CODY EHLERS GROUP

EHS CONSULTING AND SERVICES

140 SHERMAN STREET
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PHONE: (203) 259-7722
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August 8, 2002

Bruce Mackay
Nassau County Department of Health
240 Old Country Road
Mineola, New York 11501-4250

Re: Remedial Work Plan
71 Clinton Road
Garden City, New York

Dear Mr. Mackay:

On behalf of our client, Stewart & Clinton, LLC, Cody Ehlers Group submits the enclosed Remedial Work Plan (RWP) concerning the above-referenced site for your review and comment. The RWP involves the closure of an underground storage tank, as well as two cesspools, and two blowdown pits. We are also planning to remediate one drywell and sample another one to determine if remediation is necessary. We will wait for your approval before implementing the RWP.

Please fell free to call me if you have any questions during the course of your review.

Sincerely,

Jeffrey S. Day, P.G., CTLEP
Senior Project Manager

Enclosure

Cc: J. Burman (w/ enclosure)
T. Trias (w/ enclosure)
R. Baldwin, (w/ enclosure)

REMEDIAL WORK PLAN

71 CLINTON ROAD
GARDEN CITY, NEW YORK

August 2002

Prepared for:

Nassau County Department of Health
240 Old Country Road
Mineola, New York 11501-4250

CODY EHLERS GROUP — *EHS CONSULTING AND SERVICES*

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APPENDICES

Appendix A - Phase II Environmental Site Assessment Results (1996)
Appendix B - Underground Storage Tank Removal Report
Appendix C - Phase II Environmental Site Assessment Results (2001)

1.0 INTRODUCTION

Cody Ehlers Group (CEG) was retained by Stewart & Clinton, LLC to prepare this work plan to address environmental issues identified at 71 Clinton Road, Garden City, New York (site). Freudenthal & Elkowitz (F&E) identified these issues during their Phase I and Phase II Environmental Investigation of the site in December 2001. These issues are interpreted to fall under the regulatory control of various programs administered by the Nassau County Department of Health (NCDOH). Consequently, CEG developed this comprehensive work plan for NCDOH review and approval.

The work plan is designed to be consistent with NCDOH regulations and guidelines including: *Cleanup Guidelines for Remediation of Drywells and Individual Septic Systems; Underground Storage Tank Decommissioning Regulations For UST's With Less Than 1,100-Gallon Effective Storage Capacity;* and *Toxic and Hazardous Materials Storage, Handling and Control Public Health Ordinance (Article XI).* Specifically, the work plan addresses the following environmental issues raised by F&E:

- the blowdown pits;
- the roof-drain drywell;
- the out-of-service cesspools;
- the suspected underground storage tank (UST);
- the removed 20,000-Gallon UST; and
- ground-water quality.

As required, this work plan is being submitted to the NCDOH for review and approval. Following approval from the NCDOH, CEG will implement the work plan. The NCDOH will be notified at least 5 days prior to the initiation of any fieldwork at the site, including sampling.

2.0 BACKGROUND

The site is a 16-acre property located at 71 Clinton Road in Garden City, New York. It was first developed in 1917 by the Curtiss Engineering Corporation. The facility closed in 1931. The site was vacant until 1933, and then had several occupants between 1933 and 1939, none of which were manufacturers. Sperry Gyroscope leased the site from 1940 until 1948 for research and development of unmanned torpedo planes for the military. Beginning in 1948, the site was used by Esselte Pendeflex and its predecessors for the manufacture of paper-based filing supplies. Esselte ceased manufacturing operations in 1990 but continued to use the site for office space until 2000. Current occupants of the site include Federal Express and the Epilepsy Foundation Center.

Norfolk Environmental performed a Phase I Environmental Site Assessment (ESA) of the site in September 1995. The Phase I identified several areas of concern at the site. Ground-water quality both upgradient and downgradient of the site was also identified as an area of concern. As a result, Norfolk Environmental conducted a Phase II ESA in February 1996 to investigate these areas of concern. The Phase II included drilling of 30 soil borings, the collection of sediment samples from two former sanitary cesspools, and the collection of ground-water samples at 15 locations, including both upgradient and downgradient of the site facilities. The data from the Phase II are summarized in the figures and tables included in Appendix A. As a result of the Norfolk Phase II, several environmental issues requiring further investigation or remediation were identified, including a 20,000-gallon fuel oil UST located at the rear of the site.

Action Remediation removed the 20,000-gallon fuel oil UST from the site in November 1998 (NCDOH Facility No. 57249). The NCDOH inspected the removal of the UST and determined that soil remediation was not required. A copy of the UST removal report prepared by Action Remediation is included as Appendix B.

F&E completed a second Phase I ESA of the site in December 2001. Additionally, F&E reviewed Norfolk's Phase I and II reports. Also in December 2001, F&E conducted a Phase II Investigation that included a geophysical survey of the site (both ground-penetrating radar and magnetometer), the drilling of 22 borings, and the analysis of 21 ground-water samples and two soil samples. F&E's Phase II results are summarized in the tables and figure provided in Appendix C.

The culmination of F&E's review of previous reports for the site and their own investigative work at the site has resulted in the identification of the specific environmental issues addressed in this work plan. Further details regarding the environmental issues that are the subject of this work plan are described below.

3.0 WORK PLAN

The environmental issues at the site are divisible into two programs administered by the NCDOH: 1) the underground injection control program; and 2) the underground storage tank program. The environmental issues are separated per each applicable program. In addition, we have included a section regarding minor ground-water quality issues that do not appear to be attributable to an on-site source area.

3.1 Underground Injection Control Program

The requirements for the NCDOH Underground Injection Control program are described in the document *Cleanup Guidelines for Remediation of Drywells and Individual Septic Systems*. The work plan described below was developed by CEG to be consistent with the NCDOH guidance document.

3.1.1 Blowdown Pits

CEG will close the former blowdown pits in Building No. 7 that formerly received discharged condensation from two air compressors at the site. Both pits discharge directly to underlying soils. In addition, there is apparently a former wastewater discharge pipe from Building No. 7 connected to a drywell in the back parking lot of the site that we will also address. If requested by the NCDOH, CEG will verify the connection between the discharge pipe and the drywell using a dye test or other pipe-tracing instrument. The pits and the discharge to the drywell will be closed in accordance with the NCDOH *Cleanup Guidelines for Remediation of Drywells and Individual Septic Systems.*

CEG will sample the sediment in the bottom of each of the pits and the drywell. NCDOH will be notified prior to sampling of the drywell. The samples will be analyzed for the parameters specified in the *Cleanup Guidelines for Remediation of Drywells and Individual Septic Systems*. Specifically, the list of analytical parameters will include: total petroleum hydrocarbons (TPH) (EPA Method 8015); total RCRA metals (EPA Method 6010); volatile organic compounds (VOCs) (EPA Method 8260); and the semi-volatile organic compounds (SVOCs) (EPA Method 8270) listed in the NYSDEC STARS Guidance Manual. A laboratory registered with the New York State will analyze the samples. The results will be forwarded to the NCDOH within five working days of their receipt from the laboratory.

The sampling results will be compared to the criteria listed in April 1995 NYSDEC TAGM 4046. The results from the sampling will be reviewed with the NCDOH to determine if remediation is necessary.

If remediation is determined to be necessary at either the blowdown pits or the drywell, the procedures presented below will be followed for the cleanup.

- A "super sucker" vacuum truck will be used to remove any standing water from the bottom of the drywell. The water will be disposed of off site at Cedar Creek Sewage treatment plant. Approval will be obtained from the plant for disposal of the water prior to commencing with the remediation.

- A vacuum truck or a clamshell bucket will be used to excavate the contaminated sediment in the bottom of the drywell. The contaminated sediment will be placed on and covered with heavy-gauge plastic sheeting, and will be sampled to characterize the waste for disposal. Removal of the sediment will continue until clean soil or ground water is encountered as determined by previous sampling, visual and olfactory determination, photo-ionization detector (PID) readings, and/or approval of the NCDOH representative, if present.

- Post-excavation samples will be collected from the exposed bottom of the pit or drywell, if possible (based on depth to groundwater). If groundwater is encountered, a groundwater sample may be collected. The analysis of the post excavation samples will be based upon the contaminants previously detected above the applicable criteria in the particular drywell/pit.

Subject to NCDOH approval, the two blowdown pits will be abandoned in place by filling them completely with clean fill from off site once final testing indicates that further remediation is not required. The opening in the floor for the former pits will be sealed with 5 inches of concrete.

At the remediated drywell, the removed sediment will be replaced using clean fill from off site to the extent necessary to prevent undermining of the structure. The discharge pipe will be sealed with concrete. The drywell will remain in operation at the site for the purpose of collecting storm water runoff from the paved lot only. Thus, the drywells can be considered "authorized by rule" under the current regulations (40 CFR 144) and would not require a permit.

3.1.2 Roof-Drain Drywell

F&E detected low levels of VOCs in ground water downgradient of a drywell located in the western parking lot at the site. CEG will collect a sediment sample from the bottom of the drywell located upgradient of boring S-20 sampled by F&E. The sample will be analyzed for VOCs using Method 8260. The sampling results will be compared to the criteria listed in NYSDEC TAGM 4046. The results from the sampling will be reviewed with the NCDOH to determine if remediation of the drywell is necessary. NCDOH will be notified prior to sampling of the drywell.

If remediation of the drywell is required, it will be conducted in similar fashion to the blowdown pits and drywell in the previous section. Contaminated soil will be removed from the drywell and confirmation samples will be collected and analyzed for VOCs. The drywell will remain in operation at the site for the purpose of collecting storm water runoff from the paved lot and runoff from the roof of the building.

3.1.3 Out-of-Service Cesspools

Zinc and chromium were detected in 1996 in the sediment from two former cesspools at levels above the New York State Recommended Soil Cleanup Objectives (RSCOs). Based upon generic discussions with the NCDOH, the levels of chromium and zinc are high enough for them to require that the cesspools be remediated prior to closure. However, the NCDOH has recommended that the cesspools be re-sampled to determine if remediation is still necessary.

