consists of an open paved storage and parking yard that is completely surrounded by chain link fencing.

The current occupant of the property is Royal Guard Fence Co., Inc., which operates as an assembler and installer of chain link fencing and highway safety products (guard rails and suspended sign post structures) and playground equipment.

B. Site History

Primary sources for the history of Nassau County Town of North Hempstead sites include the records of the Building Department of the Town of North Hempstead and Nassau County Tax Assessors Office concerning permits for new buildings, certificates of occupancy, alterations and other changes at the site.

Reverse telephone directories such as those published by [illegible] provide annual listings of occupants (with telephone service [illegible] 1971 to the present.

i). Town of North Hempstead Building D[illegible] Tax Assessor's Records

The Building Department has [illegible] Certificates of Completion (CCs), Cer[illegible] and records of major alterations on f[illegible]

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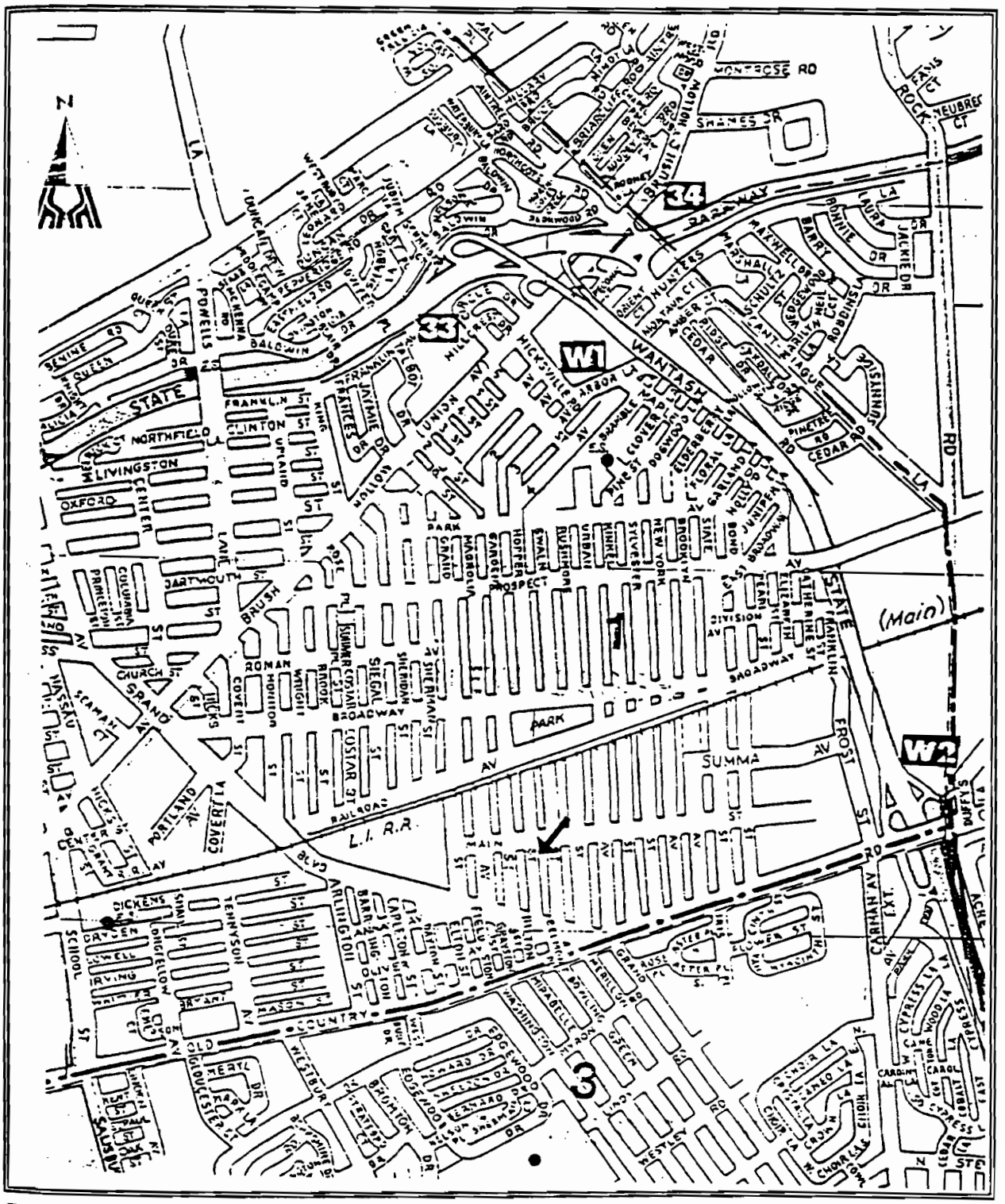
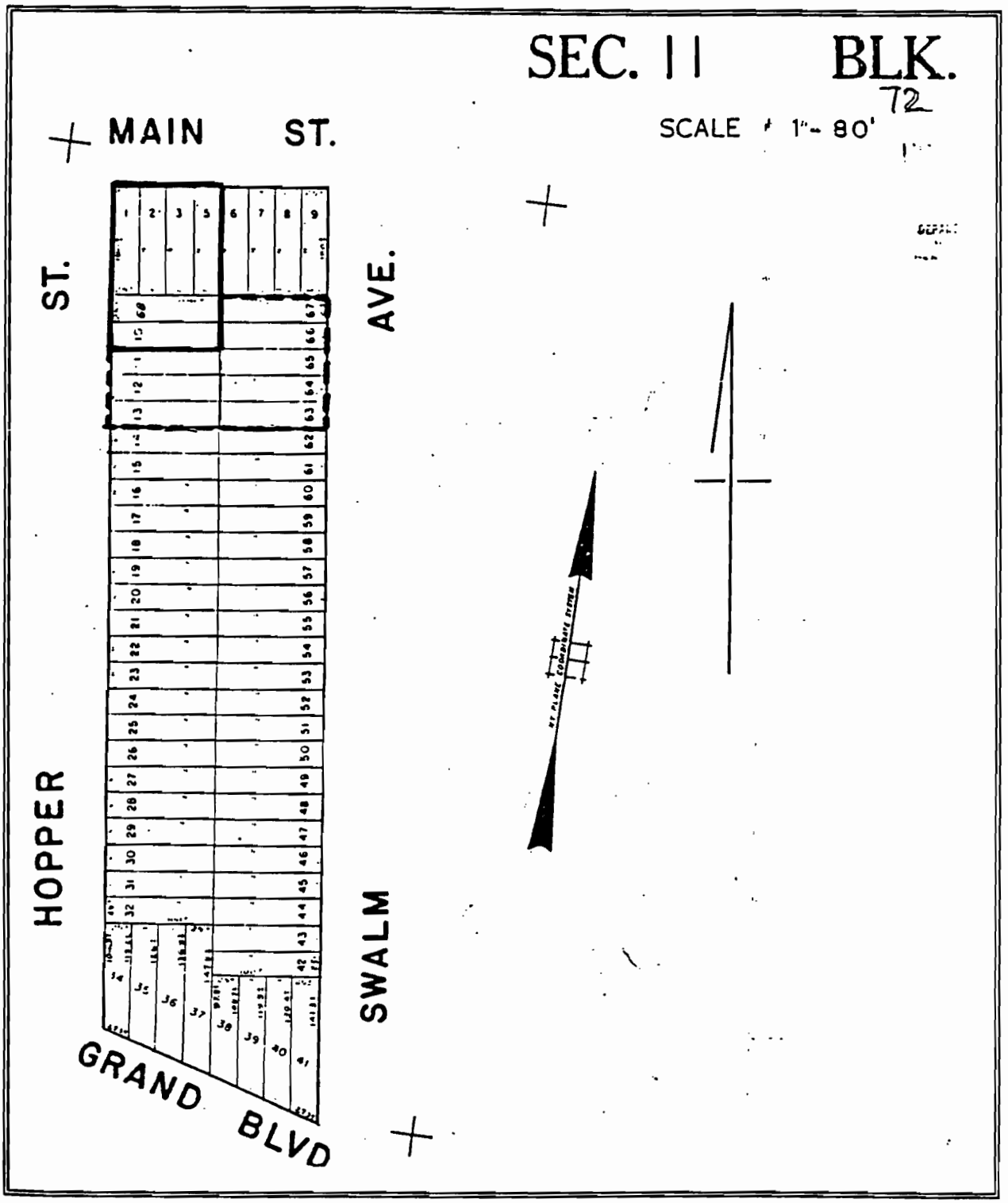


Subject Property Location
Hagstrom Atlas

Figure 1



Subject Property Location
Tax Map

Figure 2

Year Completed	Permit/CC/CO No.	Structure/Use
1954	Permit #32487 CO #54-668	garage
1969	Permit #52829 CC #69-251	addition to existing industrial building
1974	Permit #8304 CC #74-59	second story addition

Tax Assessor's records indicate that lots 10, 11, 12, 13, 63, 64, 65, 66, 67 and 68 fall under the tax classification 440.84 - paved parking area.

The Town of North Hempstead Building Department was unable to locate any certificates of occupancy on file for the abovementioned lots. The subject building occupies lots 1, 2, 3, and 5.

ii). Address Directories

Listings for the subject property from selected years of Cole address directories (1971 to 1990) are presented in the following table:

Occupant	Directories Listed
550 Main Street	
Royal Guard Fence Co., Inc.	1971, 1975, 1979, 1983, 1986, 1988, 1991
Dorcon General Contracting	1983
Typhoon Fence	1983

iv). Interviews

According to information provided by Mr. Ralph Guercia, President of Royal Guard Fence Co., Inc., his business has occupied the subject building and property since 1963.

The original property (including the location of the original building) consisted of lots 1, 2, 3, 5, 10, and 68 (approximately 10,000 square feet of the present property). Prior tenants of the original property and building included a milk company (warehouse and delivery facility) and Clark Fork Lift (repair and servicing facility for forklifts).

Around November 1977, Mr. Guercia acquired the remaining portions of the subject property which consisted of lots 11, 12, 13, 63, 64, 65, 66, and 67 (approximately 25,000 square feet of the present property). This property was used for the storage of truck trailers and was occupied by A to Z Trailers. Mr. Guercia purchased this property from Hopper Realty Company (see Figure 2 for property outline of tax map lot locations mentioned above).

The subject building was expanded in 1969, 1974 and 1982; these expansions consisted of building extensions and a partial second story addition to the original building.

The subject property (original portion and acquired portion) was entirely paved around 1978 after the acquisition of lots 11-13 and 63-67. Old and new portions of the subject property consisted of open dirt ground prior to paving. The subject property was fenced in around the same time the property was paved (around 1978).

v). Summary of History of Use

Information from interviews, address directories, Tax Assessor's records and building department records indicates that a portion of the present structure has been on the property for approximately 37 years since its construction as a garage in 1954. Building renovations and additions were made to the original structure in 1969, 1974 and 1982 (building extensions and partial second story addition).

The subject property originally was 10,000 square feet (lots 1, 2, 3, 5, 10, and 68), and was increased to 35,000 square feet upon the acquisition of adjoining property (lots 11, 12, 13, 63, 64, 65, 66, and 67) around November 1977. The subject property (original portion and acquired portion) was entirely paved and fenced in by 1978. Prior to these improvements, the open area of the subject property was unpaved, dirt ground.

Past known occupants of the subject building and property have included a garage, a milk company, Clark Fork Lift, Royal Guard Fence Co., Inc. and A to Z Trailers.

Of these past known uses, Clark Fork Lift and Royal Guard Fence Co., Inc. are types of businesses/operations likely to store, use or produce toxic or hazardous materials, specifically oils (motor, lubricating, cutting, quenching, waste, etc.), paints and paint products (i.e. thinners, primers, etc.), degreasing solvents, gasoline and diesel fuel, and other auto, truck and forklift maintenance products.

It could not be determined if the original use of the subject building (listed as a garage) included vehicle maintenance and repair activities (oil changes, body work, etc.). Vehicle

maintenance and repair garages are types of businesses/operations likely to store, use or produce toxic or hazardous materials, specifically oils (motor, lubricating, and waste), degreasing solvents, etc.

C. Site Characteristics

The subject property was inspected by EEA, Inc. investigator Anthony Lucchese on September 19, 1991. Mr. Ralph Guercia, President of Royal Guard Fence Co., Inc. and Mr. Ted Golik, yard foreman for the facility, were present to give access to all areas of the site, and to answer questions concerning the present use of the building and property. The findings of this inspection, and our regulatory agency checks, are presented in the following sections.

i). Site Topography and Drainage

The local topography is relatively flat. Precipitation from the building rooftop and parking lots runs to on-site dry wells located beneath the paved storage and parking areas of the subject property, and onto surrounding property grounds. It is unlikely that significant storm water runoff would come from adjacent properties.

The building and property grounds were inspected for the presence of floor drains, machinery waste discharge connections, or any other drainage structures, which may provide routes of hazardous and toxic materials to surface soils, septic or sewer systems. (Lavatory fixtures are not included.)

Following is a list of these drainage structures, observed at the time of the inspection. It should be noted that drainage structures in some areas may have been covered by stored materials, pallets, machinery, vehicles, etc., and therefore may not have been visible at the time of inspection.

Structure	Location	Water Dest.
Three dry wells	exterior paved storage and parking areas on the subject property	surrounding property grounds

It should be noted that two of these dry wells (closest to the subject building) were filled with water and appeared not to be draining properly, indicating possible blockage of these structures.

A hole with a small square plate covering it (approximately 7" x 7") was noted inside the 1st floor machine shop area of the subject building. This hole extended through the concrete foundation exposing soil beneath the building. It could not be determined during EEA's inspection what purpose this hole serves or if it was once a drainage structure inside the building. Since no drainage building plans for the original building were provided to EEA, no statement can be made concerning the purpose of this hole.

Sewage is discharged to the municipal sewage system. The building has been hooked up to this system since 1983, according to Mr. Guercia and Mr. Golik of Royal Guard Fence Co., Inc. Prior to connection to this sewer system, sewage was discharged to an on-site septic system (1954 to 1983). According to Mr. Guercia and Mr. Golik, this on-site septic system was filled in during the building's connection to the municipal sewer system.

ii). Industrial Waste Water Discharge

No industrial waste water discharge was made into the local sanitary sewer system at the time of inspection.

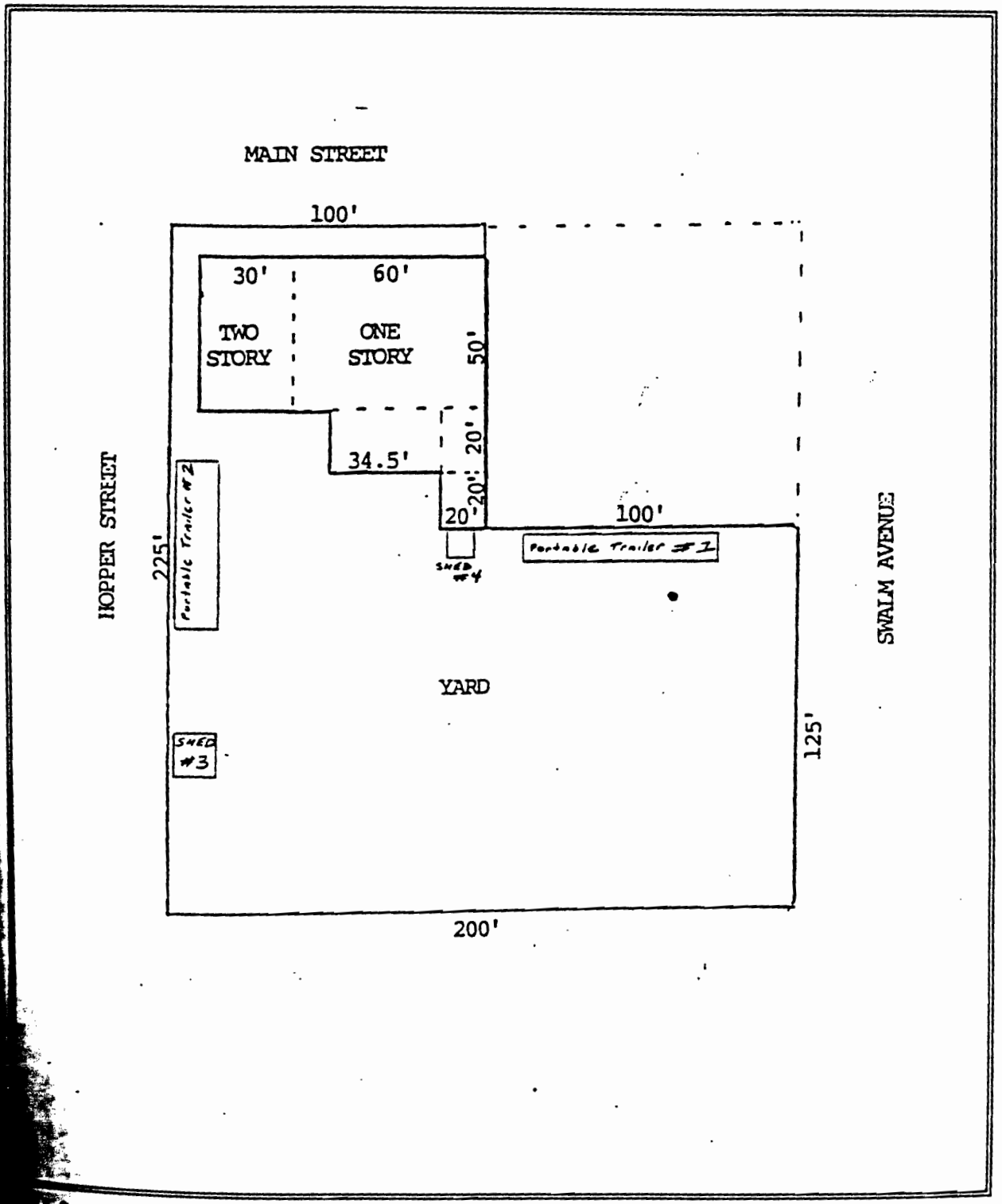
iii). Building and Heating Systems

The subject structure is a 1-story and part 2-story industrial building having a total floor area of approximately 7,100 square feet (not including 400 square feet of storage space) (see Figure 3).

