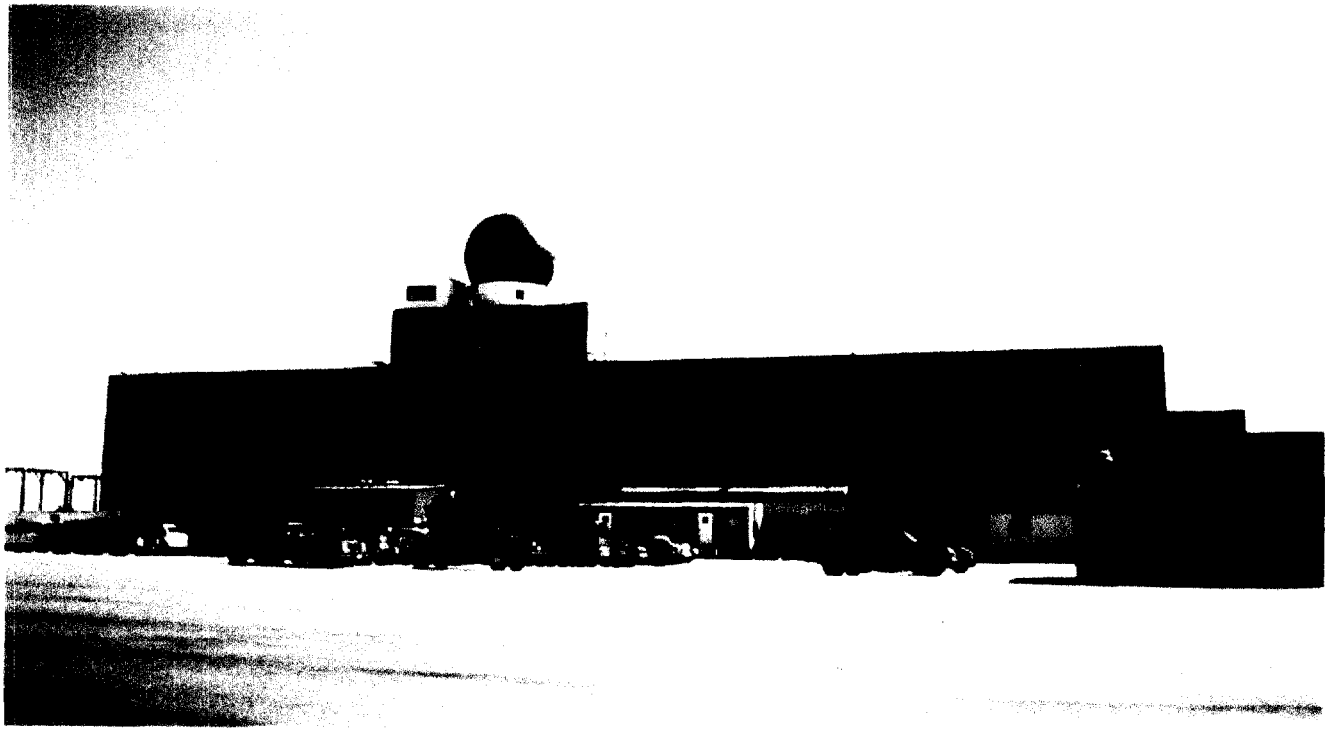
NORTHROP GRUMMAN

BETHPAGE FACILITY



PHASE I/II SITE ASSESSMENT
STRUCTURAL TEST HANGARS/PLANT 5

OCTOBER 1998

Dvirka and Bartilucci
CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

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November 11, 1998

John Cofman, P.E.
Lead Engineer
Environmental Technology and Compliance
Northrop Grumman Corporation
Mail Stop: D08-001
Bethpage, NY 11714-3582

Re: Phase I/II Site Assessment
Structural Test Hangars/Plant 5
Bethpage, New York
D&B 1539

Dear Mr. Cofman:

Enclosed please find ten (10) copies of the document entitled:

"Phase I/II Site Assessment
Structural Test Hangars/Plant 5
Bethpage, New York"

If you have any questions and/or comments, please do not hesitate to contact Mr. Errol Kitt or me at (516) 364-9890.

Very truly yours,

Richard M. Walka
Vice President

RMW/MPR/ajm,ld
Enclosure
cc: A. Postyn (NGC)
E. Kitt (D&B)
♦1539\RMW98-15.LTR(R01)

NORTHROP GRUMMAN CORPORATION

PHASE I/II SITE ASSESSMENT

STRUCTURAL TEST HANGARS/PLANT 5
BETHPAGE, NEW YORK

PREPARED BY

DVIRKA AND BARTILUCCI
CONSULTING ENGINEERS
WOODBURY, NEW YORK

OCTOBER 1998

NORTHROP GRUMMAN CORPORATION
PHASE I/II SITE ASSESSMENT
STRUCTURAL TEST HANGARS/PLANT 5
BETHPAGE, NEW YORK

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Section 1

1.0 INTRODUCTION

This document presents the findings of a Phase I/II Site Assessment undertaken for the Northrop Grumman Corporation (NGC) property known as the Structural Test Hangars/Plant 5, located on the east side of the South Oyster Bay Road Extension at the intersection with Hicksville Road (Route 107) in Bethpage, New York. Information presented in this report has been compiled based upon site inspections, an evaluation of reasonably obtainable record sources, interviews with representatives of NGC and field investigation work.

Section 2 of this document presents the Phase I Site Assessment, including a description of the site and surrounding areas, an evaluation of the historical uses of the site and surrounding areas, and the regulatory compliance history of the site. Section 2 also presents the findings of the Phase I Site Assessment, identifies potential areas of environmental concern, and provides conclusions and recommendations for further investigation activities.

Section 3 describes the procedures followed throughout the field program and presents the findings, conclusions and recommendations of the initial Phase II Site Assessment.

Section 4 describes the field program and presents the findings, conclusions and recommendations of the Supplemental Phase II Site Assessment.

Supplemental information documenting the review of available files is presented in Appendix A. Boring logs and results of laboratory analyses of soil samples are presented in Appendix B and C, respectively. References are listed in Appendix D.

Section 2

2.0 PHASE I SITE ASSESSMENT

2.1 Site Description

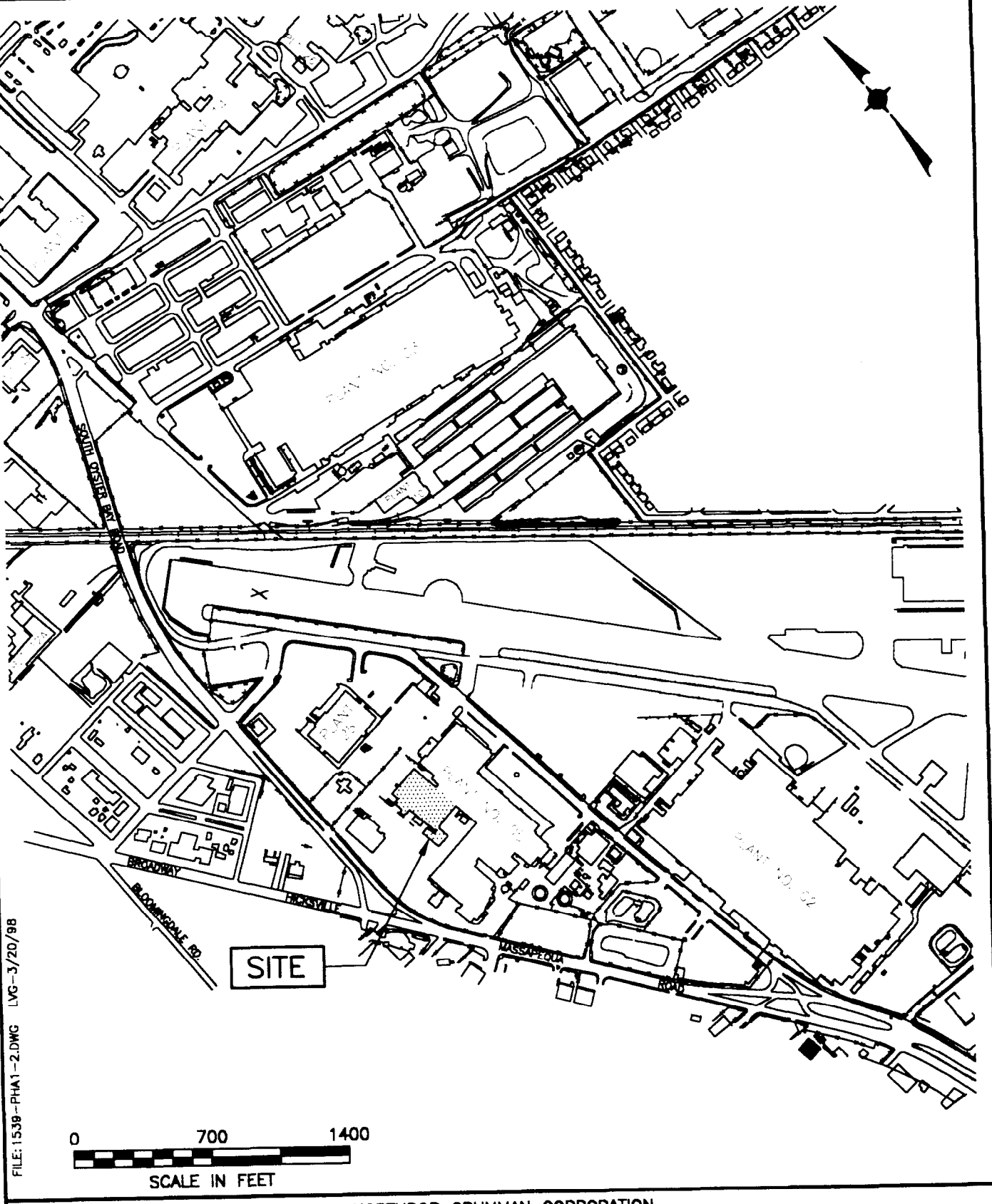
The Structural Test Hangars are a part of a Navy-owned building identified as Plant 5, located on the east side of the South Oyster Bay Road Extension at the intersection with Hicksville Road (Route 107) in Bethpage, New York. The Structural Test Hangars are comprised of a north hangar and a south hangar and are located on the west side of Plant 5. The Structural Test Hangars and exterior areas immediately surrounding the hangars are the subject of this Phase I/II Site Assessment. A separate Phase I Site Assessment for the remainder of the Plant 5 building and surrounding property has also been undertaken.

This subsection presents an overview of the general environmental setting of the property and describes the observations made during site inspections conducted in January 1998.

2.1.1 Site Setting

The Structural Test Hangars are located on tax lot No: Section 46, Block 323, Lot 223. The land comprising the site is currently owned by Northrop Grumman Corporation (NGC) (formerly known as Grumman Aerospace Corporation or Grumman) while the Plant 5 building is owned by the Navy. A site location map is presented on Figure 2-1. The hangars and ancillary facilities are approximately 53,000 square feet. The property is zoned Industrial H. Zoning to the north, east, south and west is also industrial. Zoning further west, south and east is high density residential. Areas of commercial zoning are located along South Broadway and portions of Central Avenue, located to the south of the NGC property.

Land in the vicinity of the Structural Test Hangars/Plant 5 is generally level and appears to be well drained. Ground elevation is approximately 110 feet above mean sea level. The Soil Conservation Service (SCS) classifies soil in the vicinity of the Structural Test Hangars/Plant 5



NORTHROP GRUMMAN CORPORATION
BETHPAGE, NEW YORK
STRUCTURAL TEST HANGARS/PLANT 5 PHASE I/II SITE ASSESSMENT

SITE LOCATION MAP

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FIGURE 2-1

as Urban Land. Urban Land is defined as an area with at least 85 percent asphalt, concrete or other impervious building material, with most of the remaining small areas of soil being well drained Riverhead, Hempstead or Enfield soils, or excessively drained Udipsaments. Udipsaments (nearly level) are defined as manmade fills or borrow areas, most of which are grassed with 0 to 3 percent slopes, which consist of very deep soils that are excessively drained to well-drained.

Based on measurements obtained from monitoring wells previously installed as part of a delisting petition of the Plant 5 parcel (discussed further in Section 2.2.1), depth to groundwater is approximately 50 feet below grade.

Immediately west of the Structural Test Hangars is NGC Building 23. Other portions of the Plant 5 building are located immediately east and south of the hangars.

The former NGC Plant 2 building, the NGC Central Steam Plant and TBG Cogen Partners steam generation plant are located to the south and southeast of the Plant 5 building. A former NGC runway is located north and east of Plant 5, and directly north is the NGC Plant 25 building.

The TBG Cogen Partners facility provides NGC with electricity and steam under a long-term energy purchase agreement. It is owned by Brooklyn Union Gas and the General Electric Company, and consists of two gas turbines and one steam turbine.

2.1.2 Facility Overview

Overview of Plant 5

Plant 5 has historically been utilized as a "special projects building" for prototype research, engineering and development, and engineering/executive management offices. Based upon a review of available information, the original portion of the Plant 5 building was

constructed in 1944. The majority of the building is two stories, with some mezzanine areas, several hangar areas and a third floor (observation tower). As indicated previously, the North and South Structural Test Hangars are located along the western side of the building.

Plant 5 is supplied by public water and is connected to the Nassau County sewer system. Based upon information on file at the Nassau County Department of Health (NCDH), Plant 5 was connected to the County sewer system prior to 1977. A specific date of sewer connection was not available from the Nassau County Department of Public Works. Before that time, sanitary waste from NGC Plants 1, 2, 4, 5, 10, 12, 17 south and 25 was received and treated at NGC's Central Sewage Treatment Plant, formerly located across South Oyster Bay Road, to the north of Plant 5. Plant 5 initially utilized an on-site sanitary disposal system comprised of settling tanks, wet well, pump station, and 64 leaching pools, which expanded over the years to include approximately 150 leaching pools.

A 1979 diagram of the storm drainage system in the vicinity of Plant 5 was on file at NGC and indicates the two recharge basins south of Plant 5 received storm water runoff from an area encompassing Plant 25 to the north, Plant 5, and a small portion of land to the east of Plant 5, adjacent to the Plant 2 cafeteria building. These recharge basins also receive noncontact cooling water (pursuant to SPDES permit NY0096792) after the cooling water has been treated at a pair of aeration basins located to their east.

Plant 5 currently utilizes steam heat supplied by the adjacent cogeneration plant. Based upon a review of construction drawings dated 1944, Plant 5 initially utilized coal fired boilers located in the south end of the building.

Various above and underground petroleum storage tanks are currently or formerly located on the Plant 5 property, however, none are or were identified as being located within or immediately adjacent to the Structural Test Hangars.

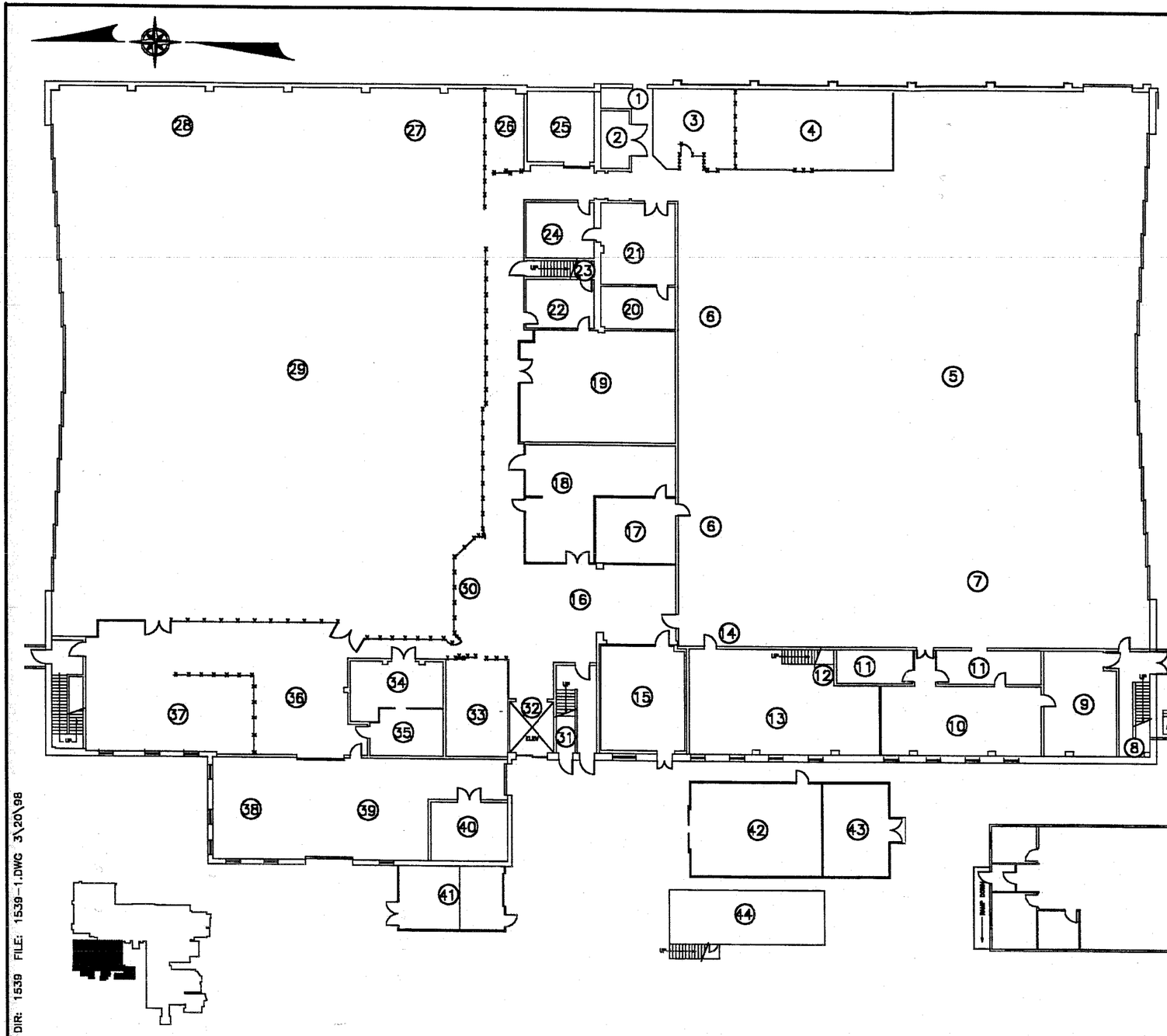
A complete inventory of all known former process tanks located within the Structural Test Hangars is provided in Section 2.2.1.