CEG will collect sediment samples from the bottom of the cesspools. The samples will be analyzed for zinc and chromium. The sampling results will be compared to the criteria listed in NYSDEC TAGM 4046. The results from the sampling will be compared with the NCDOH to determine if remediation of the cesspools is necessary. NCDOH will be notified prior to sampling of the cesspools.

If required, CEG proposes to remediate the two cesspools in similar fashion to the blowdown pits and the former discharge to the drywell. Contaminated soil will be removed from each cesspool and confirmation samples will be collected and analyzed for zinc and chromium. With NCDOH approval, the cesspools will be backfilled following remediation to permanently close them. If

remediation is not needed, then the cesspools will be directly backfilled and sealed with concrete.

3.2 Underground Storage Tanks

The decommissioning and removal of an UST with a capacity greater than 1,100 gallons is governed by the *Nassau County Public Health Ordinance for Toxic and Hazardous Materials Storage, Handling and Control (Article XI)*. For smaller USTs, the NCDOH has prepared the document titled, *Underground Storage Tank Decommissioning Regulations For UST's With Less Than 1,100-Gallon Effective Storage Capacity*. CEG has developed the scope of work outlined below to be consistent with the requirement of these documents.

3.2.1 Suspected Underground Storage Tank

There is indication that an abandoned UST is present in the northeast corner of the courtyard between Buildings No. 1 and No. 2. Norfolk observed an apparent fill pipe at this location in 1995. The fill pipe extended approximately 4 feet below grade and contained approximately 10 inches of liquid (apparently water).

There is no historical information regarding a UST at this location. Historical maps of the courtyard indicate that an electrical station was present at this location until it was removed in 1945. The relatively small size and location of the apparent UST suggest that it may have been used to store fuel for an emergency generator for back-up electricity.

Norfolk drilled two soil borings around the apparent UST in December 1995 and encountered refusal at a depth of around 3 feet below grade (concrete). Norfolk observed no indication of contamination in either boring.

CEG did not find the apparent fill pipe during a recent search of the area. There are a number of new underground utilities in the vicinity of the fill pipe and it appears that several natural gas meters have been installed on a concrete pad that covers a good portion of the area where the fill pipe was located. To confirm the presence of the apparent UST, CEG will excavate the area by hand to a depth sufficient to determine the presence or absence of an UST. Caution will be necessary due to the large number of buried utilities in the area.

If there is a UST, it will need to be closed in accordance with Nassau County regulations. NCDOH allows USTs with a capacity of less than 1,100-gallons to be abandoned in place as long as they are cleaned out and filled with an inert

material. Since the apparent UST appears to be smaller than 1,100 gallons and there is no suspected leak (the UST holds liquid [i.e., no holes] and there was no soil contamination detected from the soil borings), we expect that the UST can be abandoned in place without the need for further investigation; however, this will be subject to NCDOH approval.

If the UST is greater than 1,100 gallons, it will be necessary to register it. However, we still expect that the UST can be abandoned in place without the need to perform additional sampling or remediation. Regardless, CEG will obtain NCDOH approval prior to abandoning the UST.

If the UST is found, then the NCDOH will be notified using the appropriate form and filing fee. Residual liquids will be pumped out prior to removal and disposed of at an offsite facility. The UST will be defumed and cleaned, and the sludge will be drummed and transported offsite for disposal. The UST will be filled with an inert material and abandoned in place. The NCDOH will be notified prior to abandonment of the UST.

3.2.2 Removed 20,000-Gallon UST

The 20,000-gallon heating oil UST was reportedly installed in the center of the southern property line in August 1982. Action Remediation removed the 20,000-gallon fuel oil UST in November 1998. A copy of the UST removal report prepared by Action Remediation is included as Appendix B.

Both Action Remediation and the NCDOH have indicated that the NCDOH did have an inspector onsite during the removal of the UST in accordance with Nassau County regulations and that no soil remediation was required. The NCDOH files for the UST are under Facility No. 57249.

F&E indicated that they detected soil contamination beneath the former UST grave above the NYSDEC Recommended Soil Cleanup Objectives (RSCOs) during their site investigation in December 2001. The soil data collected by F&E is presented in Appendix C. However, CEG does not consider further remediation or investigation to be necessary based upon the following data:

- the NCDOH inspected the UST the surrounding soil during removal and did not require any soil remediation at that time;

- prior to removal, the UST had passed tightness tests on September 25, 1991 and on October 3, 1995; and

- there were no petroleum constituents detected in the ground-water sample collected under the former UST by F&E in 2001 and in the ground-water sample collected downgradient of the UST by Norfolk in 1995.

3.3 Ground-Water Quality

Two sets of ground-water samples have been collected at the site using a Geoprobe™. Norfolk Environmental collected 15 ground-water samples in December 1995. The samples were analyzed for VOCs and TPH. Additionally, four of the ground water samples were analyzed for metals.

F&E collected a total of 21 ground-water samples from the site in December 2001. The 21 samples were analyzed for VOCs. Eight of the samples were additionally analyzed for metals. Three of the samples were also analyzed for SVOCs.

Summary tables for the ground-water quality data are provided in Appendices A and C. Maps of the well locations are also included in Appendices A and C.

CEG has summarized ground-water quality information below by constituent of concern for the site. On the basis of our review of the information, no further action is anticipated with respect to ground water, unless remedial activities at the site indicate the need to do otherwise. However, we do request that the NCDOH review the information presented and provide an opinion on whether further action may be necessary. If the NCDOH considers further action necessary with respect to ground water or if new information is generated during the implementation of the remedial activities that contradicts our current understanding of ground water, this work plan will be modified accordingly.

3.3.1 Volatile Organic Compounds

The discussion regarding VOCs in ground water is separated below based upon chlorinated versus aromatic hydrocarbon compounds.

3.3.1.1 Chlorinated Compounds

There is a well-documented ground-water contaminant plume of chlorinated VOCs that has been detected beneath the site. The source of the plume is the Old Roosevelt Field Superfund site that is located across Stewart Avenue, directly

upgradient of the site. The USEPA is currently conducting an RI/FS of the Old Roosevelt Field Superfund site (Summer 2001) and is searching for potentially responsible parties to assume the liability for the cleanup. Also, water-supply wells in this area have been equipped with treatment and are regularly monitored.

The USGS performed a detailed investigation of the plume in 1984. The maps of the plume prepared by the USGS in 1989 are included in Appendix D. As shown, the levels of trichloroethene (TCE) in shallow ground water beneath the site were found to be in excess of 50 ppb. Tetrachloroethene (PCE) contamination is reported to have been in the range of 2 to 100 ppb beneath the site. As described in further detail below, lower concentrations of PCE and TCE were subsequently detected in ground-water samples collected from beneath the site in 1995 and 2001.

Norfolk detected low levels of both PCE (i.e., 13 ppb) and TCE (i.e., 2.1 to 5.7 ppb) in four shallow ground-water samples collected from beneath the site. One of the samples where Norfolk detected TCE is along the upgradient side of the site. Low concentrations of PCE (i.e., 1 to 4 ppb) and TCE (i.e., 1 to 14 ppb) were also detected in six of the 21 ground-water samples collected by F&E. This is consistent with the previous findings by the USGS in the area of the site.

In addition to the ground-water samples described above, Norfolk collected eighteen soil samples at the identified areas of concern at the site. Chlorinated solvents were not detected in soil beneath the site. Moreover, the low-level, sporadic and widespread detections of solvents in ground water point to no discrete on-site source. As a result, there appears to be nothing further that can be done to address the presence of low levels of chlorinated compounds in ground water under the site, other than monitor the progress of the cleanup upgradient Superfund site over time.

3.3.1.2 Aromatic Hydrocarbon Compounds

Aromatic hydrocarbons were detected in only three of the 36 ground-water samples collected in total from the site. Moreover, the level of hydrocarbons detected in one of the three samples (SP-1D) was below the NYSDEC Class GA Ambient Water Quality Standard.

The compounds benzene, ethylbenzene, toluene and xylenes were detected at low levels in shallow ground-water sample S-25, collected by F&E from an area presumed to be upgradient of the site. Similar levels of these aromatic

compounds were also detected in sample S-20, located near the parking lot drywell in the southwestern corner of the site. Given the presence of compounds in the upgradient sample, the compounds detected in sample S-20 may be from an upgradient source. However, CEG does plan to conduct an investigation of this drywell as part of the work plan (Section 2.1.2). If contamination is detected in the drywell, it will be addressed as part of this plan, as well.

3.3.2 Semi-Volatile Organic Compounds and Total Petroleum Hydrocarbons

There were no SVOCs detected in ground water underlying the site. TPH was also not detected in ground water.

3.3.3 Metals

Metals were detected in the ground water, but not at concentrations that would be indicative of a contaminant source at the site. The samples were collected directly from the Geoprobe™ and were not filtered prior to analysis. Consequently, sediment may have been present in the samples.

No RCRA metals were detected above the NYSDEC GA Ambient Water Quality Standard, with the exception of lead. Lead was detected in one sample at a level above the NYSDEC GA Ambient Water Quality Standard. This isolated exceedance appears to be anomalous and not indicative of a contaminant source at the site. On the basis of the previous data collected at the site, former site operations have not adversely impacted ground water beneath the site and no further sampling for metals in ground water is planned.

4.0 REPORT AND SCHEDULE

Following completion of the field efforts, CEG will evaluate the results of the post-remediation and investigation samples and will prepare a comprehensive report. The report will address both the UIC and UST program issues included under this work plan. The report will include a description of the remedial/closure actions including dates of the closure activities, volume of water and soil removed, final status of each excavation/well, disposal manifests for waste removed, confirmation analytical data, and recommendations, if any. The report will be submitted to the NCDOH for review and approval.

CEG will begin implementing this work plan upon receipt of approval from NCDOH. As required, CEG will notify NCDOH at least 5 days prior to performing fieldwork at the site.

