Failable #130038

Meeting Summary
for the
June 8, 1992 Public Meeting
Presenting Results to Date on Remedial Investigations at
the Grumman Corporation and the Naval Weapons Industrial Reserve Plant

The New York State Department of Environmental Conservation (NYSDEC) held a public meeting on June 8, 1992 to present and discuss the results of the Phase I Remedial Investigations (RI) being conducted at the Naval Weapons Industrial Reserve Plant (NWIRP) and the Grumman Corporation sites located in Bethpage, Long Island. This meeting was held at 7:30 p.m. at the Bethpage High School located at the corner of Cherry and Stewart Avenues in Bethpage. Approximately 100 concerned and interested citizens were in attendance. The Phase I RIs were performed to examine the nature and extent of potential soil and groundwater contamination at both sites. The meeting also presented information on the remedial process and on Citizen Participation (CP) activities and defined a tentative schedule for future remedial activities.

The RI being conducted at NWIRP Bethpage is implemented by the U.S. Navy under their Installation Restoration Program (IRP). The IRP is designed to identify contamination of Navy and Marine facilities and lands resulting from past hazardous waste disposal practices and to identify and implement corrective measures. The Navy is implementing a two-phase RI. The Phase I RI, completed this spring, focused on characterizing three potential on-site contamination source areas at the NWIRP Bethpage facility. The Phase II RI will seek to further define these areas and determine what, if any, off-site impacts have resulted from past hazardous waste disposal activities. A Feasibility Study (FS) which will be conducted concurrently with the Phase II RI will define potential cleanup alternatives.

The Grumman Corporation (Grumman) is conducting their remedial investigations and cleanup under a legally enforceable agreement (consent order) with NYSDEC. Like the Navy, Grumman is implementing a two-phase RI. The Phase I RI was an investigation designed to determine the extent of on-site contamination resulting from Grumman operations. The Phase II RI will further study potential on-site source areas and further define the off-site boundaries of the contaminated groundwater plume.

Activities to Date

NWIRP Bethpage is currently in the Remedial Investigation/Feasibility Study (RI/FS) phase of the Installation Restoration Program. The Phase I RI field investigations, which consisted of gathering technical data, were completed in February 1992. The RI results were presented at this meeting and are summarized in the Navy's May 1992 Phase I RI Report which is available in the information repository located at the Bethpage Public Library.

In addition, the Navy established a Technical Review Committee (TRC) in March 1992 to provide an opportunity for independent technical review and comment during the remedial investigations and the selection of a cleanup alternative. The TRC consists of representatives from the Bethpage Water District, Nassau County Health Department, NYSDEC, New York State Department of Health (NYSDOH), Grumman Corporation, the U.S. Navy, and the Defense Logistics Agency.

Summary of Presentations

The public meeting was moderated by Ms. Susan McCormick, the NYSDEC Project Director. Ms. McCormick introduced the panel of speakers, representing NYSDEC, Grumman Corporation, and the U.S. Navy and served as moderator during the Question and Answer Sesion following the presentations. Copies of the speakers' presentation materials are attached.

The speakers, in order of their presentations, included:

Dr. Joshua Epstein, Citizen Participation Specialist, NYSDEC
Mr. John Barnes, Project Manager, NYSDEC
Mr. Andrew Barber, Project Manager, Geraghty & Miller
Mr. Frank Klanchar, Project Manager, Northern Division, Naval Facilities Engineering Command
Mr. David Brayack, Project Manager, HALLIBURTON NUS
Mr. Lloyd Wilson, New York State Department of Health

Dr. Joshua Epstein, outlined both Grumman's and the Navy's public involvement programs. Dr. Epstein presented an overview of the Citizen Participation Program (CPP) including: the regulatory requirements for citizen participation, a description of the purpose of a CPP and typical CPP activities, and various ways for the public to become involved with the remedial programs.

Mr. John Barnes, NYSDEC Project Manager, provided an overview of the State's remedial program procedure. Mr. Barnes described both the Navy's and Grumman's remedial programs and their anticipated future activities.

Mr. Andrew Barber, Project Manager for Geraghty & Miller, Inc., the technical consultant to Grumman, presented Grumman's Phase I RI results. Mr. Barber outlined the objectives of Grumman's Phase I RI: to investigate source areas, to define the on-site groundwater flow regime, and to determine the nature and extent of on-site groundwater contamination. In addition, he discussed the Phase II RI work plan for off-site testing.

Mr. Frank Klanchar, Project Manager, Northern Division, Naval Facilities Engineering Command, discussed the Navy's IRP and the role of the Naval Facilities Engineering Command as both a technical and financial oversight agency. Mr. Klanchar presented information on the Navy's Community Relations Plan, the Technical Review Committee, and anticipated future remedial activities.

Mr. David Brayack, Project Manager for HALLIBURTON NUS, the technical consultant to the Navy, discussed the Navy's Phase I RI. Results of the Phase I investigation included identifying the three areas of concern at the Navy site, the contamination associated with those areas, any data gaps, and the general work plan for the Phase II off-site investigations.

Mr. Lloyd Wilson of the NYSDOH presented an overview of his role in the RI/FS process and the NYSDOH interpretation of the Phase I RI results as presented by the Navy and Grumman consultants. Mr. Wilson stated that there is no immediate health risk to the residents of Bethpage as a consequence of groundwater contamination stemming from these sites.

Summary of Comments

The panel of speakers was available to answer questions from the public after the conclusion of all presentations. Following is a summary of the questions and comments raised by the public during the Question and Answer Session of the meeting. Questions, responses, and comments have been rephrased and condensed into general categories for ease of reading.

QUESTIONS AND ANSWERS

1) **The lines of communication with the community are inadequate.**

Comments in this category indicated that there is a problem with the lines of communication between the responsible parties and the community. Specific concerns include:

a) **Residents felt that they were not adequately notified about the public meeting.**

Dr. Epstein responded that the meeting announcement was distributed to local newspapers and to Newsday. In addition, Fact Sheets and meeting announcements were mailed to residents and concerned citizens currently on the contact list. This list included a substantial number of residents from Harrison Street. However, the contact list is continuously updated to include additional concerned citizens such as those who added their names to the sign-in sheet at the entrance to the meeting.

b) The terminology used at the meeting was too technical and too scientific.

Dr. Epstein responded to these statements by saying that his office reviews and edits community relations material to lessen the amount of technical language. In addition, he noted that it is important to give citizens technical information so that they can continue to participate in the remedial process.

c) The meeting format was intimidating.

Dr. Epstein responded that he understood that public meetings such as this one may be overwhelming. However, the public meeting is the current avenue for providing technical information to the public. In addition, Dr. Epstein stated that the Navy is planning on conducting a small number of interviews with interested and concerned parties to better evaluate the public's information needs.

d) Citizens believe they are not being provided with honest answers, and some answers are purposely being withheld.

Mr. Wilson responded by stating that although there is a groundwater contamination problem in the Bethpage area, the public health is not presently at risk. Additional studies will be conducted to determine the overall extent of groundwater contamination and those results will be presented to the public once they are known.

2) In 1983 these sites were first classified as one Class 2A site and in 1989 they were reclassified as separate Class 2 sites. Why has this process taken so long and should the sites be reclassified as Class 1 to expedite the cleanup process?

Ms. McCormick responded that when the Division of Hazardous Waste Remediation was created in 1986, there were only 50 people to work on over 1,000 sites statewide with a $1.2 billion budget. At present, there are over 500 people within the division, a marked improvement. The remediation process is slow and requires lengthy and necessary investigations. The average site takes between seven and eight years from discovery to cleanup. Although the Grumman site is much larger than average in size, investigations there are moving more quickly than at most other responsible party sites. Remedial construction is anticipated to begin within two years.

3) Will the EPA become involved and, if so, will it cause an additional delay or repetition in the remediation process?

Ms. McCormick responded that the EPA has been involved in consultation with NYSDEC on these sites. If the Navy site is placed on the National Priorities List (NPL), EPA will likely become the lead agency. No delay or repetition of the remediation process is anticipated because of the current interaction between NYSDEC and the EPA.

4) **Will the Feasibility Study look at the correlation between hazardous waste and health effects?**

Mr. Wilson responded that Feasibility Studies evaluate alternatives for the most effective cleanup and are based on the examination of technical data from remedial investigations.

5) **Is contaminated soil affecting the health of nearby residents such as children playing on the lawns?**

Mr. Barnes responded that because there is contaminated soil there is reason for concern. However, because contaminated soils are currently located on site and contact with the soils is unlikely, risk is minimal.

6) **Is there any contamination in the air relative to these sites that the residents of Bethpage should be concerned about?**

Mr. Barnes responded that air quality was monitored at breathing zone height while bore holes were being dug and no contamination was found; thus indicating that there is no cause for concern.

7) **Can I grow tomatoes in my backyard?**

Mr. Wilson responded that vegetables such as tomatoes do not readily absorb Volatile Organic Compounds (VOCs) such as those associated with this site, and thus eating home grown vegetables should not pose a health risk.

8) **A citizen stated that she felt that public health concerns were not being adequately addressed. These concerns include evidence of clusters of cancer and the relationship between airplane fuel, PCBs, and breast cancer.**

Mr. Barnes responded that PCB contamination associated with these sites was found to be slightly less than the 10 parts per million used as cleanup level at the Hooker/ RUCO Superfund site. NYSDEC will continue to monitor the PCB levels. The Navy anticipates investigating potential PCB contamination as part of their Phase II RI. Mr. Barnes also noted that these contaminated soils are not in direct contact with local residents.

Mr. Brayack also responded to this question by stating that PCBs are not associated with jet fuel, rather they have been used in electrical transformers. In general, PCB use has decreased over the past 10 years.

Mr. Wilson responded to the breast cancer issue by referring to a 1990 breast cancer study which found the Nassau County breast cancer rate to be 103 cases per 100,000 people. He also stated that the rates within the Bethpage Water District service area

were lower than the Nassau County rate. By comparing the location of hazardous waste sites with census tracts, the study indicated that: 1) tracts near hazardous waste sites had lower breast cancer rates than other tracts and, 2) higher socioeconomic status seemed to be the only link with higher breast cancer rates.

9) Why hasn't Grumman built air stripping towers to filter the contaminants out of the groundwater?

Ms. McCormick commented that although air stripping could begin to clean groundwater contamination, it could also affect the dynamics of the groundwater contamination plume, potentially deflecting the plume into various directions. As a result new investigations would then be required to locate and remediate the migrated plume.

10) Are the effects of Grumman ceasing their daily groundwater pumping activities being taken into consideration by the oversight agency?

Mr. Barber responded that Grumman is aware of the potential effects of stopping pumping and at this time Grumman intends to continue pumping. Mr. Barber also stated that the pumping has served to keep the concentration of contamination on the Grumman and Navy properties.

Mr. Barnes also responded that if Grumman changed their groundwater pumpage activities the groundwater contamination plume could potentially migrate. Mr. Barnes stated that NYSDEC is monitoring this potential problem situation.

11) If Grumman has been polluting in the past, why is NYSDEC still allowing Grumman to discharge water back into the ground?

Mr. Barber responded that water being discharged into all but one of Grumman's discharge basins meets the New York State drinking water standards and that all of the discharge basins are operating under permit.

12) Is there sulphur contamination at a former coal storage pile on the Navy site?

Mr. Brayack responded that potential contamination near the coal storage pile is not a result of the coal which had been stored there, but rather may be a result of solvents which may have been used in the same area.

13) Have any public supply wells tested positive to the contaminants mentioned in this meeting?

Mr. Barnes responded that one well tested positive and was closed in 1978.

A citizen also responded that a treatment facility was placed on the contaminated supply well between 1988 and 1989 and that current testing indicates that no VOCs are present and therefore the well is in use.

14) Is the Bethpage Community Park built on a landfill?

Mr. Barber responded that to his knowledge there is no landfill under the Bethpage Community Park.

15) What is the Navy's work plan for their off-site investigations?

Mr. Klanchar and Mr. Brayack both responded that the Phase II off-site work plan is currently being developed with input from NYSDEC and the TRC. The Phase II investigation will consist the installation and sampling of approximately six shallow (50 feet) groundwater wells. Some of these samples will be collected from the aquifer which supplies drinking water.

16) Will the presence of an impacted public supply well located to the northeast of the Navy site change the Navy's off-site investigations?

Mr. Brayack responded that current understanding is that groundwater flow patterns move southward and thus contamination stemming from the Navy site would not migrate to the northeast. However, additional computerized groundwater modeling will be conducted to better determine on- and off-site groundwater flow.

COMMENTS

The following are summaries of statements that where expressed by the public during the Question and Answer Session:

1) A member of the Bethpage Water District stated that although Grumman and Navy have been located in Bethpage since the 1930s, the Bethpage Water District will hold them liable for any contamination to the water for which they are responsible.