The original 1-story building, consisting of approximately 4,500 square feet, was erected in 1954. This garage (later manufacturing) building consisted of a concrete floor, an exterior of stucco on concrete block (part brick front), flat built up roofing on wood joists and two overhead receiving doors. This portion of the building is heated by oil-fired unit heaters.

A second floor walk-up office area, consisting of approximately 1,500 square feet, was erected in 1973 over the westerly portion of the original building. This space, accessible by a steel stairway, consists of concrete block construction used primarily for office space. This portion of the building is heated by a roof mounted, electrically operated heating, ventilating and air conditioning (HVAC) unit.

A high ceiling 1-story addition, consisting of approximately ,090 square feet, was erected in 1982 along the southerly side of he original building. This addition consists of a concrete floor, oncrete block exterior, one metal rollup door and small mezzanine orage area. This portion of the building is healed by a propane -fired heating system. This addition is adjoined on the east by 0' x 20' (400 square foot) masonry area that once served as mer loading dock; the floor of this area is approximately 4 fe ve the grade of the addition.



bject Property Location
ect Building and Property Outline

Figure 3

There is a 400 square foot unheated frame storage building resting on a concrete floor adjoining the main building. This area is unheated.

In addition to the subject building, two prefabricated trailers (trailer #1 and #2) and two shed enclosures (sheds #3 and #4) are located on the subject property (see Figure 3).

Trailer #1 is located on the northeastern portion of the subject property and is used for general storage. This trailer is heated by electrically operated systems which were inoperable at the time of inspection.

Trailer #2 is located along the westerly portion of the subject property and is used as office space. This trailer is heated by electrically operated systems.

Shed #3 is located on the southwestern portion of the subject property and is used for general storage. This shed is not heated.

Shed #4 is a small unheated, metal shed used for the storage of combustible materials. This shed is located adjacent to the 400 square foot unheated frame storage building adjoining the main building.

D. Operations

i). Nature of Operations

The subject building is divided into three functional sections: a machine shop, welding and painting area (including an employees bathroom), a vehicle repair area located on the first floor of the subject building, and office space (including two bathrooms) on the second floor of the subject building. A small 1-story 400 square foot frame storage building abuts the main building.

Activities within the machine shop area consist of welding, painting, general storage, and metal machining operations. Machinery and equipment in this area includes saws, lathes, presses, pipe cutters and three Marvel cutting saws. Welding is performed by two portable and two stationary acetylene welding units. Painting activities consist of the application of paint to finished metal fences or by dipping metal fences into portable dipping vats (stored outside the building).

The vehicle repair area consists of [illegible] mezzanine storage area) and a separate [illegible]. Activities in this repair area include automotive vehicle maintenance (tuneups, oil changes, [illegible]), spray painting and general storage. According[illegible]

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body repair and spot auto body spray painting activities were undertaken in this area for only a short period of time (approximately six months). He stated that all spray painting and auto body repair activities would cease in the very near future.

Vehicle maintenance activities have been conducted on-site since 1988. Prior to 1988, all company vehicles were repaired and maintained by neighborhood service stations (R & R Service Station) which went out of business around 1988.

The second floor office space consists of seven offices, a conference room and two bathrooms. Activities are consistent with normal office type activities (sales, designing, secretarial, accounting, etc.).

The small 1-story 400 square foot frame storage building is used primarily for dry storage of parts and equipment.

Outside portions of the subject property are used for the storage of fencing and highway safety product materials (guard rails, steel pipes and materials, signs, etc.) and the parking of business vehicles and equipment.

ii). Toxic or Hazardous Substances

Toxic or hazardous substances include every substance, material or waste found listed in either Federal regulation 40 CFR Part 261, or 40 CFR Part 302, or New York State Environmental Conservation Law 6 NYCRR Part 371.

Following is a list of the toxic and hazardous substances present at the site at the time of the inspection. Bulk storage tanks of petroleum and chemical products are described in Section E; toxic or hazardous wastes produced by this operation, if any, are described in Section F.

1st Floor Welding, Painting and Machine Shop Areas of the Subject Building

Chemical/Material	Quantity Present
Aqua-501 20/20 Industrial Solvent (water soluble)	2 x 30 gal.
Kleeban Tool Cutting Oil	1 x 5 gal.
Paints and Thinners (stored on concrete floor)	10 x 5 gal.
Paints and Thinners (stored inside wood paint storage closet)	20 x 5 gal.
Paints and Thinners (stored on concrete floor underneath stairwell leading to 2nd floor)	25 x 5 gal.
Acetylene/oxygen welding tanks	4 tanks total

1st Floor Vehicle Repair Area of the subject building

Chemical/Material	Quantity Present
Paint and Thinner	6 x 1 gal.
Transmission Fluid	1 x 55 gal.
Antifreeze	1 x 55 gal.
Gear Oil	1 x 55 gal.
Motor Oil	1 x 55 gal.
Hydraulic Oil	1 x 55 gal.
Enamel Reducer	2 x 5 gal.
Diesel Fuel Additive	3 x 5 gal.
Diesel Fuel (mezzanine storage area)	2 x 5 gal.
Grease	4 x 5 gal.; 1 x 30 gal.
Duracryl	1 x 5 gal.
Degreasing solution (contained within Safety Kleen receptacle)	1 x 16 gal.
Cutting Oil (rear storage behind vehicle repair area)	4 x 5 gal.

Outside on Ground in Front of Vehicle Repair Area

Chemical/Material	Quantity Present
Diesel Fuel	3 x 5 gal.
Nitrocures (concrete form spray)	1 x 55 gal.

Inside Portable Shed #1

Chemical/Material	Quantity Present
Paints and Paint Products	60 gals. total (5 gal. containers)

Inside Combustible Shed #5

Chemical/Material	Quantity Present
Gasoline	4 x 5 gal.

iii). Permits

Article XI registration (Toxic or Hazardous Materials Storage Facility Permit) is required for the bulk storage of more than 250 gallons of toxic or hazardous materials.

No such permits for the subject property or business were made available at the time of inspection.

Permits required for bulk (tank) storage of petroleum products, and for toxic or hazardous waste, and discussed in Sections E and F, respectively.

E. Petroleum and Chemical Storage Tanks

i). Description and Location of Tanks

There are four storage tanks on this property. Information pertaining to size, age, construction, and storage content was obtained from Mr. Guercia and available Nassau County Fire Marshall records for the subject property. These tanks are described in the following table:

Tank size	Construction	Content	Age	Above/Belowground
4,000-gallon	steel	gasoline	approx. 13 yrs.	belowground
2,000-gallon	steel	inactive and empty (once containing diesel fuel)	approx. 17 yrs.	belowground
500-gallon	steel	No. 2 fuel oil	unknown (probably as old as original building - 37 yrs old)	belowground
275-gallon	steel	waste oil	approx. 2 yrs.	aboveground

According to information provided by Mr. Guercia and Mr. Golik of Royal Guard Fence Co., Inc., the buried on-site 2,000-gallon diesel tank was installed in 1974 to replace an existing 1,000-gallon underground fuel storage tank. The 2,000-gallon tank was placed in the same excavated hole from which the 1,000-gallon tank was removed. All work was performed by Tyree Brothers Environmental Services, Inc. of Farmingdale. However, documentation of this work (i.e. noted observations, soil condition or analysis, tank tightness test results) was not provided at the time of inspection.

A fillport was noted on-site, located by the property entrance gate on the northwestern portion of the subject property (on the Upper Street side of the property near portable trailer #2). According to Mr. Golik, this fillport was connected to the fill line for the on-site, inactive 2,000-gallon buried diesel tank and is no longer in use.

According to Mr. Guercia, prior to the installation of the 275-gallon aboveground waste oil tank, various 275-gallon aboveground tanks were used by Royal Guard Fence Co., Inc. to collect waste oil. These aboveground tanks were used tanks taken out of service and supplied by plumbers.

The tank fillport and vent areas were examined for signs of staining, which may indicate past spills from overfilling. No significant staining was observed at the time of inspection.

ii). Permits, Upgrading and Tightness Testing Requirements

A flammable/combustible liquid storage tank registration is required for this facility by the Nassau County Fire Marshall's Office because of the storage capability of gasoline and diesel fuel (in underground tanks) on the subject property. A certification of registration was examined for the on-site 2,000-gallon steel diesel tank and 4,000-gallon steel gasoline tank. This registration expired as of September 30, 1991.

These tanks are required to be routinely tightness tested, according to Nassau County Fire Marshall regulations. The 4,000-gallon gasoline tank was last tested on January 8, 1990 and passed a tightness test. The 2,000-gallon diesel tank was last tested and passed on December 19, 1989.

According to information provided by Mr. Ralph Guercia and the Nassau County Fire Marshall's Office, the 2,000-gallon diesel tank was taken out of service on March 8, 1990 and must be either removed or permanently abandoned as required by Article III of the Nassau County Fire Prevention Ordinance. This ordinance requires that: underground steel tanks installed prior to February 23, 1976 no longer be used for the storage and/or dispensing of flammable or combustible liquids after February 23, 1990, be completely emptied of all product and residue, and must be either removed from the ground, or permanently abandoned in place by being completely filled with a solid inert material.

Additionally, the on-site, buried 4,000-gallon gasoline storage tank must be taken out of service and must be either removed or permanently abandoned by February 23, 1995 as required by Article III of the Nassau County Fire Prevention Ordinance.

F. <u>Waste Products and Waste Disposal</u>

Waste materials produced by this operation include waste oil and degreasing solution (contained in the Safety-Kleen degreasing receptacle).

The degreasing solution is disposed via a licensed waste handler, Safety-Kleen Corporation of North Amityville, New York. According to Mr. Guercia and Mr. Golik, Safety-Kleen has been used for approximately 5-6 months to supply and remove degreasing solutions from the subject property. Waste manifests for this period were examined to verify this information.

According to Mr. Guercia and Mr. Golik, waste oil collected on-site has been disposed of via various waste scavengers since 1988 (the year on-site vehicle maintenance activities initially began). According to Mr. Golik, AKBA Waste Oil of Bethpage and A-1 Waste Oil are two waste scavengers used by Royal Guard Fence Co., Inc. to remove waste oil from the subject property. However, only one waste manifest was provided at the time of inspection. According to this waste manifest, on September 30, 1988, Nobel Waste Oil of Brooklyn, New York removed waste oil form the subject site.

A Toxic or Hazardous Materials Storage Facility Permit is required (Nassau County Department of Health, Article XI) because of the storage of more than 27.5 gallons of waste oil and other waste products.

No such permit was made available during the course of this investigation.

G. Asbestos-Containing and Other Hazardous Building Materials

i). Asbestos

The structure was examined for the possible presence of asbestos-containing materials (ACM) in thermal insulation (i.e. pipe wrap, boiler insulation, castable elbow material, magnesia block), and specific miscellaneous materials such as floor tile and transite board. This inspection does not include identification of possible asbestos-containing surfacing materials, such as plaster, wall board, scratch coat, etc. Materials such as ceiling tile, where asbestos content cannot be assessed visually, are described as suspected ACM.

This section describes approximate amounts of suspected ACM (visible and accessible) that was observed by EEA during the site inspection, and is not to be used as a complete asbestos inspection, which is required by the New York State Department of Labor prior to renovation, construction or demolition activities.

Friable types of asbestos, i.e., ACM that can be crushed, crumbled or pulverized using hand pressure, are hazardous when in a deteriorating condition.

Non-friable types of ACM, such as vinyl asbestos tiles (VATs), roof shingles and transite, are materials where asbestos fibers are contained in a cement or glue-like matrix. These are not considered hazardous under normal conditions of use, unless severely damaged or in a badly deteriorated state, or unless the material is cut, drilled, sanded or otherwise broken up during construction or renovation.

No friable or non-friable types of thermal insulation asbestos were observed within the subject building.

ii). Ureaformaldehyde Foam Insulation

No ureaformaldehyde foam insulation was observed.

iii). Lead Paint

Lead paint use was banned by the Consumer Products Safety Commission in 1977. Given the age of the building it is likely to contain lead paint.

Lead paint is hazardous when in a deteriorating condition (i.e., chipped, broken, crumbling, pulverized); lead is toxic to humans, and particularly to children, if ingested, inhaled, or otherwise absorbed. At present, lead paint hazards are regulated in Nassau County only for residential properties.

iv). Polychlorinated Biphenyls (PCBs)

Prior to 1979, PCBs were widely used in electrical equipment such as transformers, capacitors, switches and voltage regulators for their cooling properties. The manufacture, processing, commercial distribution, and use (except in a "totally enclosed manner") of PCBs was banned in 1979, under the Toxic Substances Control Act (40 CFR Part 761). PCB spills are subject to strict reporting, clean-up and disposal requirements, due to the toxicity of the substance, and its threat to human health and the environment.

a). PCB-Containing Transformers

Three LILCO pole transformers were observed off-site, located along Main Street approximately seven feet from the northern border of the subject property.

No indications that the transformers had leaked (i.e., visible oil spillage or stains) were observed around the bases of the transformers or poles.

It is not known if these transformers contain polychorinated biphenyls (PCBs). If these transformers are new (installed in the 1980s), they would be unlikely to contain PCBs.

The U.S. Environmental Protection Agency (USEPA) classifies transformers in three categories: Non-PCB Transformers, which contain less than 50 parts per million (ppm) PCBs, PCB-contaminated Transformers, which contain 50 to 500 ppm PCBs, and PCB Transformers, which contain more than 500 ppm PCBs. Transformers whose PCB concentration is unknown are assumed to be PCB-contaminated, until tested.

According to Mr. Marty Kennedy of the Long Island Lighting Company (LILCO), all LILCO transformers have PCB concentrations of less than 500 parts per million (ppm). These transformers with blue "No PCB" stickers have concentrations below 50 ppm, LILCO transformers without "No PCB" stickers have PCB concentrations between 50 and 500 ppm. In the event a leak is observed, LILCO will respond within two hours and will assume responsibility for a cleanup.

b). PCBs in Fluorescent Light Ballasts

Fluorescent lights were identified in the subject building. It is possible that the small capacitors in the ballasts of these fluorescent lights contain PCBs.

Before USEPA banned the manufacture of PCBs in 1979, PCBs were used in the small capacitors of fluorescent light ballasts. All light ballasts manufactured since 1979 should be marked by the manufacturer with the statement "No PCBs". Ballasts that were manufactured prior to 1979, or that contain no statement concerning PCB content, should be assumed to contain PCBs.

Any leaking PCB ballasts should be carefully cleaned up, avoiding personal exposure, and following U.S. Environmental Protection Agency (USEPA) guidelines. All contaminated materials (ballasts, rags, clothing, rugs, gloves, etc.) should be wrapped in newspapers, placed in a double-thickness plastic bag, and disposed of by a licensed waste transporter (to a USEPA approved site).

Intact and non-leaking PCB small capacitors (in fluorescent light ballasts) can be disposed of in small quantities in municipal landfills. The New York State Department of Environmental Conservation, Hazardous Waste Division, Region I (516-751-7900) should be consulted to determine reasonable quantities for such disposal. However, any manufacturer of PCB capacitors or equipment would have to dispose of such equipment in a TSCA-approved incinerator.

H. <u>Radon</u>

Radon, a naturally occurring radioactive gas, is the product of the radioactive decay of radium. It is found most frequently in high concentrations in rock formations containing uranium, granite,

shale, phosphate, and pitchblende. Radon may also be found in soils contaminated with industrial waste from uranium and phosphate mining. Radon as a gas can move through the soil and water, and into the atmosphere, and is a potential health concern if confined in sufficiently high concentrations in indoor environments. The U.S. Environmental Protection Agency (USEPA) has set an "action level" of 4.0 picocuries per liter for continuous long term exposure to radon gas. If radon gas is measured above this level, USEPA suggests follow-up testing and remediation measures.

According to data compiled by the Bureau of Radiation Protection, New York State Department of Health, Nassau County has one of the lowest average levels of basement radon measurements in New York State. The latest May 1991 statistics indicate an average of 1.3 picocuries/liter for Nassau County, compared to a statewide average of 5.5.

I. Present Neighborhood Land Use

Present nearby land uses (within a 500-foot radius of the subject property) were visually surveyed at the time of the site inspection.

Properties identified within one mile of the subject property by regulatory agencies as being potentially contaminated sites are identified in Section III.K.

The following adjacent land uses were observed at the time of the site inspection:

Area	Business or Use
North (across Main St.)	Sam-Ton Salvage (junkyard, auto repair, spare parts distributor); fenced in storage yard; Cassel Auto Parts (junkyard) and Andy's Auto Repair; Delicatessen/Sandwich Shop
West (across Hopper St.)	Al's Tool and Die, Inc. (metal fabricators); Bilt-Rite Steel Buck Corporation (steel fabricators)
East	Bilt-Rite Elevator Products; IMC Magnetics Corporation
South	Bilt-Rite Elevator Products (formerly Contemporary Packaging Corporation - printers of plastic containers, bags, paper, etc.)