APPENDIX A

Table 2-1

Esselte Pendaflex
Garden City, Long Island

Soil Results

Sample I.D.	DS-1	DS-2	DS-3	SS-1	SS-2	SS-2	MT-1	MT-1	MT-2	MT-2	MT-3	MT-3	DW-1	DW-1	GK-1	GK-2	GK-2	FS-1
Depth Below Grade	4'-8'	4'-8'	4'-8'	2'-4'	0'-2'	2'-4'	4'-8'	12'-16'	4'-8'	8'-12'	0'-4'	4'-8'	19'-21'	23'-25'	4'-8'	4'-8'	28'-30'	14'-16'
onstituent Detected																		
letals (ppm)																		
Zinc				60		60							13	9.2	14	15	3.7	8.4
Cromium				79		3.1							4	4	8.6	11	4.6	2.1
Copper				2.9		12							7.8	2.8	7.9	6.8	2.1	1.9
Lead				3.3		1.4							ND	2.6	3.6	4.1	1.7	2.6
Nickle				3		1.6							1.7	1.7	5.2	5.6	5.4	5.6
olatile Organics (ppb)																		
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	150	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Benzene	ND	ND	ND	ND	35	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	77	ND	ND	ND	ND	ND	ND	10	ND	ND	ND	ND	ND	ND
Xylenes	ND	ND	ND	ND	240	ND	ND	ND	ND	ND	ND	7.9	ND	ND	ND	ND	ND	ND

ID=Non-Detect

lo Semi-Volatile Organics (ppb) were detected in the laboratory samples

lo Total Petroleum Hydrocarbons (ppm) were detected in the laboratory samples

This table includes only consistuents detected in samples at the Esselte facility.

Complete laboratory results are included in Appendix B.

Table 2-2

Esselte Pendaflex
Garden City, Long Island

Ground Water Results

Sample I.D.	ST-1	ST-1D	SP-1	SP-1D	SP-2	SP-3	NGP-1	NGP-1D	NGP-2	NGP-3	MT-1	DW-1	RB-1	RB-2	FS-1
Depth Below Grade	30'-32'	70'-72'	30'-32'	70'-72'	30'-32'	30'-32'	43'-45'	70'-72'	43'-45'	43'-45'	30'-32'	30'-32'	30'-32'	30'-32'	30'-32'
Constituent Detected															
Metals (ppm)															
Zinc	ND										ND	ND			ND
Cromium	ND										ND	ND			ND
Copper	ND										ND	ND			ND
Lead	ND										ND	ND			0.1
Nickle	ND										ND	ND			ND
Volatile Organics (ppb)															
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene	ND	ND	13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene	2.1	3.2	5.7	ND	ND	ND	ND	2.6	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	ND	ND	ND	1.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

ND=Non-Detect

No Semi-Volatrile Organics (ppb) were detected in the laboratory samples

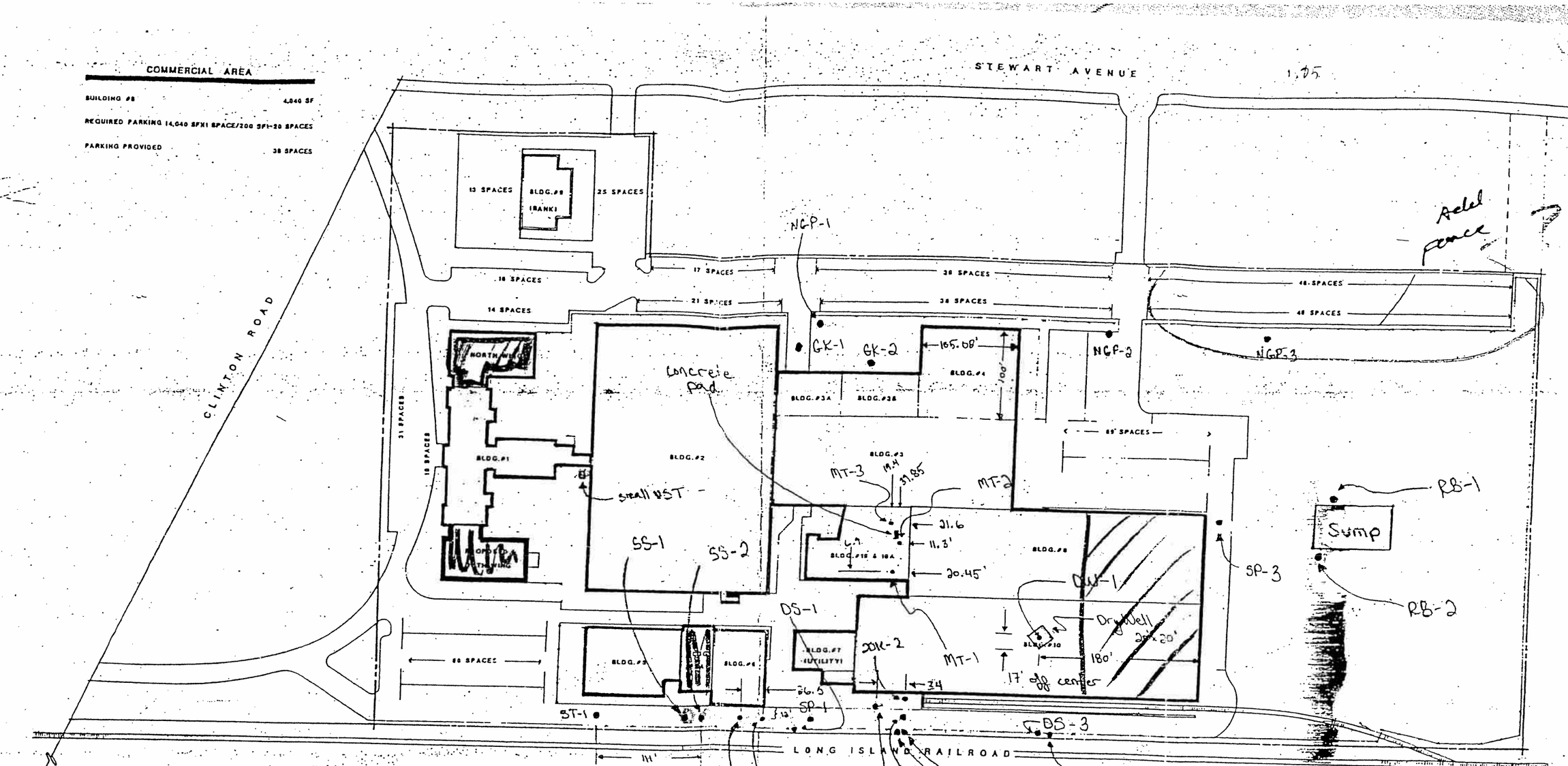
No Total Petroleum Hydrocarbons (ppm) were detected in the laboratory samples

This table includes only consistuents detected in samples at the Esselte facility.

Complete laboratory results are included in Appendix B.

COMMERCIAL AREA

BUILDING #8	4,840 SF
REQUIRED PARKING 14,640 SFX1 SPACE/200 SFI=20 SPACES	
PARKING PROVIDED	38 SPACES



OFFICE AREAS

BUILDING #1	38,850 SF
BUILDING #1 (NORTH WING)	26,000 SF
BUILDING #1 (PROPOSED SOUTH WING)	26,000 SF
TOTAL OFFICE AREA	76,850 SF

REQUIRED PARKING 176,850 SFX1 SPACE/300 SFI=234 SPACES

MANUFACTURING AREAS

BUILDING #2	74,584 SF
BUILDING #5 & 5A	13,351 SF
BUILDING #18 & 18A	6,138 SF
TOTAL MANUFACTURING AREA	95,074 SF

REQUIRED PARKING 195,074 SFX1 SPACE/1600 SFI=65 SPACES

WAREHOUSE AREAS

BUILDING #3,3A,3B	42,624 SF
BUILDING #4	16,447 SF
BUILDING #8	5,832 SF
BUILDING #8	32,200 SF
BUILDING #10	41,540 SF
TOTAL WAREHOUSE AREA	122,483 SF

REQUIRED PARKING 1122,483 SFX1 SPACE/1000 SFI=123 SPACES

REQUIRED PARKING

OFFICE AREA	234 SPACES
MANUFACTURING AREA	96 SPACES
WAREHOUSE AREA	123 SPACES
TOTAL PARKING REQ'D BY ORDINANCE	453 SPACES
TOTAL EXISTING PARKING	453 SPACES

THEO E. BINDRIM, A.I.A., P.C.
ARCHITECT
307 ROUND SWAMP ROAD
MELVILLE N.Y. 11747
TELEPHONE 516 691-6000

PROPOSED ADDITION TO ESSELTE PENDAFLEX CORPORATION

GARDEN CITY, NEW YORK

SCHEMATIC DESIGN DRAWING

REVISIONS

DWG TITLE

A1-111A

SITE PARKING ANALYSIS

SCALE

DATE 14 SEPT. 1986

1

STEWART AVENUE

SIDEWALK

SIDEWALK

SIDEWALK

N

CLINTON ROAD

BLDG. #9 (BANK)