2) A member of the Oyster Bay Town Council stated that he feels Grumman is being proactive in an effort to get the Town Board to permit the construction of the Sterling Center. However, the Town Board will not grant permission for the development until all results from the remedial investigations (e.g., the extent of groundwater contamination and the size of the plume) are received. In addition, the Town of Oyster Bay will join the Bethpage Water District in monitoring the cleanup.

3) A citizen commented that an odor emanating from the Grumman site was not associated with the groundwater contamination or other pollutants released into the recharge basins on the Grumman site. The odor is not associated with the problems being discussed at this meeting.

4) The Bethpage Water District, in addition to complying with NYSDOH rules and regulations, tests daily and monthly for contaminants of concern. These tests results are available upon request. Currently, no contamination has been found in the water supply.

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

Thomas C. Jorling
Commissioner

AGENDA
PUBLIC INFORMATION MEETING

GRUMMAN CORPORATION - SITE NUMBER 130003A
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT - SITE NUMBER 130003B
REMEDIAL INVESTIGATION/FEASIBILITY STUDIES
JUNE 8, 1992

I. Introductory Remarks - Susan McCormick, P.E., NYSDEC Project Director

- o Meeting Agenda and Introduction of Speakers

II. Overview of the Citizen Participation Program - Joshua Epstein, PhD, NYSDEC Citizen Participation Specialist

- o Requirements and Plans for Citizen Participation
- o Description of the Citizen Participation Plans
- o Ways in Which the Public May Participate in the Remedial Program

III. Overview of the Remedial Program - John Barnes, NYSDEC Project Manager

- o Description of the DEC's Remedial Program
- o Descriptions of the Bethpage Projects
- o Plans for Future Activities

IV. Results of the Grumman Remedial Investigation to Date - Andrew Barber, Geraghty & Miller, Inc.

- o Results of the Phase I Remedial Investigation
- o Scope of Work for the Phase II Remedial Investigation

V. Results of the Navy Remedial Investigation to Date

- o Overview of the Navy's Installation Restoration Program - Frank Klanchar, US Navy
- o Results of the Navy's Phase I Investigation - David Brayack, P.E., Halliburton NUS, Inc.
- o Future Activities - Frank Klanchar

VI. Overview of the NYS Department of Health's Role in these Studies - Lloyd Wilson, NYSDOH

- o NYSDOH's Role in the RI/FS Process
- o NYSDOH's Interpretation of the Results of these Studies

VII. Question and Answer Session - Susan McCormick, NYSDEC, Moderator

VIII. Concluding Remarks - Susan McCormick, NYSDEC, Moderator

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

Thomas C. Jorling
Commissioner

NYSDEC REMEDIAL PROGRAM

1 - SITE IDENTIFICATION / LISTING

- PRELIMINARY SITE ASSESSMENT

2 - REMEDIAL INVESTIGATION/FEASIBILITY STUDY

REMEDIAL INVESTIGATION

- NATURE AND EXTENT OF CONTAMINATION
- RISK ASSESSMENT

FEASIBILITY STUDY

- EVALUATION OF REMEDIAL ALTERNATIVES AND TECHNOLOGIES
- SELECTION OF A REMEDY

3 - PROPOSED REMEDIAL ACTION PLAN

- FORMAL PUBLIC MEETING

4 - RECORD OF DECISION

5 - DESIGN AND CONSTRUCTION OF SELECTED REMEDY

6 - IMPLEMENTATION OF REMEDY

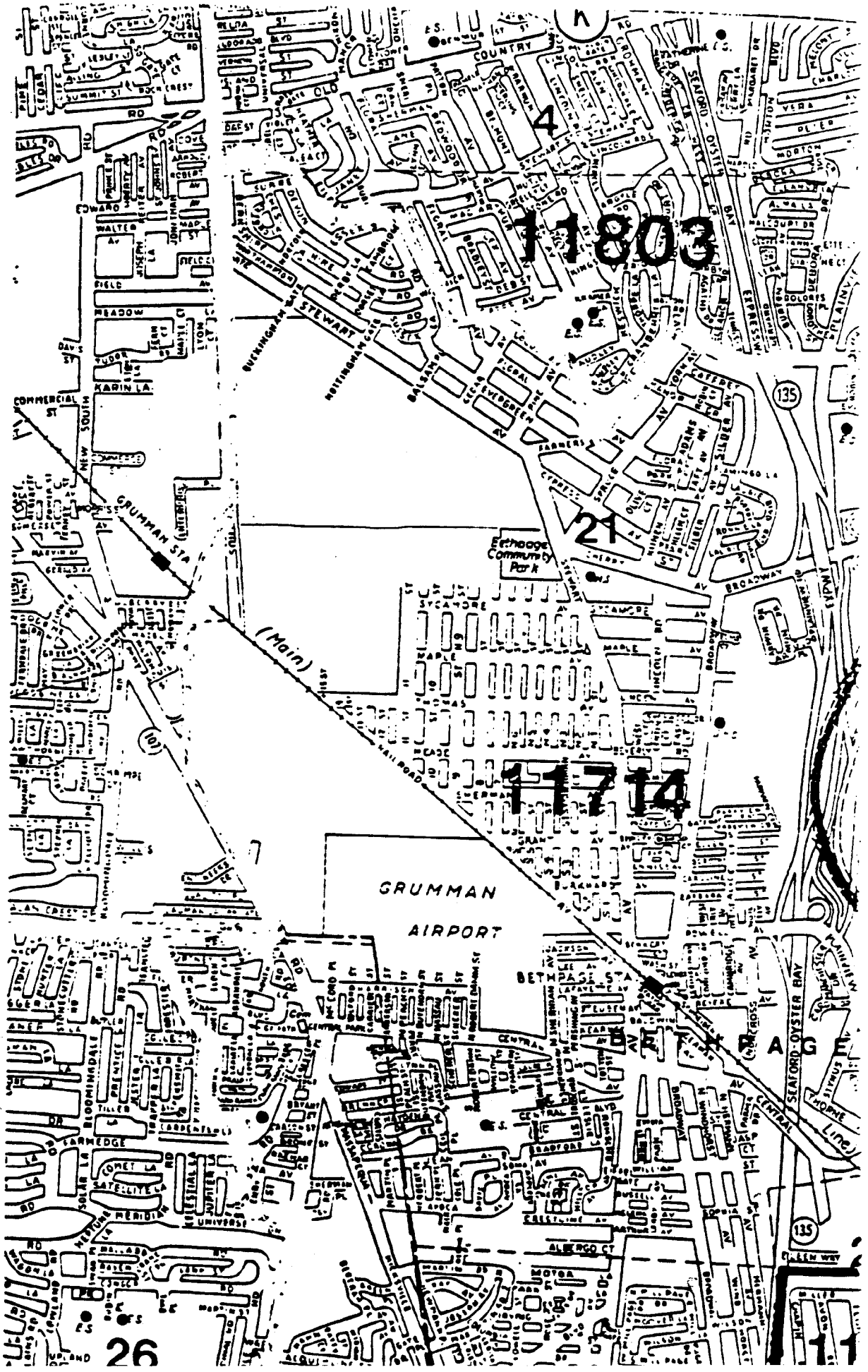
- CLEAN-UP
- POST-MONITORING

GRUMMAN

NAVY

HOOKER/RUCO

BETHPAGE
WATER DISTRICT



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

Thomas C. Jorling
Commissioner

AREAS OF CONCERN

1 - GROUNDWATER

- PRIMARY CONTAMINANTS:

  TRICHLOROETHYLENE

  PERCHLOROETHYLENE

  OTHER CL - SUBSTITUTED COMPOUNDS

- NYSDOH DRINKING WATER STANDARDS:

  Cl - SUBSTITUTED COMPOUNDS - 5 PPB

2 - PUBLIC SUPPLY WELLS

- BETHPAGE WATER DISTRICT

3 - ON-SITE SOIL CONTAMINATION

- Cl - SUBSTITUTED SOLVENTS
- HEAVY METALS

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

Thomas C. Jorling
Commissioner

STATUS OF THE GRUMMAN RI/FS

1 - CONSENT ORDER - OCTOBER 1990

- PHASE I RI WORK PLAN

2 - PUBLIC MEETING #1 - DECEMBER 4, 1990

3 - FIELD WORK/DATA VALIDATION - FEBRUARY 1991 - NOVEMBER 1991

4 - DATA REPORT - PHASE I RI - JANUARY 1992

5 - PHASE II REMEDIAL INVESTIGATION WORK PLAN - APRIL 1992

6 - PHASE II RI FIELD WORK - SUMMER 1992 (SCHEDULED)