All of these adjacent uses (with the exception of the delicatessen/sandwich shop), are types of businesses known to produce, store, or use toxic or hazardous materials i.e., xylene, methyl ethyl ketone, tetrachloroethylene, degreasing solvents, oils (motor, lubricating, cutting, quenching, waste), transmission fluid, etc. (see Section III.K.i.c. for further description of hazardous waste generated by registered adjacent businesses).

The Town of North Hempstead zoning map (Figure 4), indicates that land use in a 1/4-mile radius of the subject property is zoned for predominantly industrial uses. The subject property lies in an area zoned 'I-B' - Industrial B.

A visual survey of the surrounding land within a 500-foot radius of the subject property was taken.

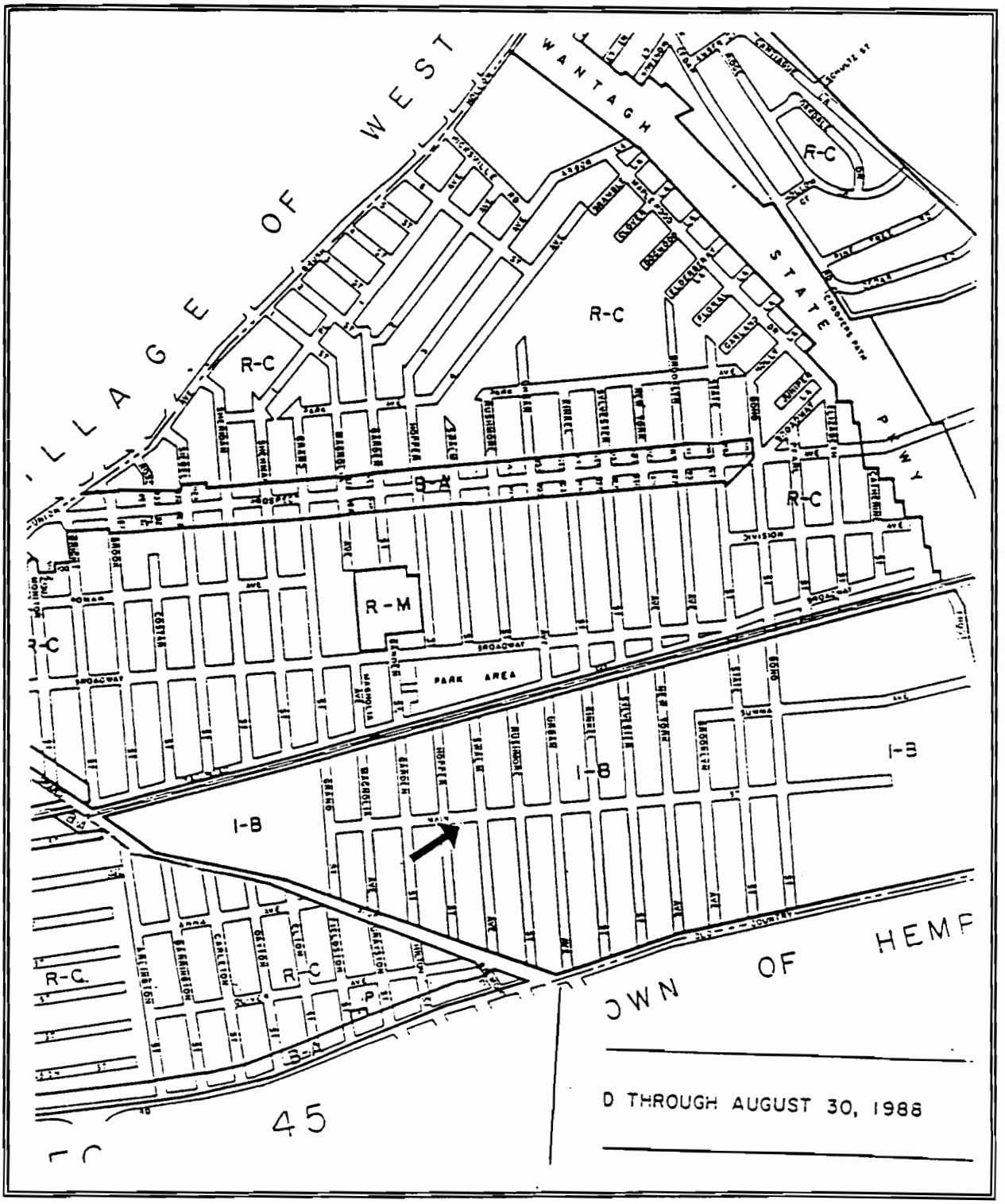
The following industrial and auto-related operations (some possible with gasoline tanks) were noted in this area:

Main Street

504	Bam Window Company
512	Vacant industrial building (formerly occupied by Shulers Steel)
534	Jet Labs
567	Atlas Graphics, Inc.
577	All Seasons General Contractors
589	Freund Woodworking/Westly Displays, Inc.
603	Hicksville Auto Body/Long Island Welding/Roland Salvage, Inc.
608	Lemon X Corporation
625	Adchem Corporation
629	J.B. Tool and Die, Co.
630-640	Anthonsen's All Metal Products
675	The Permafuse Corporation
686	Arkwin Industries

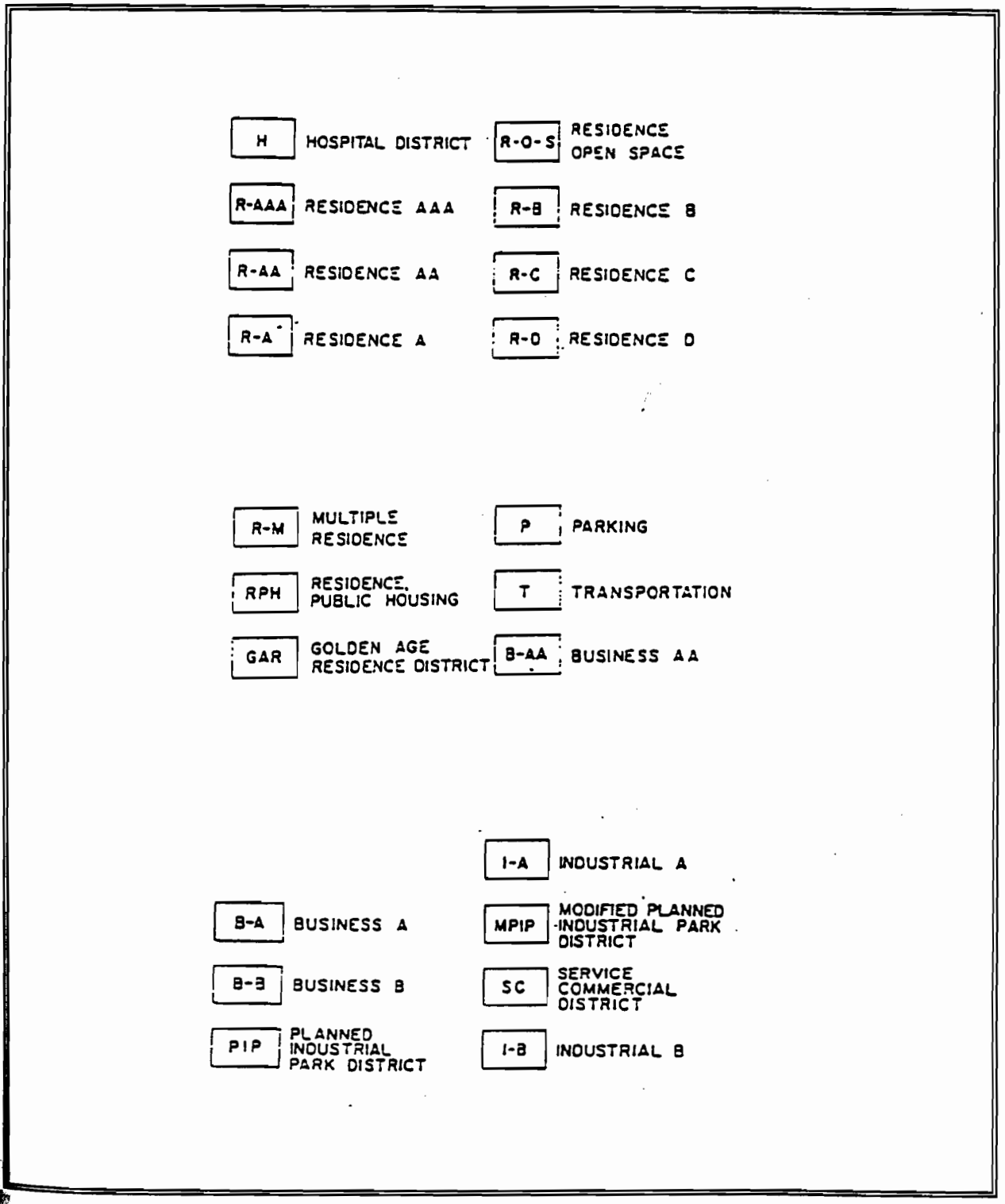
Grand Boulevard

---	Auto Spa of Westbury (auto repair)
474	Uniflex, Inc.
482	ELM Concrete and Transit Mix
485	D and F Pallet Enterprises
492	B. Verner and Co.
496	Botie Industries
504	Cross Ready Mix
514	Island Polyethylene Bags and Supply
522	Petro Oil/Kavannaugh Oil Corporation
530	A-Line Brake and Front End Service (auto repair)



Subject Property Location
Town of North Hempstead Zoning Map

Figure 4



Legend to Zoning Map

Grand Street

102	Bein Neon-Neon Images
104	Grand Auto Collision (auto repair)

Magnolia Avenue

79	Body Line Collision (auto repair)
80	Hendrickson Fuel/Scot Lubricants Co.
90	Fremont Industrial Corporation
91	Herbie's Auto Body/Jobco Welding
98	Center Island Banana Co., Inc.
99	Leonard Industrial Supply Corp.
112	G.A. Richards and Co.
113	E-Z-EM (warehouse)
117	Endodynamics, Inc. (E-Z-EM)
120	Hydraulic Enterprises

Garden Street

81	J.J. Matt Motorcar Co., Inc. (auto repair)
86	Harmon Trucking Corporation
87	Lebco, Inc. (machinists)
89	Rapid Rivet and Gasner Corporation

Hopper Street

1	Baldwin Collision
30	Anthony Respiratory Service
50	Vigliotti Bros. Carting
70	Continental Instruments Corporation
110	Flexitherm Co., Inc.
120	RAC Mechanical, Inc.
121	Avanel Industries, Inc.
132	A and F Auto Wrecking (auto repair and junkyard)

Swalm Street

71	T.W. Smith Welding Supplies
75	Continental Industries
110	Hasko Utilities
118	Varitek Machine Co., Inc.
---	Large transformer yard

Rushmore Street

29	Pete's Towing Service (auto repair)
51	Dynamic Medical Equipment, LTD/Medifare, Inc.
65	Dionics, Inc.
66	Jay-Rock Precision, Inc.
73	Midbury Industries, Inc.
74	Allan Sign Manufacturers

Urban Avenue

15	Keri Coach Works/Expert Collision (auto repair)
32	Nittsu Auto Service
35	Production Packaging Equipment, Inc.
40	J. Lewis Printing, Inc.
45	Efficiency Systems Co., Inc. (formerly Guillotine Splicer Co.)
50	B and R Machine and Tool
51	S and J Body and Fender Repair
70	Dieco Products Co.
75	NY Testing Labs, Inc.
86A	F and W Auto Collision
88	H. Sand and Co.
91	Nassau Mason Materials Corporation
99	ALJP Precision Products
109	Goes-King (printing service)
117	Vacant industrial building (formerly Warren Machine Co.)

Kinkel Street

25	Avon Press
33	All-Write Typewriter/Wheatley Hill Auto
38	Bam Kin Window and Door
42	Creative Urethane
51	Jovee Contracting
57	Marbeline, Inc.
62	LAKA Industry, Inc.
65	Parfuse Corporation
68	Industrial Waste Removal
69	B and L Collision, Inc./Ultimate Collision
70	Attonito Recycling/Lombardo Metal Corp.
84	Double C Auto Body, Inc./Filbert Newspaper Recycling
88	Basic Metal Products/K and B Automotive

Businesses within the 500-foot radius that are listed as hazardous waste handlers are identified in Section III.K.i.c.

J. Sensitive Receptors

Sensitive receptors are identified where known, because of the potential for extra regulatory surveillance at nearby commercial facilities. In the event of an incident involving the spill of a toxic or hazardous material at the subject site, more costly remedial actions may be required when sensitive receptors are present.

No surface waters or wetlands were observed on or adjacent to the subject property.

The subject property lies in Zone C, areas of minimal flooding, on the Flood Insurance Rate Map # 3604820014C (U.S. Department of Housing and Urban Development, May 16, 1983). The subject property is not in a flood plain.

K. Regulatory Records

Sites identified by federal and state regulatory agencies as known or suspected contaminated facilities (i.e. Superfund, CERCLIS, Inactive Hazardous Waste Disposal sites) are listed for a one mile radius of the subject property. In addition, other sites or incidents that have the potential to contribute to groundwater contamination (such as SPDES permitees, Hazardous Waste Handlers, Spill Logs, gasoline stations) are identified for the general vicinity of the site. These documented sites and incidents are listed in the following section for descriptive purposes; their inclusion does not necessarily suggest any potential impacts to the subject property, but provides an indication of the potential for general groundwater and soils contamination in the larger area.

Information obtained from the U.S. Geological Survey Water Resources Investigations Report (86-4189) indicates that the direction of regional groundwater flow in this area is generally to the south/southwest. Local groundwater flow direction in the vicinity of the property cannot be determined without specific groundwater investigations. No definitive assessment of the potential for property groundwater contamination from documented hazardous waste sites in the area can be made without testing.

i). U.S. Environmental Protection Agency

a). Superfund Sites

A check was made of the U.S. Environmental Protection Agency's (USEPA) National Priorities List of Superfund hazardous waste sites (September 1990 listings) which fall under CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act of 1980) and SARA (Superfund Amendments and Reauthorization Act of 1986).

The subject property is not on the list.

The following site is listed within an approximate one mile radius of the subject property:

Site Name	Code	Location	Distance from Site
Anchor Lith Kemko (Formerly Anchor Chemical)	130021	500 W. John St. Hicksville, NY	approx. 1 mile northeast of the subject property

This site is also listed as a CERCLIS site by the USEPA and an Inactive Hazardous Waste Disposal site by the New York State Department of Environmental Conservation, and is described in Sections III.K.i.b. and III.K.ii.b. of this report.

b). CERCLIS Sites

A check was made of the U.S. Environmental Protection Agency's CERCLA Information System (CERCLIS) (August 1990 listings), USEPA's comprehensive data base and management system that inventories and tracks sites addressed or needing to be addressed by the Superfund program. Sites that USEPA decides do not warrant further evaluation are given a "No Further Action" (NFA) designation in CERCLIS. Sites are not removed from the data base to document that these evaluations took place. USEPA's "NFA" designation does not necessarily indicate that there is no hazard associated with a given site, only that, based on available information, USEPA does not plan further action under CERCLA.

The subject property is not on the list. The following CERCLIS sites are listed within an approximate one mile radius of the subject property:

Site Name	Address	Code	Event Type	Distance
AGO Associates	449 W. John St. Hicksville, NY	NYD986888899	DS1, PA1	approx. 1 mile northeast of the subject property
Air Techniques	70 Cantiague Rock Rd. Hicksville, NY	NYD043835081	DS1, PA1	approx. 0.9 mile northeast of the subject property
Anchor Chemicals	500 W. John St. Hicksville, NY	NYD001485226	DS1, PA1, NP1, NF1, SI1, CR1, CO1	approx. 1 mile northeast of the subject property
Brinkman Instruments	Cantiague Rock Rd. Westbury, NY	NYD152088142	NFA, DS1, PA1	approx. 0.8 mile northeast of the subject property
Depew Manufacturing	359 Duffy Ave. Hicksville, NY	NYD002046597	DS1, PA1	approx. 1 mile east of the subject property
General Instruments Corp.	600 W. John St. Hicksville, NY	NYD002042466	DS1, PA1	approx. 1 mile northeast of the subject property

John Hassel	Cantiague Rock Rd. Westbury, NY	NYD002045417	DS1, PA1, SI1	approx. 1 mile northeast of the subject property
Mattiace PetroChemicals - MEK Spill - Hicksville	530 W. John St. Hicksville, NY	NYD980763742	DS1, PA1, RV1, PR1	approx. 1 mile northeast of the subject property

The following is a definition of the USEPA CERCLIS investigation status abbreviations for the above sites:

Discovery (DS) - process by which a potential hazardous waste site is brought to the attention of the EPA.

Preliminary Assessment (PA) - process of collecting and documenting existing information about the source and nature of the site assessment.

Planned Removal (PR) - response action taken that may allow several days or weeks for planning but still requires expeditious attention to reduce imminent and substantial dangers to human health, welfare, or the environment. Characterization of a removal as "planned" was discontinued at the end of FY86.

Removal Action (RV) - response action that requires expeditious attention to reduce imminent and substantial dangers to human health, welfare, or the environment or an emergency response required within hours or days to address acute situations involving actual or potential threat to human health, the environment, or real or personal property due to the release of a hazardous substance. Characterization of a removal action as "removal", not "immediate removal" or "planned removal", started at the beginning of FY87.

Site Inspection (SI) - the process of collecting site data and samples to characterize the severity of the hazard for the hazard ranking score and/or enforcement support.