Overview of Structural Test Hangars

The Structural Test Hangars consist of two hangar areas, identified as the North and South Structural Test Hangars separated by offices (located on the first floor and first and second mezzanines), a storage/tool crib, a locker/lunch room and a high pressure hydraulic pump room. Site inspections, including interviews with representatives of NGC, were conducted at the Structural Test Hangars on January 7, 12 through 16, 22, 23 and 26, 1998. A floor plan for the first floor of the Structural Test Hangars is provided on Figure 2-2. An overview of the Structural Test Hangars, based on the results of the site inspection and interviews, is provided below.

South Structural Test Hangar

- Concrete floor with expansion joints and minor staining and oily residue; a few large cracks evident in the central area of the hangar doors (appear to be settlement cracks).
- Concrete floor trenches approximately 2 feet deep by 2.5 feet wide with metal covers painted yellow containing hydraulic lines, electrical conduits and air lines; three dry wells (approximately 5 feet below grade) were located within the floor trenches along the east side of the hangar; no visible cracks observed in floor trenches only oily residue, metal filings and dirt/debris.
- Concrete floor trenches approximately 6 inches deep by 6 inches wide with metal covers painted gray and utilized for test fixture and equipment stabilization; no visible cracks observed in floor trenches only oily residue, metal filings and dirt/debris.
- Electrical/light panels and air conditioning units with condensate drip lines discharging to roof drains located along the north, south, east and west hangar walls.
- Two floor drains located in the vicinity of the hangar doors.
- A small mobile crane/lift.
- Miscellaneous steel beams/columns utilized for test fixture purposes.
- A mechanical lift for testing equipment.



LEGEND

1. CONDENSATE PIT
2. TRANSFORMER ROOM
3. LOAD CELL CALIBRATION MACHINE AREA
4. STRUCTURAL TEST AREA
5. SOUTH STRUCTURAL TEST HANGAR
6. MACHINE SHOP AREA
7. FATIGUE TEST AREA
8. FILE STORAGE AREA (UNDER STAIRWELL)
9. MATERIALS TEST LAB–FATIGUE TEST AREA
10. MATERIALS TEST LAB–STATIC TEST AREA
11. MATERIALS TEST LAB–STATIC TEST AREA
12. STORAGE AREA (UPSTAIRS)
13. HYDRAULIC LABORATORY
14. VARSOL DEGREASING MACHINE
15. PUMP ROOM
16. STORAGE AREA
17. LOCKER/LUNCH ROOM
18. HYDRAULIC PUMP ROOM
19. STORAGE ROOM/TOOL CRIB
20. OFFICE
21. OFFICE
22. CONSUMABLE STORAGE ROOM
23. CONSUMABLES STORAGE (UNDER STAIRWELL)
24. LOAD CELL CALIBRATION LAB
25. HYDRAULIC STORAGE ROOM
26. CAGED STORAGE AREA
27. INSPECTORS WORK STATION
28. TOOL STORAGE/WORK STATIONS
29. NORTH STRUCTURAL TEST HANGAR
30. CONTROL CONSOLE
31. ELEVATOR PUMP ROOM
32. FREIGHT ELEVATOR
33. HYDRAULIC CYLINDER/JACK STORAGE AREA
34. COMPUTER ROOM
35. COMPUTER ROOM
36. MACHINE SHOP
37. WELD SHOP
38. RAW METAL STORAGE AREA
39. MACHINE SHOP AREA
40. GENERATOR ROOM
41. ELECTRICAL SWITCH GEAR AND HEAT EXCHANGER BUILDING
42. BUTLER BUILDING–STORAGE ROOM
43. BUTLER BUILDING–HYDRAULIC PUMP ROOM
44. RADIO SHACK
45. ENGINEERING OFFICE TRAILERS

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NORTHROP GRUMMAN CORPORATION
BETHPAGE, NEW YORK
STRUCTURAL TEST HANGARS/PLANT 5 – PHASE I/II SITE ASSESSMENT

STRUCTURAL TEST HANGARS – FIRST FLOOR PLAN

Dvirka and Bartilucci
Consulting Engineers
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FIGURE 2–2

- A large electric motor.

- A portable compressor with "speedy-dry" on the floor in its vicinity.

- Five metal storage cabinets located adjacent to the "fatigue test area" containing type 1, 2, 3, 5 and 6 hazardous chemicals including flammable solvents, chemical coatings, insulation adhesives, paints, naphthalene, motor oil, mineral spirits, cleaners, gasoline, alcohol, grease, varsol (identified by NGC as kerosene), MEK, MIBK, acetone, toluene, xylene, brush alodine, freon, isopropyl alcohol, crystal cut, high-strength adhesive (Black Max), chloroethene, dry lubricant, epoxy adhesives, lacquer thinner and trichloroethene and four 55-gallon DOT drums of miscellaneous metals, bolts and washers.

- Machine shop area with several work benches, tool chests, a finishing machine, small and large band saws and drill presses, a punch/press machine, two small disk sanders, welding equipment and a hydraulic pump (operating) located in the northern half of the hangar.

- A slop sink located in the northwest corner.

In addition, the following areas were identified as part of the South Structural Test Hangar. It should be noted that the numbers in parenthesis below correspond to the numbered areas identified on Figure 2-2:

- Condensate Pit (1)

  - Approximately 7 feet deep, located in the northeast corner of the hangar contains a condensate pump and sump pit (appears to have earthen bottom) located in the southwest corner of the pit under the adjacent Transformer Room; oily residue with metal filings and dirt/debris and surficial staining with numerous cracks observed in the pit floor.

- Transformer Room (2)

  - Partial wood block and concrete floor with two large dry transformer units; no visible cracks and/or staining was observed on visible areas of the floor.

- Load Cell Calibration Machine Area (3)

  - A caged area containing a large load cell calibration machine within an approximate 2 feet deep concrete pit (integrity of pit floor unknown) covered by 3/4-inch oil stained steel plates; storage of miscellaneous metal stock and cabinets

with spare parts and tools; concrete floor surrounding machine with no visible cracks and/or staining observed on visible areas of the floor.

- Structural Test Area (4)

  - Partitioned area located along the east side of the hangar containing approximately eight tool chests, two milling machines, a large lathe, several small grinders and drill presses and approximately 15 to 20 storage cabinets and shelves with miscellaneous metal stock; concrete floor with no visible cracks only minor oil stains observed on visible areas of the floor.

  - Slop sink located in the southeast corner.

- Machine Shop Area (6)

  - Several work benches, tool chests, a finishing machine, small and large band saws and drill presses, a punch/press machine, two small disk sanders, welding equipment and a hydraulic pump (operating) located in the northern half of the hangar; concrete floor with no visible cracks only minor oil stains observed on visible areas of the floor.

- Fatigue Test Area (7)

  - An approximate 20-foot by 40-foot area enclosed by metal fencing with electronic testing equipment, three hydraulic wedge grip machines, miscellaneous office furniture, several rolling carts, tension fatigue testing equipment and a 2-foot diameter manhole cover; concrete floor with no visible cracks only minor oil stains observed on visible areas of the floor.

- File Storage Area (under stairwell) (8)

  - Vestibule and storage area for file cabinets located under stairwell, concrete floor with no visible cracks observed on visible areas of the floor.

- Materials Test Lab - Fatigue Test Area (9)

  - Electronic testing equipment, miscellaneous office furniture, tension fatigue testing equipment; linoleum floor with no visible cracks and/or staining observed on visible areas of the floor.

- Materials Test Lab - Static Test Area (10, 11)

  - Electronic testing equipment, small drill presses, office furniture, tool chests, storage cabinets with small quantities of flammable liquids, isopropylene, acetone and adhesives, temperature/heat testing equipment and tension fatigue testing equipment; a linoleum floor with no visible cracks and/or staining observed on visible areas of the floor.

- Storage Area (Upstairs) (12)

  - Storage area with bins and cabinets of miscellaneous metal stock; a linoleum floor with no visible cracks and/or staining observed on visible areas of the floor.

- Hydraulic Laboratory (13)

  - Lab utilized for testing and repair of hydraulic jacks and hydraulic lines; lab contains cabinets of O-rings, test bench with grating and drip pan, miscellaneous electronic testing equipment and a 100-pound capacity overhead crane; a linoleum tile floor with no visible cracks but staining and an oily residue was observed on visible areas of the floor; a rectangular metal plate covering a pit beneath the floor was observed in the northern portion of lab.

- Varsol Degreasing Machine (14)

  - Surficial staining and an oily residue was observed on the floor around the machine.

- Pump Room (15)

  - Former chart room and action center (meeting room); currently contains eight, 3,000 psi hydraulic pumps; minor hydraulic oil leaks observed on concrete floor covered with non-slip rubber matting; adsorbent materials on floor around pumps; wall mounted electric panels and an overhead crane.

- Storage Area (16)

  - Currently an open area utilized for the storage of cabinets with drawers containing miscellaneous metal stock, spare parts, supplies and hardware; slightly worn and stained wood block flooring.

- Locker/Lunch Room (17)

  - Area utilized by facility personnel as described with a slightly worn linoleum floor.

- Hydraulic Pump Room (18)

  - Eight 3,000-psi hydraulic pumps (not in operation) typically operating simultaneously; minor hydraulic oil leaks observed onto slightly worn concrete floor surrounding pump 3 and 4; observed hydraulic oil leaks drain into concrete floor trenches which contain absorbent materials and residue/debris; absorbent materials also noted on floor.

  - Concrete floor trenches approximately 2 feet deep by 2 feet wide with metal covers painted gray containing hydraulic lines, electrical conduits and air lines;

absorbent materials in trenches; hydraulic residue and metal filings and debris observed in trenches.

- "Sealed" floor drain observed in pump room.

- Storage Room/Tool Crib (19)

  - Current stockroom/tool crib with storage of miscellaneous metal stock, spare parts and supplies; storage of small quantities of sealant and spray paints; slightly worn and stained wood block flooring in this area.

- Offices (20, 21)

  - A two room office area containing several desks, chairs and computers; linoleum over wood flooring, slightly worn, no cracks and/or stains observed on visible areas of the floor.

- Consumable Storage Room (22)

  - Storage of consumables including caps, drills, coveralls, saw blades, etc.; slightly worn and stained linoleum over wood flooring in this area.

- Consumable Storage (under stairwell) (23)

  - Storage of consumables including "bungy cords," jackets, rubber matting, etc.; slightly worn and stained wood block flooring in this area.

- Load Cell Calibration Lab (24)

  - Perimeter of room contains cabinets with drawers of miscellaneous metal stock; load cell calibration machine located in center of room; slightly worn and stained linoleum over wood flooring.

  - Slop sink located in southwest corner of room; wood floor exposed adjacent to sink appears hollow beneath.

- Hydraulic Storage Room (25)

  - Storage of hydraulic jacks on wood pallets; surficial staining with numerous cracks, pitting and an oily residue noted on the concrete floor in the southeast corner of the room.

North Structural Test Hangar (29)

- Active long-term structural fatigue testing of a C-2 aircraft.
- A concrete floor with expansion joints; an occasional area of oily residue but no large cracks observed on visible areas of the floor.
- Concrete floor trenches approximately 2 feet deep by 2.5 feet wide with metal covers painted yellow containing hydraulic lines, electrical conduits and air lines; suspect floor drains within the floor trenches at the north end of each trench could not be located; no visible cracks observed in floor trenches only oily residue, metal filings and dirt/debris.
- Concrete floor trenches approximately 6 inches deep by 6 inches wide with metal covers painted gray and utilized for test fixture and equipment stabilization; no visible cracks observed in floor trenches only oily residue, metal filings and dirt/debris.
- A slop sink located in the northeast corner.

In addition, the following areas were identified as part of the North Structural Test Hangar:

- Caged Storage Area (26)
  - Former stockroom for proof loading slings; current storage of wire and cable with wall mounted electric panels and a concrete floor with no cracks and/or staining observed in visible areas of the floor; ladder to upper level floor with grating and continued storage of wire and cable.
- Inspectors Work Station (27)
  - A partitioned office area containing desks, chairs, cabinets and small work benches; concrete floor with no cracks and/or staining observed on visible areas of the floor.
- Tool Storage/Work Stations (28)
  - A partitioned aisle area containing desks, chairs, cabinets and small work benches; concrete floor with no cracks and/or staining observed on visible areas of the floor.
  - Slop sink observed in northeast corner.

- Control Console (30)

  - Large semi-circular table with several computers utilized for long-term structural fatigue testing activities.

- Elevator Pump Room (31)

  - Room accessed from exterior located under stairwell; houses hydraulic pump for adjacent freight elevator; drip pan located under pump; heavy hydraulic oil staining on concrete floor surrounding pump.

- Freight Elevator (32)

  - Freight elevator pit with concrete floor; apparent leakage from oil line and plunger and jack; no cracks but surficial staining and an oily residue was observed on pit floor beneath elevator; perimeter walls indicate 4"-6" former liquid level; no sumps, dry wells and/or floor drains observed on visible areas of the elevator pit floor.

- Hydraulic Cylinder/Jack Storage Area (33)

  - Storage of hydraulic jacks on metal shelves; overhead crane; worn and stained wood block flooring with several areas of wood block removed and displaced exposing concrete floor (integrity of concrete beneath wood block floor unknown).

- Computer Rooms (34, 35)

  - Two room office area containing several desks, chairs and computers associated with ongoing fatigue testing program in the North Structural Test Hangar; raised linoleum computer flooring, slightly worn, no cracks and/or stains observed on visible areas of the floor.

- Machine Shop (36)

  - Tool chests, a band saw, a sander, drill presses and welding equipment; a large, approximately 6-inch diameter cleanout observed in heavily stained wood block flooring (integrity of concrete beneath wood block floor unknown) of this area; metal filings and debris imbedded in wood block flooring; roll-up door located along the southwest wall of this area.

- Weld Shop (37)

  - Tool chests, work benches, canister of argon gas, rack of "C" clamps, three arc welders (portable) and a small drying oven were observed in this area; stained wood block flooring was observed in a portion of this area and a pitted concrete floor with cracks and some minor staining was observed over the remaining areas.

- Slop sink observed in the northwest corner.

- Raw Metal Storage Area (38)

  - Several tool chests and cabinets for the storage of metal stock and spare parts; work benches and storage racks containing metal stock; a concrete floor with minor cracks and staining was observed on visible areas of the floor.

  - A floor drain observed in the northeast corner.

- Machine Shop Area (39)

  - Two hydraulic pumps; a large metal cutting band saw machine with a drip pan containing cutting oil and speedy-dry and metal filings observed on the floor underneath and surrounding the machine; a 55-gallon DOT drum of Permasol (metal working fluid); several carts containing hydraulic tubing; concrete floor with minor cracks and staining was observed on visible areas of the floor.

- Generator Room (40)

  - Storage of hydraulic jacks, generator, refrigerator, testing equipment, generator panels and metal stock; concrete floor with minor cracks and staining was observed on visible areas of the floor.

  - A funnel drain observed along the southern wall.

Engineering Mezzanine

The Engineering Mezzanine is located between the North and South Structural Test Hangars and consists primarily of office and computer work stations housing several computer terminals, tape machines and computer monitors. Current activities include programming and computer operations of the C2 Fatigue Testing Activities being conducted in the North Structural Test Hangar. The floor in these areas is primarily "raised" carpeted computer flooring. An active audio/video room is located in the northwest corner of the Engineering Mezzanine. In addition, a men's room and adjacent janitor's closet with slop sink are located at the west end of the Engineering Mezzanine. A former analog room (currently utilized as a tape and computer mainframe storage area) is located along the east end of the Engineering Mezzanine.

First Mezzanine

The First Mezzanine consists primarily of computer/office space, an instrumentation laboratory, a proposal area, vestibules, two janitor's closets, a vibracoustics laboratory and a setup room for the photographic service office. The computer/office spaces and an instrumentation lab are accessed from a central hallway located between the North and South Structural Test Hangars. The computer offices have "raised" carpeted computer flooring. The two room instrumentation lab contains small work benches with bench tools and the storage of electronic wiring and bookcases filled with manuals. The janitor's closets, which house slop sinks, are located in the southwest and northwest corners of the First Mezzanine of the Structural Test Hangars. The vibracoustics laboratory, proposal area and setup room for the photographic services office are also located on the First Mezzanine. Vestibules are located at each stairwell and in front of the elevator located along the west side of the First Mezzanine.

Second Mezzanine

The Second Mezzanine consists primarily of vestibules (located at each stairwell and in front of the elevator), a janitor's closet, a former sonic fatigue testing facility (currently vacant), several storage areas (containing boxes of unknown contents), a photo services office, north and south fan rooms and a proposal management/editorial services/document processing office. The proposal management/editorial services/document processing office, which occupies the central portion of the Second Mezzanine, consists primarily of general office space with office/computer equipment on "raised" carpeted computer flooring. A slop sink and floor drain are located adjacent to the north fan room in the eastern section of this area. A janitor's closet, which contains a slop sink is located in the central area of the Second Mezzanine. In addition, a catwalk, located in the northwest corner of the South Structural Test Hangar overlooking the South Structural Test Hangar, is accessed from the Second Mezzanine and contains air conditioning equipment and a non-contact cooling water condensate drain.

Penthouse

The Penthouse, which occupies a small portion over the Second Mezzanine, was formerly identified as the Antenna Laboratory. This area is currently occupied by the offices of SMS Video Services and contains audio/visual digital equipment, a small video storage room, and a vestibule and elevator. The concrete floor in these areas is overlain with carpet.

Electrical Switch Gear and Heat Exchanger Building (41)

The Electrical Switch Gear and Heat Exchanger Building is a butler-type building attached to the west side of the North Structural Test Hangar. The building is divided into two separate areas. The northern portion of the building contains large heat exchanger units which serve Building 23. The floor is constructed of concrete with some minor surficial staining observed on visible areas of the floor. Access to this portion of the building is through a doorway on north side of building. The southern portion of the building contains electrical switchgear equipment and electrical control panels. The floor in this area is also constructed of concrete with some minor surficial staining observed on visible areas of the floor. Access is through an overhead roll-up door or doorway on the south side of the building.