NGP-1D
PCE ND
TCE 2.6
XYL ND

PAVED PARKING AREA

PAVED PARKING AREA

PAVED PARKING AREA

NGP-1D

NGP-1

NGP-2

NGP-3

NGP-3
PCE ND
TCE ND
XYL ND

NORTH WING

NGP-1
PCE ND
TCE ND
XYL ND

BLDG. #3A

BUILDING #3B

BUILDING #4

NGP-2
PCE ND
TCE ND
XYL ND

UNDEVELOPED AREA

BUILDING #2

BUILDING #3

PAVED PARKING AREA

RB-1

RB-1
PCE ND
TCE ND
XYL ND
TPH ND

BLDG. #1

SMALL UST

CONCRETE PAD

RECHARGE BASIN

RB-2

RB-2
PCE ND
TCE ND
XYL ND
TPH ND

FS-1

SP-1
PCE 13
TCE 5.7
XYL ND

ST-1D
PCE ND
TCE 3.2
XYL ND

NORTH WING

BLDG. #19 & 19A

MT-1

MT-1
PCE ND
TCE ND
XYL ND
TPH ND

BUILDING #8

DW-1
PCE ND
TCE ND
XYL ND
TPH ND

FS-1
PCE ND
TCE ND
XYL ND
TPH ND

SP-1D
PCE ND
TCE ND
XYL 1.3

SP-2
PCE ND
TCE ND
XYL ND
TPH ND

SP-3
PCE ND
TCE ND
XYL ND
TPH ND

DW-1

PAVED PARKING AREA

BLDG. #7

BLDG. #5

BLDG #5A

BLDG. #6

BUILDING #10

UNDEVELOPED AREA

ST-1
PCE ND
TCE 2.1
XYL ND
TPH ND

ST-1

ST-1D

SP-1

SP-1D

SP-2

SP-3

LONG ISLAND RAILROAD

KEY TO LABORATORY DETECTIONS

TCE = TRICHLOROETHEYLENE
PCE = TETRACHLOROETHYLENE
XYL = XYLENES, TOTAL
TPH = TOTAL PETROLEUM HYDROCARBONS
ND = NON-DETECTED

ALL TPH DETECTIONS ARE MEASURED IN MILLIGRAMS PER LITER
ALL OTHER DETECTIONS ARE MEASURED IN MICROGRAMS PER LITER

LEGEND

20K-3 ● SAMPLE LOCATIONS
FENCE LINE
GRASS AREA

0 25 50 75 100 150 200
Scale In Feet

NORFOLK ENVIRONMENTAL
1538 POST ROAD, FAIRFIELD, CONNECTICUT 06430
Division of Norfolk International Corporation
Stoughton, Massachusetts 02072

TITLE: GROUNDWATER RESULTS ESSELTE PENDAFLEX CORP. CLINTON RD., GARDEN CITY, NEW YORK	DATE: 1/31/96
	SCALE: AS SHOWN
FIGURE: 2	DRAWN BY: J.J.S.
DRAWING NO: 95-031B.2	APPR. BY: M.C.
LAZARUS BURMAN	

APPENDIX B

Action

71 Clinton
Fuel ~~Storage~~ Tank
Removal PO

ACTION REMEDIATION INC.

3010 BURNS AVENUE
WANTAGH, N.Y. 11793

Project:

LEGAL REMOVAL & DISPOSAL OF 1 UNDERGROUND FUEL STORAGE TANK

Prepared for:

FIRST SENIOR DEVELOPMENT
6851 JERICHO TURNPIKE SUITE 250
SYOSSET, N.Y. 11791

Site Location:

71 CLINTON AVENUE
GARDEN CITY, N.Y.

NOVEMBER, 1998

ACTION REMEDIATION
3010 BURNS AVENUE WANTAGH, N.Y.

Project : 71 CLINTON AVENUE
GARDEN CITY , N.Y.

CONTENTS

I. OVERVIEW

II. NOTIFICATIONS / PERMITS
Nassau County Dept. of Health Notifications

III. WASTE DISPOSAL MANIFEST

IV. BILL OF LADING

ACTION REMEDIATION
3010 BURNS AVENUE WANTAGH, N.Y.

Project 71 CLINTON AVENUE
GARDEN CITY, N.Y.

ACTION REMEDIATION
3010 BURNS AVENUE WANTAGH, N.Y.

Project : 71 CLINTON AVENUE
GARDEN CITY , N.Y.

OVERVIEW

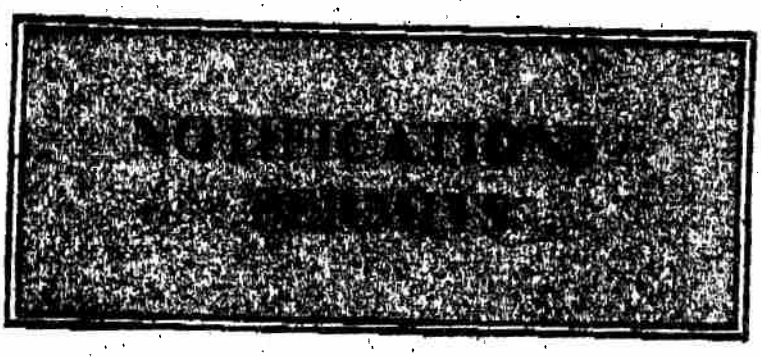
ACTION REMEDIATION WAS ASKED TO PROVIDE SERVICES FOR THE REMEDIATION OF ONE UNDERGROUND FUEL STORAGE TANK THAT WERE ORIGINALLY USED FOR THE STORAGE OF FUEL OIL . THE TANK WAS LOCATED ON THE PROPERTY AT 71 CLINTON AVENUE GARDEN CITY , N.Y.

THE UNDERGROUND FEUL STORAGE TANK WAS A SINGLE WALL METAL TANK WITH A CAPACITY OF 20,000 GALLONS. THERE WAS NO REPLACEMENT TANK INSTALLED WITHIN THE SCOPE OF WORK.

IN COMPLIANCE WITH NASSAU DEPARTMENT OF HEALTH GUIDELINES, THE TANK REMOVAL WAS FILED & APPROVED PRIOR TO THE WORK BEING DONE. COPIES OF THE NOTIFICATION , ALONG WITH THE FILING FEE ARE ENCLOSED WITHIN THIS CLOSEOUT PACKAGE.

ACTION REMEDIATION
3010 BURNS AVENUE WANTAGH, N.Y.

Project : 71 CLINTON AVENUE
GARDEN CITY , N.Y.



Nassau County Department of Health
Tank Abandonment/Removal
Notification Form

Date Requested 11/18/98

Job Date* __/__/__

***All notifications must be received by NCDH 7 days prior to the date of the job accompanied by a fee of $100.00 per tank over 1100 gallons and $25.00 per tank 1100 gallons or less.**

Contractor ACTION REMEDIATION

Phone # 781 3000

Facility ID# 057249

Facility Name: STEWART & CLINTON CO.

Address 71 CLINTON RD

Village GARDEN CITY Telephone 364 8800 X 230

Existing Tank Information:

Tank Size: 20,000 Tank Contents: #2

____Abandonment X Removal

Monitoring: ____Well ____Borings ____Tested on __/__/__

DEC Spill# (if applicable)____

Other____
(explain)

ACTION REMEDIATION CO., INC.
3010 BURNS AVENUE
WANTAGH, N.Y. 11793

EAB
2160 Bedford Ave.
Bellmore, N.Y. 11710

1-148
280

004051

CHECK NO.
00004051

** ONE HUNDRED DOLLARS AND 00 CENTS **

DATE 11/17/98 AMOUNT ******100.00

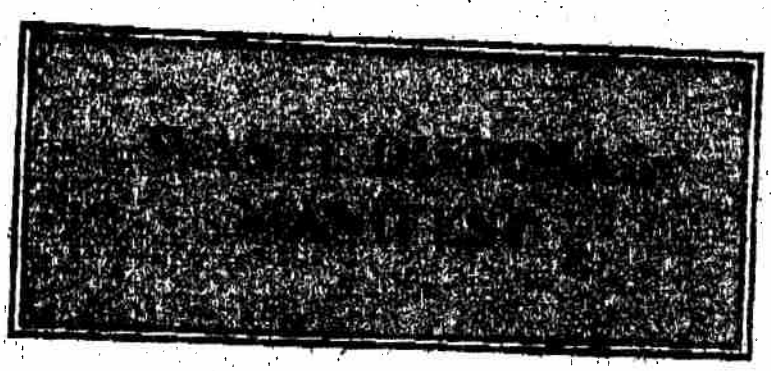
THE ORDER OF: NASSAU COUNTY DEPT OF HEALTH
TANK ABANDONMENT

MEMO: STEWART & CLINTON CO.

⑈004051⑈ ⑆028001489⑆ 045⑈06804 ⑈

ACTION REMEDIATION
3010 BURNS AVENUE WANTAGH, N.Y.

Project : **71 CLINTON AVENUE**
GARDEN CITY , N.Y.



MXI

P.O. Box 278
Somerville, NJ 08876
Phone: (732) 424-8441
Fax: (732) 424-8446

17600 Jeb Stuart Hgwy
Abingdon, VA 24211
Phone: (540) 628-1156
Fax: (540) 628-4435

14750 Boyle Ave.
Fontana, CA 92337
Phone: (909) 350-9090
Fax: (909) 350-9267

MXI EPA ID NO.:
NJD986607380

3881

GENERATOR NAME / ADDRESS: First Senior Development, 71 Clinton Ave, Garden City, NY

PHONE (AREA CODE): 516 781-3000

GENERATOR EPA ID NO.:

TRACTOR: 3003 TRAILER: YAC-

APPOINTMENT TIME: 7:00 AM

MXI REP. LOADING (PRINT): E Ward

PROCEDURE:

BOX SPOTTED: BOX REMOVED:

TIME AT GENERATOR (MILITARY TIME ONLY): ARRIVAL TIME: DEPARTURE TIME:

COMMENTS OR DELAYS AT GENERATOR: Contact: Tony Castro of Action

EQUIPMENT USED:

BROKER:

P.O. NO#: 020518

STATE MANIFEST NO.:

(X) HM		PROPER U.S. SHIPPING NAME	U.S. D.O.T. HAZARDOUS CLASS	NA/UN/NO.	PACKING GROUP	NO. CONT.	CONT. TYPE	NET QUANTITY	UNIT MEASURE	WASTE	FORM
	1	Virgin Oil/H_2O	N/A	N/A	N/A	1	TT	5600	G		
	2										
	3										

SPECIAL HANDLING INSTRUCTIONS INCLUDING CONTAINER EXEMPTION (I.E. IDENTIFICATION SHIPMENT OF A NON-HAZARDOUS NATURE WHICH DOES NOT HAVE TO BE MANIFESTED): 24 Hr Emergency # (732) 424-8441

GENERATOR'S CERTIFICATION: This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation, U.S. EPA and the State. The wastes described above were consigned to the Transporter named. The Treatment, Storage or Disposal Facility can and will accept the shipment of hazardous waste, and has a valid permit to do so. I certify that the foregoing is true and correct to the best of my knowledge.