Proposal to NPL (NP) - the process of proposing that a hazardous waste site be placed on the national priorities list based on the site's hazard ranking score.

Final listing on NPL (NF) - the conversion of a proposed site to the final listing on the national priorities list.

Combined RI/FS (CO) - the process of data collection and analyses of the site problem, identification of preliminary remedial alternatives, and recommendation of a cost-effective remedy. There can be multiple RI/FSs conducted at a site.

Remedial Community Relations (CR) - the community relations activities, i.e. plan, implementation and responsiveness summary that must be completed at a site to address community concerns.

These sites (with the exception of the John Hassel and Brinkman Instruments sites) are also listed as Inactive Hazardous Waste Disposal sites by the New York State Department of Environmental Conservation, and are described in Section III.K.ii.b. of this report.

c). Hazardous Waste Handlers

Hazardous Waste Handlers (which include waste generators, transporters, and treatment/storage/disposal operators) are regulated by the federal government under the Resource Conservation and Recovery Act (RCRA). The USEPA List of Hazardous Waste Handlers, dated July, 1990, was checked for the subject business and businesses adjacent to the subject property. An inventory of hazardous waste handlers is useful to assess the kinds of hazardous materials in the vicinity of the site, as well as on the subject property. With the exception of those in the immediate vicinity of the subject site, the presence of hazardous waste generators or transporters in the neighborhood does not usually imply risk of contamination to the subject property.

The business on the subject property is not on the list.

The following past and present adjacent businesses are listed as hazardous waste handlers:

IMC Magnetics Corporation, located at 570 Main Street, Westbury is listed as a generator (GEN-1) (facility ID NYD002041895); hazardous waste generated is listed under the EPA Hazardous Waste numbers F001, F002, F003, and F005.

Bilt-Rite Steel Corporation, located at 599 Union Avenue, Westbury (mailing address) is listed as a generator (GEN-1) (facility ID NYD986877777); hazardous waste generated is listed under the EPA Hazardous Waste numbers D000 and F003.

Contemporary Packaging Corporation, formerly located at 90 Hopper Street, Westbury, was listed as a generator (GEN-1) (facility ID NYD054997069); hazardous waste generated is listed under the EPA Hazardous Waste number D001.

The following is a definition of the USEPA Hazardous Waste Identification numbers:

D000 - EP Toxic - broken down to include D004-D011.
D001 - Solid waste that exhibits the characteristics of ignitability.
D002 - Solid waste that exhibits the characteristics of ignitability.
D004 - Arsenic
D005 - Barium
D006 - Cadmium
D007 - Chromium
D008 - Lead

D009 - Mercury
D010 - Selenium
D011 - Silver
D018 - No definition given.
D022 - No definition given.
F001 - Spent halogenated solvents and solvent mixtures/blends used in degreasing and still bottoms from the recovery of these spent solvents and spent solvent mixtures.
F002 - Spent halogenated solvents and solvent mixtures/blends and still bottoms from the recovery of these spent solvents and spent solvent mixtures including tetrachloroethylene, 1,1,1-trichloroethane, chlorobenzene, trichlorofluromethane, and 1,1,2-trichloroethane.
F003 - Spend non-halogenated solvents and solvent mixtures/blends and still bottoms form the recovery of these spent solvent mixtures including acetone, ethyl acetate, butyl alcohol, etc.
F005 - Spent non-halogenated solvents and solvent mixtures/blends and still bottoms from the recovery of these spent solvents and spent solvent mixtures including toluene, methyl ketone, isobutanol, benzene, etc.

The following businesses within an approximate 500-foot radius of the site are listed as hazardous waste handlers (generators "GEN", transporters "TRNS", or treatment, storage, disposal operators "TSD"). Hazardous waste generators are ranked according to quantity of hazardous materials produced (1=1000 kg or more per month; 2=100 kg or more per month; 3=less than 100 kg per month - "conditionally exempt").

Business Name	Address	Activity Type	Facility ID
Adchem Corporation	625 Main Street Westbury, NY	GEN-1	NYD049207236
AMC Jeep	52 Rushmore Street Westbury, NY	GEN-1	NYD068007947
Anthonsens All Metal Products	640 Main Street Westbury, NY	GEN-2	NYD986889277
Arkwin Industries, Inc.	686 Main Street Westbury, NY	GEN-1	NYD002037513
Atlas Graphics, Inc.	567 Main Street Westbury, NY	GEN-1	NYD060317898
Avon Reproductions	25 Kinkel Street Westbury, NY	GEN-1	NYD002042984
B&G Lighting and Sign Services, Inc.	51 Urban Avenue Westbury, NY	GEN-2	NYD060345998
Creative Urethane Concepts, Inc.	42 Kinkel Street Westbury, NY	GEN-1	NYD154810345
Dionics Incorporated	65 Rushmore Street Westbury, NY	GEN-1	NYD047645262
F&W Auto Collision Repairs, Inc.	86A Urban Avenue Westbury, NY	GEN-2	NYD077498426
Hicksville Auto Body, Inc.	603 Main Street Westbury, NY	GEN-2	NYD981483381
Keri Motors, Inc.	15 Urban Avenue Westbury, NY	GEN-1	NYD981087257

Medifare, Inc.	51 Rushmore Street Westbury, NY	GEN-1	NYD079815056
Midbury Industries, Inc.	73 Rushmore Street Westbury, NY	GEN-1	NYD000021253
Nassau Sulky Mfg. Co., Inc.	66 Magnolia Avenue Westbury, NY	GEN-2	NYD089391882
New York Testing Labs	81 Urban Avenue Westbury, NY	GEN-2	NYD077515237
Parfuse Corporation	65 Kinkel Street Westbury, NY	GEN-1	NYD072388044
The Permafuse Corporation	675 Main Street Westbury, NY	GEN-1	NYD002038784
Pete's Towing	29 Rushmore Street Westbury, NY	GEN-1	NYD981130073
Pete's Towing	79 Magnolia Street Westbury, NY	GEN-2	NYD982282501
Petro	522 Grand Boulevard Westbury, NY	GEN-1	NYD030286348
S&J Auto Body & Fender Repair Co.	51 Urban Avenue Westbury, NY	GEN-1	NYD981555832
Scibelli Brothers, Inc.	15 Kinkel Street Westbury, NY	GEN-1	NYD068039544
Tapemaker Sales Co., Inc.	47 Kinkel Street Westbury, NY	GEN-1	NYD056689201
Ultimate Collision Repairs, Inc.	88 Kinkel Street Westbury, NY	GEN-2	NYD981485519
Uniflex, Inc.	474 Grand Boulevard Westbury, NY	GEN-1	NYD002046662

ii). N.Y.S. Department of Environmental Conservation

a). Freedom of Information Letters

A Freedom of Information Letter (FOIL) was sent to the New York State Department of Environmental Conservation (NYSDEC), Region 1, on August 27, 1991 for information concerning hazardous materials regulation and remediation, petroleum bulk storage, and related issues on this property. No response has been received to date.

The subject property is located within the New Cassel Industrial Area (bounded by the Long Island Railroad to the north, Old Country Road to the south, Grand Avenue to the west and Wantagh Parkway to the east) which was designated in October, 1988 as an Inactive Hazardous Waste site by the New York State Department of Environmental Conservation (NYSDEC). This 170 - acre area will be the subject of additional investigation (including subsurface testing) during the next several years to determine the required remediation measures and the responsible parties (companies or landowners) that will be financially liable for the cleanup.

A letter was sent by Dr. Leland M. Hairr, of EEA, Inc. to Ms. Anna Wolfe of the NYSDEC on October 17, 1991 inquiring about the status of the determination of PRPs (Potentially Responsible Partie's) for the New Cassel Industrial Area site (Code #130043-NYSDEC Inactive Hazardous Waste Disposal Site). A response to this letter was received by EEA, Inc. from Mr. John B. Swartwout, P.E., Chief of the Eastern Investigation Section - Bureau of Hazardous Site Control - Division of Hazardous Waste Remediation - NYSDEC on October 22, 1991. The following paragraphs are taken from Mr. Swartwout's response to EEA's letter:

> The (New Cassell Industrial Area) site has recently been referred to the Bureau of Hazardous Site Control to better define the sources of contamination at the site prior to the initiation of a Remedial Investigation/ Feasibility Study (RI/FS).
>
> The list of Potential Responsible Parties (PRPs) has been expanded to include all of the owners of property within the boundary of the site as defined by the Registry of Inactive Hazardous Waste Disposal Sites ... and interrogatories have been sent to the PRPs. The following parcels have been excluded from the site as a result of the petition process: Tax Map Section 11, Block 328, Lots 144, 157, 169, 174 and 175; and Block 73, Lots 22-28 and 56-62.
>
> (NYSDEC) is aware of the reluctance of many lenders to process loans in this area and the difficulties this creates, therefore, (NYSDEC is) assigning a high priority to identifying the sources of contamination. This will allow (NYSDEC) to narrow down the list of PRPs and focus the RI/FS. (NYSDEC) expects to start these investigation in January 1992.

b). Inactive Hazardous Waste Disposal Sites

A check was made of the New York State Department of Environmental Conservation's (NYSDEC) Inactive Hazardous Waste Disposal Sites (April 1991 annual report).

The subject property is located within the New Cassel Industrial Area, which has been designated as an Inactive Hazardous Waste Site by NYSDEC (see Section III.K.ii.a.).

The following sites are listed within an approximate one mile radius of the subject property:

Site Name	Address	Code	Location
New Cassel Industrial Area	2,000 acre site located in New Cassel, Westbury, NY	130043	subject property located within this area
AGO Associates	499 W. John St. Hicksville, NY	130029	approx. 1 mile northeast of the subject property
Air Techniques, Inc.	70 Cantiague Rock Rd. Hicksville, NY	130040	approx. 0.9 mile northeast of the subject property
Anchor Lith Kemko (formerly Anchor Chemicals)	500 W. John St. Hicksville, NY	130021	approx. 1 mile northeast of the subject property
Depew Manufacturing	359 Duffy Ave. Hicksville, NY	130038	approx. 1 mile east of the subject property
General Instruments	600 W. John St. Hicksville, NY	130020	approx. 1 mile northeast of the subject property
Mattiace petroChemicals - MEK Spill - Hicksville	West John St. Hicksville, NY	130024	approx. 1 mile northeast of the subject property

The following description of these Inactive Hazardous Waste Disposal sites are taken from the NYSDEC Inactive Hazardous Waste Disposal Sites in New York State, Volume 2:

Depew Manufacturing

SITE DESCRIPTION:
This site is a dried up lagoon approx. 30 ft. x 50 ft., where industrial wastes were discharged over several years. Piles of fiberglass wastes, contaminated with dimethyl phthalate, are located on the property immediately adjacent to it.
A Phase I was completed in 1988. A preliminary site assessment is underway.

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Leaching of rainwater could contaminate underlying aquifers.

General Instruments

SITE DESCRIPTION:
The plant uses a variety of solvents and acids in the production of microelectronic components, and discharges its effluent to groundwater via a recharge basin. Violations of effluent limitations for the recharge have occurred repeatedly for fluoride, xylene, methylene chloride, ethylbenzene, trichloroethylene. The plant is now required to hook up into the county sewer system.
In 1980 a leak was discovered in an underground waste solvent tank causing soil and groundwater contamination. In 1982 two on-site monitoring wells were sampled. The shallow well exhibited elevated concentrations of phenols, trichloroethylene, perchloroethylene,

dichlorobenzene, xylene, 1,1,1-trichloroethene, and 1,2 dichloroethylene. Some of the contaminant concentration levels in the shallow well greatly exceed the NYS Groundwater Standards. These same contaminants were found in groundwater samples form the deeper well, but at significantly lower concentrations with only some of them exceeding standards. Off-site monitoring wells within one mile of the site were found to contain 1,1,2-trichloroethylene, 1,1,1-trichloroethene, and other chlorinated hydrocarbons. The site is situated in a groundwater recharge area. Nearby residents rely on groundwater as the sole source of water. Cleanup efforts, to date, include excavation of 25 cubic yards of contaminated soil, installation of monitoring wells, and design of a system for cleaning the affected groundwater.
The Draft workplan for an RI/FS is under review.

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Soil and groundwater contamination is evident.

ASSESSMENT OF HEALTH PROBLEMS:

Groundwater is the sole source of drinking water in the area and groundwater flow in the area is generally south. Contaminated groundwater has been detected in on-site monitoring wells. These wells contained levels of volatile organic compounds up to 28,000 ug/l. Industrial and monitoring wells downgradient of the site have also shown contamination of volatile organic compounds. The industrial wells are not used for drinking water, but have not been properly abandoned to date. Two public water supply wells 1300 and 2000 meters downgradient of the site have contained contamination in excess of NYS drinking water standards. One well is not currently in use and treatment is scheduled, and the other is closed indefinitely. Additional public supply wells 1000-2000 meters downgradient have not contained volatile organic compounds in excess of standards.

Mattiace PetroChemicals - MEK Spill - Hicksville

SITE DESCRIPTION:
This site is a tarmac surfaced, truck turning and parking area at the rear of Austin Drugs Warehouse. On February 17, 1983, a parked tank truck containing 7,170 gallons of pure methyl ethyl ketone (MEK) product overturned following collapse of the tarmac beneath it and spilled 4,783 gallons into the surrounding parking area and into 4 dry-well catch basin. The Hicksville Fire Department responded and attempted to contain the spillage inside a sand dike.
An estimated 1455 gallons of pure MEK was recovered. An estimated 3,328 gallons of MEK seeped into the sandy soil at the bottom of the dry wells and into the sandy soil at the bottom of the dry wells and into the 15-foot crack created when the tank truck broke through the tarmac. The incident resulted in a massive release of a substance confirmed to be hazardous into the aquifer used as a public drinking water supply.
There are seven water wells downgradient from the site.

A partial cleanup federally funded, was conducted in 1984.
Recent sampling by EPA indicates no MEK in groundwater.
EPA is negotiating with the PRP to recover cost.
Wells on site are scheduled to be sampled in 1991.

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Groundwater problems, soil contamination caused by the MEK spill.

ASSESSMENT OF HEALTH PROBLEMS:

Contamination of groundwater with methyl ethyl ketone (MEK) occurred in 1982. USEPA remediation has reduced MEK concentrations on-site. Westbury, Bowling Green, and Hicksville Water Supply District water supply wells are located 1000-2000 meters downgradient, south and southwest of the spill site. MEK has not been detected in these wells to date. The spill area is covered with asphalt, so contact with contaminated soil is not anticipated. Groundwater is 20 m below the soil surface, therefore seepage of contaminated water or soil vapors into basements is not anticipated.

AGO Associates

SITE DESCRIPTION:
In 1963, AGO Associates, a partnership formed by Charles Andromidas, Morris and Aaron Green, and James O'Connell, purchased this property, which was then a 35 to 45 foot deep sand pit covering about 10 acres. Between 1963 and January, 1979 the pit was filled with construction and demolition material. In 1974, the Nassau County Health Dept. discovered several drums containing industrial solvents, lacquers, and thinners. The drums, and any spillage were removed in January, 1974. Local residents recall that although a sign at the facility entrance advertised for "clean fill", all kinds of truckloads of waste were disposed there. NYSDEC took soil samples at the sit in September of 1987. A Phase I report was completed in September of 1989.

A State funded Phase II Investigation is currently in progress.

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Nearby wells are contaminated with solvents, but the source is unknown. Further investigation is necessary.

ASSESSMENT OF HEALTH PROBLEMS:

Groundwater is the sole source of drinking water in the area. The groundwater in the Upper Glacial Aquifer in the area surrounding the site is contaminated with chlorinated hydrocarbons above the NYS drinking water standards. One public water supply well downgradient of the site is closed and treatment is scheduled to be installed before the wells are used again. Another public supply well has been monitored monthly and no contamination has been found. The site is completely fenced, and any hazardous materials that may be present are buried by fill material and not accessible for human contact. Future investigations will determine whether this site contributed to the groundwater contamination in the area.

Air Techniques, Inc.

SITE DESCRIPTION:
During the construction of additional buildings at this site, drums were unearthed. Samples of soil in the vicinity of the drums have shown the presence of toxic chemicals.

Numerous drums and surrounding soil were removed from the site in 1988. A Phase I investigation has been completed. A Phase II work plan was submitted to DEC in March, 1991.

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Soil contamination has occurred. Groundwater contamination is possible.

ASSESSMENT OF HEALTH PROBLEMS:

On-site soil sample results indicate high levels of tetrachloroethene were detected at levels up to 2,600,000 ppb, trichloroethene at a level of 780 ppb, and toluene at a level of 81 ppb. The potential exists for contaminants to infiltrate the groundwater. The sampling data for several public supply wells for the Hicksville and Westbury Water Districts located within 2 miles of the site, indicate no contaminants of concern have been detected. There are no private drinking water wells within the area, the population receives drinking water from municipal well supplies. Even though the perimeter of the site is fenced, entrance to the property is not controlled, there is the potential for direct contact of the contaminated soils by workers and unauthorized persons. The only sampling completed to date are of soils and contents of the 55-gallon drums. All drums and surrounding soil was removed by Chemical Management Corporation. The data is insufficient to fully characterize the site.

New Cassel Industrial Area

SITE DESCRIPTION:
This site is a 170 acre industrial park that has operated from 1950 to the present. The industrial facilities have, over this period, either illegally discharged to the ground or spilled the following types of chemicals: chlorinated hydrocarbons, acids, metals, aliphatic solvents. A hazard to the environment and public health is evident due to the groundwater contamination and the potential to affect three (3) public water supply wells. These wells are located in the direction of groundwater flow from the industrial site.