7 - FUTURE ACTIVITIES

- PROPOSED REMEDIAL ACTION PLAN - SUMMER 1993
  /PUBLIC HEARING

- RECORD OF DECISION - LATE SUMMER 1993

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

Thomas C. Jorling
Commissioner

STATUS OF THE US NAVY RI/FS

1 - MEMORANDA OF AGREEMENT - NYS AND DEPARTMENT OF DEFENSE

2 - EPA's INVOLVEMENT

3 - DRAFT WORK PLAN - JULY 1991

- FINAL WORK PLAN AUGUST 1991

4 - FIELD WORK/DATA VALIDATION - AUGUST 1991 - FEBRUARY 1992

5 - DRAFT REMEDIAL INVESTIGATION REPORT - MARCH 1992

6 - FINAL PHASE I REMEDIAL INVESTIGATION REPORT - MAY 1992

7 - FUTURE ACTIVITIES

- PHASE II RI/FS WORK PLAN - SEPTEMBER 1992

- PHASE II RI FIELD WORK - NOVEMBER 1992 - JANUARY 1993

- PROPOSED REMEDIAL ACTION PLAN - LATE SPRING 1993
  /PUBLIC HEARING

- RECORD OF DECISION - SUMMER 1993

8 - TECHNICAL REVIEW COMMITTEE

- BETHPAGE WATER DISTRICT

- GRUMMAN

- NASSAU COUNTY HEALTH DEPARTMENT

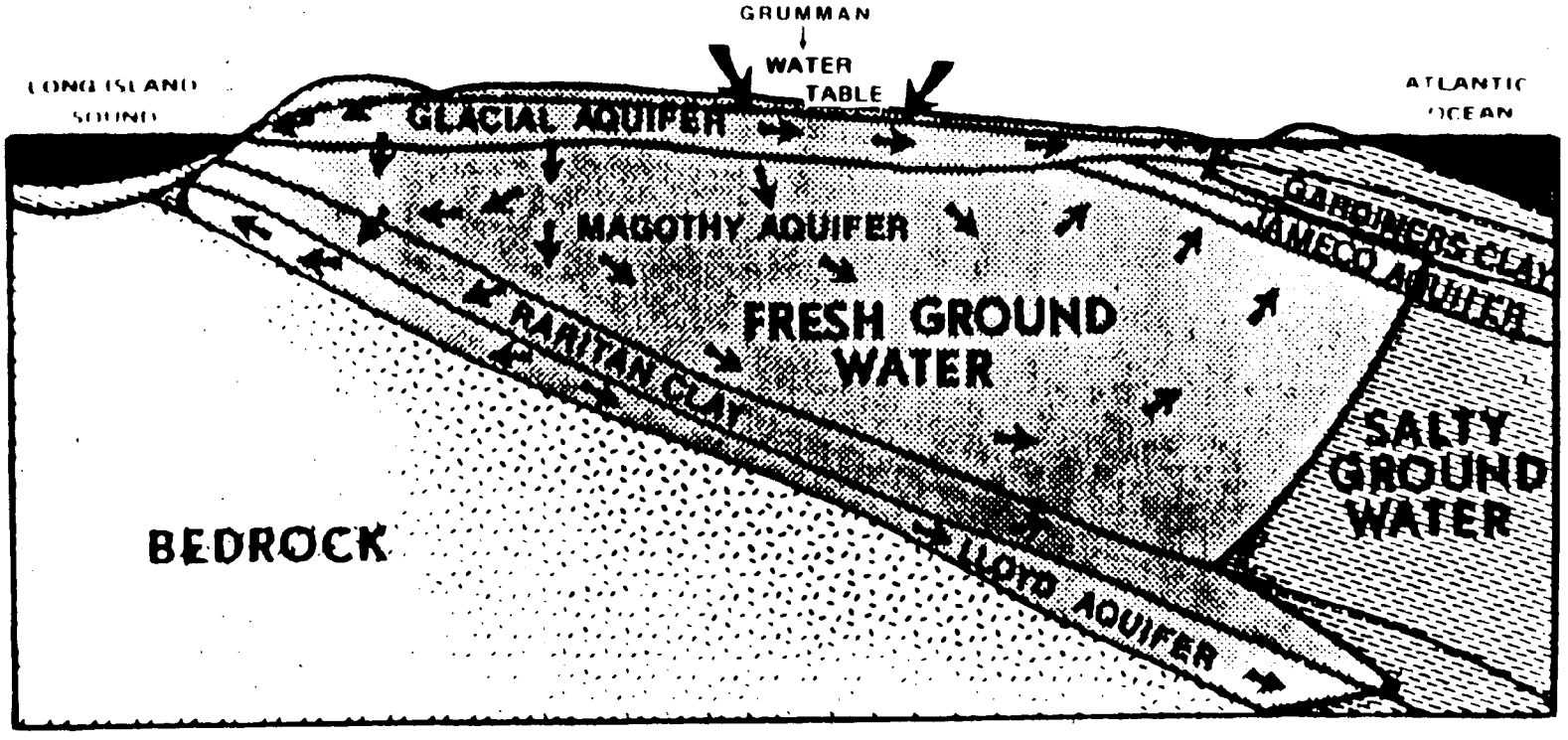
- NYS DEPARTMENT OF HEALTH

- NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION

- US NAVY

HYDROGEOLOGIC CROSS SECTION

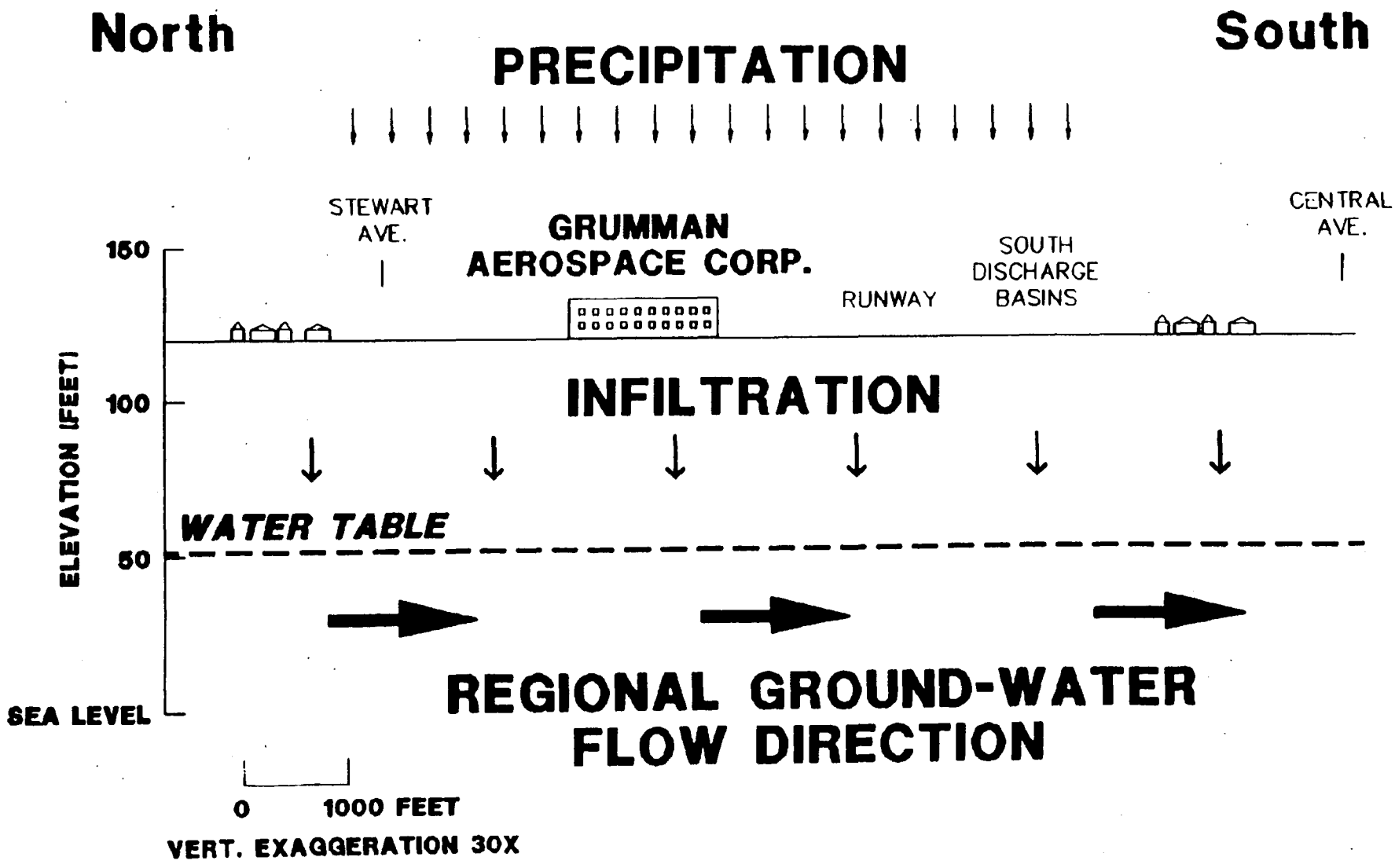
NASSAU COUNTY, NEW YORK



Not to scale

Source: USGS

Conceptual Contaminant Transport



RESTRICTED PUBLIC WATER SUPPLY WELLS-NASSAU COUNTY
MARCH 30, 1990

PUBLIC WATER SUPPLY SYSTEM	NYSDEC WELL NO.	LOCAL WELL NO.	WELL DEPTH (Ft. below land surface)	DATE RESTRICTED	CHEMICAL (a)	CONCENTRATION (ug/L)
A. ORGANIC CHEMICALS:						
COMMUNITY WELLS						
Glen Cove City	8327	22	165	06/23/77	1,2	300/150
Glen Cove City	3892	1S	246	07/07/77	2	100
Garden City Pk W.D.	3673	5	429	12/02/77	2	84
Bethpage W.D.	3876	6-1	386	03/23/78	1	63
Garden City Pk W.D.	3672	4	447	04/09/81	2	60
Garden City Pk W.D.	5603	6	415	07/08/81	2	53 (b)
Hicksville W.D.	8249	1-5	490	09/28/83	6	130 (b)
Bayville Village	7643	1-2	218	10/03/83	3,6	62/115
Citizens W.S. Co.	700	21A	70	10/28/83	4	130 (b)
Man-Lakeville W.D.	5710	6	385	08/06/84	5	60
Hicksville W.D.	9488	1-6	575	03/26/86	1	210 (b)
Jamaica W.S. Co.	7649	57	340	09/02/86	1	250 (b)
Jamaica W.S. Co.	7650	57A	440	09/02/86	1	70 (b)
Garden City Village	3934	10	417	08/12/87	1	59 (b)
Hempstead Village	4425	1R	365	09/26/88	2	86
NON-COMMUNITY WELLS						
Bethpage St. Park	189	1	183	12/28/76	2,3	270/68

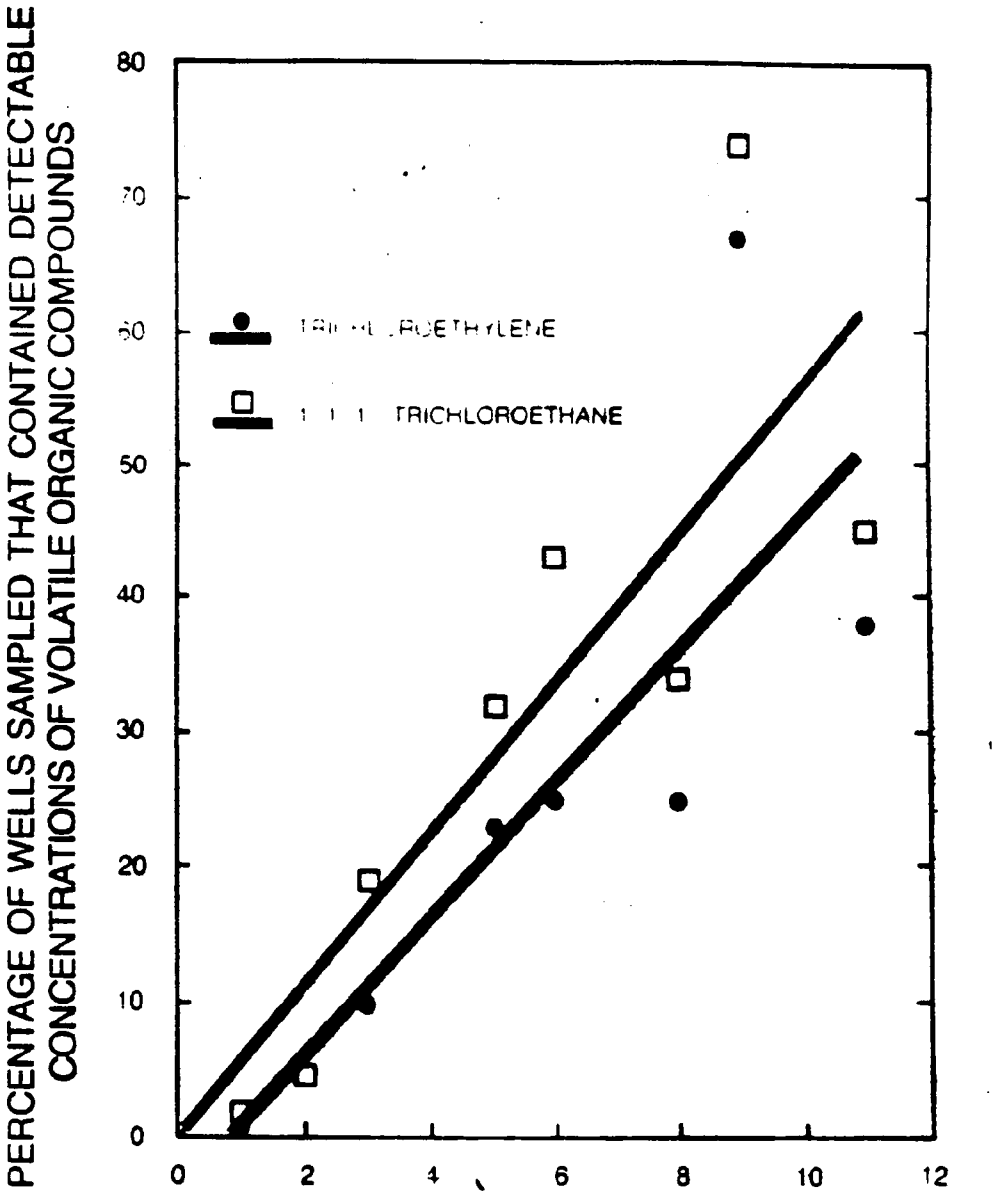
(a) (1) Trichloroethylene (2) Tetrachloroethylene (3) 1,1,1-Trichloroethane (4) Benzene (5) 1,2-Dichloroethylene (6) Total Volatile Organics

(b) Treated by Air-Stripping. Use restricted without treatment.

ug/L Micrograms per liter.

NYSDEC New York State Department of Environmental Conservation.

Source: Nassau County Department of Health, August 1990.



Percentage of wells in which trichloroethylene and 1,1,1- trichloroethane were detected in relation to population density, Nassau and Suffolk Counties, Long Island, N.Y., 1978-84. Reporting limits ranged from 5 to 1 micrograms per liter over time. (Source: Eckhardt and others, 1988.)