Payment to the contractor/broker for waste removal does not constitute payment to the carrier and if the contractor/broker does not pay the carrier, the generator is obligated to pay the agreed rate offered to the contractor/broker.

PLEASE PRINT NAME / TITLE: Tony Daniele

GENERATOR'S SIGNATURE: X Tony Daniele — I HAVE READ THE ABOVE AND UNDERSTAND AND AGREE TO ALL OF ITS CONTENT.

DATE LOADED: 11/17/18 (MO. DAY YR.)

TSDF NAME / ADDRESS: Clean Water of NY, Richmond Terr, Staten Island, NY

PHONE (AREA CODE): 718 981-4600

TSDF EPA ID NO.:

TRACTOR: TRAILER:

APPOINTMENT TIME:

MXI REP. UNLOADING (PRINT):

PROCEDURE:

BOX SPOTTED: BOX REMOVED:

TIME AT TSDF (MILITARY TIME ONLY): ARRIVAL TIME: DEPARTURE TIME:

COMMENTS OR DELAYS AT TSDF:

EQUIPMENT USED:

PLEASE PRINT NAME / TITLE:

TSDF SIGNATURE: X

DATE UNLOADED: 11/17/18 (MO. DAY YR.)

NJD986607380
PC-1469
I-778
NJD986607380
184
W-613
W-409

FL- NJD986607380
GA- NJD986607380
IL- 8401
IN- NJD986607380
KS- NJD986607380
KE- NJD986607380
LA- NJD986607380

MD- HWH 539
MA- NJD986607380
MI- NJD986607380
MN- UPWO389242-OH
MS- NJD986607380
MO- H-2053
NH- TNH-0211

NJ- 50059
SW-18582
NM- NJD986607380
NY- JA-334
NV- UPWO389242-OH
NC- NJD986607380

OH- UPWO389242-OH
OK- 9782
PA- AH 0420
RI- 702
SC- NJD986607380
TX- 41625

TN- NJD986607380
UT- NJD986607380
VT- NJD986607380
VA- NJD9866073801
WV- UPWO389242-OH
WI- 16148

MXI original Canary: Retained by TSDF Pink: Retained by Generator

ACTION REMEDIATION
3010 BURNS AVENUE WANTAGH, N.Y.

Project: 71 QUINTON AVENUE
GARDEN CITY, N.Y.

[redacted]

ACTION REMEDIATION, INC.
3010 Burns Avenue Wantagh, N.Y. 11793 tel: (516)781-3000 fax:(516)781-3085

BILL OF LADING

Project:

FIRST SENIOR DEVELOPMENT CORP.
71 CLINTON AVENUE
GARDEN CITY, N.Y.

NOVEMBER 23, 1998

1- 20,000 GALLON FUEL STORAGE TANK

The single wall metal tank as referenced above was pumped, cleaned, and disposed of the following approved disposal facility

LONI-JO METAL CORP.
70 KINKEL STREET
WESTBURY, N.Y.

Authorization _____

APPENDIX C

Sampling Rationale

Sample Identification	Location	Matrix	Intended Purpose	Analyses Conducted
S-1	South of existing recharge basin.	GW[1]	Evaluate potential discharges to recharge basin and confirm prior Norfolk detection of lead.	TCL VOCs, TAL Metals
S-2	Northeast corner of property.	GW	Evaluate conditions downgradient of former Curtiss-Wright accessory buildings (including "Globe Wireless" and "Dope Storage" buildings) and upgradient of majority of on-site existing and historic infrastructure.	TCL VOCs
S-3	Northeast corner of property.	GW	Evaluate conditions downgradient of former Curtiss-Wright accessory buildings and upgradient of majority of on-site existing and historic infrastructure.	TCL VOCs
S-4	Eastern portion of property	GW	Evaluate conditions downgradient of former Curtiss-Wright accessory buildings and upgradient of majority of on-site existing and historic infrastructure.	TCL VOCs, TAL Metals
S-7	Southeastern portion of property	GW	Evaluate conditions downgradient of existing and former recharge basins.	TCL VOCs
S-13	South property line.	GW	Confirm Norfolk data and evaluate conditions downgradient of former boiler house / leaching system.	TCL VOCs
S-14	South property line.	GW	Confirm Norfolk data and evaluate conditions downgradient of former tin shop/metals storage building and former 10,000 gallon UST.	TCL VOCs, TAL Metals, STARS SVOCs
S-15	Southwest property line.	GW	Confirm Norfolk data and evaluate conditions downgradient of former tin shop septic system.	TCL VOCs, TAL Metals
S-17	Southwest property line.	GW	Downgradient of former manufacturing building and chemical laboratory.	TCL VOCs
S-18	Southwest property line.	GW	Downgradient of former manufacturing building.	TCL VOCs
S-20	Southwest property line.	GW	Downgradient of administration building and roof drain drywell.	TCL VOCs, TAL Metals
S-21	West property line.	GW	Evaluate conditions downgradient of Administration building (subject office building).	TCL VOCs
S-24	Northwest property line.	GW	Evaluate conditions downgradient of former Building 20 and upgradient to main portion of property.	TCL VOCs
S-25	North property line.	GW	Evaluate conditions downgradient of former Building 8 (garage) and upgradient to main portion of property.	TCL VOCs, TAL Metals
S-26	North property line.	GW	Evaluate conditions downgradient of former Sperry Building X and Canvas Enclosure and upgradient to main portion of property.	TCL VOCs, TAL Metals
S-27	North property line.	GW	Evaluate conditions downgradient of former Sperry Building X and Canvas Enclosure and upgradient to main portion of property.	TCL VOCs
S-28	Northeast property line.	GW	Evaluate conditions downgradient of reported off-site tank and upgradient to main portion of property.	TCL VOCs
S-29	Northeast property line.	GW	Evaluate conditions downgradient of reported off-site tank and upgradient to main portion of property.	TCL VOCs
S-30	Northeast corner of property.	GW	Evaluate conditions upgradient to main portion of property.	TCL VOCs, TAL Metals
S-31	Southwest parking lot.	GW	Evaluate location of former gasoline UST.	TCL VOCs
S-34	Behind Federal Express Building.	GW/Soil	Confirm Norfolk data and evaluate conditions associated with former 20,000 gallon fuel oil UST.	STARS VOCs, STARS SVOCs
S-35	Behind Federal Express Building.	Soil	Confirm Norfolk data and evaluate conditions associated with former 20,000 gallon fuel oil UST.	STARS VOCs, SVOCs

Notes:

[1] GW - Groundwater.

Table 2

Summary of STARS VOC and SVOCs Detected in Soil Samples

VOCs (ug/kg)	S-34 (19-20 ft)	S-35 (14-16 ft)	NYSDEC TAGM
4-Isopropyltoluene	360	ND	10,000
n-Propylbenzene	210	ND	3,700
1,2,4-Trimethylbenzene	930	ND	10,000
Isopropylbenzene	160	ND	2,300
sec-Butylbenzene	440	ND	10,000
Naphthalene	200	ND	13,000
SVOCs (ug/kg)	**S-34 (19-20 ft)**	**S-35 (14-16 ft)**	**NYSDEC TAGM**
Acenaphthene	800	ND	50,000
Fluorene	1,300	ND	50,000
Phenanthrene	3,500	ND	50,000
Anthracene	890	ND	50,000
Pyrene	1,200	ND	50,000
Benzo-(a)-pyrene	ND	**320**	61
Benzo-(g,h,i)-perylene	ND	350	50,000

Notes:

NYSDEC TAGM - Recommended Soil Cleanup Objectives, HWR-94-4046, Revised 4/95 and other indicated documents.

ND - Analyte was not detected above method detection limit.

NA - Not Available.

Bolded Value indicates detected concentration exceeded guidance value.

Table 3

Summary of VOCs Detected In Groundwater Samples

VOCs (ug/L)	S-1 (32-36 ft)	S-2 (32-36 ft)	S-3 (32-36 ft)	S-4 (32-36 ft)	S-7 (32-36 ft)	S-13 (32-36 ft)	S-14 (32-36 ft)	S-15 (32-36 ft)	S-17 (32-36 ft)	S-18 (32-36 ft)	S-20 (32-36 ft)	S-21 (32-36 ft)	S-24 (32-36 ft)	S-25 (32-36 ft)	S-26 (32-36 ft)	S-27 (32-36 ft)	S-28 (32-36 ft)	S-29 (32-36 ft)	S-30 (32-36 ft)	S-31 (32-36 ft)	S-34 (32-36 ft)	NYSDEC GA Standard
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**2**	ND	ND	ND	ND	ND	ND	ND	1
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2	ND	ND	**4**	ND	ND	ND	ND	ND	ND	ND	5
Trichloroethene	ND	ND	ND	ND	ND	**10**	**14**	**5**	ND	ND	2	1	ND	ND	ND	ND	ND	ND	ND	ND	NA	5
Tetrachloroethene	ND	ND	ND	ND	ND	2	**4**	1	ND	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	5
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3	ND	ND	**53**	ND	ND	ND	ND	ND	ND	ND	5
Total Xylenes	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**11**	ND	ND	**20**	ND	ND	ND	ND	ND	ND	ND	5

Notes:

NYSDEC Class GA Ambient Water Quality Standard or Guidance Value

ND - Analyte was not detected above method detection limit.

NA - Not Analyzed.

Bolded Values indicates detected concentration exceeded guidance value.