Butler Building (42, 43)

The Butler Building is a detached building located along the west side of the South Structural Test Hangar. A narrow alley exists between the building and the South Structural Test Hangar and appears to be a former drum storage area. The butler building is divided into two separate areas identified as a storage room (northern portion) and a hydraulic pump room (southern portion). The storage room contains several 55-gallon DOT drums of Varsol, MEK and mineral spirits located in the southwest corner on an elevated concrete pad. The storage room also contains several file cabinets, some plywood, a hydraulic pump and wire. The interior floor of the storage room is constructed of concrete with expansion joints, numerous cracks and

surficial staining and, an oily residue was observed on visible areas of the floor. In addition, the floor appears to slope to a floor drain located near the drum storage area. Access to the storage room is through a doorway located in an alley between the building and the South Structural Test Hangar or through an overhead door along the north side of building. The hydraulic pump room (southern portion of the Butler building) contains two active hydraulic pumps (nos. 4 and 8) with drip pans, two 55-gallon DOT drums containing DTE and DelVac 1330, respectively and, several empty storage cabinets. The interior floor of the hydraulic pump room is constructed of concrete, painted gray with some minor surficial staining observed on visible areas of the floor. Access to the hydraulic pump room is through a double door on the south side of the building.

Engineering Office Trailers (45)

The Engineering Office Trailers are semi-detached temporary office trailers located off the southwest corner of the South Structural Test Hangar. There are currently two office trailers which contain carpeted flooring and the storage of miscellaneous file cabinets.

Radio Shack (44)

The Radio Shack is a detached temporary office trailer located along the west side of the Butler Building. The Radio Shack houses former ham radio operations and contains radio components and electronic equipment relocated to this location from Plant 28.

Exterior Areas

Areas immediately exterior of the Structural Test Hangars were also inspected. A summary of these areas is provided as follows:

- Courtyard between North Structural Test Hangar and Plant 5 Cafeteria
  - Location of a former aboveground waste holding tank.

- Surficial staining and cracked and pitted concrete was noted in the vicinity of this former tank.

- Area north of North Structural Test Hangar

  - Material and former aircraft storage area; surficial staining and numerous cracks were observed in the concrete surface of this area.

- Area off northwest corner of North Structural Test Hangar and north of Electrical Switchgear and Heat Exchanger Building

  - Steel and metal storage areas; surficial staining and numerous cracks were observed in the concrete surfaces of these areas.

- Former Storage Area S52 (former drum storage area)

  - Located between the Generator Room (40) and Butler Building-Storage Room (42) in Courtyard Area.

  - Four 55-gallon DOT drums of DTE oil and nine cylinders of nitrogen were observed in this area.

  - "Ring depressions," surficial staining and numerous cracks were observed in the concrete surface of this area.

- Alley between South Structural Test Hangar and Butler Building and area south of the Butler Building

  - Former miscellaneous steel, metal and drum storage areas.

  - "Ring depressions," a 55-gallon drum of DelVac 1330 motor oil, surficial staining and numerous cracks were observed in the concrete surfaces of these areas.

2.2 Site History

This section describes the history of the development of the Structural Test Hangars/Plant 5 and surrounding areas. The information is based upon a review of available aerial photographs dated 1950-1988, available files at Northrop Grumman Corporation (NGC), formerly known as Grumman Aerospace Corporation (GAC) or Grumman, and Nassau County Department of Health (NCDH); interviews with representatives of NGC; as well as the site inspections, conducted in January 1998.

2.2.1 Former Uses and Summary of Prior Assessments

Based upon a review of property record cards and files at the Nassau County Clerk's office, it appears that Lot 223 in Block 323 was owned by Mary T. McGunnigle and sold to Grumman Aircraft Engineering Corporation (GAEC) in November 1943. Other lots comprising the Plant 5 property were also owned by Mary T. McGunnigle and sold to GAEC in either November 1943 or April 1950. Ownership of the lots was transferred to Grumman Aerospace Corporation in 1969. Files at Nassau County indicate that a contract between the United States Navy Department and GAEC was negotiated in 1943 to provide additional plant facilities for the manufacture of supplies required by the Navy "...for the prosecution of the war."

Aerial Photograph Review

Aerial photographs covering the Structural Test Hangars/Plant 5 site were reviewed. Noteworthy findings are provided below.

- 1950 Aerial (Approximate Scale of 1" = 200 feet)
  - Plant 5 in existence (South Structural Test Hangar identified on west side of building).
  - Small building (identified as Building 25-03, a.k.a. Former Pilots Reading Room Building) visible in northeast corner of Plant 5 site.
  - Small white dots and square structure visible in grassy area west of Plant 5 building, identified as on-site sanitary disposal system (white dots indicate locations of sanitary leaching pools and square structure indicates location of sewage pump station and settling tanks).
  - Discolored concrete western side adjacent to Plant 5 building.
  - Ballfield/grassy area western side of Plant 5 site.
  - Storage of materials off southwest corner of Plant 5 building.
  - Recharge basins in existence in southern portion of Plant 5 site.

- Small building (identified as Building 25-10, a.k.a. Well House No. 6) at end of dirt roadway in northernmost part of Plant 5 site.

- Area of activity/storage of material associated with the Wind Tunnel located northwest of the Structural Test Hangars/Plant 5.

- Plant 2 in existence to southeast of Plant 5 site.

- 1955 Aerial (Approximate Scale of 1" = 200 feet)

  - Plant 5 expanded on northern side (currently identified as Old Model Shop Area, Security Cells, Foreign and Military Sales, part of Retiree Area) and western side (North Structural Test Hangar and Shuttle Wing Hangar).

  - Parking lots located north, west, east and south of Plant 5 building.

  - Approximately half of leaching pool area west of the Plant 5 building covered with concrete; other half in use for parking.

  - Aboveground tank (identified as a water tank, currently known as the Fire Protection Storage Tank) and small building (Building 05-05, a.k.a. Fire Protection Pump House) located off southwest corner of Plant 5 building.

  - Storage of materials off southwest corner of Plant 5 building.

  - Runway to the north of Plant 5 has been extended to the west.

  - Ballfields located north of Plant 5.

  - South Oyster Bay Road Extension constructed west of Structural Test Hangars/Plant 5 as a result of runway extension; forms western boundary of Plant 5 site.

  - Small building/office trailers located along western boundary line of Plant 5 site at edge of parking lot.

  - Continued activity/storage associated with Wind Tunnel noted northwest of the Structural Test Hangars/Plant 5.

- 1957 Aerial (Approximate Scale of 1"= 200 feet)

  - Storage of materials along South Oyster Bay Road Extension, with discolored areas of concrete.

  - Area of concrete removed west of Structural Test Hangers/Plant 5 building at northern corner.

- Continued storage of materials south of Plant 5 building.
- New addition (identified as western part of the current Facilities Maintenance Area) to south side of Plant 5 building.
- Small building (identified as the Former Maintenance Garage) noted along roadway south of Plant 5.
- Continued activity/storage associated with the Wind Tunnel northwest of the Structural Test Hangars/Plant 5.

• 1962 Aerial (Approximate Scale of 1" = 200 feet)

- Continued storage of materials along South Oyster Bay Road Extension and south of Plant 5 building.
- Continued activity/storage associated with the Wind Tunnel noted northwest of the Structural Test Hangars/Plant 5.

• 1969 Aerial (Approximate Scale of 1" = 200 feet)

- New building extension (identified as the Engineering Trailers) on west side of South Structural Test Hangar.
- New addition constructed to southwest corner of Plant 5 building (identified as the High Bay 1 Area and ACE Building).
- Rows of connected trailers/buildings located south of the South Structural Test Hangar in courtyard area.
- New Plant 5 building (identified as the Cold Flow Building) constructed north of recharge basins, with several smaller buildings/office trailers located to its north, west and east.
- New addition (identified as the Wyle Chamber Building) to west side of the Plant 5 Shuttle Wing Hangar.
- Area southwest of Wind Tunnel (northwest of North Structural Test Hangar) paved and in use for parking.
- Large aboveground storage tank with secondary containment noted to the east of the recharge basins south of the Plant 5 building.

• 1972 Aerial (Approximate Scale of 1" = 200 feet)

- Storage of materials adjacent to west side of North and South Structural Test Hangars.

- Storage of materials in courtyard south of South Structural Test Hangar and west of Plant 5 Fire Protection Storage Tank.

- Trailers located east of Plant 5 Cold Flow Building removed.

- New "T" shaped building/structure located to the northwest of North Structural Test Hangar (formerly referred to as the Fuselage Fatigue Test Tank and currently identified as the Concrete Foundation of Former Test Platform).

• 1976 Aerial (Approximate Scale of 1" = 200 feet)

- Trailers in courtyard south of South Structural Test Hangar and adjacent to Plant 5 Shuttle Wing Hangar removed.

- Storage of materials in courtyard south of South Structural Test Hangar, staining/discoloration of concrete noted.

- "T" shaped structure removed; remaining foundation or footprint is cross-shaped (currently identified as the Concrete Foundation of Former Test Platform).

- Buildings/office trailers located to west of Plant 5 Cold Flow Building removed.

- New small storage building/sheds located between Plant 5 Cold Flow Building and Fire Protection Storage Tank.

• 1985 Aerial (Approximate Scale of 1" = 30 feet)

- New extension/trailers identified as Flight Test Trailers added off southwest corner of South Structural Test Hangar.

- New buildings (identified as Building 23, and several adjacent office trailers) located west of the Structural Test Hangars along western boundary line of Plant 5 site.

- Drum and material storage noted in courtyard south of South Structural Test Hangar.

- Plant 5 Cold Flow Building removed.

- Small storage building/sheds located between Plant 5 Cold Flow Building and Fire Protection Storage Tank removed.

- Drum/material storage in courtyard located east of Plant 5 ACE Building.

- Material storage off southeast corner of Plant 5 building, some discolored concrete.

- 1988 Aerial (Approximate Scale of 1" = 400 feet)

  - New addition (currently identified as 8,000/8,000 Area) to southwest corner of Plant 5 High Bay 1 Area/ACE Building.

Former Uses

Based upon interviews with representatives of NGC, Plant 5 was constructed in 1944. In addition to the South Structural Test Hangar, earliest uses of the Plant included small machine shops, model shops, and laboratories.

During the 1960s, the Structural Test Hangars/Plant 5 complex was utilized for prototype development, testing and office space.

Construction drawings of Plant 5 and associated buildings/structures were reviewed. Noteworthy findings based upon a review of the construction drawings related to the Structural Test Hangars and adjacent areas is provided below.

Underground and Plot Plan/3-1- 44

Based upon a review of this plan, the Plant 5 building was labeled as the "Engineering and Experimental Building" and was comprised of the following areas:

- Test laboratory (South Structural Test Hangar);
- Engineering section;
- Cafeteria and kitchen;
- Assembly areas;
- Hangar;
- Boiler room;
- Mechanical equipment room;
- Mechanical wing.

Plot Plan/12-15-43

This plot plan indicated that surface drainage was to be managed by a combination of dry wells located north and west of the Plant 5 building, with overflow routed to the two recharge basins south of the Plant 5 building. Catch basins also routed water to the recharge basins and open drainage trenches located west and north of the South Structural Test Hangar (North Structural Test Hangar does not exist at this time) also led to the recharge basins. The concrete area north of the existing North Structural Test Hangar is labeled as a taxiway, which extends to the runway located across old South Oyster Bay Road (east of Plant 5). Settling tanks, a pump station and leaching pools are identified off the west side of the Plant 5 building. A well identified as Well No. 3 (appears to be location of current Well No. 5) is noted north of the existing North Structural Test Hangar.

Plan of First Floor/2-11-44

This plan indicates the presence of a test platform in the Test Laboratory (currently identified as the South Structural Test Hangar). "Electric" and "air pits" are identified in the courtyard area south of the Test Laboratory.

Test Laboratory Plans/2-11-44

This plan indicates the first floor of the Test Laboratory (South Structural Test Hangar) was comprised of the following areas: test platforms, test laboratory, machine shop, electrical laboratory, refrigeration equipment room, test chamber, machine area, instrument room and heat treatment room. The floor in the test laboratory area contained floor drains, service trenches, a test machine pit and condensate pit. A sink was located along the north wall.

The plan shows that the first mezzanine area contained an instruments laboratory, standards room and structural tests area. A slop sink and sink were located on this floor.

The plan indicates that the second mezzanine above the Test Laboratory (South Structural Test Hangar) contained a radio laboratory, rooms for radio tests, equipment storage, dark room, other storage, fan room, office and equipment vault.

Under-floor Plumbing Systems/2-7-44

This plan indicates that plumbing systems (including floor drains, slop sinks, sanitary and roof drains) within the Test Laboratory (South Structural Test Hangar) discharge to the storm drain system or to the sanitary system.

First Floor Plumbing Systems/2-7-44

Locations of floor drains, cleanouts and slop sinks are shown on this plan. In addition, a pit with a line to a dry well is shown located within the Test Laboratory (South Structural Test Hangar) portion of the building.

Second Floor Plumbing Systems/2-7-44

This plan identifies two sinks on the second floor; one located in the Plant 5 Model Shop, the other in the Dark Room located within the Test Laboratory (South Structural Test Hangar).

First Floor Plan Power/2-11-44

This plan indicates condensate pumps in pits in four areas within the Plant 5 building, one of which was located within the Test Laboratory (South Structural Test Hangar), adjacent to a room identified as the Heat Treatment Room.

Heat and Vent System, Roof, Engineering Mezzanine and First Floor Plans Structures Laboratory/6-1-51

This plan shows the expansion of the Test Laboratory (South Structural Test Hangar) to the north (North Structural Test Hangar). Work areas labeled on the first floor included heat treatment room, work space, metallurgical lab, dark room, red room, bench area, electrical testing, machine shop, static test storage, storage area and generator room. Work areas identified on the Engineering Mezzanine were labeled strain recording and test engineering.

Plumbing System First Floor Plan and Diagrams Structures Laboratory - Plant 5/4-20-51

This plan of the Structures Laboratory (North Structural Test Hangar) indicates slop sinks were located in the metallurgical lab and static test storage areas of the laboratory. An existing slop sink shown west of the electrical test room is identified to be relocated on this plan. Locations of floor drains and cleanouts are also shown on this plan.

Mezzanines, Penthouse Floor and Roof Plan, Structures Laboratory/6-1-51

Work areas identified on the First Mezzanine (North Structural Test Hangar) were storage, I.B.M. Room, REAC Room, simulator room, instrument repair and auto pilot (servo lab). Work areas on the Second Mezzanine were blue print room, instrument storage and telemetering. The Penthouse is shown as a radar room.

Proposed Site Plan Pre-Fabricated Metal Building for Slosh Vibrator/10-13-58

The plan shows this building was to be located adjacent to the west side of the South Structural Test Hangar.

L.E.M. Simulator Facility Butler Building Extension/1-31-64

This plan shows an approximate 18-foot by 24-foot addition to a previously existing free-standing building (Butler Building) adjacent to the west side of the South Structural Test Hangar. The plan shows a drain pipe exiting the existing structure and leading to an existing catch basin connected to a storm drainage pipe.

Auxiliary Leaching Chambers Locations and Details/11-20-59

This plan shows four new leaching pools for emergency overflow, as well as approximately 35 other new leaching pools were to be added to the existing on-site sanitary disposal system located west of the Structural Test Hangars.

Air conditioning Lab-Vacuum Pump - Metal Building, New Altitude Chamber/2-9-61

The plan shows the location of this building is in the center of the courtyard between the South Structural Test Hangar and the Plant 5 OAO Hangar. An altitude chamber was being added to the west side of the Plant 5 building.

Based upon a review of Grumman records, various Agency tank records, the Navy Environmental Baseline Survey of Plant 5 completed in January 1998 and the site inspections, the following former and existing storage and process tanks have been identified for the Structural Test Hangars/Plant 5.

Location	Tank No.	Type/Use	Tank Size (gal)	Tank Contents	Tightness Testing	Status	Remarks
Hard Chrome Dept. in Structural Test Hangar (Dept. 004)	526*	AST/water rinse	120	Dilute chromic acid	N/A-AST	Removed	To Tank 625 Removed prior to 10/78

Location	Tank No.	Type/Use	Tank Size (gal)	Tank Contents	Tightness Testing	Status	Remarks
Hard Chrome Dept. in Structural Test Hangar (Dept. 004)	529*	AST/chrome plate strip	90	Chrome Stripper (cyanide, complex phosphates)	N/A-AST	Removed	To Tank 625 Removed prior to 10/78
Hard Chrome Dept. in Structural Test Hangar (Dept. 004)	992*	AST/hard chrome plate	600	Chrome plate (chromic acid, chromates salts, silica fluoride)	N/A-AST	Removed	Removed prior to 10/78
Hard Chrome Dept. in Structural Test Hangar (Dept. 004)	623*	AST/hot maskant wax	2'-4" dia x 4'H	Inert wax	N/A-AST	Removed	Wax removed by solvents. Removed prior to 10/78
Hard Chrome Dept. in Structural Test Hangar (Dept. 004)	625*	AST/waste holding	6'-3" x 3'H	Contaminated rinse water and stripper solution	N/A-AST	Removed	Contents of tank sent to Plant 2 IWTP via waste acid truck. Removed prior to 10/78
Dept. 004	192	UNK/vapor degreaser	82" x 34" x 35"	Trichloro-ethylene	UNK	UNK	Location unknown
Dept. 046	257	AST/ degreaser	7'-3" x 3'-3" x 5'-4"	Trichloro-ethylene	N/A	Removed	Removed prior to 10/78
Structural Test Hangars	139125**	AST/ Glycerin Solution	4' x 5'	glycerin solution	N/A-AST	Removed	--

* These tanks were identified as formerly being located in the Alodine Room in the Navy Environmental Baseline Survey of Plant 5.

** This tank was identified as being located in the Structural Test Hangars in the Navy Environmental Baseline Survey, based upon a review of an internal environmental audit of Plant 5 completed in 1993.