Total VOC contamination was detected in 36 of 39 groundwater observation wells. Contamination ranged from 2 to 9,800 ppb. Of the 36 wells, 10 wells have contaminated levels between 10-100 ppb, 12 wells have contamination levels between 100-1000 ppb, and 6 wells have levels over 1000 ppb. The monitoring wells indicate the glacial and upper Magothy Aquifers are contaminated with organic compounds and the plume is migrating towards the three (3) public water supply wells. A state - funded investigation to determine the sources of the contamination within the industrial area is expected to begin early in 1992.

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Groundwater contamination has been confirmed.
Public water supply wells are located downgradient form the site.

ASSESSMENT OF HEALTH PROBLEMS:

Groundwater is the primary source of drinking water in the area, and contamination of groundwater has been confirmed. Monitoring wells located within the area contained several volatile organic compounds from 2 to 9,800 ug/L. Public water supply wells are located 300 to 500 meters downgradient of the industrial area. Monthly sampling of the public supply wells has not detected volatile organics in excess of NYS drinking water standards. No information is available about possible contamination of surface or subsurface soils with these volatile organic compounds in the 170 acre area encompassing the site.

Anchor Lith Kemko (formerly Anchor Chemical)

SITE DESCRIPTION:
Anchor Chemicals operated at the John St. location from 1964-86.
In 1978, Anchor Chemicals was purchased by Chesso Industries and is now known as Anchor-Lith Kem Ko. This facility blends and packs chemicals for the graphic art industry. Seventeen

storage tanks with capacities ranging from 1,000 to 2,000 gallons are located beneath the concrete floor of the building. Two of the six tanks containing 1,1,1-trichloroethane, and methylene chloride were found to be leaking.
Three monitoring wells were installed on site to determine if groundwater was contaminated by the leaking tanks. One monitoring well was installed at the northeast corner of the building and was considered to be upgradient. The other two wells were installed at the south end of the building. Analytical results confirmed the presence of contaminants.
This site poses a significant threat because 1,1,1-trichloroethene, methylene chloride, and tetrachloroethylene have been detected throughout the groundwater in both principal and deep confined aquifers. Highest concentrations have been found in industrialized areas and in shallow wells.
This is an accepted NPL site with a completed Phase I investigation. The negotiations between the PRP and USEPA for an RI/FS have been completed and the RI-FS is now underway.

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Soils and groundwater contamination confirmed.

ASSESSMENT OF HEALTH PROBLEMS:

High levels of VOCs have been detected in on-site groundwater.
Groundwater flow in the area is generally south, and groundwater is the sole source of drinking water in the area. Industrial and monitoring wells downgradient of the site have shown contamination with volatile organic compounds. The industrial wells are not used for drinking water, but have not been properly abandoned to date. Two public water supply wells 1300 and 2000 meters south of Anchor Lith Kemko have contained 1,1,1-trichloroethane and tetrachloroethene slightly in excess of NYS drinking water standards. One well is closed indefinitely, and the other is closed pending construction of water treatment facilities. Four additional public water supply wells within 2000 meters of the site have not shown contamination with periodic sampling.

c). Spill Logs

The NYSDEC spill logs for Region 1 were reviewed for the period of 1986 to August 1991. There were 32 reported spill incidents listed within an approximate 500-foot radius of the subject property:

Spill #	Date	Location	Material	Cause	Status
8605013	11/6/86	75 Garden St. Westbury, NY	#2 fuel oil	oil still in abandoned 25,000-gallon tank	C
8605257	11/17/86	522 Grand Blvd. Westbury, NY	#2 fuel oil	tank test failure	C
8605313	11/20/86	Kinkle St. Westbury, NY	waste oil	oily engine blocks staining ground	C
8605473	11/28/86	113 Rushmore St. Westbury, NY	waste oil	abandoned drums	C
8607973	3/28/87	81 Urban Ave. Westbury, NY	waste chemicals	fire in waste storage area	C

8701680	5/29/87	Grand Blvd. and Garden St. Westbury, NY	non-PCB waste oil	equipment failure	C
8704746	9/8/87	75 Urban Ave Westbury, NY	#2 fuel oil	tank test failure	C
8709453	2/6/88	96 Urban Ave Westbury, NY	#2 fuel oil	equipment failure	C
8807092	11/28/88	80 Magnolia Ave Westbury, NY	unknown contents	abandoned drums	C
8808166**	1/12/89	570 Main St Westbury, NY	#2 fuel oil	tank test failure	C
8808410	1/23/89	98 Magnolia Ave Westbury, NY	petroleum	spiller pumping spilled material into storm drain	C
8901709	5/19/89	139 Magnolia Ave Westbury, NY	#2 fuel oil	equipment failure	C
8902019	5/29/89	Grand St Westbury, NY	gasoline	traffic accident	C
8904605	8/8/89	572 Grand Blvd. Westbury, NY	diesel	tank test failure	C
8909190*	12/19/89	550 Main St Westbury, NY	gasoline	tank test failure of 4,000-gallon tank. No loss of product from tank. Possible crack in fillpipe.	C
8909691	1/2/90	74 Swalm St Westbury, NY	#2 fuel oil	equipment failure	C
8910447	1/26/90	675 Main St Westbury, NY	phenolic resin	human error	C
9000302	4/9/90	Garden St. at Dead End Westbury, NY	unknown materials	abandoned drums and 275-gallon tank	C
9002356	5/9/90	82 Grand St Westbury, NY	#2 fuel oil or diesel	oil in drywells	C
9006323	5/18/90	50 Urban Ave Westbury, NY	waste oil	equipment failure	A
9002442	6/1/90	68 Kinkel St Westbury, NY	petroleum	human error	C
9005134	8/8/90	Urban Ave & Old Country Rd Westbury, NY	lacquer thinner	abandoned drums	A
9005952	8/20/90	65 Rushmore St Westbury, NY	#2 fuel oil	tank test failure	A
9007619	10/10/90	512 Main St Westbury, NY	cutting oil	55-gallon drums leaking	A
9008929	10/30/90	275 Grand Blvd. Westbury, NY	sulfuric acid	human error	C
9010469	12/28/90	482 Grand Blvd. Westbury, NY	diesel	tank test failure	C

* Spill occurred at subject property
** Spill occurred at an adjacent property

Tank test failures indicate the possibility of oil or gasoline seepage to the surrounding soils or groundwater. Other spills (i.e. accidents, equipment failures, etc.) may only affect surface soils. 17 of the 26 reported incidents have been closed ("C"); the remaining nine are either still under remediation or pending closure ("A").

Spill #8909190 occurred on the subject property on December 19, 1989. An on-site underground 4,000-gallon storage tank failed a tank tightness test. Subsequent repairs on the piping system and testing of the tank system on January 8, 1990 proved the system tight (see Section III.K.iii.a. and III.K.iv. of this report). This spill incident has been closed by the NYSDEC.

d). Significant SPDES Facilities

Facilities with SPDES (State Pollution Discharge Elimination System) permits must submit routine monitoring reports to the government and are subject to regulatory review and compliance with discharge limits established by the NYSDEC and USEPA. SPDES permitees discharge to cesspools and/or local water bodies and may affect the quality of the groundwater and/or nearby waters.

A check was made of the NYSDEC list (March 1991) of significant SPDES facilities. There are no SPDES facilities within one mile of the subject property.

iii). Nassau County Department of Health

a). Freedom of Information Searches

A Freedom of Information Letter (FOIL) was sent on August 27, 1991 to the Nassau County Department of Health for information on waste disposal practices, underground tanks, water quality at the site. A response was received on September 19, 1991; there are files for the subject property at this agency.

The files were reviewed on September 26, 1991. According to the NCDOH - Bureau of Land Resource Management records made available to EEA, an Industrial Chemical Survey (Bureau of Water Pollution Control) was conducted at Royal Guard Fence Co., Inc. on December 4, 1984 by representatives of the NCDOH. The findings of this survey are summarized as follows:

- Royal Guard Fence Co., Inc. has conducted business at the subject property for approximately 20 years. Nature of operations consist of assembly of fencing and highway safety products (guard rails, suspended sign post structures, etc.).
- Business discharges liquid wastes (unknown constituents) to a municipally owned sanitary sewer system.
- Heating systems within the building are oil-fired and electric.
- Scrap metal is removed from the site by D.Markowitz of Deer Park.
- Toxic or hazardous materials listed at the site at the time of inspection are presented in the following table:

Name of Chemical	Average Annual Usage	Use of Chemical	Final Disposition of Chemical
paint thinner	25 gallons	cleaning and paint thinner	evaporates
xylene	1 gallon	spot cleaning	evaporates
muriatic acid	22 gallons	aluminum cleaning	washed to street
cutting oil	15 gallons	machining	recirculated or evaporates (used in field and shop)
paint (undercoating primer)	12 gallons	finish metal work	remains on product

According to the NCDOH - Bureau of Water Pollution Control records made available at the time of review, a letter, dated January 4, 1990, was sent to Mr. Ted Golik of Royal Guard Fence Co., Inc. from the New York State Department of Environmental Conservation regarding a spill that occurred at the subject property (Spill #89-09190 - noted in Section III.K.ii.c. of this report). A 4,000-gallon underground gasoline tank failed a Petrotite system test. NCDOH officials gave Royal Guard Fence Co., Inc. three options to determine if any contamination exists: prove that the Petrotite system test failed because of a piping leak and not a leak in the buried tank itself, excavate the buried tank in the presence of a representative of the NCDOH, or properly abandon the buried tank in place and install several 4" diameter PVC site wells. Representative of the NCDOH were to determine location and number of wells.

No follow-up information regarding this situation was found within available files reviewed. However, it should be noted that information provided by Royal Guard Fence Company, Inc. and Nassau County Fire Marshals records indicated the failed test on the buried 4,000-gallon gasoline tank was due to a piping leak, and the tank proved tight on subsequent tests performed after repairs. (see Section III.K.iv. of this report for Nassau County Fire Marshall records concerning this incident - December 15 and 28, 1989 and January 8, 1990).

b). Investigation of Contaminated Aquifer Segments - Nassau County Report

The June 1986 report on groundwater contamination in the area, Investigation of Contaminated Aquifer Segments - Nassau County, NY published by the Nassau County Department of Health and Dvinka & Martilucci, Syosset, NY) was reviewed (see Appendix B for portions of this report). Investigations of five highly contaminated aquifer segments in Nassau County are described in this report, including the analysis of groundwater quality in those areas. This investigation revealed that the groundwater underlying the New Hyde Industrial Area is contaminated with industrial chemicals.

A line of monitoring walls that follows the groundwater flow were installed and samples were tested for volatile organic chemicals. The closest well sampled in this survey to the subject property, well number NC2s, is either located on the subject property or just south of the subject property (see Figure 5). Well NC2s was found to contain upon analysis 2,927 parts per billion (ug/l) of total organic compounds, indicating significant contamination of groundwater in the vicinity of the subject property.

Additional groundwater monitoring data obtained from wells in the New Cassel indicated varying levels of groundwater contamination suggesting the entire New Cassel area surrounding the subject property is contaminated.

It should be noted that this investigation was primarily concerned with groundwater contamination and no assessment was made concerning potential soil contamination in this area.

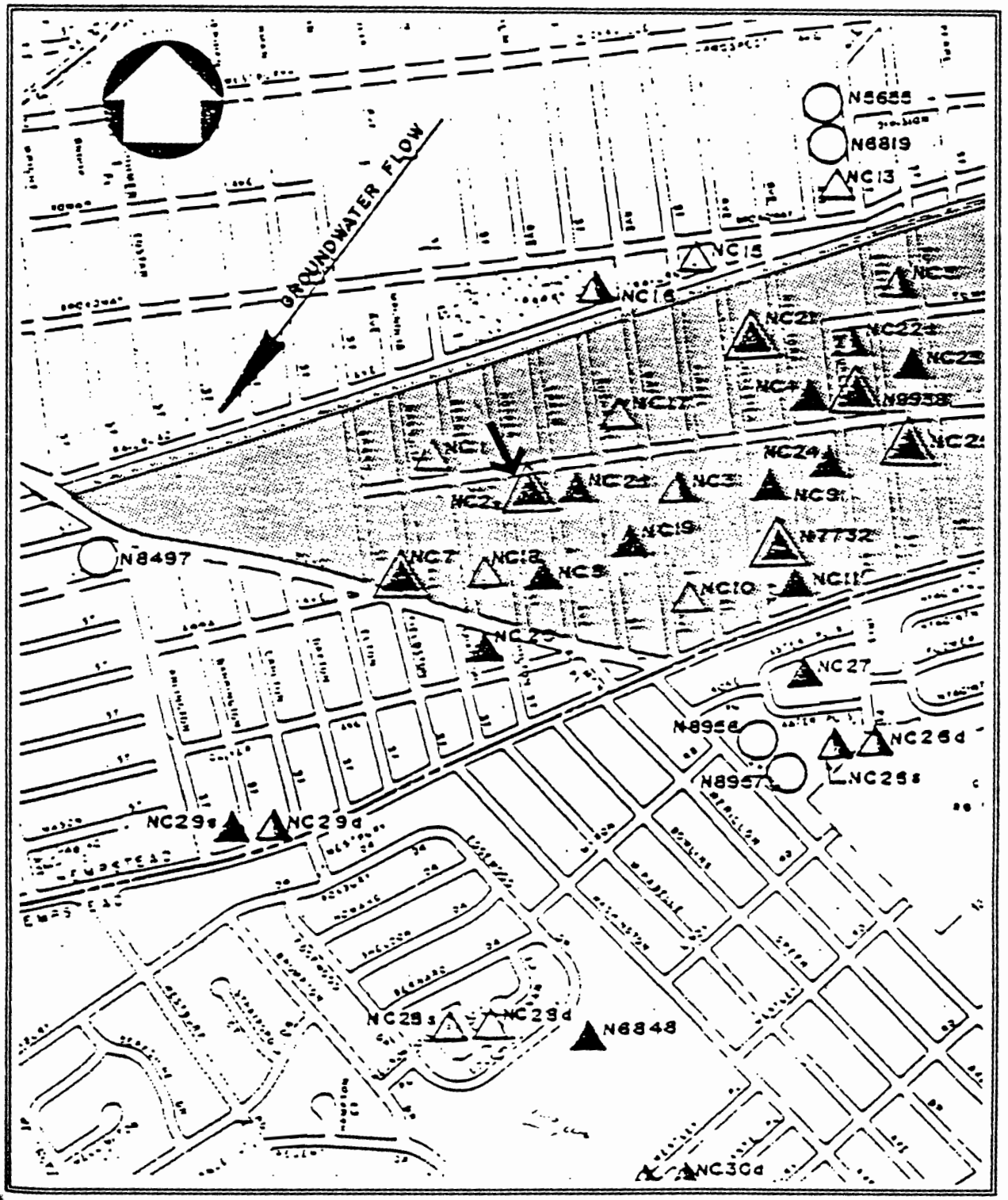
iv). Fire Department Records

A Freedom of Information Letter was sent on August 27, 1991 to the Nassau County Fire Marshal's Office (NCFM) to determine if any file exists for the subject property. A response was received on September 3, 1991.

The file was reviewed on September 27, 1991. According to the NCFM records made available at the time of review, the following information was indicated:

- A Town of North Hempstead Storage of Inflammable Materials permit to construct, and associated drawings, dated June 11, 1974, were reviewed. Permission to install a new, underground 2,000-gallon gasoline storage tank on-site was granted to Royal Guard Fence Co., Inc. by the NCFM. Location of this proposed tank would be on the southeast corner of Main Street and Hopper Street. Construction plans for the installation of this new 2,000-gallon underground tank indicated an existing underground storage tank on-site. From review of these plans, the existing tank appeared to be located in the center of the subject property.

- On June 26, 1974, an underground, 2,000-gallon gasoline storage tank tested tight. It could not be determined from review of NCFM records if this tested tank was the existing underground 2,000-gallon gasoline storage tank or the newly installed 2,000-gallon gasoline storage tank.



Subject Property Location
New Cassel Water Quality Map

Figure 5

- On April 14, 1978, an underground 4,000-gallon gasoline storage tank was installed on-site and was tested. This tank proved tight upon testing. Documentation was submitted by Royal Guard Fence Co., Inc. to the NCFM concerning this newly installed tank.

- On May 17, 1978, Mr. John Brocco of Royal Guard Fence Co., Inc. received a letter from the NCFM. The letter outlined the proper procedures for abandoning underground storage tanks. Letter stated that Royal Guard Fence Co., Inc. had to make a decision within two weeks from the date of the letter concerning on-site tanks. It could not be determined from review of this letter what tanks the NCFM were referring to.

- On October 28, 1981, an assessment of underground tanks at Royal Guard Fence Co., Inc. by the NCFM indicated that three on-site underground tanks (1,000-gallon diesel, 2,000-gallon diesel and 4,000-gallon gasoline tanks) were neither registered nor tank tightness tested.

- On November 20, 1981, a notice of violation (NOV) was sent to Royal Guard Fence Co., Inc. from the NCFM because the on-site underground tanks had not been registered and tank tightness tested, along with other on-site violations.

- On November 23, 1981, an Underground Flammable/ Combustible Liquid Tank Registration form was submitted by Royal Guard Fence Co., Inc. to the NCFM. The tanks included on this registration form were a 4,000-gallon steel, underground gasoline tank (installed April 14, 1978) and a 2,000-gallon steel, underground diesel tank (installed June, 1974). NCFM issued a registration permit for the facility on December 11, 1981.