Table 4

Summary of Target Analyte List (TAL) Metals in Groundwater Samples

Metals (ug/L)	S-1 (32-36 ft)	S-4 (32-36 ft)	S-14 (32-36 ft)	S-15 (32-36 ft)	S-20 (32-36 ft)	S-25 (32-36 ft)	S-26 (32-36 ft)	S-30 (32-36 ft)	NYSDEC GA
Silver	ND	ND	ND	ND	ND	ND	ND	ND	50
Aluminum	60	1,830	74	28	111	123	782	709	NA
Arsenic	ND	ND	ND	ND	ND	ND	ND	ND	25
Barium	44	58	101	59	60	199	85	220	1,000
Beryllium	ND	ND	ND	ND	ND	ND	ND	ND	3 (GV)
Calcium	13,600	14,600	26,500	20,100	27,600	33,600	40,600	22,100	NA
Cadmium	ND	ND	ND	ND	ND	ND	ND	ND	5
Cobalt	26	47	ND	ND	ND	40	22	ND	NA
Chromium	ND	ND	ND	ND	ND	ND	ND	ND	50
Copper	ND	ND	ND	ND	ND	ND	ND	ND	200
Iron	139	**9,930**	**552**	**2,400**	**533**	**988**	**1,020**	322	300
Potassium	3,720	3,430	8,200	3,040	4,810	6,950	3,920	3,740	NA
Magnesium	3,260	2,910	3,830	2,220	3,180	3,340	4,640	5,120	35,000 (GV)
Manganese	**10,500**	**1,980**	**5,080**	**5,160**	**819**	**2,720**	**1,730**	**2,120**	300
Sodium	6,180	14,900	**23,300**	12,300	15,200	**85,000**	19,700	**52,200**	20,000
Nickel	ND	ND	ND	44	ND	ND	ND	ND	100
Lead	ND	ND	ND	ND	ND	ND	ND	ND	25
Antimony	ND	ND	ND	ND	ND	ND	ND	ND	3
Selenium	ND	ND	ND	ND	ND	ND	ND	ND	10
Thallium	ND	ND	ND	ND	ND	ND	ND	ND	0.5 (GV)
Vanadium	ND	ND	ND	ND	ND	ND	ND	ND	NA
Zinc	25	37	23	39	21	21	21	49	2,000 (GV)
Mercury	ND	ND	ND	ND	ND	ND	ND	ND	0.7

Notes:

NYSDEC Class GA Ambient Water Quality Standard or Guidance Value

ND - Analyte was not detected above method detection limit.

NA - Not Available.

Bolded Values indicates detected concentration exceeded
Class GA Standards

(GV) - Class GA Guidance Value

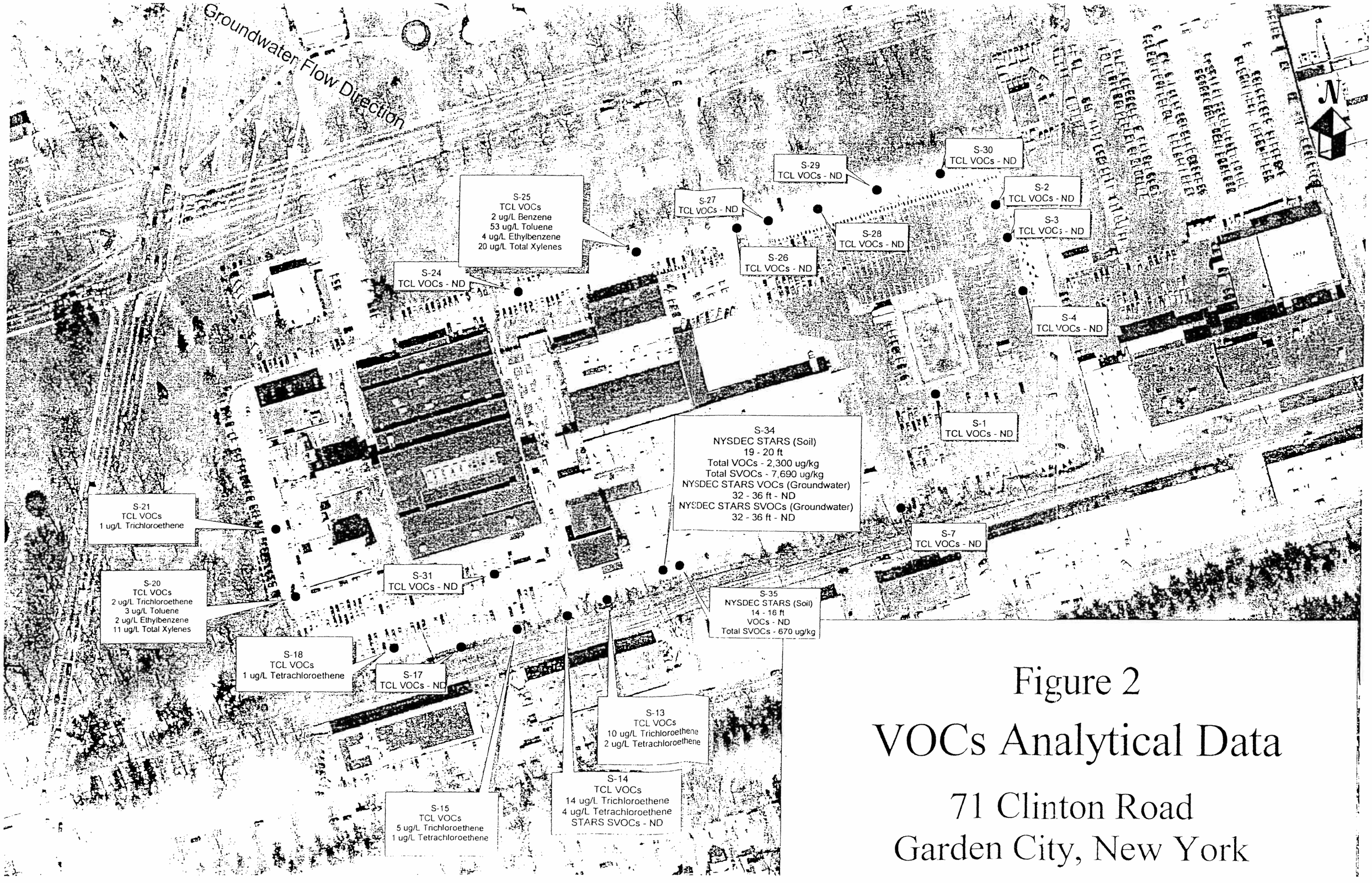


Figure 2
VOCs Analytical Data
71 Clinton Road
Garden City, New York

APPENDIX D

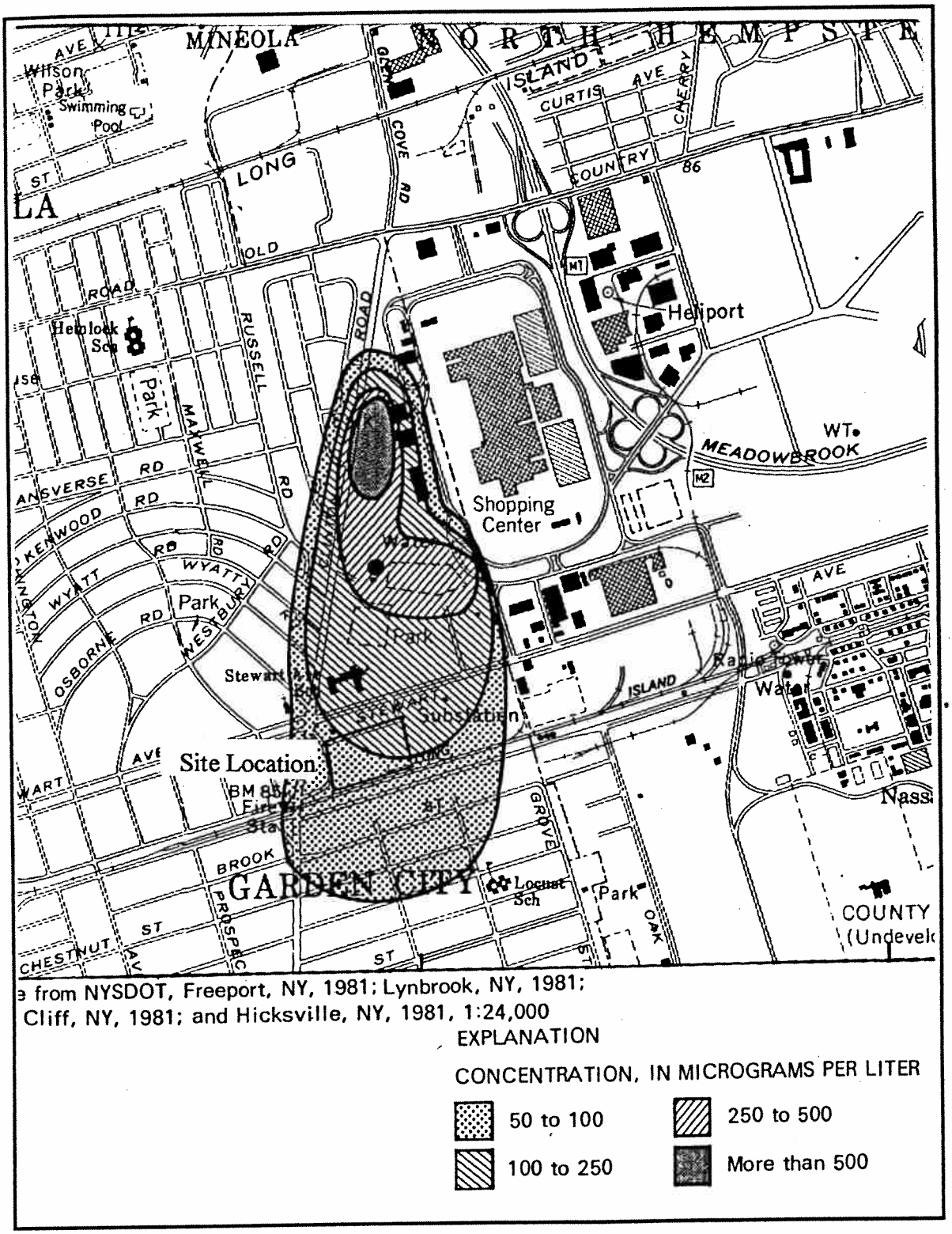


Figure 2:
Trichloroethylene concentrations in the Upper Glacial Aquifer, 1984. Adapted from *Chlorinated Organic Compounds in Groundwater at Roosevelt Field, Nassau County, Long Island, New York.* USGS, 1989.