Summary of Prior Assessments

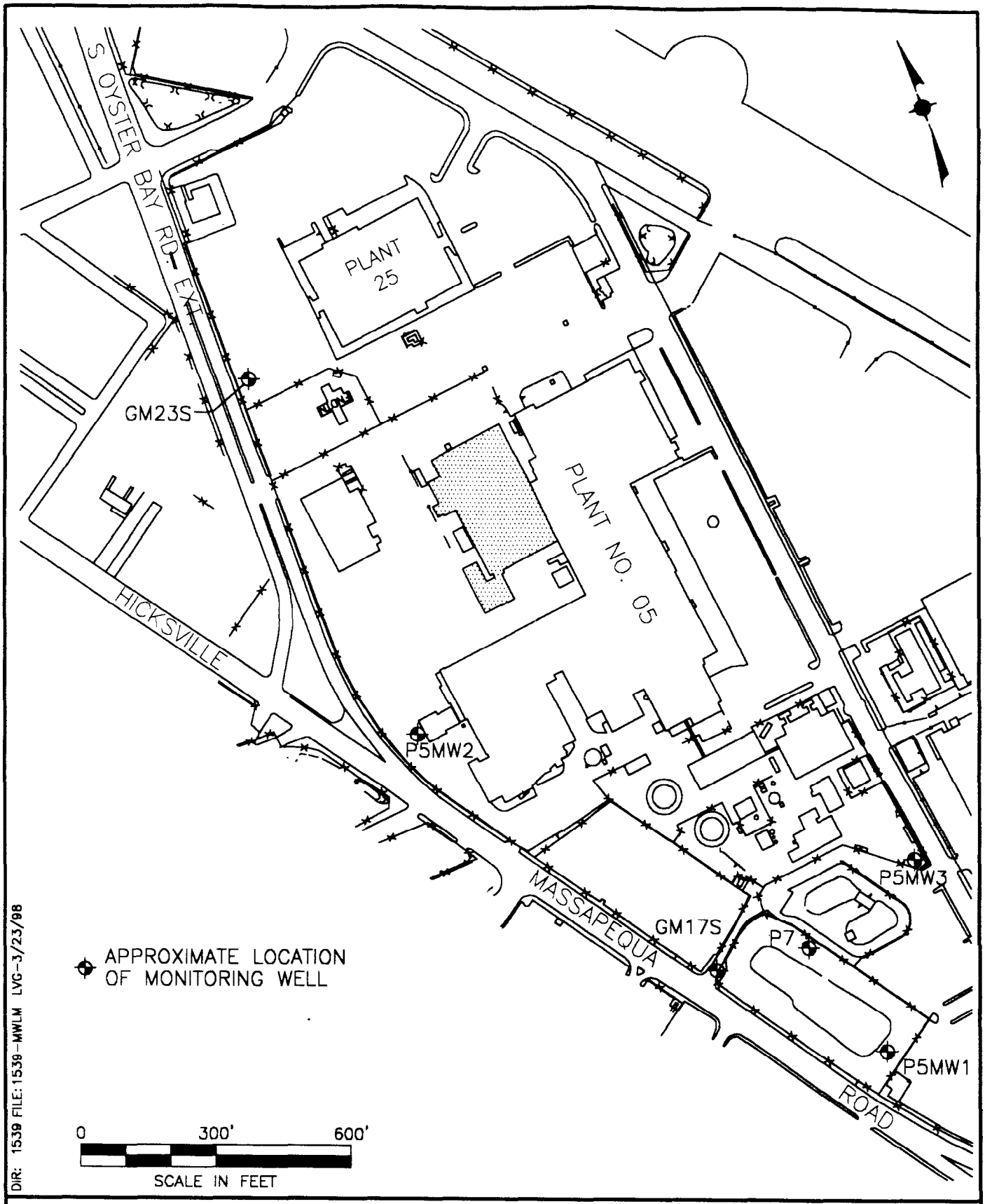
A Delisting Petition for the Plant 5 property was prepared in February 1993. The Delisting Petition included a field program, which consisted of installation of three monitoring wells and a soil boring, groundwater sampling and soil sampling.

Groundwater samples were collected from the three newly installed wells (P5MW-1, P5MW-2 and P5MW-3) and from two previously existing wells (GM17S and GM23S) and analyzed for volatile organic compounds (VOCs) and inorganic constituents. The groundwater samples were compared to NYS Department of Health Drinking Water Standards. The location of the monitoring wells is provided on Figure 2-3.

One soil sample was collected from each of the monitoring well boreholes in addition to one sample collected at a depth of 24 to 26 feet below grade from a soil boring installed within the boundaries of the former septic system/leaching field. Each soil sample was analyzed for VOCs and total petroleum hydrocarbons (TPHCs) and compared to cleanup objectives as identified in the New York State Department of Environmental Conservation (NYSDEC) Technical and Administrative Guidance Memorandum (TAGM) 4046.

With respect to the groundwater samples, trichloroethene was detected at or above the NYS Drinking Water Standard of 5 ug/l in P5MW-2 (7 ug/l), P5MW-3 (5 ug/l) and GM17S (20 ug/l).

Tetrachloroethene was detected at the standard of 5 ug/l in GM17S (5 ug/l). Toluene was also detected in GM17S at a concentration of 8 ug/l, above the standard of 5 ug/l for that compound. However, since toluene was also detected in the method blank, the Delisting Petition stated that its presence in the environmental sample could be attributed to laboratory contamination.



NORTHROP GRUMMAN CORPORATION
BETHPAGE, NEW YORK
STRUCTURAL TEST HANGARS/PLANT 5 PHASE I/II SITE ASSESSMENT

Dvirka and Bartilucci Consulting Engineers
A Division of William F. Cosulich Associates, P.C.

MONITORING WELL LOCATION MAP

FIGURE 2-3

The Delisting Petition indicated that the groundwater samples may have been obtained from the wells at a time when they were within the zone of influence of localized mounding from the two on-site recharge basins (outfall 006), which receive non-contact cooling water. The Delisting Petition noted that the well closest to the recharge basins (GM17S) exhibited the highest concentration of trichloroethene. The Delisting Petition noted that concentrations of trichloroethene detected during the sampling event were not inconsistent with previous laboratory analysis of non-contact cooling water at this location.

The Delisting Petition indicated that the cooling water utilized (influent) was pumped from groundwater in the vicinity of the site that previous sampling had shown to contain trichloroethene. As a result, the Delisting Petition noted that the elevated concentrations of trichloroethene were characteristic of localized ambient groundwater conditions and were not attributable to the non-contact cooling operations at the site.

Inorganic constituents were not detected in concentrations above NYS Drinking Water Standards in the water samples.

With respect to the soil samples, VOCs were not detected above method detection limits, with the exception of methylene chloride, detected at concentrations well below soil cleanup objectives. Since methylene chloride was also detected in the field blank, the Delisting Petition stated that its presence in the environmental samples could be attributed to laboratory contamination.

TPHCs were detected at concentrations ranging from 127 to 183 mg/kg. There is no NYSDEC cleanup objective for TPHCs. To determine if the TPHCs detected were attributable to fuel-related compounds, the samples were also analyzed for fuel-related constituents such as gasoline, lubricating oil, kerosene and fuel oil. Analytical results did not detect the presence of fuel-related constituents above the method detection limit. The Delisting Petition stated that as a result, it appeared the TPHCs detected in the environmental samples were not associated with any fuel-related spills.

A discussion of the Remedial Investigation/Feasibility Study (RI/FS) of the Grumman Bethpage Facility is provided in Section 2.3.

2.2.2 Present Uses

As previously discussed, the Structural Test Hangars currently consist of two hangar areas, identified as the North and South Structural Test Hangars. The hangars are separated by offices, which are located on the first floor and engineering, first and second mezzanines, a storage/tool crib, a locker/lunch room and a high pressure hydraulic pump room.

The South Structural Test Hangar is currently utilized for the construction of test apparatus. In addition, several areas were identified as part of the South Structural Test Hangar including a condensate pit, transformer room, load cell calibration machine and lab, machine shop area, structural and fatigue test areas, file storage areas, materials test and hydraulic laboratory's, hydraulic pump room, locker/lunch room, storage room/tool crib, offices, consumable storage rooms and hydraulic jack storage room.

Active long-term structural fatigue testing activities of a C-2 aircraft are currently being conducted in the North Structural Test Hangar. In addition, several areas were identified as part of the North Structural Test Hangar including a caged storage area, inspectors work station, tool storage/work station, test control console, freight elevator and pump room, hydraulic cylinder/jack storage room, a two room computer area, machine and welding shops, raw metal storage area and a generator room.

2.3 Regulatory Compliance History

As part of the Phase I Site Assessment, an investigation of local agency records was undertaken to identify any environmental concerns within the Structural Test Hangars/Plant 5 or immediately adjacent to Plant 5. Please note that Grumman Aerospace Corporation (GAC) and

Grumman references in this section pertain to the Bethpage facility currently owned by NGC. The following information was obtained from the Nassau County Department of Health (NCDH).

A review of a 1989 NCDH Article XI Tank and Container Storage Registration Map indicates two storage areas (S51 and S52) were associated with Plant 5 (see Appendix A).

Storage Area S51 was located in the courtyard located between the South Structural Test Hangar and the Plant 5 Shuttle Wing Hangar, and Storage Area S52 was located to the west of the Structural Test Hangars. Based upon a review of 1988 NCDH Article XI application forms, Area S51 was permitted for the storage of:

- freon,
- 1,1,1-trichloroethane,
- methylene chloride,
- CEE BEE 50,
- isopropanol,
- toluene,
- lacquer thinners,
- petroleum naphtha,
- aqua quench (glycols, water),
- oil,
- halogenated solvents,
- paint thinners/solids,
- cutting fluid, and
- methyl ethyl ketone.

This area was noted to have an impervious dike/berm, impervious floor/pad, a roof, and walls. The application form also noted a floor drain with sump in this area.

Storage area S52 was permitted for the storage of:

- hydraulic oil,
- CEE BEE 50, and
- mineral spirits.

This area was noted to have an impervious concrete floor/pad.

Several storage tanks were noted on the NCDH Article XI map and application form for Plant 5, however, none were identified as being located within or immediately adjacent to the Structural Test Hangars.

Based upon a review of a 1982 GAC SPDES permit on file at NGC, the two recharge basins south of Plant 5 are identified as "outfall 006" under the facility's SPDES permit (NY0096792). According to the permit, outfall 006 was permitted for the discharge of non-contact cooling water and storm water. The discharge was required to be monitored for phenols, toluene, xylene, chloroform, methyl ethyl ketone, vinyl chloride, dichloroethylene, trichloroethylene, 1,1,1-trichloroethane, trichlorotrifluoroethane, tetrachloroethylene and total organics on a monthly basis, for flow on a daily basis, and for pH on a weekly basis.

Two letters dated 1981 from GAC to the NYSDEC, transmitting monthly SPDES discharge monitoring reports were on file at NCDH. The letters indicated non-compliance with respect to phenols in the discharge to outfall 006. The letters stated that the reason for the non-compliance could not be determined.

An undated water flow schematic on file at NGC indicated a 1.05 million gallon per day flow of non-contact cooling water, boiler blowdown and storm water discharged to outfall 006. A 1991 SPDES modification on file at NGC indicated the parameters to be sampled for at outfall 006 were flow, pH, 1,1-dichloroethylene, methylene chloride, tetrachloroethylene, 1,1,1-trichloroethane, trichloroethylene, trichlorotrifluoromethane, total nitrogen, vinyl chloride, trans-1,2-dichloroethylene and cis-1,2-dichloroethylene.

A GAC application for a RCRA Part B permit was on file at NCDH. According to the permit application, a station (5-A) was set up in Plant 5 for the collection of waste halogenated and non-halogenated solvents. The application states that collection stations were set up in close proximity to the points of waste solvent generation. A figure included in the permit shows that collection station 5-A was located within the Plant 5 building adjacent to the southeast corner of the South Structural Test Hangar (see Appendix A). No collection stations were identified as being located in the Structural Test Hangars.

According to information on file at the NCDH, the GAC Bethpage Facility was first listed on the State's Registry of Inactive Hazardous Waste Disposal Sites in 1983 as a Class 2a site. In 1988, a Class 2 designation was assigned to the facility. In 1992, the Bethpage Facility was separated into two sites, the Naval Weapons Industrial Reserve Plant (NWIRP) Site and the Grumman Aerospace Bethpage Facility Site.

GAC entered into a consent order with the NYSDEC to conduct an on-site and off-site Remedial Investigation/Feasibility Study (RI/FS) of the Bethpage Facility. A report containing the data collected during the first phase of the RI was submitted to NYSDEC in January 1992, and a final RI report (including the results of the Phase I and Phase II RI's) was submitted in September 1994.

The RI report indicates that the horizontal direction of groundwater flow in the shallow zone of the Upper Glacial (or water table) aquifer is generally to the south and southeast, but is greatly affected by localized groundwater pumpage from Grumman production wells and

recharge mainly from Grumman recharge basins. Groundwater contour maps for April and August 1993 are included in Appendix A. According to the RI report, pumpage effects (depression of groundwater) are apparent near Plant 15 in the vicinity of Grumman production well GP-13. On the other hand, recharge effects, mounding of groundwater, are evident around the recharge basins near Plant 3 and Plant 5, the southern series of recharge basins, and to a lesser extent around the recharge basins near Plant 12. The RI report also states that mounding is observed along the eastern border of the Ruco Polymer Corporation site (near Plant 115) and is presumably due to recharge occurring on the Ruco site.

The RI report indicates that groundwater sampling conducted during the Phase I RI and the Phase II RI identified two plumes of groundwater contamination (eastern plume and western plume) near the center of the Bethpage Facility. The eastern plume contains trichloroethene (TCE), tetrachloroethene or perchloroethylene (PCE), 1,1,1-trichloroethane (1,1,1-TCA), 1,2-dichloroethene (1,2-DCE), 1,1-dichloroethene (1,1-DCE) and 1,1-dichloroethane (1,1-DCA). The RI report indicates that the eastern plume is defined by monitoring wells GM-14I, GM-16I, GM-19I, GM-22D, HN27S3, and well clusters GM-13 and HN-29. These wells are located northeast, east and southeast of the Structural Test Hangars/Plant 5 site (see maps in Appendix A). The eastern plume of groundwater contamination is not likely to impact the Structural Test Hangars/Plant 5 site. The RI report indicates that the western plume consists primarily of TCE, and that it is defined by monitoring wells GM-12S, GM-12I, GM-18S, GM-18I, GM-32S, HN-24S, HN-24I2, and Grumman production wells GP-1 and GP-2 (see maps in Appendix A). These wells are located north, east, southeast and south of the Structural Test Hangar/Plant 5 site. Well GP-2 is located to the east of Plant 5. As a result, it appears the western plume of groundwater contamination may impact the Structural Test Hangars/Plant 5 site.

Another area of groundwater contamination was identified at the border of the Ruco Polymer Corporation site and the NGC property. The RI report indicates that this area of contamination generally consists of TCE, PCE, 1,1,1-TCA, 1,1-DCE, and vinyl chloride. This area of contamination is defined by monitoring well clusters GM-4, GM-5, GM-10, GM-23, and

Grumman production wells GP-5, GP-8 and GP-14 (see maps in Appendix A). No discrete plume or plumes are present.

As part of the RI, soil gas sampling was conducted in 1991 and 1992 with a portable gas chromatograph to identify areas at the Bethpage facility that might require further investigation by soil and/or groundwater sampling. Soil gas sampling points were not located in the vicinity of the Structural Test Hangars/Plant 5 site.

The RI report also indicates that contaminants have been detected in groundwater south and southeast, hydraulically downgradient of the NGC property. No discrete plume or plumes are present. Groundwater contamination in these areas will likely not impact the Structural Test Hangars/Plant 5 site.

The RI report identified a TCE storage tank at Plant 2, located to the southeast of the Structural Test Hangar/Plant 5 site, as a source of groundwater contamination. A soil vapor extraction (SVE) system has been installed at the source area and is designed to remove TCE in unsaturated soils in that area, in order to prevent further contamination of the groundwater. Plant 2 is located downgradient of the Structural Test Hangar/Plant 5 site and, therefore, groundwater contamination from the TCE storage tank is not likely to impact the Structural Test Hangar/Plant 5 site.

In addition, the RI report identified Plant 15 (located to the north of the Structural Test Hangars/Plant 5 site) as a possible source of PCE contamination based on the results of a soil-gas survey. A telephone conversation with the NYSDEC project manager during the week of February 23, 1996, indicated that follow-up soil and groundwater sampling showed no significant contamination and failed to locate a source of the vapors. According to the NYSDEC representative, additional sampling was conducted, with similar results. The NYSDEC representative indicated that the area impacted is located adjacent to the Plant 15 loading dock and is approximately 20 feet in radius. Subsequently, under an agreement with NYSDEC, NGC installed and operated an SVE system (originally installed at Plant 2) at the Plant 15 area for

approximately 30 days. The soil vapor extraction program was completed and the system was returned to Plant 2. On May 14, 1996, a letter report documenting the implementation of the SVE system at Plant 15 was submitted to NYSDEC. The report concluded that the Plant 15 site had been effectively remediated by utilizing the SVE system. On May 21, 1996, NYSDEC approved this letter report which concluded the remediation project. Based upon this information, it does not appear likely that the Structural Test Hangars/Plant 5 site will be impacted.

The RI report contained a summary of the findings of a Phase 1 and Phase 2 RI of the NWIRP site completed in May 1992 and October 1993, respectively. The NWIRP site is located to the north-northeast of the Structural Test Hangars/Plant 5 site and may be upgradient with respect to the direction of groundwater flow for at least a portion of the year.