- On November 25, 1981, the NCFM received an acknowledgement letter form Royal Guard Fence Co., Inc. concerning the notice of violation (NOV) letter sent by the NCFM on November 20, 1981. A completed Underground Flammable/Combustible Liquid Tank Registration form and tank tightness results for the underground 4,000-gallon gasoline tank and 2,000-gallon diesel tank were submitted to the NCFM by Royal Guard Fence Co., Inc.

- On March 31, 1986, documentation of tank tightness test results for two on-site underground storage tanks (4,000-gallon gasoline and 2,000-gallon diesel) was submitted by Royal Guard Fence Co., Inc. to the NCFM. Both tanks passed tank tightness tests. Tests were performed by Larry E. Tyree, Co. of Farmingdale, New York.

- On September 4, 1989, a letter was sent to Royal Guard Fence Co., Inc. by the NCFM indicating the on-site underground storage tanks (4,000-gallon gasoline and 2,000-gallon diesel) needed to be tightness tested. Information was also provided to Royal Guard Fence Co., Inc. from the NCFM indicating any on-site, underground steel storage tanks, over 1,000-gallons in capacity and installed prior to February 23, 1976 must be replaced, removed or permanently abandoned by February 23, 1990.

- On December 19, 1989, the on-site underground storage tanks (4,000-gallon gasoline and 2,000-gallon diesel) were both tank tightness tested. The 2,000-gallon diesel tank passed and the 4,000-gallon gasoline tank failed. Tests were performed by Larry E. Tyree, Co. of Farmingdale, New York.

- On December 28, 1989, the 4,000-gallon underground storage tank was retested following repairs to the tank fill line and still failed the tightness test. Tests were performed by Larry E. Tyree, Co.

- On January 8, 1990, the 4,000-gallon tank passed after numerous repairs performed on the tank by Larry E. Tyree, Co.

- A note in the file indicated that, as of March 8, 1990, the on-site 2,000-gallon underground diesel tank had not been properly abandoned, as required by NCFM regulations.

IV. SCOPE OF WORK

This Phase I Environmental Site Assessment involves research into the history of uses of the site, which includes checks with government agencies on permits and violations, and a visual inspection of the facilities and property to determine the possible presence of toxic and hazardous materials. An evaluation is then made regarding the potential for significant site contamination from toxic or hazardous materials from past or present use. Since the Phase I scope of work does not include testing of subsurface soils or groundwater, no definitive assessment of soil or groundwater contamination (from on-site or off-site sources) is made. If indications of potential significant site contamination are found, then testing (Phase II) may be recommended.

Historical site use evaluation is important in the assessment of the likelihood of past releases of hazardous substances (which include petroleum products), including releases from off-site sources. Sources of historical information include:

- Local library documents (maps, atlases, directories).
- Interviews of current site operators, adjacent site operators, neighbors or other "old timers."
- Engineering Department for aerial photographs, topographic maps.
- Building Department for building history, compliance records, demolition and modification permits.
- Fire Department and County Health Departments for permits for fuel oil tanks, and for the bulk storage of other flammable materials, and records of environmental violations, storage issues, ground water problems, hazardous waste spill records, leaching pool permits, underground tanks, and location and condition of private and public drinking water wells.
- Tax Assessors Office for tax maps, historical property owners and field cards.
- New York State Department of Environmental Conservation for hazardous waste spill records, and the location and status of inactive hazardous waste disposal sites.
- U.S. Environmental Protection Agency for location of Superfund and CERCLIS sites, and Hazardous Waste Handlers, as well as other information (if the site has been involved with certain compliance issues).

A visual site inspection is performed to ascertain present site usage and the potential for significant contamination by toxic or hazardous materials. The property, and any buildings on it, is investigated with the following objectives:

- to identify sources of potential on-site contamination, such as underground storage tanks, dry wells, interior floor drains, PCB transformers, asbestos containing materials, urea formaldehyde, radon gas, etc.

- to examine the property for signs of potential contamination: discolored ground, unusual odors, stressed vegetation, improperly stored drums, oil slicks, etc.

- to identify the quantity and type of toxic or hazardous substances used in the operation of on-site business (through Materials Safety Data Sheets, product invoices, and reports to the regulatory agencies).

- to determine if the handling and disposal of toxic and hazardous materials are undertaken in accordance with local and state laws, and good practice. Chemical storage areas and waste removal manifests are checked.

- to identify potential off-site sources of contamination. Adjacent business are noted, along with topography and surface water drainage patterns.

- to identify on-site or adjacent off-site sensitive receptors, such as wetlands, surface waters, wells, etc.

Not all of the objectives described above are applied to every site; audits are tailored to the nature of the site. It should be noted that information from regulatory agencies may be incomplete or unavailable within a reasonable time period. In addition, no judgment is made with respect to the facility's compliance with worker exposure standards established by the Occupational Safety and Health Administration (OSHA).

V. QUALIFICATIONS

EEA, Inc. (a.k.a. Energy & Environmental Analysts, Inc.) is an environmental consulting firm that has undertaken environmental pollution and development feasibility and risk studies since 1979. These site evaluation studies have been prepared for major lenders, public corporations, businesses, developers and governmental agencies. Over 1000 parcels were evaluated in the metropolitan New York-New Jersey area during the past three years, ranging from Phase I Environmental Audits to comprehensive soil, water, and asbestos testing programs. EEA also prepares bid specifications for remediation programs and supervises site cleanup.

EEA's principals and senior managers for the hazardous waste investigations each have over 15 years experience in environmental consulting, with established credentials in the field.

VI. DISCLAIMER

This report is for use as a supplement to the property appraisal, and is only to be used as a guide in determining the possible presence of toxic or hazardous materials on the subject property at the time of the inspection. This Phase I Environmental Site Assessment was undertaken in accordance with generally accepted assessment protocols. This report is based principally on the review of available historic and regulatory records (which may be incomplete or unavailable within a reasonable time period) relating to past occupants and usage of the subject property, as well as activities at nearby sites, and upon a visual assessment of the property at the time of the inspection, and makes no determinations with respect to portions of the premises which were not inspected.

This Phase I investigation does not involve any sampling, testing, or laboratory analysis of subsurface soils, groundwater or other substances on site (with the exception of possible limited asbestos testing), but constitutes only the professional opinion of EEA, Inc. based on established procedures and protocols. This Phase I report is not, and should not be construed as, a guaranty, warranty, or certification of the presence or absence of toxic substances, which can be made only with testing, and contains no formal plans or recommendations to rectify or remediate the presence of any toxic substances, which may be subject to regulatory approval.

Any and all liability on the part of EEA, Inc. shall be limited solely to the cost of this survey report. EEA, Inc. shall have no liability for any other damages, whether consequential, compensatory, punitive, or special, arising out of, incidental to, or as a result of, this survey and report. EEA, Inc. assumes no liability for the use of this survey or report by any person or entity other than the institution for whom it has been prepared.

APPENDIX A

AGENCY FOIL REQUESTS

THOMAS S. GULOTTA
COUNTY EXECUTIVE

JOHN R. SPECHT
FIRE MARSHAL

NASSAU COUNTY FIRE COMMISSION
OFFICE OF FIRE MARSHAL
899 JERUSALEM AVENUE
P.O. BOX 128
UNIONDALE, NEW YORK 11553
516-566-5200

APPLICATION FOR PUBLIC ACCESS TO RECORDS

TO: Records Access Officer **DATE:** 8/27/91

I hereby apply to inspect the following record: (Exact address including Number & Street)

55 Main Street, Westbury, NY

Reason for inspection: (Be specific)

As the Environmental Consultant to the lender, we need to inspect any and all files pertaining to tanks, permits, applications, bulk storage, violations, chemicals, etc.

Kathleen M. Gallery
Name (Please Print)

Kathleen M. Gallery
Signature

E.E.A. Inc.
Representing (Business Name)

Mailing Address: 55 Hilton Avenue

Phone No.: (516) 746-4400

Pending Litigation YES ☐ NO ☒

Person or Firm your office represents

NAT West

Address

FOR FIRE MARSHAL USE ONLY

- ☐ Approved
- ☐ Denied for reason(s) checked
- ☐ Confidential Disclosure - Part of Investigatory Files
- ☐ Unwarranted Invasion of Personal Privacy
- ☐ Record of which this Agency is Legal Custodian, cannot be found
- ☐ Record is not Maintained by this Agency
- ☐ Exempted by Statute other than Freedom of Information Act
- ☐ Other _____

Signature _____ Title _____ Date _____

NOTICE: You have a right to appeal denial of this application to the head of this agency.
Fire Marshal _____, 899 Jerusalem Avenue, PO Box 128, Uniondale, NY 11553, who must fully explain his reasons for such denial in writing within seven days of receipt of an appeal.

Notice of Appeal: _____ _____
Signature Date

ACCESS[011491]

APPLICATION FOR PUBLIC ACCESS TO ENVIRONMENTAL HEALTH RECORDS
NASSAU COUNTY DEPARTMENT OF HEALTH
Complete one Application Form for Each Establishment
(See Instructions on Reverse Side)

TO: Records Access Officer
Nassau County Department of Health
240 Old Country Road
Mineola, New York 11501
Fax: 535-3369

Date of Request 8/27/91

I HEREBY APPLY TO INSPECT THE FOLLOWING RECORD: AUD-91288

Name of Establishment Royal Guard Fence Co. Inc.	Previous Name unknown
Address (No., Street, Town) 550 Main Street Westbury	
Still in business? (Yes) No If out of business, enter year put out ____ (This information is necessary in order to retrieve the file.)	
Print Your Name KATHLEEN GALLERY	Signature Kathleen M Gallery
Your Mailing Address 55 Hilton Ave., Garden City NY 11530	Phone (516) 746-4400 / Fax No. (516) 746-4432
Name of Firm You Represent EEA, INC.	Name of Your Client Dit West
Type of Information Needed (e.g. previous food poisoning, oil tanks in ground, chemicals)	TANKS, PERMITS, VIOLATIONS, CHEMICALS, AND ANY OTHER INFORMATION AVAILABLE.

Which of the following Bureaus should be considered for a record search?
(See reverse side for type of information available in each Bureau.)

- ☒ Environmental Sanitation
- ☐ Air Quality Management
- ☒ Public Water Supply
- ☒ Water Pollution Control
- ☒ Land Resources Management
- ☐ All of the above

FOR AGENCY USE ONLY

- ☐ Approved
- ☐ Denied For the Following Reason(s):

Signature	Title	Date

NOTICE: YOU HAVE A RIGHT TO APPEAL A DENIAL OF THIS APPLICATION TO THE COUNTY ATTORNEY'S OFFICE, 1 WEST STREET, MINEOLA, NEW YORK 11501

THE COUNTY ATTORNEY'S OFFICE MUST FULLY EXPLAIN THE REASONS FOR A DENIAL IN WRITING WITHIN SEVEN WORKING DAYS OF AN APPEAL.

☐ I HEREBY APPEAL THE ABOVE DECISION

Signature	Date

274A 4/90

EEA Inc.
Environmental Consultants
To Industry And Government

55 Hilton Avenue
Garden City, New York 11530
Telephone (516) 746-4400
(212) 227-3200

Mrs. Roslyn L. Orenstein
Regional Records Access Officer
NYSDEC- Region 1
SUNY Stony Brook- Building 40
Stony Brook, New York 11790-2356

Re: FOI Request: "Royal Guard Fence Co, Inc."
552 Main Street
Westbury, NY
8/27/91 Aud-91288

Dear Mrs. Orenstein,

I represent a consulting firm that has been engaged to perform an Environmental Audit at or near the above referenced property.

Please submit this request to the following divisions/bureaus:

___ Air	X Bulk Storage	X Solid Waste
X Hazardous Waste	X H W Remediation	___ Pesticide
X Regulatory Affairs	___ Oil Spills	___ Water/SPDES
___ Water/Potable	___ Fish & Wildlife	___ Tidal Wtlnd
	X Legal Affairs	

We are interested in any information on file in the bureaus identified for the above referenced site. We are requesting the opportunity to inspect any files your offices may have. If possible, please send a copy of the file(s) if they are not overly extensive, as we will pay any reproduction fees necessary.

Thank you for your cooperation regarding this matter.

Sincerely yours,

Kathleen M. Gallery

Kathleen M. Gallery
Asst. Investigator

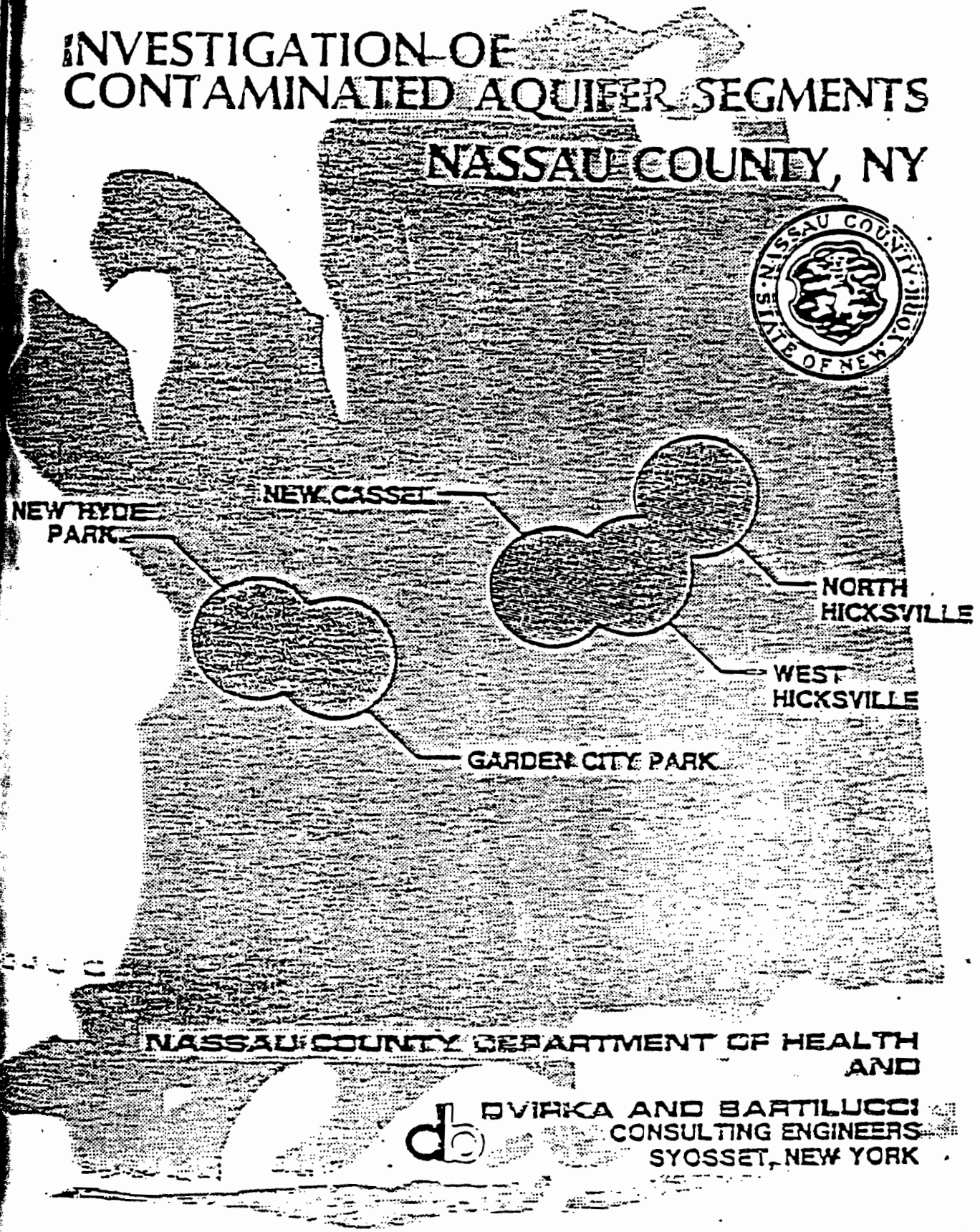
KMG:me

APPENDIX B

INVESTIGATION OF CONTAMINATED AQUIFER SEGMENTS - NASSAU COUNTY, NEW YORK (NEW CASSELL)

INVESTIGATION OF CONTAMINATED AQUIFER SEGMENTS

NASSAU COUNTY, NY



NASSAU COUNTY DEPARTMENT OF HEALTH
AND
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SYOSSET, NEW YORK

June 1986

3.2 New Cassel

3.2.1 Site Description

New Cassel, shown in Figure 3-1, is an almost triangular shaped portion in the Town of North Hempstead with a total area of about three square miles. The northern borders are Brush Hollow Road east of Westbury and Cantiague Lane. The southern border is Old Country Road north of Bowling Green in the Town of Hempstead.

Most of the wells drilled as part of this study are located in the southern part of New Cassel near Railroad Avenue and north of Old Country Road between Grand Boulevard and Wantagh State Parkway. Three wells are located just north of Railroad Avenue and five wells are located south of Old Country Road in Bowling Green. Well locations are shown in Figure 3-2. This Figure also shows land use in the area.