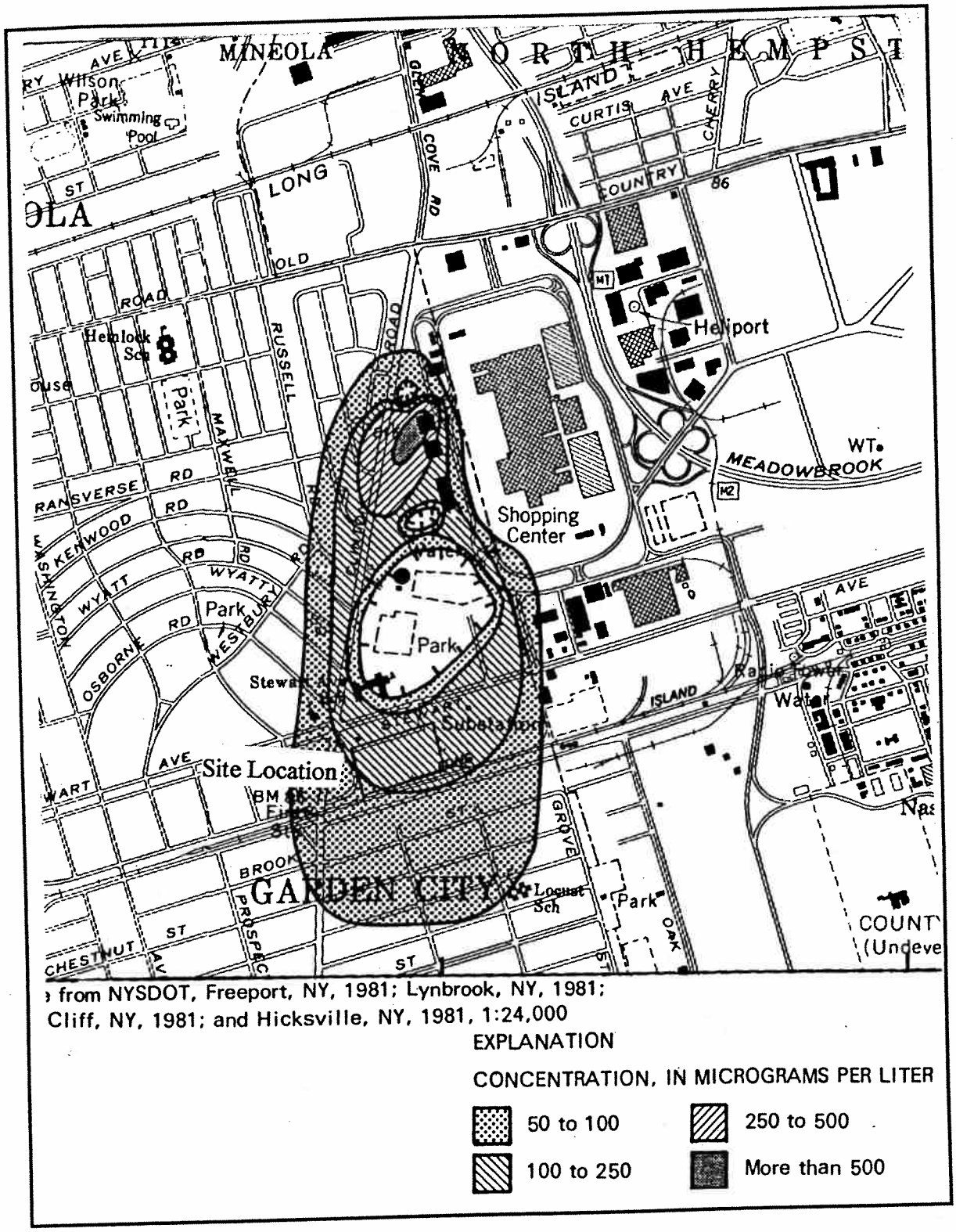


Figure 3:
Trichloroethylene concentrations in the Magothy Aquifer, 1984. Adapted from *Chlorinated Organic Compounds in Groundwater at Roosevelt Field, Nassau County, Long Island, New York.* USGS, 1989.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Environmental Remediation

Inactive Hazardous Waste Disposal Report April 1, 2001

Site Name: Old Roosevelt Air Field Hangar Site **Site Code:** 130051
Class Code: 2 Region: 1 County: Nassau EPA Id:
Address: Clinton Road City: Garden City Zip: 11530
Latitude: 40 44' 24" Longitude: 73 36' 59"
Site Type: Lagoon Estimated Size: 36 Acres

Site Owner / Operator Information:
Current Owner(s) Name: *** Multiple Site Owners ***
Current Owner(s) Address:
Owner(s) during disposal: unknown
Operator(s) during disposal:
Stated Operator(s) Address:
Hazardous Waste Disposal Period: From 1924 To 1995

Site Description:
The site includes Tax Map parcels described as Section 44, Block 77, lots 13A, 14 and 15 along Clinton Road, near where it intersects with Old Country Road, in the Northwest Corner of what was the old Roosevelt Air Field and west of Ring Road. A Nassau County/U.S. Geological Survey investigation into chlorinated volatile organic compounds in groundwater revealed high levels of trichloroethylene; 1,2-dichloroethylene and tetrachloroethylene in wells in the upper glacial and Magothy aquifers. A plume has been traced back to an area that was once aircraft maintenance hangars for Roosevelt Field, a commercial airfield from about 1924 to 1951. Four public water supply wells and seven cooling water wells tap the Magothy aquifer, on or near the old airfield. Contaminated water from the cooling water wells has been discharged to a recharge basin and a drain field, causing secondary plumes atop the initial plume. Varying rates of pumping and discharging complicate the groundwater flow patterns. In 1984, when data was collected by the USGS, a contaminant plume in the upper glacial aquifer extended in excess of a mile south-southwest of the source. The U.S. Department of Defense has conducted a PRP search. In February 2000, the Old Roosevelt Field Contaminated Groundwater Area was proposed by EPA for inclusion on the National Priorities List and it has been accepted.

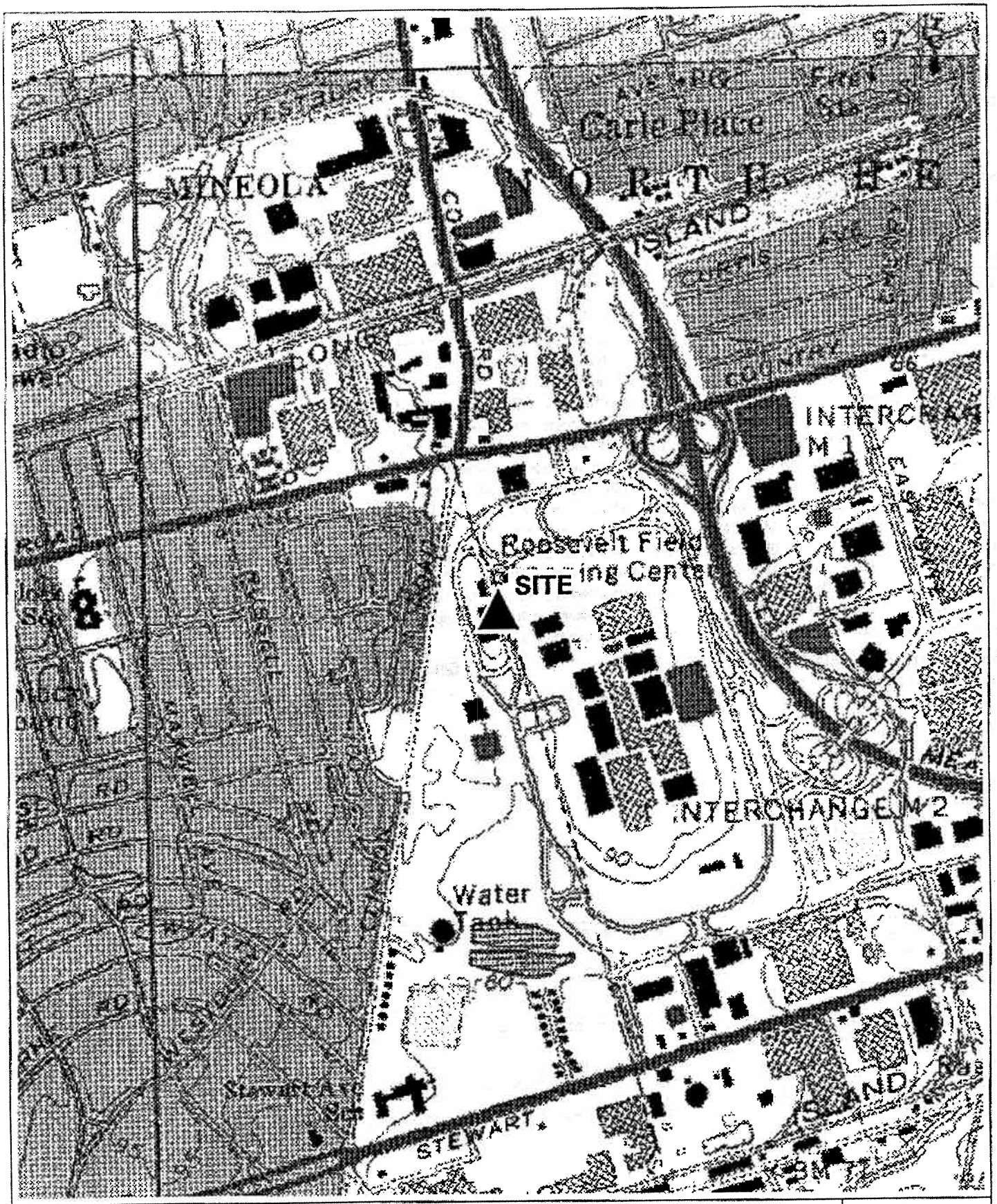
Confirmed Hazardous Waste Disposal:	**Quantity:**
Trichloroethylene {(TCE) (FOO1 waste)}	unknown
Cis-1,2-dichloroethylene	unknown
Tetrachloroethylene (PCE or "perc.")	unknown

Analytical Data Available for: **Groundwater**
Applicable Standards Exceeded in: **Groundwater** **Drinking Water**
Geotechnical Information:
Soil/Rock Type: **Sand and gravel.**
Depth to Groundwater: **Range: 25 to 50 feet.**

Legal Action: Type: Status:
Remedial Action: Nature of action:

Assessment of Environmental Problems:
Groundwater contamination has impacted public supply wells and commercial/industrial cooling water wells.