GRUMMAN AEROSPACE
PHASE I REMEDIAL
INVESTIGATION (RI)

OBJECTIVES

1. INVESTIGATE SUSPECT CONTAMINANT SOURCE AREAS

    - Soil-Gas Surveys
    - Soil Borings
    - Surface-Water and Sediment Samples

2. DEFINE ON-SITE GROUND-WATER FLOW REGIME

    - Installation of monitoring well clusters
    - Measurement of water levels

3. DETERMINE THE NATURE AND EXTENT OF ON-SITE GROUND-WATER CONTAMINATION

    - Sampling of new and existing monitoring wells

GRUMMAN AEROSPACE
PHASE I REMEDIAL
INVESTIGATION (RI)

CONTAMINANTS OF CONCERN

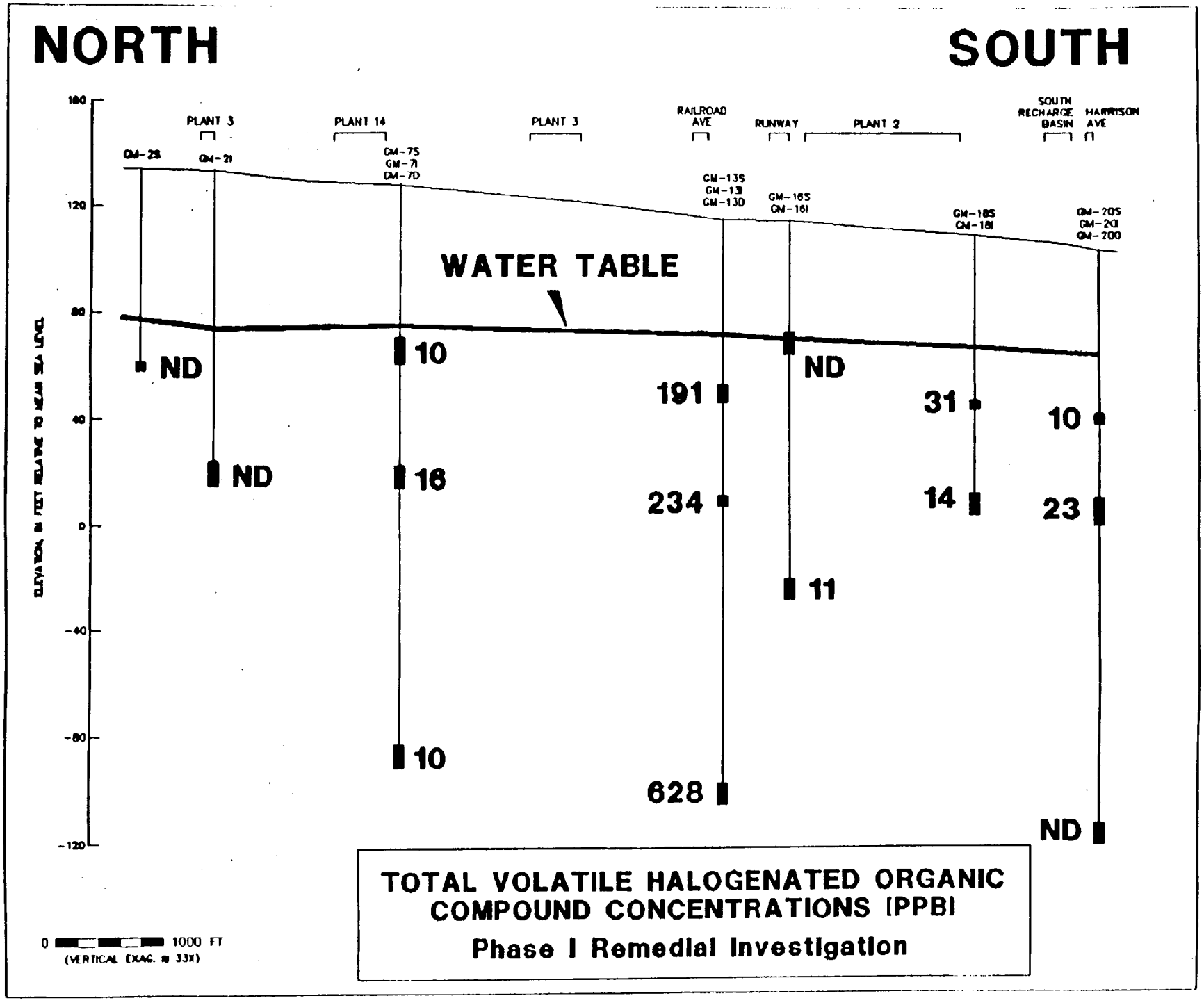
TRICHLOROETHYLENE

1,1,1-TRICHLOROETHANE

TETRACHLOROETHYLENE (PERCHLOROETHYLENE)

1,2-DICHLOROETHYLENE

VINYL CHLORIDE



GRUMMAN AEROSPACE
PHASE II REMEDIAL
INVESTIGATION (RI)

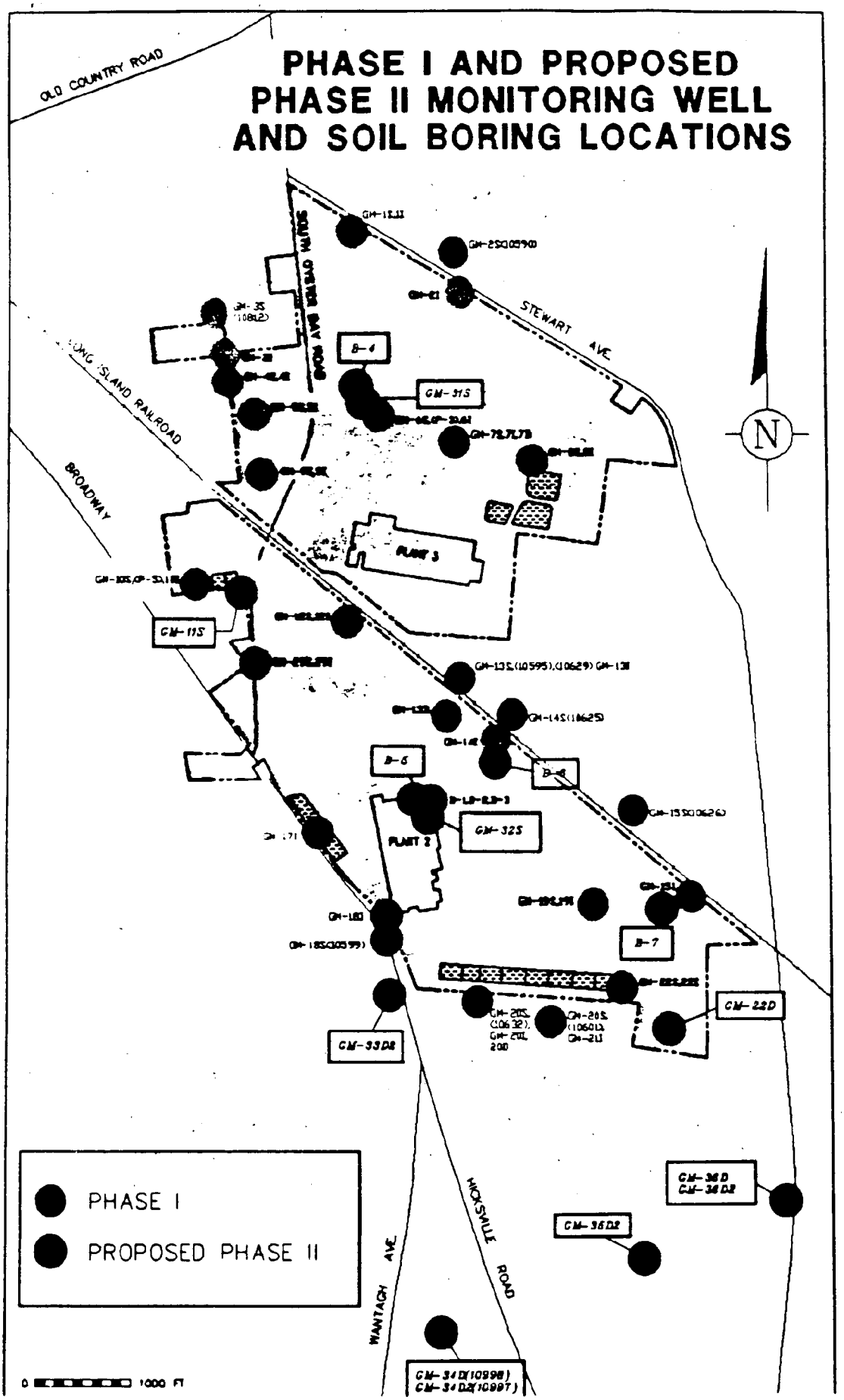
OBJECTIVES

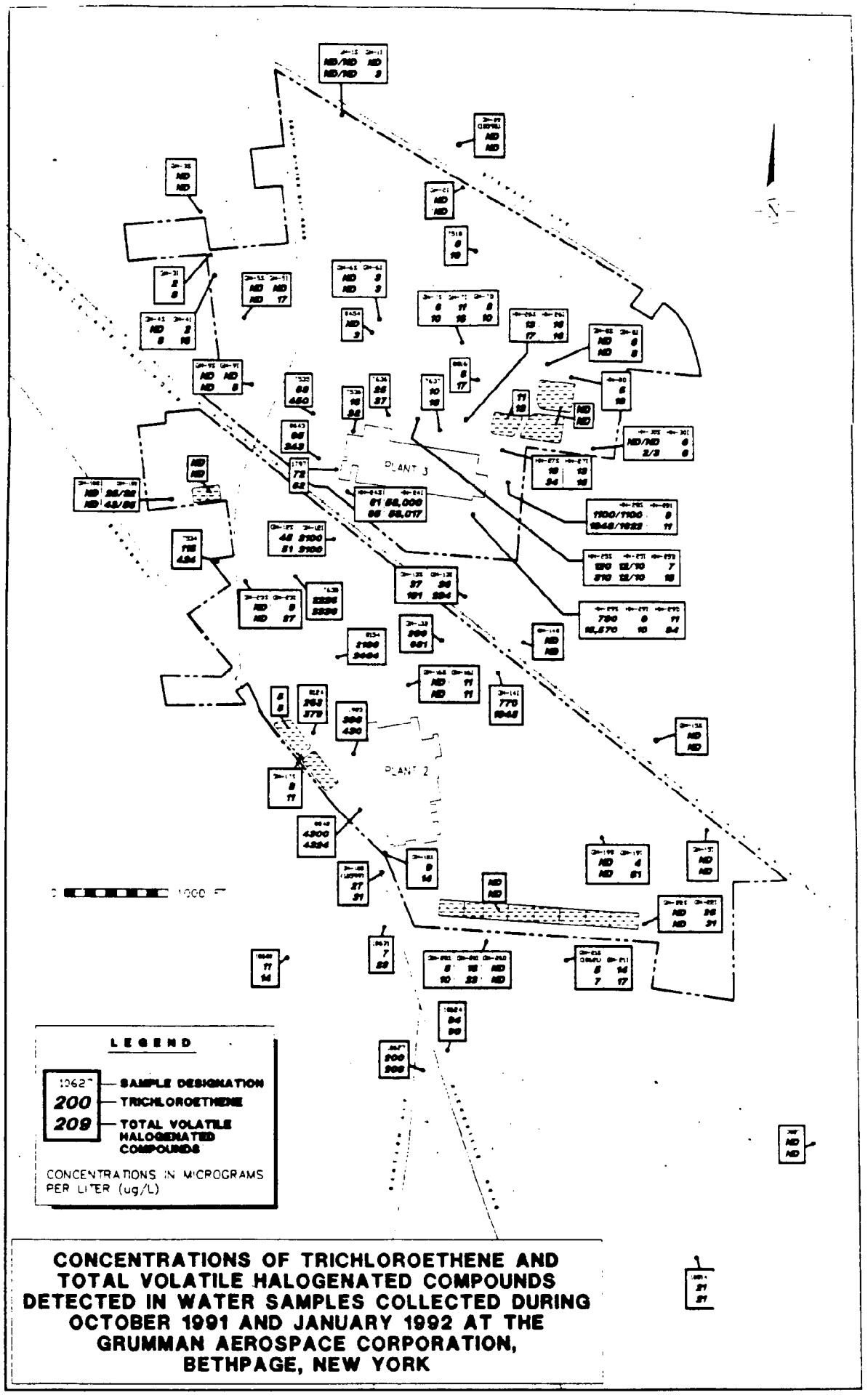
1. FILL IN ON-SITE DATA GAPS (SOURCE AREAS, DEEP GROUND-WATER QUALITY)

    - Soil-Gas Surveys
    - Soil Borings
    - Monitoring Well Installation

2. DETERMINE THE NATURE AND EXTENT OF OFF-SITE GROUND-WATER CONTAMINATION

    - Sampling of new and existing monitoring wells
    - Measurement of water levels


PHASE I AND PROPOSED
PHASE II MONITORING WELL
AND SOIL BORING LOCATIONS
OLD COUNTRY ROAD
STEWART AVE
LONG ISLAND RAILROAD
BROADWAY
SOUTH OYSTER BAY ROAD
N
B-4
GM-31S
PLANT 3
GM-11S
B-5
GM-32S
PLANT 2
B-7
GM-22D
GM-33D2
GM-36D
GM-36D2
GM-34D(10998)
GM-34D2(10997)
WANTAGH AVE
HICKSVILLE ROAD
PHASE I
PROPOSED PHASE II
0
1000 FT



CONCENTRATIONS OF TRICHLOROETHENE AND TOTAL VOLATILE HALOGENATED COMPOUNDS DETECTED IN WATER SAMPLES COLLECTED DURING OCTOBER 1991 AND JANUARY 1992 AT THE GRUMMAN AEROSPACE CORPORATION, BETHPAGE, NEW YORK

NORTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND

- Located in Philadelphia, PA
- Perform site specific studies to assess and control contamination at Navy sites
- Project coordination with activity Commanding Officers and regulatory agencies
- Preparation of project plans, reports, contract documents, contract award, and administration
- Technical and financial oversight
- Technical Review Committee (TRC)

PUBLIC INVOLVEMENT

TECHNICAL REVIEW COMMITTEE

- Established in March 1992
- Provides opportunity for technical input on investigations/ decisions for the Installation Restoration Program
- Representation from NYSDEC, NYSDOH, Nassau County Health Department, Bethpage Water District, Grumman Aerospace Corporation, Navy, and the Defense Logistics Agency

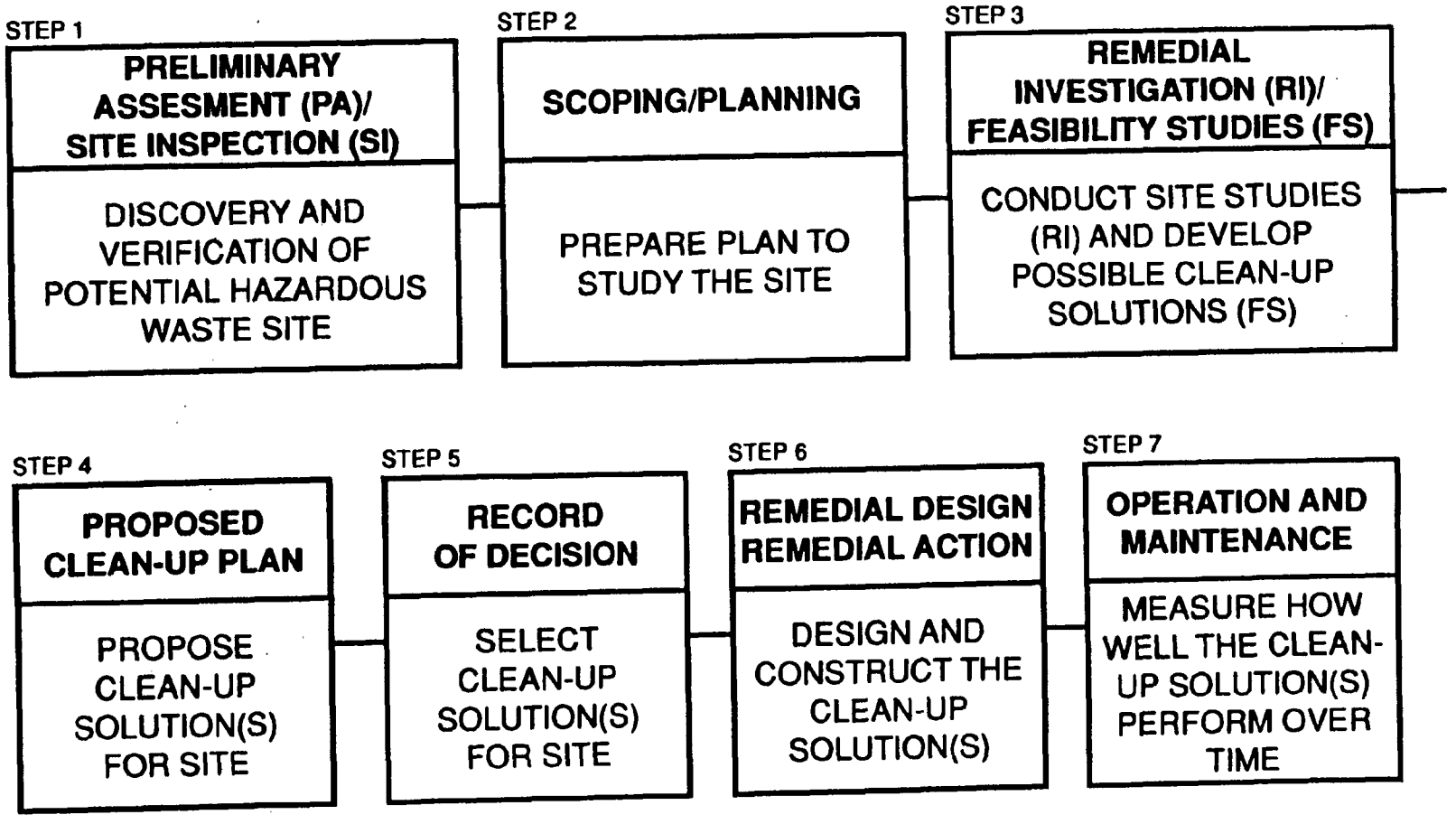
INFORMATION REPOSITORY

- Bethpage Public Library
- Pertinent site-related documents are available

OTHER ACTIVITIES:

- Community Relations Plan
- Additional avenues for public information and involvement will be provided in the future

SITE STUDY AND CLEAN-UP PROCESS
Navy Installation Restoration Program



UPCOMING ACTIVITIES

PHASE II REMEDIAL INVESTIGATION

- Workplan
- Draft scope includes the following activities:
  - Visual inspection of floor drains and tanks around Plant 03
  - Collect additional information on Sludge Beds at Site 2
  - Three-dimensional modeling of the sites
  - Resample surface soil locations to quantify PCB contamination
  - Investigate the former use of coal storage piles
  - Sample Grumman production wells Nos. 8, 9, and 14
- Fieldwork
- Report

FEASIBILITY STUDY

- To be performed concurrent with Phase II Remedial Investigation effort

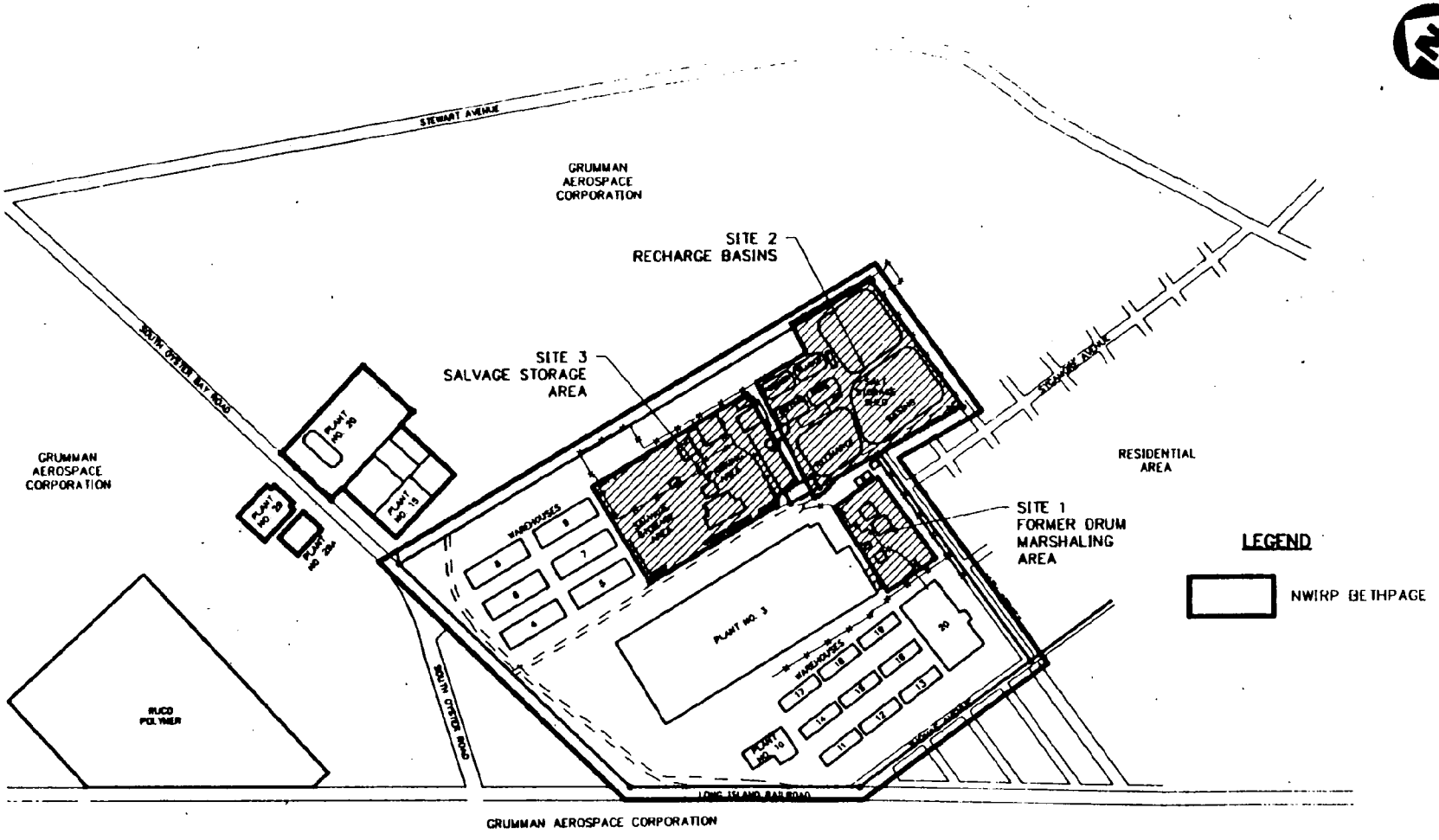


FIGURE 1-2

ACTIVITY LAYOUT
REMEDIAL INVESTIGATION
NWIRP, BETHPAGE, NY

0 500 1000
SCALE IN FEET

HALLIBURTON NUS
Environmental Corporation

REMEDIAL INVESTIGATION
NWIRP, BETHPAGE, NEW YORK

PREPARED BY:
HALLIBURTON NUS
ENVIRONMENTAL CORPORATION
PITTSBURGH, PENNSYLVANIA

COMPREHENSIVE LONG-TERM ENVIRONMENTAL ACTION NAVY (CLEAN)

CONTRACT N62472-90-D-1298
CONTRACT TASK ORDER 0003

- **FIELD ACTIVITIES (Collect samples of media for chemical testing and geological evaluations)**
- **NATURE AND EXTENT OF CONTAMINATION (Evaluation of analytical results to determine levels of contamination - typically relative to background)**
- **RISK ASSESSMENT (Quantification of risks to human health and the environment)**
- **RECOMMENDATIONS (For further investigation or remediation)**

P-49.3.92-7

FIELD WORK (AUGUST 1991 TO FEBRUARY 1992)

- **Soil-gas Sampling and Analysis (Initial Screening - VOAs, August 1991)**
  - 146 samples at 5 or 21 feet deep.
  - Samples analyzed on site.
  - Results used to determine location of soil and groundwater samples.
- **Temporary Monitoring Well Sampling and Analysis (Screening - VOAs, August/September 1991)**
  - 29 temporary monitoring wells and samples Samples analyzed at local lab within 48 hours.
  - Results used to determine location of additional groundwater samples.

FIELD WORK (AUGUST 1991 TO FEBRUARY 1992) (Continued)

- Surface/Subsurface Soil Sampling and Analysis (VOAs, Semi-VOAs, Inorganics, and PCBs/Pesticides, September 1991)
  - 46 Subsurface samples at 29 locations.
  - 29 Surface samples.
  - Samples analyzed at NEESA-approved laboratory.
  - Results used for nature and extent of contamination and risk assessment.
- Surface Water/Sediment Sampling and Analysis (VOAs, Semi-VOAs, and Inorganics, September 1991 and December 1992)
  - 2 Surface Water samples.
  - 4 Sediment samples.
  - Samples analyzed at NEESA-approved laboratory.
  - Results used for nature and extent of contamination and risk assessment.

FIELD WORK (AUGUST 1991 TO FEBRUARY 1992) (Continued)

- Groundwater Sampling and Analysis (VOAs, Semi-VOAs, and Inorganics, December 1991 and February 1992)
  - 7 Shallow monitoring wells (~50 feet deep).
  - 7 Intermediate monitoring wells (100 to 150 feet deep).
  - 3 Deep monitoring wells (200 to 250 feet deep).
  - USGS Well (deep).
  - 4 Production wells (deep).
  - Samples analyzed at NEESA-approved laboratory.
  - Results used for nature and extent of contamination and risk assessment.

NATURE AND EXTENT OF CONTAMINATION

- Site 1 - Former Drum Marshaling Area
  - Soil-gas and temporary monitoring well results indicate the presence of a source area near the former drum marshaling area.
  - Soil results confirm VOA soil contamination in this area. TCE, PCE, and 1,1,1 TCA most significant VOAs. Results also find low levels of PCBs and inorganics in soils. Lead, arsenic, chromium, and cyanide were most significant inorganics.
  - Groundwater results indicate the presence of a significant VOA-contaminated groundwater plume originating near the former drum marshaling area. Primary contaminants are TCE, PCE, and 1,1,1-TCA with lesser but significant concentrations of inorganics including arsenic, lead, chromium, and cyanide.