The NWIRP Phase 1 RI consisted of a soil gas survey, soil sampling, surface water and sediment sampling, and monitoring well and groundwater sampling. The soil gas survey indicated the presence of solvents near a former drum marshaling area with the detection of PCE and TCE. Soil samples from a recharge basin and from a salvage storage area contained volatile organic compounds (VOCs). In addition, soil samples from the former drum marshaling area contained elevated concentrations of polychlorinated biphenyls (PCBs), polynuclear aromatic hydrocarbons (PAHs), pesticides and inorganics. VOCs (including TCE, PCE, 1,1,1-TCA, 1,1-DCA, 1,1-DCE and 1,2-DCE) were detected in groundwater samples obtained from wells near the former drum marshaling area. Groundwater downgradient of the salvage storage area contained elevated levels of TCE and lesser concentrations of PCE and 1,1,1-TCA. Groundwater samples from wells near recharge basins contained TCE. Surface water in the recharge basins contained TCE, and sediment in the recharge basin contained TCE and PCE.

The NWIRP Phase 2 RI included a soil gas survey, soil sampling, monitoring well installation and groundwater sampling. The soil gas survey indicated several areas at Plant 3 that had high levels of VOCs (including PCE, TCE and 1,1,1-TCA). Lower concentrations of these compounds were also detected at the drum storage area. Soil samples collected from the former drum marshaling area, salvage storage area and the recharge basin area contained PCBs, and soil

sampling near monitoring well cluster HN-24 reported levels of TCE and toluene. Groundwater samples obtained from wells near the former drum marshaling area contained PCE, TCE, 1,1,1-TCA, 1,1-DCA and 1,2-DCE. Groundwater near Plant 3 contained elevated concentrations of TCE.

The RI report indicated that specific sources of contamination have not been fully delineated on the NWIRP site or Ruco Polymer Corporation property; however, the groundwater flow and quality data compiled from the previous investigations indicate that contamination likely originated from one or more sources on the NWIRP and Ruco sites and from at least one source on the Grumman Bethpage Facility property.

A copy of a Proposed Remedial Action Plan (PRAP) for the remediation of on-site soil and shallow groundwater contamination at the NWIRP was on file at NCDH. The PRAP was developed upon finalization of the Feasibility Study (FS) in March 1994. The PRAP contained a figure which indicated that the estimated areal extent of "On-site/Near Site NWIRP - Derived Groundwater Contamination" was located eastward of the Structural Test Hangars/Plant 5 site (see Appendix A).

In addition to the aforementioned groundwater quality information, the USGS conducted an investigation of groundwater quality over a wide area that encompassed the Structural Test Hangars/Plant 5 site. Beginning in 1985, the USGS conducted an investigation of the hydrogeology and groundwater quality of the Bethpage-Hicksville-Levittown area. The study area included the Ruco Polymer Corporation, U.S. Navy (NWIRP/Plant 3) and Grumman Bethpage Facility sites (including the Structural Test Hangars/Plant 5 site). The results of this study were summarized in three reports, the second of which was entitled, "Ground-Water Quality in the Bethpage-Hicksville-Levittown Area, Long Island, New York, With Emphasis on Volatile Organic Compounds." This report summarized groundwater quality in the study area based on the analysis of groundwater samples collected from monitoring wells and industrial wells in the Spring and Fall of 1986 and 1987. The findings of this report identified the presence of a plume of groundwater contamination primarily consisting of several volatile organic

compounds including TCE, PCE, 1,1,1-TCA, 1,2-DCE, 1,1-DCA and vinyl chloride. This plume was described as being present beneath and extending southward from the Ruco Polymer, Navy (NWIRP/Plant 3) and Grumman Bethpage Facility sites. The plume in 1987 was reported to be approximately 5,700 feet wide, 12,000 feet long and greater than 500 feet thick. Isoconcentration contour maps presented in the USGS study delineated the areal extent of the plume and indicated that the portion of the plume present beneath the Structural Test Hangars/Plant 5 site contained 1,1,1-TCA, vinyl chloride and 1,2-DCE.

A delisting petition entitled, "New York State Site Registry Delisting Petition Plant 5, Hicksville, New York" was prepared and submitted to the NYSDEC in February 1993 to modify the boundary lines of the Grumman Aerospace Corporation site as identified in the Registry of Inactive Hazardous Waste Disposal Sites. Additional information was supplied to the NYSDEC in two letter reports dated June 23, 1994 and January 24, 1995. The delisting petition for Plant 5 was approved on February 24, 1995 (see Appendix A). The Plant 5 parcel is one of several parcels that have been "delisted" (i.e., formally removed from within the site boundary lines). It should be noted that former Plant 2, located immediately to the southeast and east of the Plant 5 parcel, remains within the boundary lines, as does the series of recharge basins located along the southern boundary line of the NGC Bethpage facility.

Information on two spills that have been identified as occurring at Plant 5 are discussed below:

Spill Number: 96-06777
Spill Date: 8/27/96
Material Class: Petroleum
Spill Cause: Other
Resource Affected: On land
Quantity Spilled: 10 gallons

According to NGC representatives, a 10-gallon spill occurred at Plant 5 in August 1996. A NYSDEC Spill Number, 96-06777, was assigned to the incident. The spill report obtained

from NGC representatives (see Appendix A) indicates that a surge in the Plant 5 emergency generator day tank caused Tank 05-05-1 to overfill. The product spilled from the tank vent onto the asphalt parking area and to a storm drain catch basin. The spill was cleaned from the catch basin and asphalt area with speedy-dry. The spill report noted that the Plant 5 recharge basin was not affected and no contaminated soil was generated. Based upon the quantity that was released, and the cleanup actions that were undertaken by NGC personnel, it does not appear that this spill resulted in a significant impact to the Structural Test Hangars or Plant 5 property.

Spill Number: 92-13848
Spill Date: 3/17/93
Material Class: Petroleum
Spill Cause: Other
Resource Affected: On land

According to available information, the fuel tank on a vehicle ruptured and spilled on the ground. The Navy Environmental Baseline Survey indicated that the 40-gallon spill occurred just outside the sliding door to the North Structural Test Hangar and was effectively contained on the concrete. The spill was closed by the NYSDEC on February 19, 1997. As a result, it does not appear that this spill resulted in a significant impact to the Structural Test Hangars or Plant 5 property.

2.4 Phase I Site Assessment Findings

The findings of the Phase I Site Assessment and identification of potential areas of environmental concern are presented below.

2.4.1 On-Site Indicators of Contamination

Various locations within the Structural Test Hangars were noted to have stained flooring, or flooring that was stained in combination with cracks and/or pitted areas. Hydraulic oil,

absorbent materials and residue were found in pipe trenches. In addition, there was apparent leakage from the oil line and plunger and jack, and oil staining on the pit floor beneath the freight elevator (previously identified on Figure 2-2 as Area 32).

Several areas exterior of the Structural Test Hangars were also noted to have stained concrete or stained concrete in combination with cracks. The locations in which these indicators of contamination were found are included as potential area of environmental concern discussed in Section 2.4.2, below.

2.4.2 Potential On-Site Areas of Environmental Concern

Based upon the findings of the Phase I Site Assessment, potential areas of environmental concern include the following:

Interior

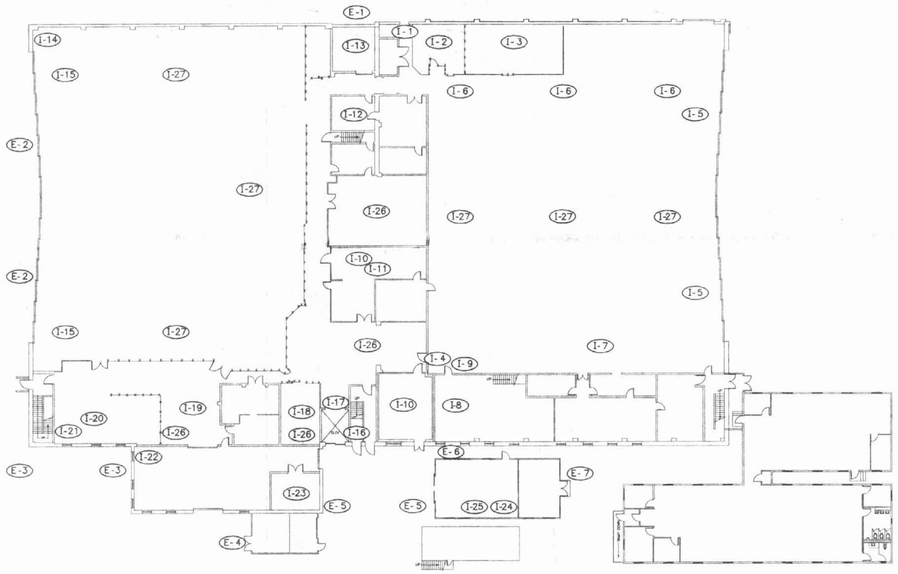
- Sump in Condensate Pit
- Pit Beneath Load Cell Calibration Machine
- Slop Sink in Structural Test Area
- Slop Sink in South Structural Test Hangar
- Floor Drains in South Structural Test Hangar
- Dry Wells in Pipe Trenches in South Structural Test Hangar
- Dry Well Beneath Fatigue Test Area
- Pit in Hydraulic Laboratory
- Degreasing Machine Area
- Pipe Trenches in Hydraulic Pump Room
- Floor Drain in Hydraulic Pump Room
- Slop Sink in Load Calibration Lab
- Hydraulic Storage Room
- Slop Sink in North Structural Test Hangar
- Floor Drains in Pipe Trenches in North Structural Test Hangar

- Elevator Pump Room
- Freight Elevator Between North and South Structural Test Hangars
- Hydraulic Cylinder/Jack Storage Area
- Machine Shop
- Weld Shop
- Slop Sink in Weld Shop
- Floor Drain in Raw Metal Storage Area
- Funnel Drain in Generator Room
- Drum Storage Area in Butler Building
- Floor Drain in Butler Building
- Wood Block Floor, Various Locations Throughout North and South Structural Test Hangars
- Pipe/Utility Trenches in North and South Structural Test Hangars
- Slop Sink in Engineering Mezzanine
- Slop Sinks in First Mezzanine
- Slop Sinks and Floor Drain in Second Mezzanine

The locations of the interior potential areas of environmental concern are illustrated on Figure 2-4. The locations of interior floor drains, slop sinks, dry wells and pits are shown on Figure 2-5.

Exterior

- Area of Former Waste Holding Tank - Tank No. 625
- Area North of North Structural Test Hangar
- Area at Northwest Corner of North Structural Test Hangar
- Area North of Electrical Switch Gear and Heat Exchanger Building.
- Storage Area S52
- Alley Between Butler Building and South Structural Test Hangar
- Area South of Butler Building



FIRST FLOOR PLAN

ENGINEERING MEZZANINE PLAN

LEGEND

INTERIOR AREAS

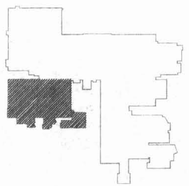
- I-1 SUMP IN CONDENSATE PIT
- I-2 PIT BENEATH LOAD CELL CALIBRATION MACHINE AREA
- I-3 SLOP SINK IN STRUCTURAL TEST AREA
- I-4 SLOP SINK IN SOUTH STRUCTURAL TEST HANGAR
- I-5 FLOOR DRAINS IN SOUTH STRUCTURAL TEST HANGAR
- I-6 DRY WELLS IN PIPE TRENCHES IN SOUTH STRUCTURAL TEST HANGAR
- I-7 DRY WELL BENEATH FATIGUE TEST AREA
- I-8 PIT IN HYDRAULIC LABORATORY
- I-9 DEGREASING MACHINE AREA
- I-10 PIPE TRENCHES IN HYDRAULIC PUMP ROOM
- I-11 FLOOR DRAIN IN HYDRAULIC PUMP ROOM
- I-12 SLOP SINK IN LOAD CELL CALIBRATION LAB
- I-13 HYDRAULIC STORAGE ROOM
- I-14 SLOP SINK IN NORTH STRUCTURAL TEST HANGAR
- I-15 FLOOR DRAINS IN PIPE TRENCHES IN NORTH STRUCTURAL TEST HANGAR
- I-16 ELEVATOR PUMP ROOM
- I-17 FREIGHT ELEVATOR BETWEEN NORTH AND SOUTH STRUCTURAL TEST HANGARS
- I-18 HYDRAULIC CYLINDER/JACK STORAGE AREA
- I-19 MACHINE SHOP
- I-20 WELD SHOP
- I-21 SLOP SINK IN WELD SHOP
- I-22 FLOOR DRAIN IN RAW METAL STORAGE AREA
- I-23 FUNNEL DRAIN IN GENERATOR ROOM
- I-24 DRUM STORAGE AREA IN BUTLER BUILDING
- I-25 FLOOR DRAIN IN BUTLER BUILDING
- I-26 WOOD BLOCK FLOOR AT LOCATIONS THROUGHOUT NORTH AND SOUTH STRUCTURAL TEST HANGARS
- I-27 PIPE/UTILITY TRENCHES IN NORTH AND SOUTH STRUCTURAL TEST HANGARS
- I-28 SLOP SINK IN ENGINEERING MEZZANINE
- I-29 SLOP SINKS IN FIRST MEZZANINE
- I-30 SLOP SINKS AND FLOOR DRAIN IN SECOND MEZZANINE

FIRST MEZZANINE PLAN

SECOND MEZZANINE PLAN

EXTERIOR AREAS

- E-1 AREA OF FORMER WASTE HOLDING TANK-TANK NO. 625
- E-2 AREA NORTH OF NORTH STRUCTURAL TEST HANGAR
- E-3 AREA AT NORTHWEST CORNER OF NORTH STRUCTURAL TEST HANGAR
- E-4 AREA NORTH OF ELECTRICAL SWITCH GEAR AND HEAT EXCHANGER BUILDING
- E-5 STORAGE AREA S52
- E-6 ALLEY BETWEEN BUTLER BUILDING AND SOUTH STRUCTURAL TEST HANGAR
- E-7 AREA SOUTH OF BUTLER BUILDING



0 30' 60'

NORTHROP GRUMMAN CORPORATION
BETHPAGE, NEW YORK
STRUCTURAL TEST HANGARS/PLANT 5 – PHASE I/II SITE ASSESSMENT

STRUCTURAL TEST HANGARS – POTENTIAL AREAS OF ENVIRONMENTAL CONCERN

DVIRKA AND BARTILUCCI
Consulting Engineers
A Division of William F. Cosulich Associates, P.C.

FIGURE 2-4

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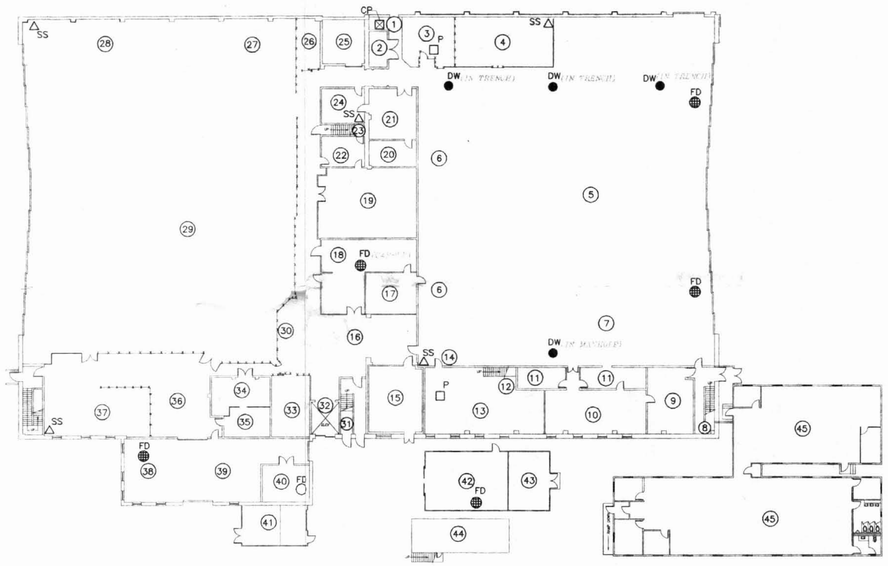


FIRST FLOOR PLAN

ENGINEERING MEZZANINE PLAN

LEGEND

1. CONDENSATE PIT
2. TRANSFORMER ROOM
3. LOAD CELL CALIBRATION MACHINE AREA
4. STRUCTURAL TEST AREA
5. SOUTH STRUCTURAL TEST HANGAR
6. MACHINE SHOP AREA
7. FATIGUE TEST AREA
8. FILE STORAGE AREA (UNDER STAIRWELL)
9. MATERIALS TEST LAB–FATIGUE TEST AREA
10. MATERIALS TEST LAB–STATIC TEST AREA
11. MATERIALS TEST LAB–STATIC TEST AREA
12. STORAGE AREA (UPSTAIRS)
13. HYDRAULIC LABORATORY
14. VARSOL DEGREASING MACHINE
15. PUMP ROOM
16. STORAGE AREA
17. LOCKER/LUNCH ROOM
18. HYDRAULIC PUMP ROOM
19. STORAGE ROOM/TOOL CRIB
20. OFFICE
21. OFFICE
22. CONSUMABLE STORAGE ROOM
23. CONSUMABLES STORAGE (UNDER STAIRWELL)
24. LOAD CELL CALIBRATION LAB
25. HYDRAULIC STORAGE ROOM
26. CAGED STORAGE AREA
27. INSPECTORS WORK STATION
28. TOOL STORAGE/WORK STATIONS
29. NORTH STRUCTURAL TEST HANGAR
30. CONTROL CONSOLE
31. ELEVATOR PUMP ROOM
32. FREIGHT ELEVATOR
33. HYDRAULIC CYLINDER/JACK STORAGE AREA
34. COMPUTER ROOM
35. COMPUTER ROOM
36. MACHINE SHOP
37. WELD SHOP
38. RAW METAL STORAGE AREA
39. MACHINE SHOP AREA
40. GENERATOR ROOM
41. ELECTRICAL SWITCH GEAR AND HEAT EXCHANGER BUILDING
42. BUTLER BUILDING–STORAGE ROOM
43. BUTLER BUILDING–HYDRAULIC PUMP ROOM
44. RADIO SHACK
45. ENGINEERING OFFICE TRAILERS

○FD FUNNEL DRAIN

●FD FLOOR DRAIN

●DW DRYWELL

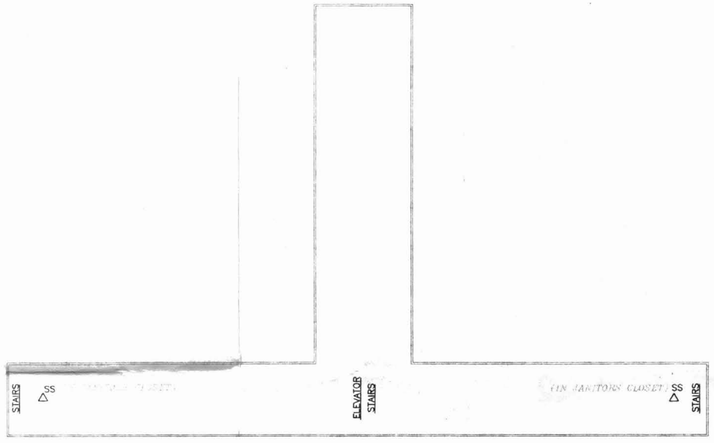
△SS SLOP SINK

☒CP CONDENSATE PIT

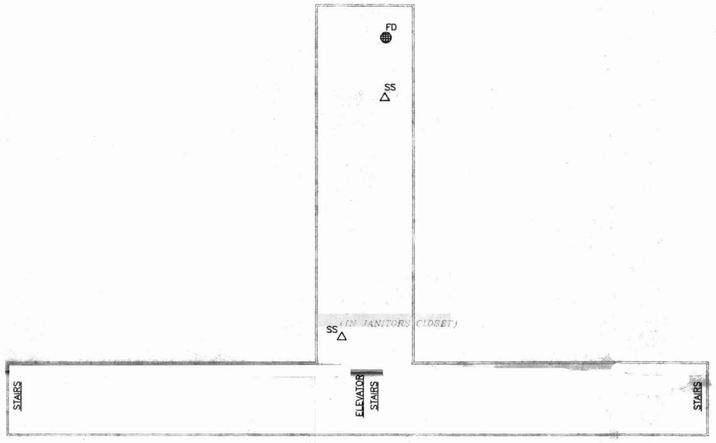
□P PIT (MISCELLANEOUS)

NOTES:

1. SYMBOLS SHOWN ARE NOT TO SCALE AND ARE INTENDED TO REPRESENT APPROXIMATE LOCATIONS ONLY.
2. LOCATIONS OF FLOOR DRAINS, SLOP SINKS, DRYWELLS AND PITS ARE BASED ON INSPECTIONS OF VISUALLY UNOBSTRUCTED AREAS PERFORMED AS PART OF THE PHASE I SITE ASSESSMENT ACTIVITIES DURING JANUARY 1998.