Assessment of Health Problems:
Area groundwater is contaminated with volatile organic solvents in excess of New York State drinking water standards. The area in the vicinity of the site is served by public water. Residents in the Town of Hempstead and the Village of Garden City Water Districts were exposed to water contaminated with Volatile Organic Compounds in the past through ingestion, dermal contact, and inhalation, such as when showering. The Town of Hempstead contaminated public water supply wells were all taken out of service by 1991. The contaminated water from supply wells in the Garden City Water District is treated. The depth of the contamination in the aquifer limits the formation of vapors that would impact residential or commercial buildings in the area.



Site Location Map

130051 Old Roosevelt Air Field Hangar Site

Map source: USGS 1:24,000-scale topographic quadrangles

N

0 250 500 750 1000

FEET

Scale 1:12,000

April 1, 2000

County: Nassau

A to Z
About Superfund
Accomplishments
Brownfields
Pilot Assessments
Community Help
Database Search
Emergency Response
Enviromapper
HQ Superfund
Ombudsman
Pre-Remedial
Site Fact Sheets

OLD ROOSEVELT FIELD CONTAMINATED GROUND WATER AREA

- NEW YORK
- EPA ID# NYSFN0204234
- EPA REGION 2
- CONGRESSIONAL DIST. 04
- NASSAU COUNTY
- GARDEN CITY

Other Names:
Old Roosevelt Airfield Hangar Site

Site Description

The Old Roosevelt Field Contaminated Ground Water Area (ORCA) Site is located on the eastern side of Clinton Road approximately 0.6 mile south of the intersection with Old Country Road. That intersection was the northwest corner of Roosevelt Field and its predecessors, which were used for aviation activities from 1911 until May 1951. The original airfield, known as the Hempstead Plains Aerodrome, encompassed 900 to 1,000 acres east of Clinton Road and south of Old Country Road. The U.S. military began using the Hempstead Plains field before the U.S. entered World War I. On September 24, 1918, the Army changed the name of the airfield to Roosevelt Field.

In the 1920's, Roosevelt Field was split into two separate airfields. The eastern field was sold in 1936 and became a racetrack, while the western field located at the corner of Clinton and Old Country Roads continued to operate as an aviation center.

After World War II, Roosevelt Field reverted to a commercial airport until it closed in May 1951. Building construction at the site began in 1956. The Roosevelt Field Shopping Mall and Garden City Plaza currently occupy what was once Roosevelt Field.

Garden City public supply wells 10 and 11 were installed at what had been the southwestern corner of the airfield in 1952 and put into use in 1953. The population served by each well is estimated to be 3,400 people. The wells have shown the presence of tetrachloroethene (PCE) and trichloroethene (TCE) since they were first sampled in the late 1970s and early 1980s, and the concentrations have increased since then. In 1987, an airstripping treatment system was installed at the site to remove volatile organic compounds (VOCs) from the raw water being pumped from wells 10 and 11. The treatment system was upgraded in 1999. Nassau County conducts regular well sampling and analysis.

Site Responsibility:

This site is being addressed through Federal actions.

NPL LISTING HISTORY

Proposed Date: 02/04/00
Final Date: 05/11/00

Threats and Contaminants

The Site is a contaminated ground water plume. Currently, the plume is documented by the presence of concentrations of carbon tetrachloride; 1,1dichloroethene (1,1DCE); tetrachloroethene (PCE); and trichloroethene (TCE) above health benchmarks in Garden City public supply wells 10 and 11. Historically, the highest levels of TCE were detected in coolingwater well N8050, formerly located approximately 2,000 feet northnortheast of the Garden City wells. Garden City wells 10 and 11 and the former coolingwater well N8050 are all located on the property that historically was Roosevelt Field. There are several potential sources of the ground water contamination, however, there is not adequate information to attribute it to a specific source or sources.

Cleanup Approach

This site is being addressed in a single longterm remedial phase focusing on cleanup of the entire site.

Response Action Status

Entire Site: EPA is developing a work plan for the performance of a remedial investigation/feasibility study (RI/FS) at the Site. EPA is conducting a search for potentially responsible parties, which may elect to execute the work plan.

Cleanup Progress

Since adding this site to the NPL, EPA has performed a review of the data collected for the Site and is coordinating with the New York State Department of Environmental Conservation (NYSDEC) and New York State Department of Health (NYSDOH) in planning future activities. An RI/FS was initiated by EPA in the summer of 2001.

Site Repository

All documents regarding this Site are located at the USEPA Region II Records Center, 290 Broadway, 18th Floor, New York, New York, 10007-1866.

For information on this page, contact: Cox-Tramel.Diann@epa.gov

NPL Site Narrative at Listing

OLD ROOSEVELT FIELD CONTAMINATED GROUND WATER AREA
Garden City, New York

Federal Register Notice: May 11, 2000

Conditions at Proposal (February 4, 2000): The Environmental Protection Agency is proposing the Old Roosevelt Field Contaminated Ground Water Area (ORCA) site to the National Priorities List in order to ensure the safety of an operating public drinking water supply located in an area of ground water contamination.

The ORCA site, located in Garden City, Nassau County, New York is a contaminated ground water plume. Currently, the plume is documented by the presence of concentrations of carbon tetrachloride; 1,1-dichloroethene (1,1-DCE); tetrachloroethene (PCE); and trichloroethene (TCE) above health benchmarks in Garden City public supply wells 10 and 11. Historically, the highest levels of TCE were detected in cooling-water well N8050, formerly located approximately 2,000 feet north-northeast of the Garden City wells. Garden City wells 10 and 11 and the former cooling-water well N8050 are all located on the property that historically was Roosevelt Field. There are several potential sources of the ground water contamination, however, there is not adequate information to attribute it to a specific source or sources.

The ORCA site is located on the eastern side of Clinton Road approximately 0.6 mile south of the intersection with Old Country Road. That intersection was the northwest corner of Roosevelt Field and its predecessors, which were used for aviation activities from 1911 until May 1951. The original airfield, known as the Hempstead Plains Aerodrome, encompassed 900 to 1,000 acres east of Clinton Road and south of Old Country Road. The U.S. military began using the Hempstead Plains field before the U.S. entered World War I. When the U.S. entered the war in April 1917, the airfield was taken over as a training center for military pilots and renamed Hazelhurst Field. On September 24, 1918, the Army changed the name of the airfield to Roosevelt Field.

After the war, the U.S. Air Service authorized some companies to operate from Roosevelt Field but maintained control until July 1, 1920, at which time the Government sold its buildings and improvements and relinquished control of the field. Subsequently, the property owners sold portions along the southern edge of the field and split the remainder of the property into two separate fields, Roosevelt Field on the eastern half, and Curtiss Field. Both fields were bought in 1929 by Roosevelt Field, Inc. and the consolidated property was once again renamed Roosevelt Field. The eastern field was sold in 1936 and became a racetrack, while the western field located at the corner of Clinton and Old Country Roads continued to operate as an aviation center.

Roosevelt Field was used by the Navy and Army during World War II. After the war, Roosevelt Field reverted to a commercial airport until it closed in May 1951. Building construction at the site began in 1956. The Roosevelt Field Shopping Mall and Garden City Plaza currently occupy what was once Roosevelt Field.

Besides the aviation activities that occurred at Roosevelt Field, there are several other potential

sources of solvent contamination in the site vicinity. There are several industrial sites to the north that were significant users of chlorinated solvents in the past. One of those sites discharged effluent with TCE as high as 10,000 parts per billion (ppb) to sewer pipes that were found to be leaking in 1978 and again in 1986. To the southeast, there are sites where two former solvent distributors were located. Based on the presence of so many potential sources in close proximity to the Garden City wells, the well contamination cannot be directly attributed to a specific source or sources at this time.

Garden City public supply wells 10 and 11 were installed at what had been the southwestern corner of the airfield in 1952 and put into use in 1953. The wells have shown the presence of PCE and TCE since they were first sampled in the late 1970s and early 1980s, and the concentrations have increased significantly since then. In 1987, an air-stripping treatment system was installed at the site to remove VOCs from the raw water being pumped from wells 10 and 11. Sample results of treated well water from May 1993, September 1995, and June/July 1999 have indicated that breakthrough of the treatment system has occurred on those occasions. The population served by each well is estimated to be 3,428 people. Therefore, a population of approximately 6,857 people are considered to be subject to actual contamination at concentrations above health benchmarks, i.e., Level 1. There are also approximately 80 other public supply wells within 4 miles of the site serving more than 300,000 people.

Status (May 2000): EPA is considering various alternatives for this site.

[The description of the site is based on information available at the time the site was scored. The description may change as additional information is gathered on the sources and extent of contamination. See 56 FR 5600, February 11, 1991, or subsequent FR notices.]

For more information about the hazardous substances identified in this narrative summary, including general information regarding the effects of exposure to these substances on human health, please see the Agency for Toxic Substances and Disease Registry (ATSDR) ToxFAQs. ATSDR ToxFAQs can be found on the Internet at http://www.atsdr.cdc.gov/toxfaq.html or by telephone at 1-888-42-ATSDR or 1-888-422-8737.