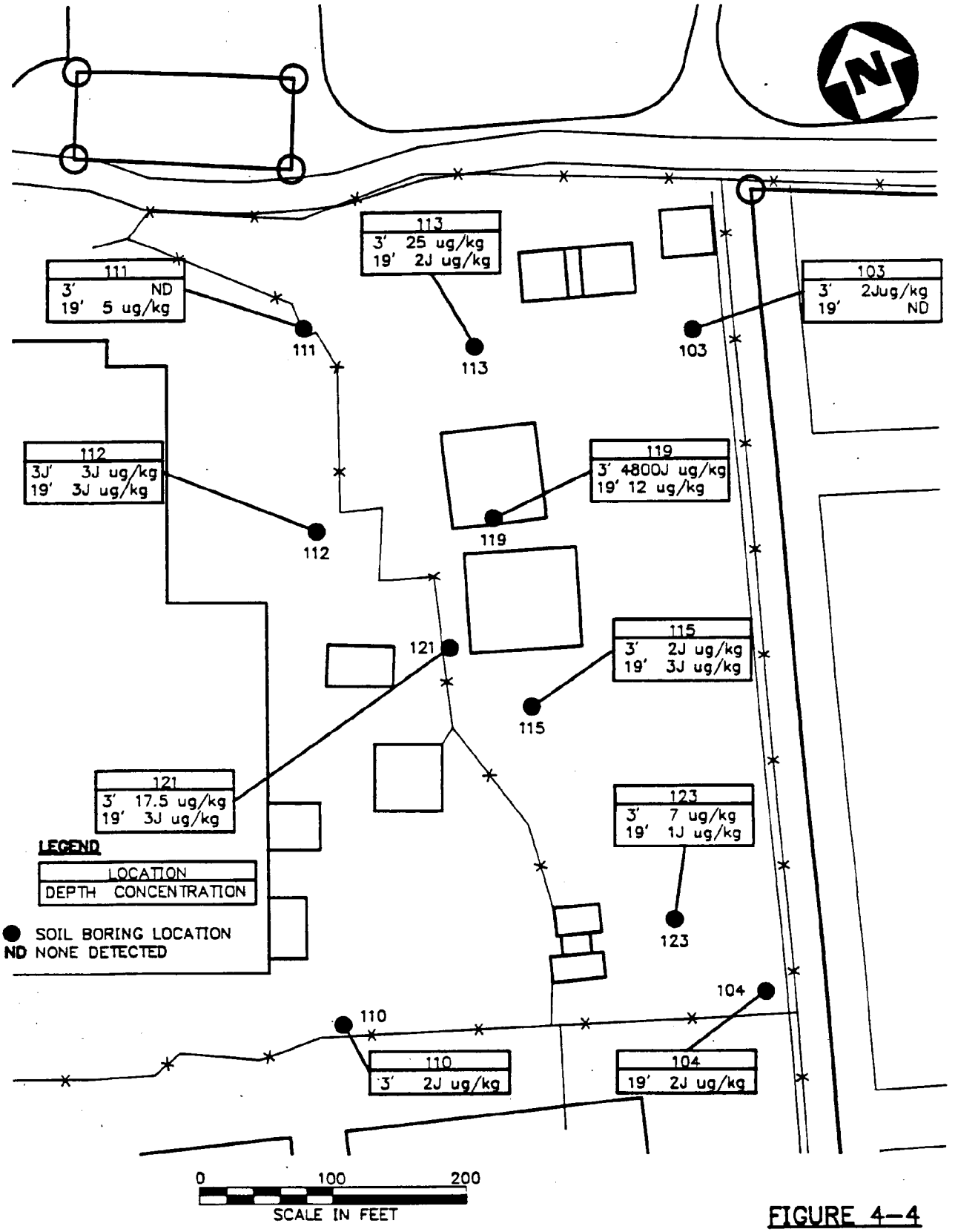


FIGURE 4-4

SITE 1 - SUBSURFACE SOIL RESULTS - PCE
REMEDIAL INVESTIGATION
NWIRP, BETHPAGE, NY

HALLIBURTON NUS
Environmental Corporation

ACAD: 3281\SITE1.DWG 02/29/92 MB 4-4.LAY

NATURE AND EXTENT OF CONTAMINATION (Continued)

- Site 2 - Recharge Basin Area
  - Soil-gas and temporary monitoring well results indicate the presence of a potential minor source area near the recharge basins.
  - Soil results confirm minor VOA soil contamination in this area. TCE, PCE, and 1,1,1 TCA most significant VOAs. Results also find low levels of PCBs and inorganics in soils. Lead, arsenic, chromium, and cyanide were most significant inorganics.
  - Groundwater results did not indicate the presence of a significant VOA-contaminated groundwater plume originating at this site. Low levels of VOAs and inorganics were detected.
  - Surface water and sediment results indicate that the recharge basins are not a likely significant source area of groundwater contamination. VOA contaminants detected can largely be attributed to contaminated groundwater in the production wells.