FIRST MEZZANINE PLAN



SECOND MEZZANINE PLAN

0 30' 60'

NORTHROP GRUMMAN CORPORATION
BETHPAGE, NEW YORK
STRUCTURAL TEST HANGARS/PLANT 5 – PHASE I/II SITE ASSESSMENT

STRUCTURAL TEST HANGARS – LOCATIONS OF FLOOR DRAINS, SLOP SINKS, DRYWELLS AND PITS

DVIRKA AND BARTILUCCI
Consulting Engineers
A Division of William F. Cosulich Associates, P.C.

FIGURE 2-5

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The location of the exterior potential areas of environmental concern is also illustrated on Figure 2-4.

Tables 2-1 and 2-2 provide details on the former and current uses of interior and exterior potential areas of environmental concern, respectively, and summarize the environmental concerns associated with each area.

2.4.3 Potential Off-Site Sources of Contamination

Based upon a review of available information, the site and surrounding areas have historically been associated with industrial activity. Degradation of groundwater in the area has been documented. As discussed in Section 2.3, potential off-site sources of groundwater contamination include the Ruco Polymer Corporation site located to the northwest of the Structural Test Hangar/Plant 5 site and the NWIRP located to the north-northeast.

In addition, as discussed in Section 2.3, the USGS report summarizing the investigation of groundwater quality in the Bethpage-Hicksville Levittown area identified the presence of a plume of groundwater contamination beneath and extending southward from the Ruco Polymer Corporation, NWIRP and Grumman Bethpage Facility sites. Maps delineating the areal extent of the plume indicate that the plume was present beneath the Structural Test Hangars/Plant 5 site in 1987. Therefore, groundwater quality on-site is a potential area of environmental concern.

2.5 Phase I Site Assessment Conclusions and Recommendations

This subsection provides recommendations for additional investigative activities (Phase II Site Assessment) based on the findings of the Phase I Site Assessment. As discussed above, Tables 2-1 and 2-2 identify the potential areas of environmental concern at the site.

TABLE 2-1
NORTHROP GRUMMAN CORPORATION
PHASE I/II SITE ASSESSMENT - STRUCTURAL TEST HANGARS/PLANT 5
POTENTIAL AREAS OF ENVIRONMENTAL CONCERN - INTERIOR AREAS

AOC* No.	POTENTIAL AREA OF ENVIRONMENTAL CONCERN	FORMER USE(S)	CURRENT USE(S)	ENVIRONMENTAL CONCERN(S)
I-1	Sump in Condensate Pit	Condensate Pit	Condensate Pit	Surficial staining with numerous cracks in concrete floor, oily residue on floor, sump in southwest corner of pit (under Transformer Room) appeared to be partially earthen
I-2	Pit Beneath Load Cell Calibration Machine	Machine Pit, Engineering Structures Laboratory Testing Machine Pit	Load Cell Calibration Machine Area	Pit located beneath load cell calibration machine, oil staining at base of machine and on metal plates covering pit, pit may contain oil, integrity of pit floor unknown
I-3	Slop Sink in Structural Test Area	Test Laboratory, Engineering Structures Laboratory	Structural Test Area	Location of existing slop sink, potential discharges of constituents of concern to slop sink which may have discharged to dry well, sanitary sewer system or stormwater sewer system.
I-4	Slop Sink in South Structural Test Hangar	Testing Areas/Platforms in South Structural Test Hangar	Testing Areas/Platforms in South Structural Test Hangar	Slop sink located in northwest corner of Hangar, potential discharges of constituents of concern to slop sink which may have discharged to dry well, sanitary sewer system or stormwater sewer system
I-5	Floor Drains in South Structural Test Hangar	Testing Areas/Platforms in South Structural Test Hangar	Testing Areas/Platforms in South Structural Test Hangar	Two existing floor drains near Hangar door along south side of Hangar, one former floor drain removed, potential spills and discharges of constituents of concern to floor drains which may have discharged to dry well, sanitary sewer system or stormwater sewer system
I-6	Dry Wells in Pipe Trenches in South Structural Test Hangar	Testing Areas/Platforms in South Structural Test Hangar	Testing Areas/Platforms in South Structural Test Hangar	Three existing dry wells located at east end of each pipe trench in Hangar, potential discharges of constituents of concern to dry wells
I-7	Dry Well Beneath Fatigue Test Area	Testing Area/Platform in Hangar Area, Space Simulation Engineering Laboratory	Fatigue Test Area	Existing manhole in floor and possible location of former dry well and condensate drip pit; potential spills and discharges of constituents of concern to dry well and pit beneath floor or to sanitary sewer system or stormwater sewer system
I-8	Pit in Hydraulic Laboratory	Electrical Laboratory, Space Simulation Engineering Laboratory	Hydraulic Laboratory	Surficial staining with oily residue on linoleum tile floor and surrounding metal plate covering pit beneath floor; use and integrity of pit unknown, former floor drain in northeast corner of lab removed and replaced by pipe trench
I-9	Degreasing Machine Area	Varsol Degreasing Machine, suspected to be Tank No. 192 - Trichloroethene Vapor Degreaser	Varsol Degreasing Machine	Varsol Degreasing Machine located in northwest corner of South Structural Test Hangar suspected to be former trichloroethene vapor degreaser, surficial staining around machine and oily residue on floor surrounding the machine
I-10	Pipe Trenches in Hydraulic Pump Room	Machine Area, Electrical Testing, Static and Fatigue Test, Pump Room	Hydraulic Pump Room	Hydraulic oil, absorbent materials and residue in pipe trenches; integrity of trench floor unknown
I-11	Floor Drain in Hydraulic Pump Room	Machine Area, Electrical Testing, Static and Fatigue Test, Pump Room	Hydraulic Pump Room	Floor drain located in Pump Room, potential discharges of constituents of concern to floor drain which may have discharged to dry well, sanitary sewer system or stormwater sewer system
I-12	Slop Sink in Load Cell Calibration Lab	Instrument Room, Metallurgical Lab, Dark Room/Office Area	Load Cell Calibration Lab	Slop sink located in southwest corner of room; potential discharges of constituents of concern to slop sink which may have discharged to dry well, sanitary sewer system or stormwater sewer system, wood floor exposed adjacent to sink appeared to be hollow beneath
I-13	Hydraulic Storage Room	Heat Treatment Room, Chrome Plating Area	Hydraulic Storage Room	Surficial staining with numerous cracks and pitting in concrete floor, oily residue on floor, locations of former Tank (ASTs) Nos. 526, 529, 623 and 992 which contained chrome plating, stripping and rinse solutions and umchrome wax
I-14	Slop Sink in North Structural Test Hangar	Testing Areas/Platforms in North Structural Test Hangar	Testing Areas/Platforms in North Structural Test Hangar	Slop sink located in northeast corner of Hangar, potential discharges of constituents of concern to slop sink which may have discharged to dry well, sanitary sewer system or stormwater sewer system
I-15	Floor Drains in Pipe Trenches in North Structural Test Hangar	Testing Areas/Platforms in North Structural Test Hangar	Testing Areas/Platforms in North Structural Test Hangar	Location of two floor drains at end of west and east pipe trenches unknown (possibly removed), potential discharges of constituents of concern to these floor drains which may have discharged to dry well, sanitary sewer system or stormwater sewer system

TABLE 2-1 (continued)
NORTHROP GRUMMAN CORPORATION
PHASE I/II SITE ASSESSMENT - STRUCTURAL TEST HANGARS/PLANT 5
POTENTIAL AREAS OF ENVIRONMENTAL CONCERN - INTERIOR AREAS

AOC * No.	POTENTIAL AREA OF ENVIRONMENTAL CONCERN	FORMER USE(S)	CURRENT USE(S)	ENVIRONMENTAL CONCERN(S)
I-16	Elevator Pump Room	Elevator Pump Room	Elevator Pump Room	Contains hydraulic pump and controls for elevator, heavy surficial oil staining around pump with drip pan, oily residue on floor surrounding pump
I-17	Freight Elevator Between North and South Structural Test Hangars	Freight Elevator	Freight Elevator	Hydraulic driven elevator, apparent leakage from oil line and plunger and jack, surficial oil staining on pit floor beneath elevator, potential oil leakage from jack casing beneath pit floor
I-18	Hydraulic Cylinder/Jack Storage Area	Machine Shop	Hydraulic Cylinder/Jack Storage Area	Wood block floor stained with wood blocks removed and displaced in several areas, integrity of concrete floor beneath wood block floor unknown
I-19	Machine Shop	Machine Shop	Machine Shop Area	Wood block floor heavily stained, integrity of concrete floor beneath wood block floor unknown
I-20	Weld Shop	Machine Shop	Welding Area	Cracks and pitting of concrete floor.
I-21	Slop Sink in Weld Shop	Static Test Storage, Machine Shop	Welding Area	Slop sink located in northwest corner of Welding Area, potential discharges of constituents of concern to slop sink which may have discharged to dry well, sanitary sewer system or stormwater sewer system
I-22	Floor Drain in Raw Metal Storage Area	Storage Area, Hydraulic Equipment and Repair, Raw Metal Storage Area	Raw Metal Storage Area	Existing floor drain located near northeast corner of room, potential spills and discharges of constituents of concern to floor drain which may have discharged to dry well, sanitary sewer system or stormwater sewer system
I-23	Funnel Drain in Generator Room	Generator Room	Generator Room	Potential discharges of constituents of concern to funnel drain which may have discharged to dry well, sanitary sewer system or stormwater sewer system
I-24	Drum Storage Area in Butler Building	Butler Building - Slosh Vibrator and Test Chamber	Butler Building - Storage Room	Drum storage area for oils and solvents in southwest corner of storage room, surficial staining with numerous cracks in concrete floor, oily residue on floor
I-25	Floor Drain in Butler Building	Butler Building - Slosh Vibrator and Test Chamber	Butler Building - Storage Room	Existing floor drain located near drum storage area, potential spills and discharges of constituents of concern which may have discharged to dry well, sanitary sewer system or stormwater sewer system
I-26	Wood Block Floor at Locations Throughout North and South Structural Test Hangars	Wood block floor at locations throughout North and South Structural Test Hangars	Wood block floor at locations throughout North and South Structural Test Hangars	Spills of constituents of concern and metal filings/cuttings to wood block floor. In the future, if wood block is to be removed, waste characterization sampling should be conducted.
I-27	Pipe/Utility Trenches in North and South Structural Test Hangars	Pipe/Utility Trenches in North and South Structural Test Hangars	Pipe/Utility Trenches in North and South Structural Test Hangars	Hydraulic oil, absorbent materials and residue in pipe trenches; integrity of trench floor unknown.
I-28	Slop Sink in Engineering Mezzanine	Slop sink	Slop sink	Existing slop sink located in janitors closet, potential discharges of constituents of concern which may have discharged to dry well, sanitary sewer system or stormwater sewer system.
I-29	Slop Sinks in First Mezzanine	Slop sinks	Slop sinks	Two existing slop sinks located in janitors closets, potential discharges of constituents of concern which may have discharged to dry well, sanitary sewer system or stormwater sewer system
I-30	Slop Sinks and Floor Drain in Second Mezzanine	Slop sinks and floor drain	Slop sinks and floor drain	Two existing slop sinks located in janitors closets and one floor drain located adjacent to the Fan Room, potential discharges of constituents of concern which may have discharged to dry well, sanitary sewer system or stormwater sewer system

Notes:
* : Refer to Figure 2-4 for location of AOCs.

TABLE 2-2
NORTHROP GRUMMAN CORPORATION
PHASE I/II SITE ASSESSMENT - STRUCTURAL TEST HANGARS/PLANT 5
POTENTIAL AREAS OF ENVIRONMENTAL CONCERN - EXTERIOR AREAS

AOC* No.	POTENTIAL AREA OF ENVIRONMENTAL CONCERN	FORMER USE(S)	CURRENT USE(S)	ENVIRONMENTAL CONCERN(S)
E-1	Area of Former Waste Holding Tank - Tank No. 625	Location of aboveground storage tank (AST), Waste Holding Tank - Tank No. 625; AST was used for holding industrial wastewater from the former Chrome Plating Area in the Structural Test Hangar.	Tank No. 625 was removed; area is an alley between North Structural Test Hangar and Plant 5.	Potential releases of contaminants of concern; former location of Tank No. 625 which was used to store industrial wastewater including chrome plating, stripping and rinse solutions; surficial staining and cracked and pitted concrete in the vicinity of this former AST.
E-2	Area North of North Structural Test Hangar	Material and aircraft storage and staging; entrance apron to North Structural Test Hangar	Entrance apron to North Structural Test Hangar; steel and metal storage	Potential releases of contaminants of concern; surficial staining with numerous cracks observed in concrete surface.
E-3	Area at Northwest Corner of North Structural Test Hangar	Storage area	Steel and metal storage	Potential releases of contaminants of concern; evidence of former drum storage area; surficial staining with numerous cracks observed in concrete surface.
E-4	Area North of Electrical Switch Gear and Heat Exchanger Building	Storage area	Steel and metal storage	Potential releases of contaminants of concern; evidence of former drum storage area; surficial staining with numerous cracks observed in concrete surface.
E-5	Storage Area S52	Storage area S52 used for storage of hydraulic and lubricating oils, mineral spirits, etc.	Storage of drums containing DTE oil and nitrogen gas cylinders	Potential releases of contaminants of concern; drum storage area; surficial staining with numerous cracks observed in concrete surface.
E-6	Alley Between Butler Building and South Structural Test Hangar	Storage area	Storage of paints, sealants and adhesives	Potential releases of contaminants of concern; evidence of former drum storage area; existing container storage area; surficial staining
E-7	Area South of Butler Building	Storage area	Storage of drums containing DelVac 1330 motor oil	Potential releases of contaminants of concern; evidence of former drum storage area; existing drum storage area; surficial staining

Notes:
* : Refer to Figure 2-4 for location of AOCs.

Based upon the findings described in Section 2.4, recommendations for Phase II activities in each of the interior and exterior identified potential areas of environmental concern is provided in Tables 2-3 and 2-4, respectively. Tables 2-3 and 2-4 indicates the number of borings, number of samples and sampling intervals, and recommended analyses (target constituents) for each identified potential area of concern, or additional investigation activities recommended to be performed.

It should be noted that although groundwater quality remains an environmental concern, specific recommendations regarding groundwater are not included as part of this site assessment, since groundwater quality concerns are being addressed as part of the Plant 5 Phase I Site Assessment.