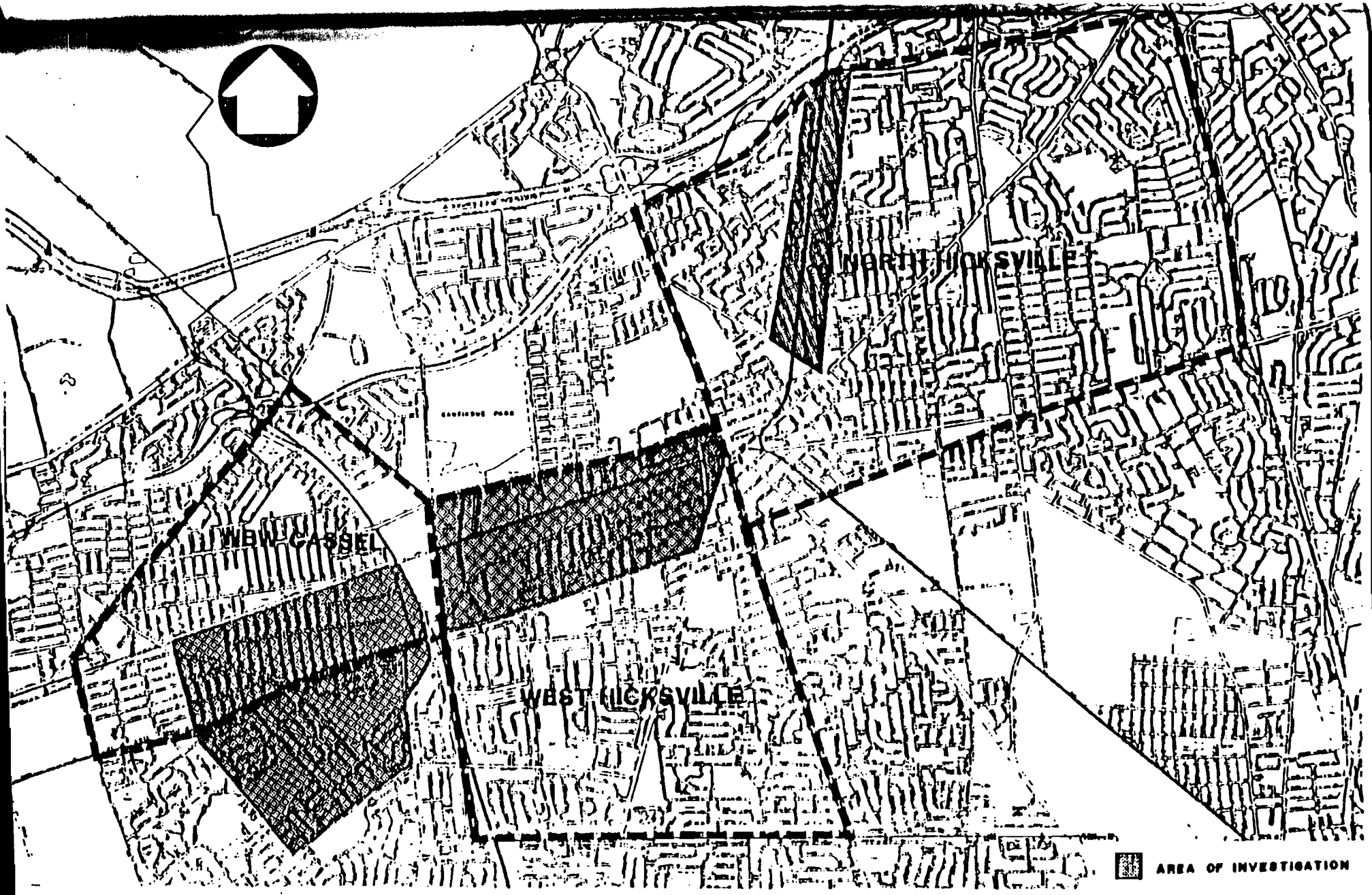
The major land uses are residential, industrial, commercial and institutional. The residential area, located in the northern and southwestern part of New Cassel is of medium density with five to ten dwelling units per acre. Institutions (such as

schools) are located within the residential areas. Commercial activity is concentrated on elongated strips along Prospect Avenue and along Old Country Road. Intensive industrial activity is concentrated between the Long Island Railroad and Old Country Road and north of the railroad west of Grand Avenue.

The area is serviced by the Town of North Hempstead Westbury Water District. New Cassel is part of Nassau County Sewage Disposal District #3 and the industrial area has been sewered since 1979. The area was developed about 30 to 40 years ago and growth since that time has been marginal. The 1980 population was 9,635, an increase of about 900 from 1970.

There are no known active or former landfills in New Cassel, however, there is a municipal landfill owned by the New York State Department of Parks and Recreation adjacent to the area on Duffy Avenue in Hicksville that accepts agricultural wastes, leaves, street sweepings and rubbish. There is also a former landfill on West John Street, east of Charlotte Street in Hicksville.

According to the Nassau County Department of Health, the only documented occurrence of groundwater contamination (prior to 1977) is from Jarco Metal Products Corporation located on Grand Avenue south of the railroad tracks. From at least 1952 to 1964, wastes were discharged directly into settling lagoons and cess-



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LOCATION MAP OF NEW CASSEL,
WEST HICKSVILLE AND NORTH HICKSVILLE

FIGURE NO.
3-1

pools. The groundwater was found to be contaminated with cyanide and hexavalent chromium. The contribution of this firm to contamination by organic compounds is unknown because organic chemical usage is not available and analytical methods were not developed until the mid 1970's to determine the presence of synthetic organics in water.

Information on the current industrial profile of New Cassel indicates that the area is heavily industrialized with a wide variety of industrial categories, including chemical, electrical, plastics and steel production facilities. Table 3-1 provides an industrial profile of the area from 1977 to 1985 and estimates annual organic chemical usage.

There are a number of facilities listed under either State Pollutant Discharge Elimination System (SPDES) discharge permit or NYS Part 360 permit. Known SPDES violations due to spills, illegal disposal of hazardous wastes or other violations are summarized below:

- Drum spill on June 7, 1984 (estimated to be 30-40 gallons of solvent) at 806 Oliver Avenue. Analyses of the drum material reported to be 1,1,2-trichloroethane at 2,000 ppm and 1,1,1-trichloroethane at 10,000 ppm.

o Tishcon Corporation - two reported spills on September 19, 1984 off Brooklyn Avenue between Old Country Road and Main Street

- 30 to 40 gallons of bright pink liquid
- unknown white liquid around drywell

Analyses reported to be 1,1,1-trichloroethane at 6,500 ppb, 1,1-dichloroethane at 450 ppb and trichloroethylene at 34 ppb. (This site has been cleaned up.)

o Royal Athletic Supply Company - 120 Hopper St. - Complaint on November 29, 1979 about washing out 55 gallon drums in the street. The material is unknown.

3.2.2 Geology

The study wells in New Cassel tap the glacial and the upper Magothy aquifer. A hydrogeologic cross section is shown in Figure 3-3.

The upper glacial formation consists mainly of sand and gravel deposits with some cobbles in an unstratified mixture. The upper glacial aquifer is about 50 feet thick in the New Cassel area. This correlates with United States Geological Survey (USGS) information for this area.

The Magothy aquifer consists mainly of fine to medium sand with traces of silt and clay. The top of the Magothy is found at approximately 50 feet below the surface in New Cassel. Although scattered clay layers exist, the layers are not continuous in these wells, even at distances as close as 400 feet apart.

TABLE 3-1

INDUSTRIAL PROFILE OF NEW CASSEL

Source: NCHD Industrial Survey Program

Name	Location	Organic Chemicals Used	Amount Used, Stored, Disposed, etc. Since 1977
Duramed Pharmaceuticals	72 Sylvester St.	1,1,1 trichloroethane Methylene chloride	1 drum 1 drum
Custom Coatings Inc.	36 New York Ave.	Methylene chloride Chloroethene	200 gals/yr 200 gals/yr
Avanel Industries Inc.	121 Hopper St.	1,1,1 trichloroethane	35 gals/yr
Advance Food Service Equpt.	750 Summa Ave.	1,1,1 trichloroethane	330 gals/yr
Perma Fuse Corp.	675 Main St.	1,1,1 trichloroethane Toluene Kerosene	200 gals/yr 2000 gals/yr 600 gals/yr
Hamilton Avnet Electronics Inc.	70 State St.	Trichloroethylene Methyl ethyl ketone	55 gals/yr 300 gals/yr
Autronics Plastics	18 Sylvester St.	Toluene	120 gals/yr
Kwik-Eeze Corp.	54 Brooklyn Ave.	1,1,1 trichloroethane Toluene	1 gal/yr 1 gal/yr

TABLE 3-1 (continued)

INDUSTRIAL PROFILE OF NEW CASSEL

Source: NCIID Industrial Survey Program

Name	Location	Organic Chemicals Used	Amount Used Stored, Disposed, etc. Since 1977
LAKA Industry Inc.	62 Kinkel St.	Trichloroethylene	55 gals/yr
Holmes & Sons Inc.	84 New York Ave.	Methylene chloride	165 gals/yr
Warren Machine Co.	117 Urban Ave.	Methyl ethyl ketone	25 gals/yr
Molla Inc.	110 State St.	Paint thinner	2000 gals/yr
Bernite Products Inc.	84 New York Ave.	Methylene chloride Tetrachloroethylene	2000 gals/yr 500 gals/yr
Guillotine Splicer Co.	45 Urban Ave.	1,1,1 trichloroethane	12 gals/yr
Anthonsen's All Metal Prods.	630-640 Main St.	Methyl ethyl ketone	200 gals/yr
Sew Simple Inc.	115 Frost St.	Ink	300 gals/yr
Alltronics	45 Bond St.	Trichloroethane	600 gals/yr

TABLE 3-1 (continued)

INDUSTRIAL PROFILE OF NEW CASSEL

Source: NCHD Industrial Survey Program

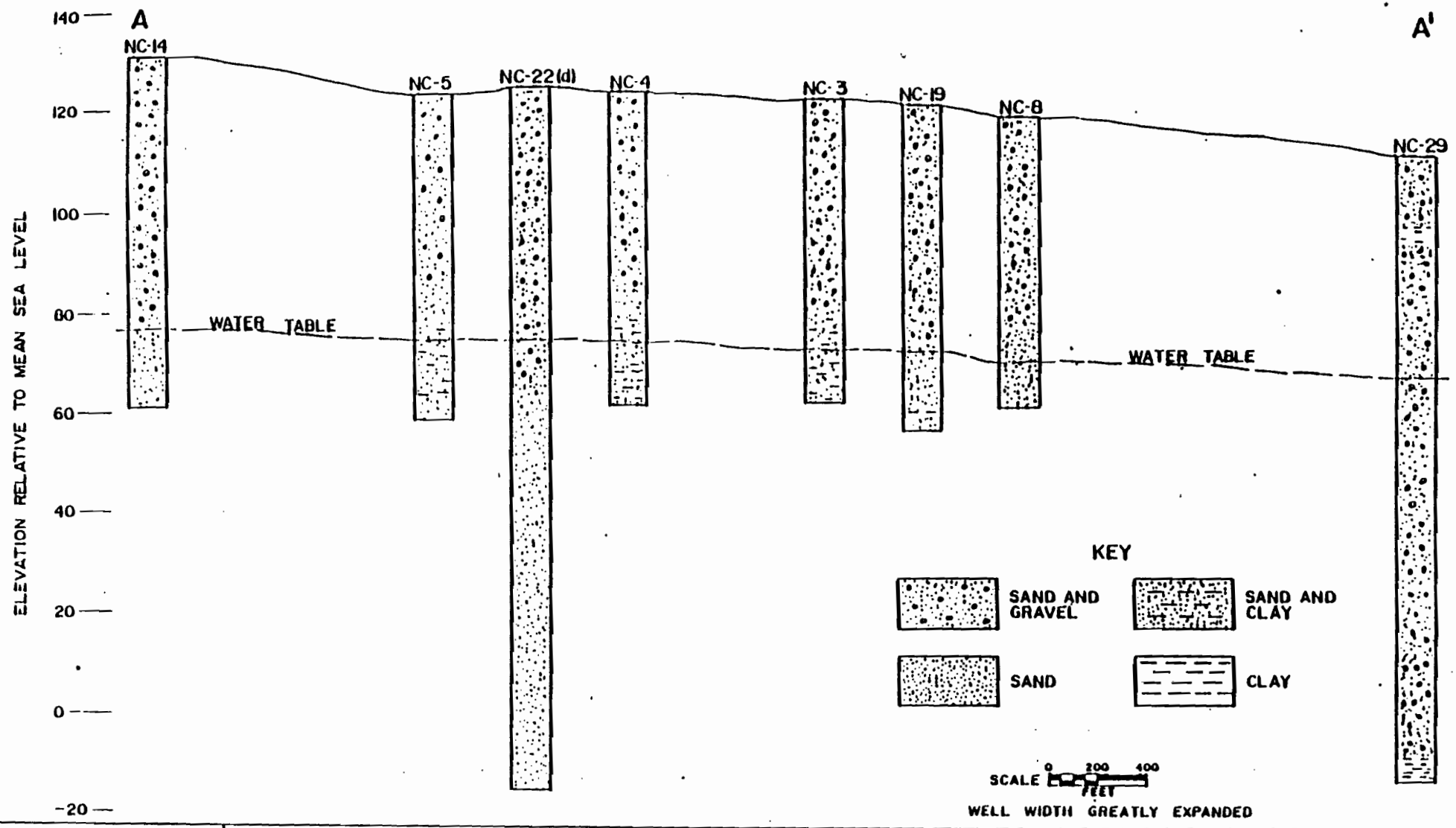
Name	Location	Organic Chemicals Used	Amount Used, Stored, Disposed, etc. Since 1977
Arkwin Industries Inc.	686 Main St.	1,1,1 trichloroethane Methyl ethyl ketone	450 gals/yr 110 gals/yr
Atlas Graphics Inc.	567 Main St.	Trichloroethylene	312 gals/yr
Adchem Corp.	625 Main St. 85 New York Ave.	Toluene Methyl ethyl ketone	30,000 lbs/yr 30,000 lbs/yr
Bilt-Rite Steel Buck. Corp.	95 Hopper St.	Xylene	670 gals/yr
Dionics Inc.	65 Rushmore St.	Trichloroethylene Xylene	1000 gals/yr 100 gals/yr
Herbert Products Inc.	180 Linden Ave.	1,1,1 trichloroethane	4 gals/yr
Huron Tool & Cutting	75 State St.	Trichloroethane	20 gals/yr
IMC Magnets Corp.	570 Main St.	Tetrachloroethylene Methyl ethyl ketone Xylene	600 gals/yr 25 gals/yr 120 gals/yr

TABLE 3-1 (continued)

INDUSTRIAL PROFILE OF NEW CASSEL

Source: NCHD Industrial Survey Program

Name	Location	Organic Chemicals Used	Amount Used, Stored, Disposed, etc. Since 1977
International Ribbon & Carbon	49 Sylvester St.	1,1,1 trichloroethane	500 gals/yr
Island Transportation Corp.	299 Main St.	Trichloroethylene	80 gals/yr
Kaeonicks Inc.	700 Summa Ave.	1,1,1 trichloroethane	5-10 gals/yr
Westly Displays Inc.	589 Main St.	Toluol	10 gals/yr
Utility Mfg. Co.	700 Main St.	Trichloroethane	1500 gals/yr
Applied Fluids	770 Main St.	Methyl ethyl ketone Trichloroethylene	10 gals/yr 10 gals/yr
Parfuse Corp.	65 Kinkel St.	Tetrachloroethylene	55 gals/yr



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NEW CASSEL
HYDROGEOLOGIC CROSS SECTION A-A'

FIGURE NO.
3-3

3.2.3 Hydrology

Regional groundwater flow direction in the New Cassel area is towards the southwest. This regional flow regime is evident in water level measurements taken from the New Cassel study wells, where water levels are found to be 76 feet above mean sea level in the northern area versus levels as low as 66 feet above mean sea level in the southwest. The contoured water levels for this area (Figure 3-4) show at least two modifications to the regional flow regime. Based on all available water level measurements and a resurvey of well elevations, well NC-12 is situated on what may be a local groundwater mound. NC-8 may may also be a local mound, however, only the most recent reading indicates the slightly higher water level for NC-8. Well NC-9 may be a local water table depression. This lower water level is consistent with other reported values for the past year. These local permutations to the groundwater regime may be the result of unknown pumping and recharge in New Cassel, or a survey error.

With regard to vertical flow in the New Cassel area, the static water levels in the shallow and deep cluster wells are not consistent. NC-2 did not demonstrate any appreciable difference in water levels between the shallow and deep wells. Well NC-26 showed a downgradient component of flow in the most recent reading, however, in a previous reading, the situation is reversed

into an apparent groundwater upwelling based on the static water level measurements. In NC-28 where only one set of water level measurements are available, there is an apparent downward component of groundwater flow.

Although a determination of recharge/discharge characteristics cannot be inferred due to the data inconsistency obtained in this study, on a regional scale, New Cassel is in the deep recharge zone. Because the glacial and Magothy aquifers are hydraulically connected, contamination in the glacial aquifer is likely to migrate into the Magothy.

Additional data is necessary to determine an accurate and consistent picture of the local groundwater flow regime in this area.

3.2.4 Analytical Results and Findings

A total of 35 wells were installed in the New Cassel area as part of this groundwater investigation. The wells were sampled one to three times from December 1984 to February 1986. ~~Seventeen~~ Fifteen of the 35 wells sampled as part of the New Cassel groundwater investigation exceed New York State guidelines for organic compounds in drinking water as do three existing wells in the area. One additional well also exceeds proposed Federal maximum limits for drinking water.