ACAD: 3281\SITE2.DWG 02/27/92 MB PS-LIMITS 4-20.LAY

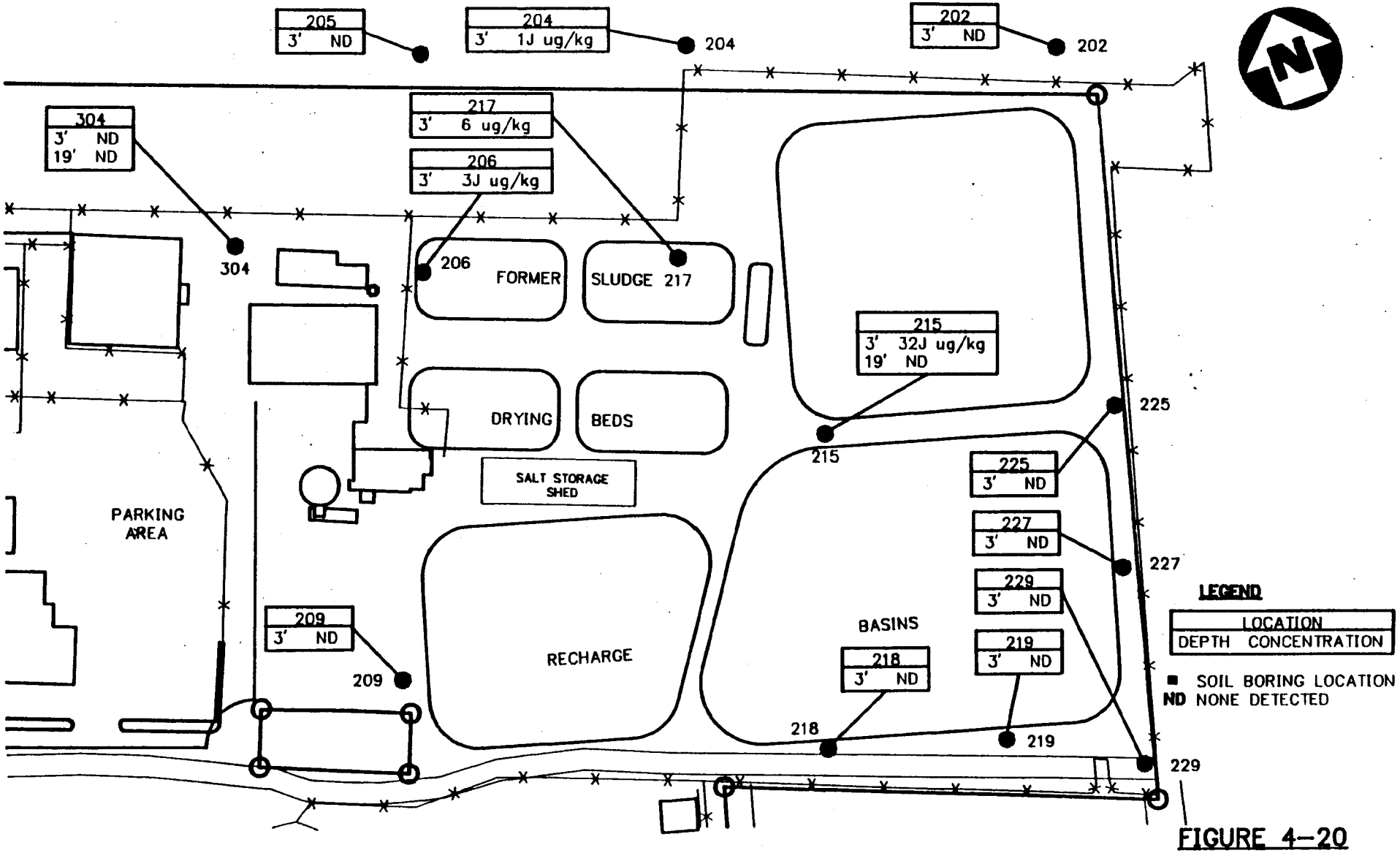


FIGURE 4-20

SITE 2 - SUBSURFACE SOIL RESULTS - TCE
REMEDIAL INVESTIGATION
NWIRP, BETHPAGE, NY

HALLIBURTON NUS
Environmental Corporation

NYSDEC 032935

ACAD: 3281\SITE2.DWG 02/27/92 MB PS-LIMITS 4-26.LAY

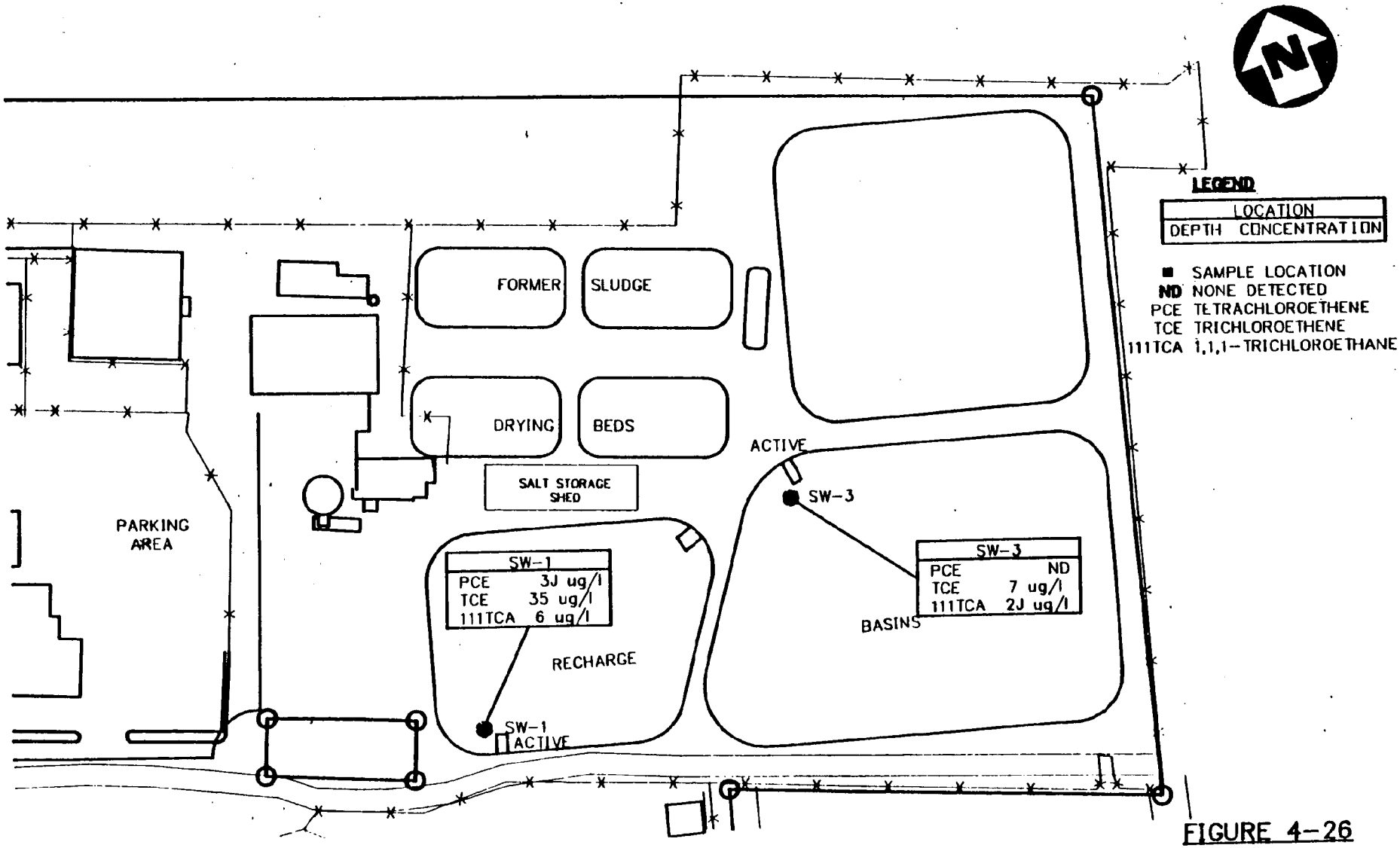


FIGURE 4-26

SITE 2 - SURFACE WATER RESULTS - ORGANICS
REMEDIAL INVESTIGATION
NWIRP, BETHPAGE, NY

HALLIBURTON NUS
Environmental Corporation

NYSDEC 032936

ACAD: 3281\SITE2.DWG 02/27/92 MB PS-LIMITS 4-27.LAY

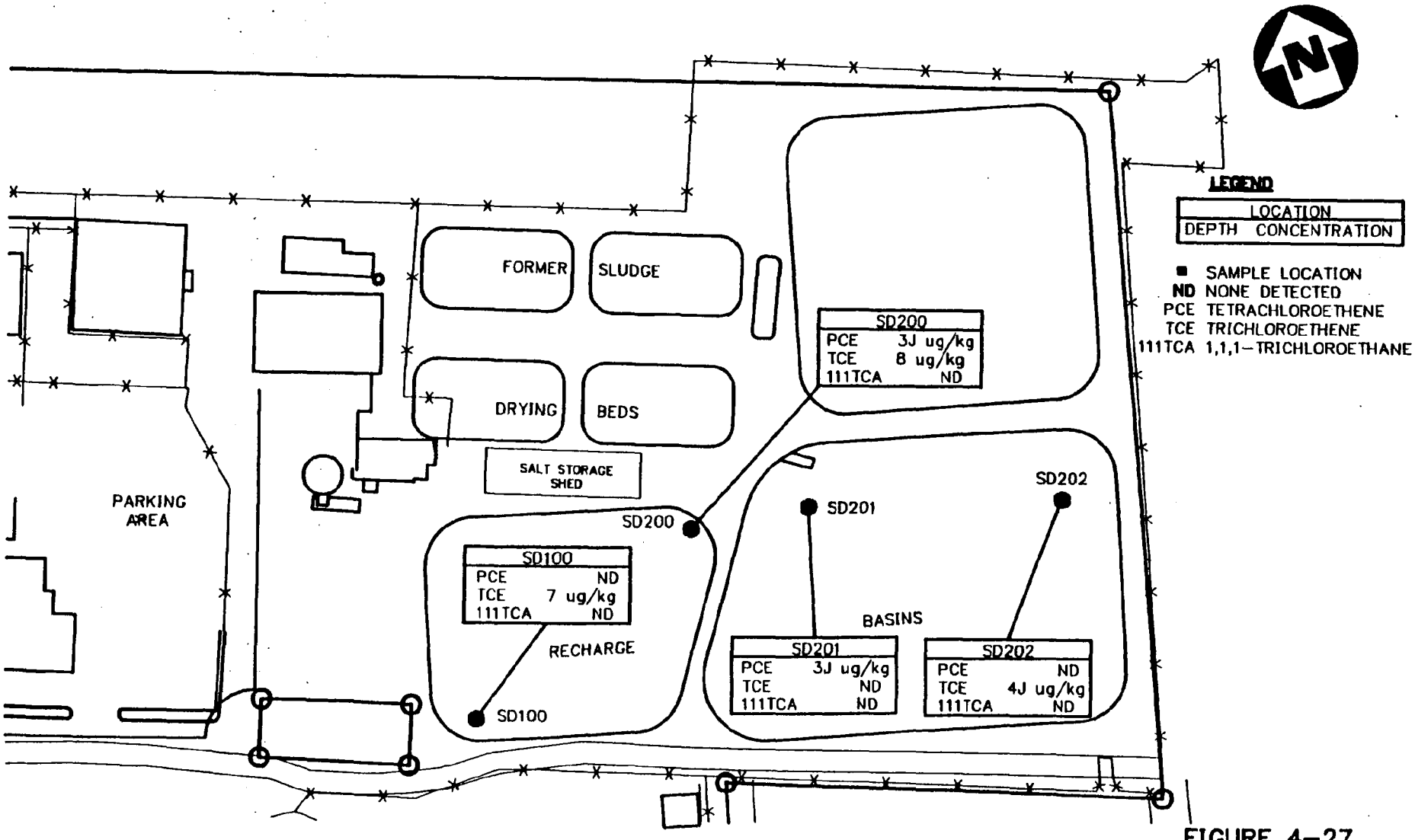


FIGURE 4-27

SITE 2 - SEDIMENT RESULTS - ORGANICS
REMEDIAL INVESTIGATION
NWIRP, BETHPAGE, NY

HALLIBURTON NUS
Environmental Corporation

NYSDEC 032937

NATURE AND EXTENT OF CONTAMINATION (Continued)

- Site 3 - Salvage Storage Area
  - Soil-gas and temporary monitoring well results indicate the presence of a potential minor source area near the south west portion of the site.
  - Soil results confirm minor VOA soil contamination in this area. TCE, PCE, and 1,1,1 TCA most significant VOAs. Results also find low levels of PCBs and inorganics in soils. Lead, arsenic, chromium, and cyanide were most significant inorganics.
  - Groundwater results indicated the presence of a significant VOA-contaminated groundwater plume originating at or near this site. Low levels of inorganics were detected.

ACAD: 3281\SITE3.DWG 02/29/92 MB PS-LIMITS 4-29.LAY

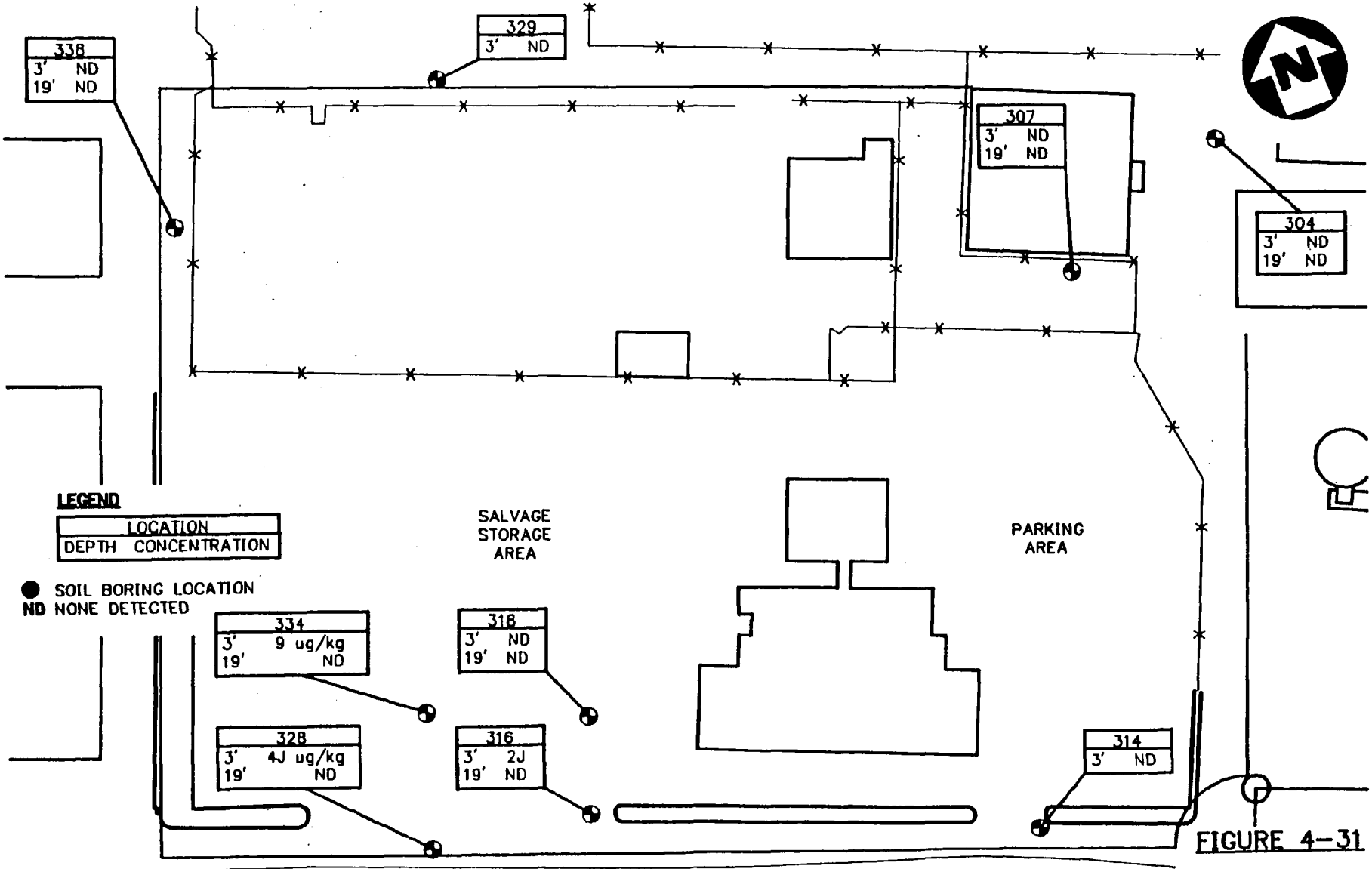
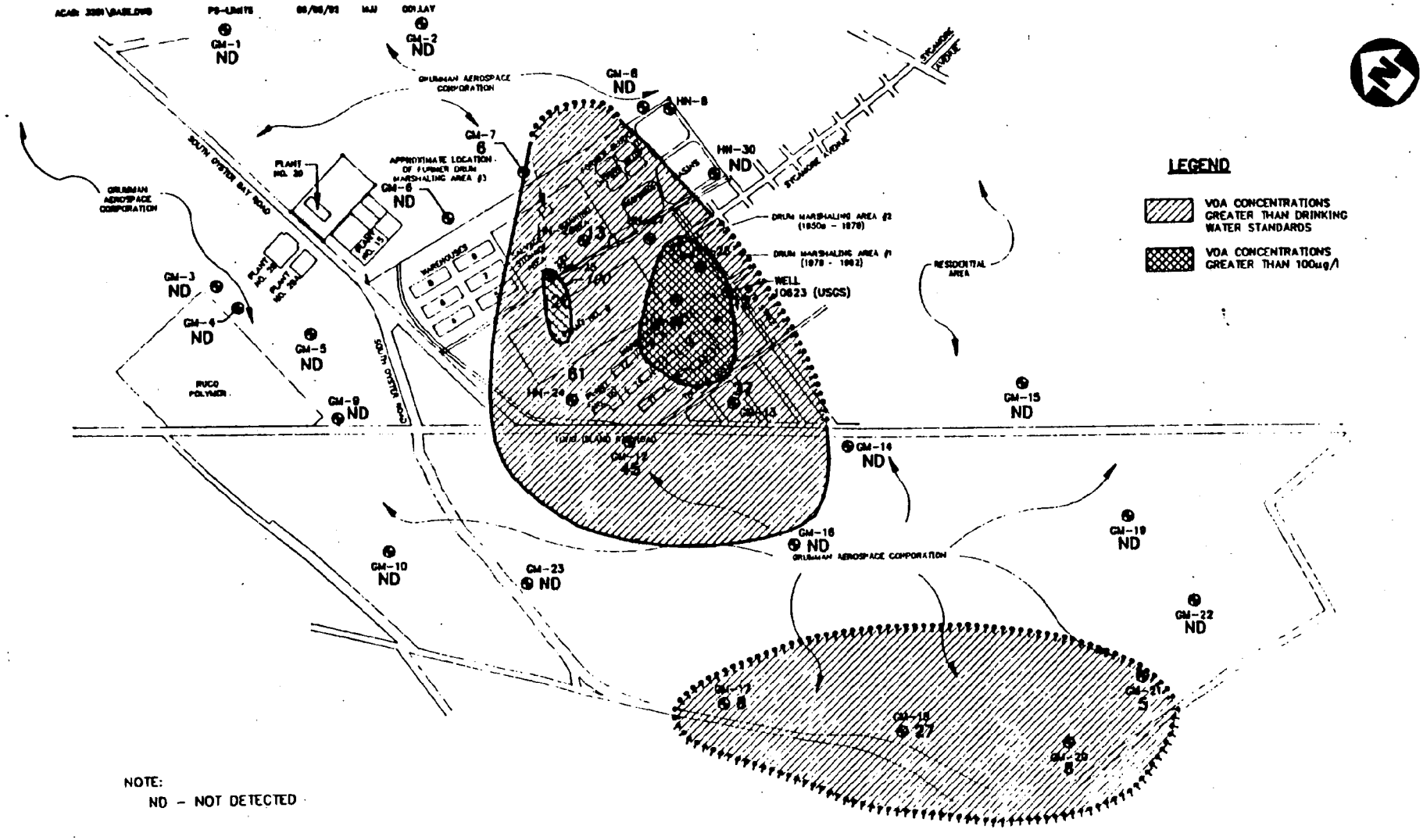