TABLE 2-3
NORTHROP GRUMMAN CORPORATION
PHASE I/II SITE ASSESSMENT - STRUCTURAL TEST HANGARS/PLANT 5
RECOMMENDED INITIAL PHASE II SITE ASSESSMENT FIELD INVESTIGATION ACTIVITIES
INTERIOR AREAS

AOC* No.	POTENTIAL AREA OF ENVIRONMENTAL CONCERN	RECOMMENDED INITIAL PHASE II INVESTIGATION FIELD ACTIVITIES											
		Soil Borings											Constr. Dwg. Review & Flush/Dye Testing
		No. of Borings	No. of Samples	Sampling Intervals	No. of Samples for Analysis	Recommended Analyses** 1	2	3	4	5	6	
I-1	Sump in Condensate Pit	1	2	8'-10' and 10'-12'	2	■	■	■	■	■	--	--
I-2	Pit Beneath Load Cell Calibration Machine	1	2	5'-7' and 7'-9'	2	■	■	■	■	--	--	--
I-3	Slop Sink in Structural Test Area	--	--	--	--	--	--	--	--	--	--	■
I-4	Slop Sink in South Structural Test Hangar	--	--	--	--	--	--	--	--	--	--	■
I-5	Floor Drains in South Structural Test Hangar	--	--	--	--	--	--	--	--	--	--	■
I-6	Dry Wells in Pipe Trenches in South Structural Test Hangar	3	6	5'-7' and 7'-9'	6	■	■	■	■	■	--	--
I-7	Dry Well Beneath Fatigue Test Area	1	2	5'-7' and 7'-9'	2	■	■	■	■	--	--	--
I-8	Pit in Hydraulic Laboratory	1	2	2'-4' and 4'-6'	2	■	■	■	■	--	--	--
I-9	Degreasing Machine Area	1	2	0-2' and 2'-4'	2	■	■	■	■	--	--	--
I-10	Pipe Trenches in Hydraulic Pump Room	1	2	2'-4' and 4'-6'	2	--	■	■	■	--	--	--
I-11	Floor Drain in Hydraulic Pump Room	--	--	--	--	--	--	--	--	--	--	■
I-12	Slop Sink in Load Cell Calibration Lab	--	--	--	--	--	--	--	--	--	--	■
I-13	Hydraulic Storage Room	1	2	0-2' and 2'-4'	2	■	■	■	■	--	■	--
I-14	Slop Sink in North Structural Test Hangar	--	--	--	--	--	--	--	--	--	--	■
I-15	Floor Drains in Pipe Trenches in North Structural Test Hangar	--	--	--	--	--	--	--	--	--	--	TBD
I-16	Elevator Pump Room	1	2	0-2' and 2'-4'	2	--	■	■	■	--	--	--
I-17	Freight Elevator Between North and South Structural Test Hangars	2	4	6'-8', 8'-10' and 46'-48', 48'-50'	4	--	■	■	■	--	--	--

TABLE 2-3 (continued)
NORTHROP GRUMMAN CORPORATION
PHASE I/II SITE ASSESSMENT - STRUCTURAL TEST HANGARS/PLANT 5
RECOMMENDED INITIAL PHASE II SITE ASSESSMENT FIELD INVESTIGATION ACTIVITIES
INTERIOR AREAS

AOC* No.	POTENTIAL AREA OF ENVIRONMENTAL CONCERN	RECOMMENDED INITIAL PHASE II INVESTIGATION FIELD ACTIVITIES											
		Soil Borings											Constr. Dwg. Review & Flush/Dye Testing
		No. of Borings	No. of Samples	Sampling Intervals	No. of Samples for Analysis	Recommended Analyses** 1	2	3	4	5	6	
I-18	Hydraulic Cylinder Jack Storage Area	1	2	0-2' and 2'-4'	2	■	■	■	■	--	--	--
I-19	Machine Shop	1	2	0-2' and 2'-4'	2	■	■	■	■	--	--	--
I-20	Weld Shop	1	2	0-2' and 2'-4'	2	■	■	■	■	--	--	--
I-21	Slop Sink in Weld Shop	--	--	--	--	--	--	--	--	--	--	■
I-22	Floor Drain in Raw Metal Storage Area	--	--	--	--	--	--	--	--	--	--	■
I-23	Funnel Drain in Generator Room	--	--	--	--	--	--	--	--	--	--	■
I-24	Drum Storage Area in Butler Building	1	2	0-2' and 2'-4'	2	--	■	■	■	--	--	--
I-25	Floor Drain in Butler Building	--	--	--	--	--	--	--	--	--	--	■
I-26	Wood Block Floor at Locations Throughout North and South Structural Test Hangars	TBA	TBA	TBA	TBA	--	--	--	--	--	--	--
I-27	Pipe Utility Trenches in North and South Structural Test Hangars	TBD	TBD	TBD	TBD	--	--	--	--	--	--	--
I-28	Slop Sink in Engineering Mezzanine	--	--	--	--	--	--	--	--	--	--	■
I-29	Slop Sinks in First Mezzanine	--	--	--	--	--	--	--	--	--	--	■
I-30	Slop Sinks and Floor Drain in Second Mezzanine	--	--	--	--	--	--	--	--	--	--	■
	TOTALS	17	34	--	34							

****Target Constituents and Analytical Methods**

1. Priority Pollutant Metals (Methods 6010/7471)
2. VOCs (Method 8240) incl. those listed in STARS
3. SVOCs (Method 8270) incl. those listed in STARS
4. STARS Table 2 VOCs and SVOCs by TCLP
5. PCBs (Method 8080)
6. Cyanide (Method 9010)

Notes:

TBA : To be addressed by NGC at a later date, if necessary.
TBD : To be determined based upon further inspection of pipe/utility trenches.
* : Refer to Figure 2-4 for location of AOCs.

TABLE 2-4
NORTHROP GRUMMAN CORPORATION
PHASE I/II SITE ASSESSMENT - STRUCTURAL TEST HANGARS/PLANT 5
RECOMMENDED INITIAL PHASE II SITE ASSESSMENT FIELD INVESTIGATION ACTIVITIES
EXTERIOR AREAS

AOC* No.	POTENTIAL AREA OF ENVIRONMENTAL CONCERN	RECOMMENDED INITIAL PHASE II INVESTIGATION FIELD ACTIVITIES												
		Soil Borings												Constr. Dwg. Review & Flush/Dye Testing
		No. of Borings	No. of Samples	Sampling Intervals	No. of Samples for Analysis	Recommended Analyses **								
						1	2	3	4	5	6	7		
E-1	Area of Former Waste Holding Tank - Tank No. 625	1	2	0-2' and 2'-4'	2	■	■	■	■	--	--	■		--
E-2	Area North of North Structural Test Hangar	2	4	0-2' and 2'-4'	4	■	■	■	■	--	■	--		--
E-3	Area at Northwest Corner of North Structural Test Hangar	2	4	0-2' and 2'-4'	4	■	■	■	■	--	--	--		--
E-4	Area North of Electrical Switch Gear and Heat Exchanger Building	1	2	0-2' and 2'-4'	2	■	■	■	■	--	--	--		--
E-5	Storage Area S52	2	4	0-2' and 2'-4'	4	■	■	■	■	■	■	--		--
E-6	Alley Between Butler Building and South Structural Test Hangar	1	2	0-2' and 2'-4'	2	■	■	■	■	--	--	--		--
E-7	Area South of Butler Building	1	2	0-2' and 2'-4'	2	■	■	■	■	--	--	--		--
	TOTALS	10	20	--	20									

****Target Constituents and Analytical Methods**

1. Priority Pollutant Metals (Methods 6010/7471)
2. VOCs (Method 8240) incl. those listed in STARS
3. SVOCs (Method 8270) incl. those listed in STARS
4. STARS Table 2 VOCs and SVOCs by TCLP
5. PCBs (Method 8080)
6. Select Glycols (Method 8015)
7. Cyanide (Method 9010)

Notes:

* : Refer to Figure 2-4 for location of AOCs.

Section 3

3.0 INITIAL PHASE II SITE ASSESSMENT

This section provides a description of the field program activities conducted as part of the Initial Phase II Site Assessment at the Structural Test Hangars. A dedicated bound field log book, which is available in the project file, provides documentation of the field program activities which included air monitoring, installation of soil probes and a soil boring, collection of soil samples for laboratory analysis, and flush and dye testing activities conducted at the site during the field program.

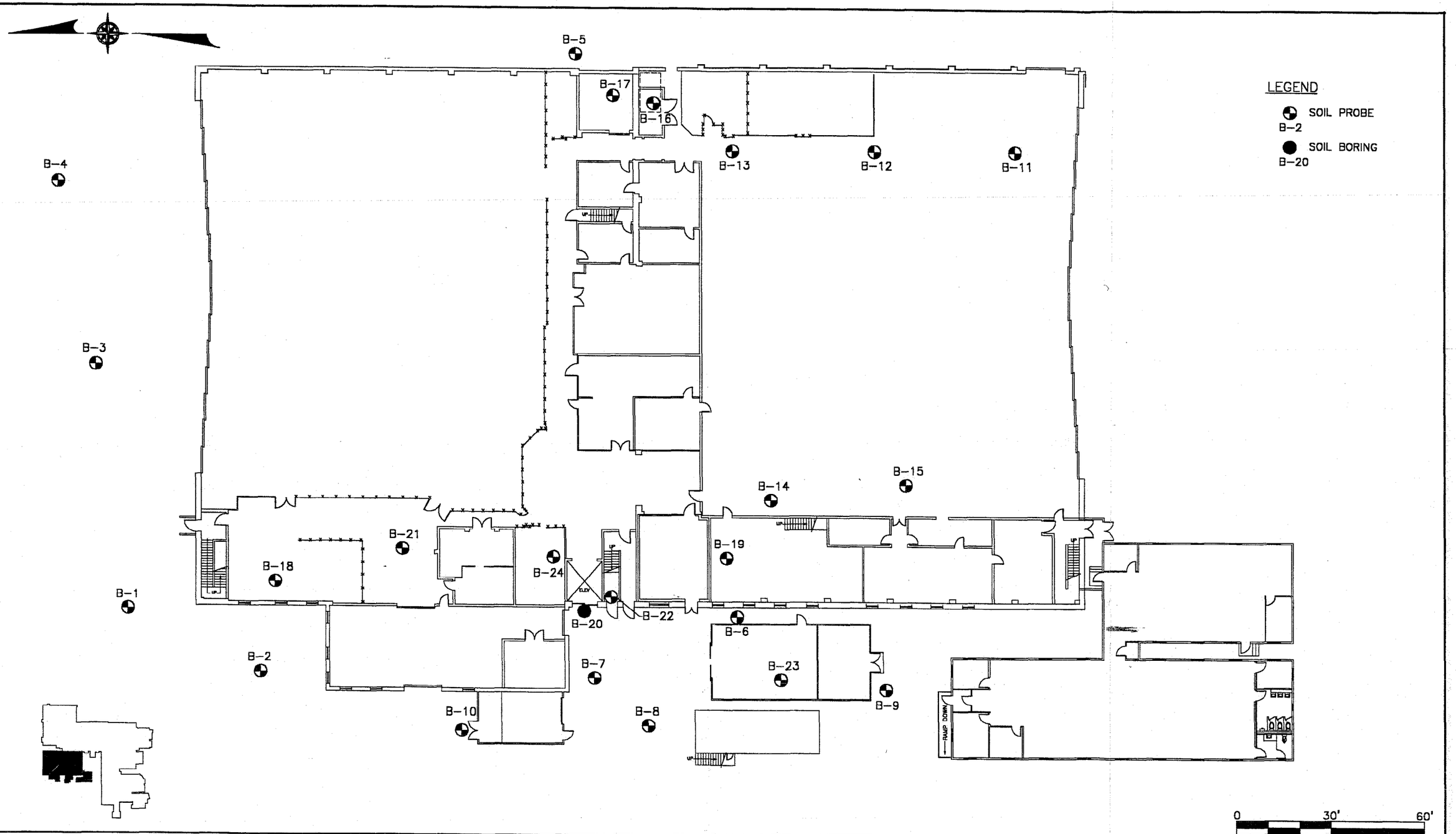
3.1 Field Program

3.1.1 Soil Sampling Program

Twenty-three soil probes, identified on Figure 3-1 as B-1 through B-19 and B-21 through B-24, and one soil boring, identified on Figure 3-1 as B-20, were advanced as described on Tables 3-1 and 3-2.

Soil probes were advanced manually utilizing Geoprobe tooling and an electric hammer-drill. The electric hammer-drill was equipped with Geoprobe tooling which consisted of a 1.5-inch outside diameter by 2-foot long soil probe sampler and drill rods. A 1-inch diameter clear PETG sample tube liner, dedicated to each soil probe sample, was utilized to secure the sample within the soil probe sampler. Each soil probe was advanced utilizing the electric hammer-drill by driving the soil probe sampler, sample tube liner and drill rods to the desired depth. The soil probe sampler was then mechanically lifted to the surface by a mechanical floor jack.

During advancement of the soil probes, monitoring for volatile organic vapors was conducted in the workers' breathing zone and at the probehole utilizing a photoionization detector (PID). Air monitoring results are documented in the project log book. Prior to use, the PID was calibrated utilizing a 100 ppm concentration of isobutylene gas. Equipment calibration was also documented in the project log book.



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NORTHROP GRUMMAN CORPORATION
BETHPAGE, NEW YORK
STRUCTURAL TEST HANGARS/PLANT 5 – PHASE I/II SITE ASSESSMENT

STRUCTURAL TEST HANGARS – INITIAL PHASE II
SOIL PROBE/BORING LOCATION MAP

FIGURE 3-1

TABLE 3-1
NORTHROP GRUMMAN CORPORATION
PHASE I/II SITE ASSESSMENT - STRUCTURAL TEST HANGARS/PLANT 5
INITIAL PHASE II SITE ASSESSMENT FIELD INVESTIGATION ACTIVITIES
INTERIOR AREAS

AOC NO.	BORING NO. *	LOCATION DESCRIPTION	INITIAL PHASE II INVESTIGATION FIELD ACTIVITIES											
			Soil Borings											*Construction Dwg. Review & Flush/Dye Testing*
			No. of Borings	No. of Samples	Sampling Intervals	No. of Samples Analyzed	Analytical Parameters** 1	2	3	4	5	6	
I-1	B-16	Sump in Condensate Pit	1	2	7'-9' and 9'-11'	2	■	■	■	■	■	--	--
I-3	--	Slop Sink in Structural Test Area	--	--	--	--	--	--	--	--	--	--	■
I-4	--	Slop Sink in South Structural Test Hangar	--	--	--	--	--	--	--	--	--	--	■
I-5	--	Floor Drains in South Structural Test Hangar	--	--	--	--	--	--	--	--	--	--	■
I-6	B-11, B-12 and B-13	Dry Wells in Pipe Trenches in South Structural Test Hangar	3	6	@B-11, 5'-7' & 7'-9', @B-12 & B-13, 4'-6' & 6'-8'	6	■	■	■	■	■	--	--
I-7	B-15	Dry Well Beneath Fatigue Test Area	1	1	6'-7' [1]	1	■	■	■	■	--	--	--
I-8	B-19	Pit in Hydraulic Laboratory	1	1	2'-4' [1]	1	■	■	■	■	--	--	--
I-9	B-14	Degreasing Machine Area	1	2	0-2' and 2'-4'	2	■	■	■	■	--	--	--
I-11	--	Floor Drain in Hydraulic Pump Room	--	--	--	--	--	--	--	--	--	--	■
I-12	--	Slop Sink in Load Cell Calibration Lab	--	--	--	--	--	--	--	--	--	--	■
I-13	B-17	Hydraulic Storage Room	1	2	0-2' and 2'-4'	2	■	■	■	■	--	■	--
I-14	--	Slop Sink in North Structural Test Hangar	--	--	--	--	--	--	--	--	--	--	■
I-16	B-22	Elevator Pump Room	1	2	0-2' and 2'-4'	2	--	■	■	■	--	--	--
I-17	B-20	Freight Elevator Between North and South Structural Test Hangars	1	2	46'-48' and 48'-50'	2	--	■	■	■	--	--	--
I-18	B-24	Hydraulic Cylinder/Jack Storage Area	1	1	0-2' [1]	1	■	■	■	■	--	--	--
I-19	B-21	Machine Shop	1	2	0-2' and 2'-4'	2	■	■	■	■	--	--	--
I-20	B-18	Weld Shop	1	2	0-2' and 2'-4'	2	■	■	■	■	--	--	--
I-21	--	Slop Sink in Weld Shop	--	--	--	--	--	--	--	--	--	--	■
I-22	--	Floor Drain in Raw Metal Storage Area	--	--	--	--	--	--	--	--	--	--	■
I-23	--	Funnel Drain in Generator Room	--	--	--	--	--	--	--	--	--	--	■
I-24	B-23	Drum Storage Area in Butler Building	1	2	0-2' and 2'-4'	2	--	■	■	■	--	--	--
I-25	--	Floor Drain in Butler Building	--	--	--	--	--	--	--	--	--	--	■
I-28	--	Slop Sink in Engineering Mezzanine	--	--	--	--	--	--	--	--	--	--	■
I-29	--	Slop Sinks in First Mezzanine	--	--	--	--	--	--	--	--	--	--	■
I-30	--	Slop Sinks and Floor Drain in Second Mezzanine	--	--	--	--	--	--	--	--	--	--	■
		TOTALS	**14**	**25**	**--**	**25**							

****Target Constituents and Analytical Methods**

1. Priority Pollutant Metals (Methods 6010/7471)
2. VOCs (Method 8240) - incl. those listed in STARS
3. SVOCs (Method 8270) - incl. those listed in STARS
4. STARS Table 2 VOCs and SVOCs by TCLP
5. PCBs (Method 8080)
6. Cyanide (Method 9010)

Notes:

* Refer to Figure 3-1 for location of borings

[1] Only the shallow soil sample was obtained due to subsurface obstructions

TABLE 3-2
NORTHROP GRUMMAN CORPORATION
PHASE I/II SITE ASSESSMENT - STRUCTURAL TEST HANGARS/PLANT 5
INITIAL PHASE II SITE ASSESSMENT FIELD INVESTIGATION ACTIVITIES
EXTERIOR AREAS

AOC NO.	BORING NO. *	LOCATION DESCRIPTION	INITIAL PHASE II INVESTIGATION FIELD ACTIVITIES										
			Soil Borings										
			No. of Borings	No. of Samples	Sampling Intervals	No. of Samples Analyzed	Analytical Parameters**						
							1	2	3	4	5	6	7
E-1	B-5	Area of Former Waste Holding Tank - Tank No. 625	1	2	0-2' and 2'-4'	2	■	■	■	■	--	--	■
E-2	B-3 and B-4	Area North of North Structural Test Hangar	2	4	0-2' and 2'-4'	4	■	■	■	■	--	■	--
E-3	B-1 and B-2	Area at Northwest Corner of North Structural Test Hangar	2	4	0-2' and 2'-4'	4	■	■	■	■	--	--	--
E-4	B-10	Area North of Electrical Switch Gear and Heat Exchanger Building	1	2	0-2' and 2'-4'	2	■	■	■	■	--	--	--
E-5	B-7 and B-8	Storage Area S52	2	4	0-2' and 2'-4'	4	■	■	■	■	■	■	--
E-6	B-6	Alley Between Butler Building and South Structural Test Hangar	1	2	0-2' and 2'-4'	2	■	■	■	■	--	--	--
E-7	B-9	Area South of Butler Building	1	2	0-2' and 2'-4'	2	■	■	■	■	--	--	--
		TOTALS	10	20	--	20							

****Target Constituents and Analytical Methods**

1. Priority Pollutant Metals (Methods 6010/7471)
2. VOCs (Method 8240) - incl. those listed in STARS
3. SVOCs (Method 8270) - incl. those listed in STARS
4. STARS Table 2 VOCs and SVOCs by TCLP
5. PCBs (Method 8080)
6. Select Glycols (Method 8015)
7. Cyanide (Method 9010)

Notes:

* Refer to Figure 3-1 for locations of borings.