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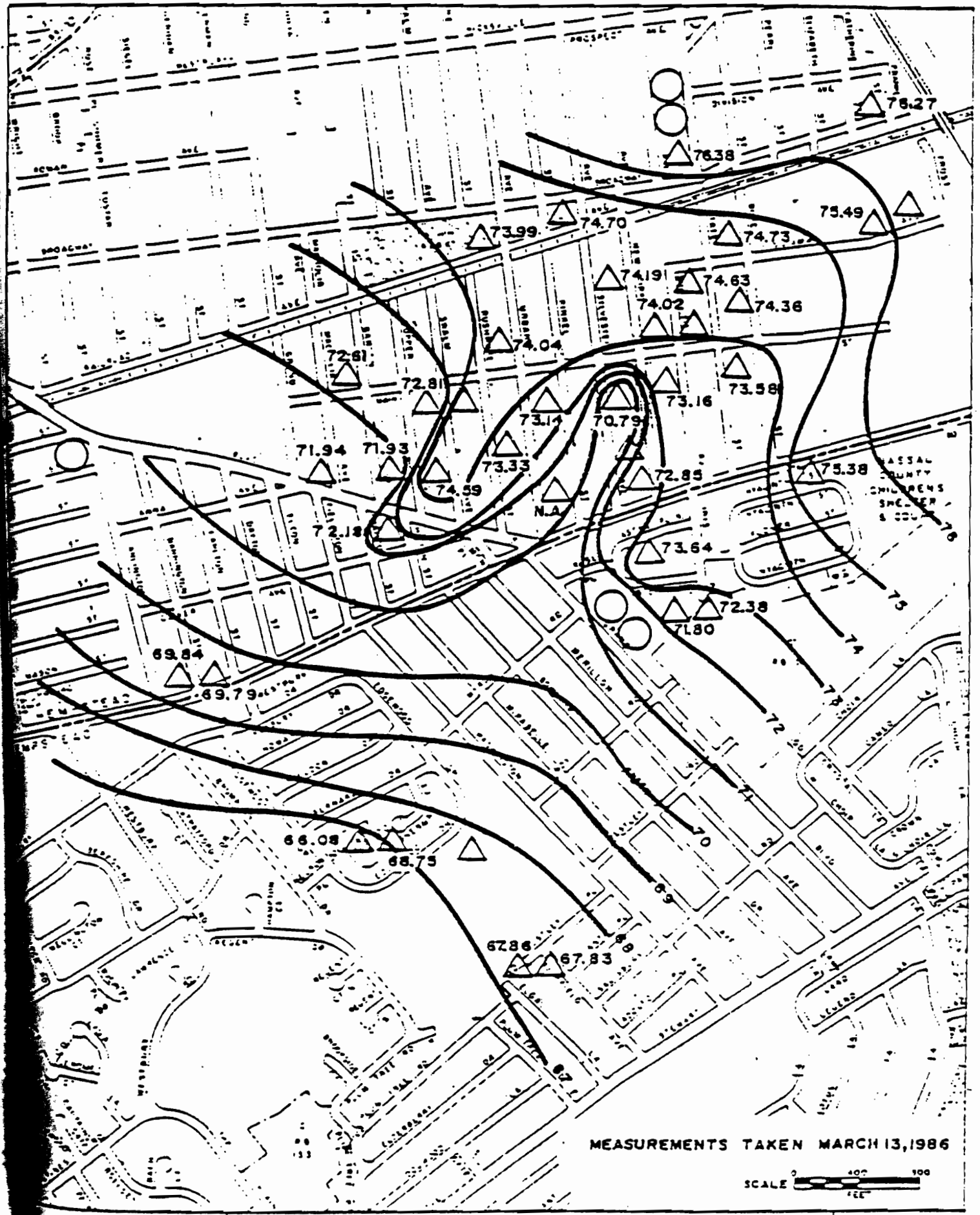
NEW CASSEL
WELL LOCATION AND IDENTIFICATION

FIGURE NO.
3-2



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NEW CASSEL
WATER LEVEL CONTOURS

FIGURE NO.

Analytical results are shown in Table 3-2 and total organic compounds are summarized in Table 3-3. A graphic representation of analytical results for total organic compounds is shown in Figure 3-5.

Wells exhibiting significant contamination with mean values greater than 1000 ug/l of total organic compounds are NC-2s (2,927 ug/l); NC-7 (3,150 ug/l); NC-21 (1,023 ug/l); NC-25 (1,822 ug/l); N7732 (2,726 ug/l); and N9938 (9,800 ug/l). These wells are less than 2,400 feet from each other, and some are as close as 400 feet.

Principal contaminants in these wells are 1,1,1-trichloroethane; tetrachloroethylene; trichloroethylene; 1,1-dichloroethane; and (analyzed jointly) methylene chloride/1,1,2-trichlorotrifluoroethane/1,1-dichloroethylene.

These heavily contaminated wells are typically about 60 feet deep, however, two wells are deeper: N9938 is 80 feet deep and N7732 is 108 feet deep.

There are 12 wells with total organic compounds between 100 and 1000 ug/l:

Well No.	Total Organic Compounds (ug/l)
NC-2d	797
NC-4	503
NC-8	714
NC-9	532
NC-11	206
NC-19	112
NC-20	401
NC-23	127
NC-24	735
NC-27	344
NC-29s	873

Principal contaminants are 1,1,1-trichloroethane; tetrachloroethylene; trichloroethylene; chloroform; cis and trans-1,2-dichloroethylene; and (analyzed together) methylene chloride/1,1,2-trichlorotrifluoroethane/1,1-dichloroethylene.

These wells are also less than 4,000 feet from each other and some are as close as 400 feet.

There are seven wells with concentrations of total organic compounds between 10 and 100 ug/l:

Well Number	Total Organic Compounds (ug/l)
NC-3	35
NC-5	15
NC-16	16
NC-26s	14
NC-26d	22
NC-29d	48
NC-30d	27

The principal contaminants are tetrachloroethylene; 1,1,1-trichloroethane; trichloroethylene; and (analyzed jointly) methylene chloride/1,1,2-trichlorotrifluorethane/1,1-dichloroethylene. Four of these wells are about 65 feet deep, and three are about 120 feet deep.

Sixteen wells had non-detected to 10 ug/l of total organic compounds. Seven of these had no reported concentrations above the detection limit: NC-6; NC-14; NC-28s; N6819; N8497; N8956; and N8957. Three of these wells are about sixty feet deep; the remaining three are greater than 500 feet deep. One of these

TABLE 3-3

NEW CASSEL - CONTAMINATED AQUIFER SEGMENTS
TOTAL ORGANIC COMPOUNDS
DATA SUMMARY
(ug/l)

New Cassel	Depth* (Feet)	Mean	Range	Median	Number of Data Points
NC-1	60	2	1-3		2
NC-2s	57	2927	2554-3557	2798	4
NC-2d	120	797			1
NC-3	60	35	24-45		2
NC-4	62	503	188-818		2
NC-5	67	15	8-22		2
NC-6	62	0	0-0		2
NC-7	57	3150	518-5782		2
NC-8	57	714	481-946		2
NC-9	59	532	527-537		2
NC-10	58	2	2-2		2
NC-11	58	206	200-211		2
NC-12	57	6	3-9		2
NC-13	68	8			1
NC-14**	68	0			1
NC-15	66	5			1
NC-16	64	16			1
NC-17	64	2			1
NC-18†	60	8			1
NC-19	62	112			1
NC-20	60	401			1
NC-21	63	1023			1
NC-22d	125	10			1
NC-23	64	127			1
NC-24	65	735			1
NC-25†	60	1822			1
NC-26s	62	14			1
NC-26d	120	22			1
NC-27	60	344	311-377		2
NC-28s	57	0	0-0		2
NC-28d	130	(7)			(1)
NC-29s	57	873	670-1076		2
NC-29d	121	48			1
NC-30s	40	10			1
NC-30d	118	27			1
N5655	260	4			1
N6819	260	0			1
N6848	104	117			1
N7732	108	2726			1

TABLE 3-3 (continued)

NEW CASSEL - CONTAMINATED AQUIFER SEGMENTS
TOTAL ORGANIC COMPOUNDS
DATA SUMMARY
(ug/l)

New Cassel	Depth* (Feet)	Mean	Range	Median	Number of Data Points
N8472	195	21			1
N8497	544	0			1
N8956	530	0			1
N8957	584	0			1
N9938	80	9800			1

Note: The first sample after well development was discarded in this data summary when more than one well analyses exist

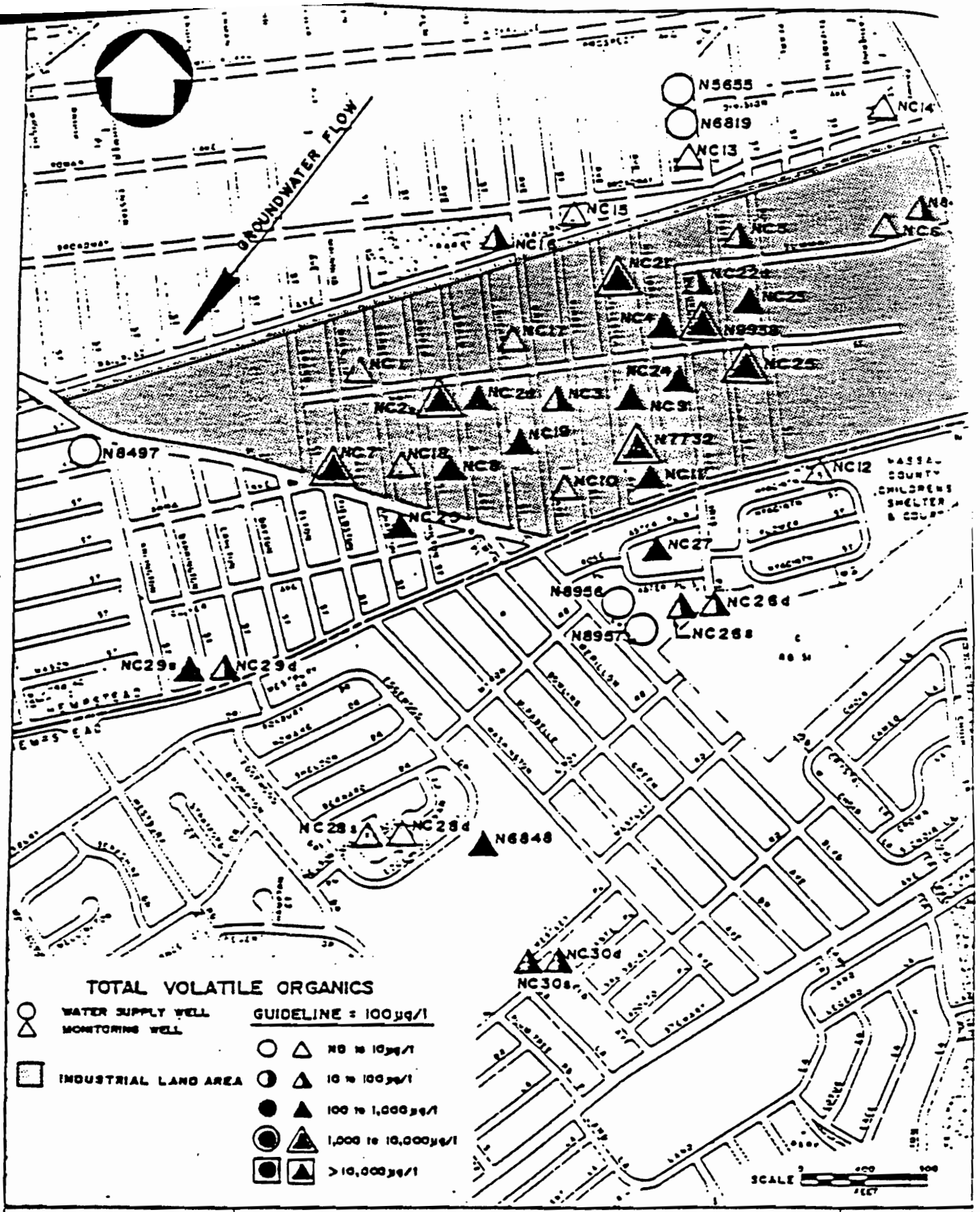
* Below ground surface

**No information is available on soil or drill cutting backfill

† Soil sample of drill cutting backfill indicate the following parameters:

NC-18	Ethylbenzene	140 ppb
	Xylene	160 ppb
NC-25	1,1,1-trichloroethane	26 ppb

( ) This is the first sample after well development; no subsequent samples available for this well.



Dvirka and Bartilucci	NEW CASSEL WATER QUALITY-TOTAL VOLATILE ORGANICS	FIGURE NO. 3-5

wells, NC-28s is not contaminated at shallower depths, however, the one sample available for NC-28d has 7 ug/l reported for total organic compounds. Wells with 1 to 10 ug/l detected for total organic compounds are:

Well Number	Total Organic Compounds (ug/l)
NC-1	2
NC-10	2
NC-12	6
NC-13	8
NC-15	5
NC-17	2
NC-18	8
NC-22d	10
N-5655	4

Seven of these wells are about 60 feet deep, but NC-22d (125 feet) and N5655 (260 feet) are deeper.

The data suggests that the glacial and upper Magothy aquifers up to 120 feet below the surface are significantly contaminated with organic compounds. Some contamination also exists in wells up to 260 feet deep. Wells greater than 500 feet deep are not contaminated in the New Cassel area. The suite of organic compounds that are found in the shallow wells are larger than, but similar to compounds detected at greater depths. The site specific hydrogeology needs additional investigation before prediction of contaminant movement can be assessed.

Upgradient wells, such as NC-14, N-6, NC-13 and N-15 indicate that the source of organic contamination in New Cassel is to the south of these wells and in an industrial area.

For the six most contaminated wells, the following analysis is provided based on specific chemicals detected. Levels of total organic compounds for NC-7, the well furthest downgradient within the industrial area, increased from 518 ug/l in February 1985 to 5,782 ug/l in December 1985. (The first analysis in December 1984 reported 591 ug/l of total organic compounds was discarded as described in Section 3.1.) This increase can be attributed to two chemicals; 1,1-dichloroethane was not analyzed for in the February sample and had a reported concentration of 1,300 ug/l in December 1985; 1,1,1-trichloroethane increased from 510 ug/l to 4,400 ug/l. Further sampling and analyses for NC-7 are necessary to determine a consistent value and/or quantify any increasing trends.

There are several industrial users of 1,1,1-trichloroethane upgradient of well NC-7, but reported annual usage is generally small, less than 35 gallons per year. 1,1,1-trichloroethane may also have been used as a cesspool cleaning product prior to recent sewering of the area. There is no reported industrial use of 1,1-dichloroethane in the New Cassel area; however, this compound is a degradation product of 1,1,1-trichloroethane.

Well NC-2s, about 800 feet upgradient from NC-7 has four analyses available from December 1984 to December 1985 (a fifth

was discarded as described in Section 3.1). Total organics increased from 2,554 to 3,557 ug/l over the year. This increase results primarily from two chemicals; 1,1,1-trichloroethane increased from 40 ug/l to 390 ug/l and trichloroethylene increased from 1,300 ug/l in the first sample to about 2,200 ug/l in the three subsequent analyses. Bromoform decreased from 1,200 ug/l in December 1984 to 450 ug/l in two samples taken March 1984. The most recent analysis for bromoform in this well was 950 ug/l. Currently, there are no reported industrial users of bromoform in the area. Bromoform is used in pharmaceutical manufacturing, as an ingredient in fire resistant chemicals and gauge fluid, and as a solvent for waxes, grease and oils.

1,1,1-trichloroethane has apparently migrated deeper into well NC-2d at a reported concentration of 430 ug/l in the one sample taken from this well. Well NC-21, about 1,200 feet upgradient of NC-2 shows a slightly different suite of contaminants; 1,1,1-trichloroethane is still present, but at a lower concentration (150 ug/l). Trichloroethylene (350 ug/l) and tetrachloroethylene (450 ug/l) are the largest contaminants in this well. There are several large users of trichloroethylene (300-1,000 gallons/year) and tetrachloroethylene in the New Cassel area (see Table 3-1).

Well N7732, located about 1,200 feet to the east of NC-2, has several contaminants reported in the most recent routine analysis; 1,1-dichloroethane (860 ug/l) and 1,1,1-trichloroethane (1,200 ug/l) are found in amounts that are similar to NC-7 and NC-2. Trichloroethylene is reported at 360 ug/l, but tetrachloroethylene is reported at only 21 ug/l. The other major constituent reported is methylene chloride/1,1,2-trichlorotrifluoroethane/1,1-dichloroethylene (not resolved analytically). There are several industries in the New Cassel area that report using methylene chloride up to 8,000 gallons per year.

NC-25 (one analysis used), located about 800 feet upgradient from N7732 and about 800 feet southwest of NC-21 contains 1,1,1-trichloroethane (700 ug/l), trichloroethylene (620 ug/l), methylene chloride/1,1,2-trichlorotrifluoroethane/1,1-dichloroethylene (100 ug/l) and trichloroethylene (120 ug/l).

Well N9938 (one analysis used), located 400 feet to the northwest of NC-25 has 7,700 ug/l of 1,1,1-trichloroethane, 1,500 ug/l of methylene chloride/1,1,2-trichlorotrifluoroethane/1,1-dichloroethylene and 460 ug/l of trichloroethylene.

In summary, it appears that contamination has migrated in the glacial and upper Magothy aquifer downgradient of the New Cassel area. Public water supply wells located as close as 800 feet from significantly contaminated observation wells, however,

do not show signs of contamination. This indicates that the deeper portions of the Magothy aquifer in the study area have not been affected at the present time. However, lack of well defined clay layers as described in Section 3.2.2 indicates that there is a potential threat to water supply wells in and downgradient of this area.