FIGURE 4-31

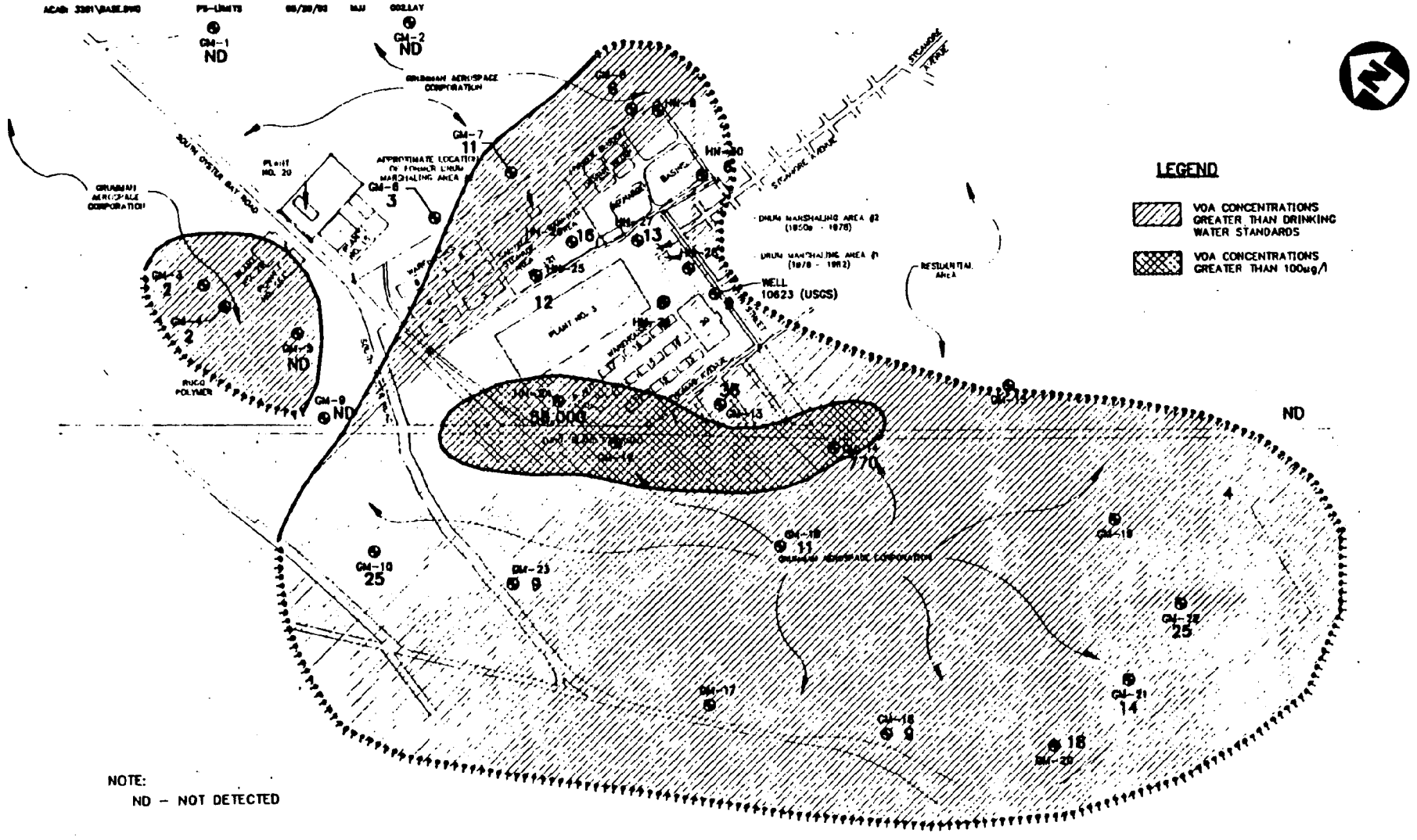
SITE 3 - SUBSURFACE RESULTS - TCE
REMEDIAL INVESTIGATION
NWIRP, BETHPAGE, NY

HALLIBURTON NUS
Environmental Corporation



SHALLOW (50 FEET) GROUNDWATER WITH VOAs ABOVE DRINKING WATER STANDARDS (ug/l)
REMEDIAL INVESTIGATION

HALLIBURTON NUS
Environmental Corporation



INTERMEDIATE (100 to 160 FEET) GROUNDWATER
WITH VOAs ABOVE DRINKING WATER STANDARDS (ug/l)
REMEDIAL INVESTIGATION
NWIRP, BETHPAGE, NEW YORK

HALLIBURTON NUS
Environmental Corporation

CONCLUSIONS AND DATA LIMITATIONS

- The extent of groundwater contamination in the areas east and southeast of Site 1 as well as groundwater contamination south and west of Plant 3 needs to be better defined.
- Groundwater contamination was found originating at Site 3. However, this contamination appears to merge with a much more significant source of contamination from Site 1. Further evaluation of Site 3 groundwater contamination can be considered a part of Site 1 groundwater activities.
- Based on elevated levels of TCE at HN-24I, other potential sources of contamination may be present in and/or around Plant 3. Specific locations include sumps, tanks (current or historic, and a former coal storage pile. Alternatively, this contamination may be a result of contamination at Site 1 with groundwater flow patterns affected by the production wells.

CONCLUSIONS AND DATA LIMITATIONS (Continued)

- PCBs were tentatively identified in several surface soils at each of the sites. A quantification of the PCB contamination is required.
- The former sludge beds were not found during the field activities.

New York State Department of Environmental Conservation
Building 40—SUNY, Stony Brook, New York 11790-2356

Thomas C. Jorling
Commissioner

FACT SHEET

Remedial Investigation/Feasibility Studies
Grumman Aerospace Corporation (Registry Number 1-30-003A)
Naval Weapons Industrial Reserve Plant (Registry Number 1-30-003B)

June 1992

Site Background and History

The Grumman site consists of approximately 500 acres in the Village of Bethpage located in the Town of Oyster Bay, Nassau County. This site is bounded on three sides by roadways: Stewart Avenue to the north; Central Avenue to the south; and Broadway Hicksville-Massapequa Road to the southwest. The 108 acre Naval Weapons Industrial Reserve Plant (NWIRP) site is located in the north-central portion of the Grumman site adjacent to 13th Avenue. The Occidental Chemical/RUCO Polymer Corporation Federal Superfund site is located adjacent to the western boundary of the Grumman site.

Since 1937, Grumman has performed a number of activities at the site including the research, development, and the manufacture of aircraft for the U.S. Navy and Air Force, as well as the production of satellite equipment and various other spacecraft, including the Lunar Modular Module for the National Aeronautics and Space Administration (NASA). The NWIRP facility was established in 1943 with the primary mission of manufacturing military aircraft.

The aforementioned facilities used a number of industrial chemicals and materials including heavy metals (such as chromium) and volatile organic compounds (such as trichloroethylene, trichloroethane, and perchloroethlyene) for various manufacturing purposes.

In 1983, both the Grumman and NWIRP sites were listed in the New York State Department of Environmental Conservation's (NYSDEC's) Registry of Inactive hazardous Waste Sites as a single, Class 2a site. A Class 2a designation was a temporary designation which was assigned to sites that had inadequate or insufficient data for proper classification. In 1988, this classification was upgraded to Class 2, a designation assigned to sites that present a significant threat to the public

health or the environment, and for which action is required. In 1992, NYSDEC split the Grumman site into two sites -- Grumman and NWIRP and has assigned the registry numbers shown in the heading of this fact sheet to these sites.

On October 25, 1990, Grumman entered into a legally enforceable agreement (consent order) with the NYSDEC in which it agreed to conduct an on-site and off-site Remedial Investigation/Feasibility Study (RI/FS) for the 500 acres it owned. An RI/FS investigates the nature and extent of any hazardous waste contamination that is associated with a site, assesses the clean-up alternatives and recommends one of the alternatives for implementation. In early 1990, a Work Plan detailing the elements of a phased RI/FS and the procedures to be used was prepared. This Work Plan was approved by the NYSDEC on November 6, 1990. A public meeting was held on December 4, 1990 to present this Work Plan and to obtain input from the public. A Data Report in which the data collected during the first phase of the RI is presented, was submitted to the NYSDEC in January 1992. A Phase II RI Work Plant was submitted to the NYSDEC in April 1992.

In July 1991, the U.S. Navy began an on-site RI/FS on the 108 acre parcel they own in Bethpage. A draft RI/FS Work Plan was submitted to the NYSDEC for comment and a final RI/FS Work Plan was prepared in August 1991. A draft Remedial Investigation (RI) Report was issued in March 1992, and a final RI Report was submitted in May 1992.

Environmental Concerns

The primary environmental concern is a plume of contaminated groundwater which exists within the study area. To date, three sources have been identified: the Grumman, NWIRP, and Occidental Chemical sites. The primary contaminants are volatile organic compounds (VOCs), however heavy metals such as chromium have also been detected in portions of this plume.

Additional concerns center around on-site locations with soil contamination which includes both VOCs and heavy metals.

Status of the Grumman RI/FS

The field work for the first phase of the Grumman RI was conducted between February 1991 and January 1992. The focus of this phase was an investigation designed to determine the on-site extent of contamination attributable to Grumman. This field work consisted of soil, soil-gas, surface water/sediment, and groundwater sampling on and off site. The results are presented in the January 1992 Data Report.

The primary focus of the second phase of the RI is to install outpost wells upgradient of potential off-site receptors, specifically, the supply wells owned by the Bethpage Water District. This will serve two purposes; act as a warning system for

the supply wells and help define the limits of the contaminated groundwater plume. Additional on-site work will also be conducted to further study potential on-site source areas identified in the first phase of the RI.

A feasibility study will be conducted during which various remedial alternatives will be evaluated.

Status of the NWIRP RI/FS

The field work for the first phase of the NWIRP RI/FS was conducted between August 1991 and February 1992. The focus of this investigation was to study three potential source areas identified during previous studies at the facility. This field work consisted of the same elements as in the Grumman RI/FS, and the results are summarized in the Navy's May 1992 RI Report.

The primary focus of the second phase RI at the NWIRP facility is to further define the contamination source areas which are present on-site, and to determine if there are any off-site (east of the site) impacts resulting from activities at the NWIRP site.

The NWIRP Feasibility Study will be conducted concurrent to the second phase of the RI.

Citizen Participation

Site specific public information programs, have been developed for both the Grumman and NWIRP sites. The Grumman Citizen Participation Plan (CPP) is included in Appendix J of the March 1990 Work Plan. The NWIRP Community Relations Plan (CRP) will be finalized in July 1992. The purpose of these plans is to keep the community up to date on the findings and status of the projects and to provide an avenue for the public to contribute information including comments on the RI/FS process. Utilization of the public contact list through mass mailings, notification through the press, fact sheets, public meetings, responsiveness summaries, etc. are all activities that are included in these plans. In addition, information repositories have been established where copies of project related documents are available for public review. The locations are:

NYSDEC
Div. of Hazardous Waste Rem.
Building 40 - SUNY
Stony Brook, NY 11790
Hours: 8:30 - 4:45 M - F

Bethpage Public Library
Reference Section
47 Powell Avenue
Bethpage, NY 11714
Hours: 9:30 - 9:00 M - F; 9:30 - 5:00 Sat.

In addition, the Navy has established a Technical Review Committee (TRC) consisting of the Bethpage Water District, Nassau County Health Department, NYSDEC, New York State Department of Health, Grumman Aerospace, the Navy and Defense Logistics Agency. This committee actively participates in the

development of work scopes for investigations, and provides technical review and comment during the execution of the studies and the selection of remedial technologies based on the data collected. The overall objective of the TRC is to keep all interested parties informed and involved in the Navy's Installation Restoration Program.

If, at any time, you have questions or comments regarding these projects, please feel free to contact the individuals listed below.

NYSDEC

Joshua Epstein
NYSDEC Citizen Participation Specialist
NYSDEC
Building 40 - SUNY
Stony Brook, NY 11790
(516) 751-4078

John Barnes
Project Manager
NYSDEC
50 Wolf Road, Room 222
Albany, NY 12233
(518) 457-3395

Grumman

John J. Carroll
Vice President - Community Affairs
Grumman Corporation
1111 Stewart Avenue
Bethpage, NY 11714
(516) 575-3376

FOR ADJOINING AREA SEE MAP 10

FOR ADJOINING AREA SEE MAP 17