All soil probe samples collected utilizing the electric hammer-drill were physically and visually characterized and inspected for the presence of staining, discoloration or odors and were screened for volatile organic vapors utilizing the PID. This information is presented on soil boring logs presented in Appendix B. All sampling equipment, excluding the PETG sample tube liners which were dedicated to each soil probe sample, was decontaminated between each sample location. Decontamination procedures consisted of an external alconox wash and tap water rinse, followed by a distilled/deionized water rinse.

One soil boring was advanced utilizing a drilling rig equipped with 6-1/4 inch hollow stem augers. Two soil samples were collected at this soil boring location at 2-foot intervals. Each sample was collected utilizing a 24-inch long stainless steel split spoon sampler which was driven into the soil with a 140 lb. safety hammer. The sampler was retrieved from the borehole and opened to remove the soil sample for physical and visual characterization, inspection for the presence of staining, discoloration or odors, screening for volatile organic vapors utilizing a PID, and retention for laboratory analysis.

All soil samples collected utilizing the 24-inch stainless steel split spoon sampler were physically and visually characterized and inspected for the presence of staining, discoloration or odors and were screened for volatile organic vapors utilizing the PID. This information is presented on soil boring logs presented in Appendix B. All soil boring sampling equipment was decontaminated prior to use. Decontamination procedures consisted of an external alconox wash and tap water rinse, followed by a distilled/deionized water rinse.

Due to active aircraft testing programs being conducted in the North and South Structural Test Hangars during the time of the investigation, inspections of pit/trench floors were hindered and could not be conducted until after the testing programs were completed. In addition, some areas could not be accessed due to the tests. Based upon the inspection of visible areas of the Pit Beneath Load Cell Calibration Machine, Pipe Trenches in Hydraulic Pump Room and Pipe/Utility Trenches in North and South Structural Test Hangars, it appeared that the integrity of

the pit/trench floors were not compromised (i.e., no cracks were noted). As a result, soil probes were not advanced in these areas during the Initial Phase II Site Assessment field program.

Also, based upon further inspection of the end of the west and east pipe trenches in the North Structural Test Hangar, suspected floor drains were not present. Therefore, construction drawing reviews and/or flush/dye testing activities were not conducted in these areas during the Initial Phase II Site Assessment field program. In addition, as directed by NGC, waste characterization sampling of the wood block floor at locations throughout the North and South Structural Test Hangars was not conducted during the Initial Phase II Site Assessment field program. According to NGC personnel, if in the future the wood block floor is to be removed, waste characterization sampling will be conducted at that time.

In addition, based upon further inspection of the pit floor beneath the Freight Elevator between the North and South Structural Test Hangars, the integrity of the pit floor did not appear to be compromised (i.e., no cracks were noted in the pit floor). As a result, soil samples from the 6 to 8-foot and 8 to 10-foot intervals (or 0 to 2 feet and 2 to 4 feet below the pit floor) were not collected during the Initial Phase II Site Assessment field program.

3.1.2 Flush/Dye Testing Activities

As described in Section 2, a review of construction drawings and flush/dye testing activities were conducted on floor drains, slop sinks and a funnel drain at the Structural Test Hangars in order to confirm connection/discharge to dry wells, sanitary sewer system or storm water sewer system. The construction drawing reviews and flush/dye testing activities were conducted as described on Table 3-1.

3.2 Findings

This section presents the findings of the Initial Phase II Site Assessment including a summary of the analytical results of the soil samples obtained during the Initial Phase II Site

Assessment field investigation. Soil sample results are compared to the criteria included in Appendix A of the New York State Department of Environmental Conservation (NYSDEC) Technical and Administrative Guidance Memorandum (TAGM) No. 4046 (referred to in this document as "NYSDEC TAGM criteria"), as well as the typical Eastern USA background soil contaminant concentration ranges included in the TAGM (referred to in this document as "Eastern USA background levels"). Those samples analyzed for VOCs and SVOCs listed in Tables 1 and 2 of Appendix B in NYSDEC's Spill Technology and Remediation Series (STARS) Memo #1 by Toxicity Characteristic Leaching Procedure (TCLP) were compared to the STARS Tables 1 and 2 TCLP Extraction guidance values.

In addition to the criteria for *individual* compounds, the criterion for *total* SVOCs of 500,000 ug/kg and the criterion for *total* CaPAHs of 10,000 ug/kg, as presented in the TAGM, were utilized.

Although there are no NYSDEC TAGM criteria for glycols (i.e., ethylene glycol and propylene glycol), discussions with NYSDEC representatives indicate that a level of 50,000 ug/kg has been utilized. In addition, the NYSDEC TAGM criteria for cyanide is identified as "SB" (site background) and there are no Eastern USA background concentration levels for cyanide. Therefore, a NYSDEC "Contained-In" action level of 1,600 mg/kg for total cyanide has been utilized.

3.2.1 Soil Sampling Program

As previously stated, a total of twenty-three soil probes (B-1 through B-19 and B-21 through B-24) and one soil boring (B-20) were advanced with 45 subsurface soil samples collected and analyzed for the analytical parameters shown on Tables 3-1 and 3-2 during the Initial Phase II Site Assessment field investigation.

The analytical results for the soil samples collected and analyzed for volatile organic compounds (Method 8240), semivolatile organic compounds (Method 8270), STARS volatile

and semivolatile organic compounds by TCLP, select glycols (Method 8015), polychlorinated biphenyls (Method 8080) and priority pollutant metals (Method 6010/7471) and cyanide (Method 9010) are shown on Tables C-1 through C-6 in Appendix C, respectively, and are summarized as follows:

Volatile Organic Compounds

The analytical results for the soil samples collected and analyzed for volatile organic compounds are shown on Table C-1 in Appendix C and are summarized as follows:

- VOCs were not detected at concentrations exceeding NYSDEC TAGM criteria.

Semivolatile Organic Compounds

The analytical results for the soil samples collected and analyzed for semivolatile organic compounds are shown on Table C-2 in Appendix C and are summarized as follows:

- Phenol was detected at concentrations which exceeded NYSDEC TAGM criteria in soil samples B-13 (6'-8'), B-14 (0-2' and 2'-4') and B-16 (7'-9').
- Benzo(a)anthracene was detected at concentrations which exceeded NYSDEC TAGM criteria in soil samples B-1 (0-2'), B-2 (0-2'), B-3 (0-2'), B-9 (0-2'), B-10 (0-2' and 2'-4'), B-16 (7'-9') and B-22 (0-2').
- Chrysene was detected at concentrations which exceeded NYSDEC TAGM criteria in soil samples B-1 (0-2'), B-2 (0-2'), B-10 (0-2' and 2'-4') and B-16 (7'-9').
- Benzo(b)fluoranthene was detected at concentrations which exceeded NYSDEC TAGM criteria in soil samples B-10 (0-2' and 2'-4') and B-16 (7'-9').
- Benzo(k)fluoranthene was detected at a concentration which exceeded NYSDEC TAGM criteria in soil sample B-10 (2'-4')
- Benzo(a)pyrene was detected at concentrations which exceeded NYSDEC TAGM criteria in soil samples B-1 (0-2'), B-2 (0-2'), B-3 (0-2'), B-4 (0-2'), B-5 (0-2'), B-8 (0-2'), B-9 (0-2'), B-10 (0-2' and 2'-4'), B-16 (7'-9'), B-22 (0-2' and 2'-4') and B-23 (0-2').

- Indeno(1,2,3-cd)pyrene was detected at a concentration which exceeded NYSDEC TAGM criteria in soil sample B-10 (2'-4').

- Dibenzo(a,h)anthracene was detected at concentrations which exceeded NYSDEC TAGM criteria in soil samples B-1 (0-2'), B-2 (0-2'), B-3 (0-2'), B-9 (0-2'), B-10 (0-2' and 2'-4'), B-16 (7'-9') and B-22 (0-2').

As indicated above, although there were several SVOCs detected at concentrations that exceeded the NYSDEC TAGM criteria for *individual* compounds, the criterion for *total* SVOCs of 500,000 ug/kg was not exceeded. However, the criterion for *total* CaPAHs of 10,000 ug/kg was exceeded in soil sample B-10 (2'-4').

STARS Tables 1 and 2 Volatile and Semivolatile Organic Compounds - TCLP Analysis

The analytical results for the soil samples collected and analyzed for STARS Tables 1 and 2 volatile and semivolatile organic compounds - TCLP analysis are shown on Table C-3 in Appendix C and are summarized as follows:

- STARS VOCs and SVOCs by TCLP were not detected at concentrations exceeding STARS Tables 1 and 2 TCLP Extraction guidance values.

Select Glycols

The analytical results for the soil samples collected and analyzed for select glycols are shown on Table C-4 in Appendix C and are summarized as follows:

- Ethylene glycol was found at a concentration of 4,780 ug/kg in soil sample B-4 (2'-4'), which is below the detection limit. Therefore, the value is estimated.

Although there are no NYSDEC TAGM criteria for glycols (i.e., ethylene glycol and propylene glycol), discussions with NYSDEC representatives indicate that a level of 50,000 ug/kg has been utilized.

Polychlorinated Biphenyls (PCBs)

The analytical results for the soil samples collected and analyzed for polychlorinated biphenyls (PCBs) are shown on Table C-5 in Appendix C and are summarized as follows:

- Aroclor 1254 and Aroclor 1248 were detected at concentrations of 84 ug/kg and 200 ug/kg in soil samples B-7 (0-2') and B-16 (7'-9'), respectively, which are well below the NYSDEC criteria of 10,000 ug/kg for total PCBs.

Priority Pollutant Metals and Cyanide

The analytical results for the soil samples collected and analyzed for priority pollutant metals and cyanide are shown on Table C-6 in Appendix C and are summarized as follows:

- Chromium was detected at a concentration of 64.9 mg/kg in soil sample B-10 (0-2') which is above the Eastern USA background level of 50 mg/kg for this constituent.
- Copper was detected at concentrations of 66.0 mg/kg and 105 mg/kg in soil samples B-13 (6'-8') and B-16 (7'-9'), respectively, which are above the Eastern USA background level of 50 mg/kg for this constituent.
- Mercury was detected at concentrations of 0.21 mg/kg, 0.23 mg/kg, 0.35 mg/kg, 0.73 mg/kg and 0.21 mg/kg in soil samples B-13 (4'-6'), B-13 (6'-8'), B-16 (7'-9'), B-19 (2'-4') and B-19 (4'-6'), respectively, which are above the Eastern USA background level of 0.20 mg/kg for this constituent.
- Zinc was detected at concentrations of 163 mg/kg, 103 mg/kg, 111 mg/kg, 70.8 mg/kg and 319 mg/kg in soil samples B-11 (5'-7'), B-12 (4'-6'), B-12 (6'-8'), B-13 (6'-8') and B-16 (7'-9'), respectively, which are above the Eastern USA background level of 50 mg/kg for this constituent.

In addition, cyanide was not detected in soil samples B-5 (0-2' and 2'-4') and B-17 (0-2' and 2'-4').

3.2.2 Flush/Dye Testing Activities

As described in Section 3.1.2, construction drawings were reviewed and flush/dye testing activities were conducted on floor drains, slop sinks and a funnel drain at the Structural Test Hangars in order to confirm connection/discharge to dry wells, sanitary sewer system or storm water sewer system.

Based upon the results of the construction drawing reviews and flush/dye testing activities, the following floor drains, slops sinks and funnel drain confirm discharge to the sanitary sewer system:

- Slop Sink in Structural Test Area
- Floor Drain in Hydraulic Pump Room
- Slop Sink in Load Cell Calibration Lab
- Slop Sink in Weld Shop
- Floor Drain in Raw Metal Storage
- Funnel Drain in Generator Room
- Slop Sink in Engineering Mezzanine
- Slop Sinks in First Mezzanine
- Slop Sinks in Second Mezzanine

However, the following floor drains and slops sinks confirm discharge to the storm water sewer system:

- Slop Sink in South Structural Test Hangar
- Floor Drains in South Structural Test Hangar
- Slop Sink in North Structural Test Hangar
- Floor Drain in Butler Building

Also, it was determined that the floor drain located on the Second Mezzanine adjacent to the Fan Room discharges to a pipe which is capped on the First Mezzanine below.

3.2.3 Data Validation

Soil samples were collected from the Northrop Grumman Structural Test Hangars in support of a Phase II field investigation. The samples were analyzed for VOCs, SVOCs, STARS Table 2 constituents by TCLP, priority pollutant metals, select glycols and cyanide. The analyses were performed in accordance with USEPA SW846 methodologies and NYSDEC Quality Assurance/Quality Control (QA/QC) requirements by Envirotech Research, Inc., a subcontractor to Dvirka and Bartilucci Consulting Engineers. Twenty percent of the sample results in the data packages submitted by Envirotech Research have been reviewed in accordance with NYSDEC QA/QC requirements yielding a "20% validation."

All sample analysis was performed within the method specified holding times and all QA/QC measures were met (i.e., surrogate recoveries, blanks, calibrations, etc.).

All methylene chloride results have been qualified as non-detect due to laboratory contamination. That is, the method blanks associated with the samples also contained methylene chloride and the sample concentrations were less than five times the concentration found in the blank.

The soil boring samples were analyzed for the STARS Table 2 constituents. The analysis of the volatile fraction was performed by two different methods: Method 8240 and Method 8010 for the TCLP analysis. The two methods differ in that Method 8240 is run on a gas chromatograph (GC)/mass spectra (MS) and Method 8010 is run on a GC. The GC/MS identifies peaks (compounds) by using retention times and mass spectra (ions) while the GC only utilizes retention times, therefore, rendering the GC/MS results slightly more reliable. In several of the samples analyzed by TCLP by Method 8010, trace amounts of volatile compounds were detected that were not detected in the Method 8240 analysis for that sample. This occurred in the

following samples: B-4 (2'-4'), B-7 (0-2'), B-12 (6'-8'), B-17 (0-2') and B-24 (0-2'). These compounds have been flagged non-detect in the TCLP analysis and attributed to interferences from the TCLP extraction solvents.

Isopropyl-benzene was detected in several samples analyzed by TCLP by Method 8010 but not by Method 8240. This occurred in the following samples: B-5 (0-2' and 2'-4'), B-6 (0-2'), B-12 (6'-8') and B-18 (0-2'). Based upon a review of the Method 8240 chromatographs, a peak was indicated at the same retention time as isopropyl-benzene; however, the mass spectra (MS) does not match that of isopropyl-benzene but rather an unidentified compound. Therefore, isopropyl-benzene was not reported by Method 8240. In addition, the data for the TCLP analysis by Method 8010 (run by GC) also indicates a peak of an unidentified compound at the same retention time as the unidentified compound found by the Method 8240 MS. Therefore, isopropyl-benzene has been qualified as non-detect.

No other problems were found with the results and all data is deemed valid and usable for environmental assessment purposes as qualified above.

3.3 Conclusions and Recommendations

Based upon the findings of the Initial Phase II Site Assessment field investigation discussed in Section 3.2, conclusions and recommendations are presented in this section regarding the need for further investigation activities and any remedial actions, if necessary, at the Structural Test Hangars site.

In support of providing conclusions and technical recommendations with regard to the level and degree to which remediation is required, we have relied on the Technical and Administrative Guidance Memorandum (TAGM) No. 4046 - Determination of Soil Cleanup Objectives and Cleanup Levels dated January 24, 1994 published by the New York State Department of Environmental Conservation (NYSDEC).

As discussed in the introduction of the TAGM, the document is designed to provide a basis and procedure for NYSDEC Project Managers at "...individual Federal Superfund, State Superfund, 1986 EQBA Title 3 and Responsible Party (RP) sites..." to determine soil cleanup levels. The TAGM provide a number of methods to determine the degree to which these sites are cleaned up including recommended soil cleanup objectives (NYSDEC TAGM criteria) and Eastern USA background concentrations.

The Structural Test Hangar site is not a Federal Superfund or State Superfund site nor is it an RP or 1986 EQBA Title 3 property. However, we believe it is reasonable to establish the NYSDEC TAGM criteria for VOCs, SVOCs and total PCBs and the Eastern USA background levels for metals, as presented in the TAGM, as the levels of cleanup for the Structural Test Hangar site. In addition, the proposed revised NYSDEC TAGM criteria for cadmium and chromium were established as the levels of cleanup at the Structural Test Hangars site for these metals. Also, the TCLP Extraction guidance values listed in Tables 1 and 2, "Guidance Values for Fuel Oil Contaminated Soil," of Appendix B of NYSDEC's STARS Memo #1 were utilized for soil cleanup levels at the Structural Test Hangars site.

In addition to the criteria for *individual* compounds, the criterion for *total* SVOCs of 500,000 ug/kg and the criterion for *total* CaPAHs of 10,000 ug/kg, as presented in the TAGM, were utilized.

Although there are no NYSDEC TAGM criteria for glycols (i.e., ethylene glycol and propylene glycol), discussions with NYSDEC representatives indicate that a level of 50,000 ug/kg has been utilized. In addition, the NYSDEC TAGM criteria for cyanide is identified as "SB" (site background) and there are no Eastern USA background concentration levels for cyanide.

3.3.1 Soil Sampling Program

Conclusions

As discussed in Section 3.2.1, a total of 45 subsurface soil samples were collected at twenty-three soil probe and one soil boring locations and analyzed for volatile organic compounds (Method 8240), semivolatile organic compounds (Method 8270), STARS volatile and semivolatile organic compounds by TCLP, select glycols (Method 8015), polychlorinated biphenyls (Method 8080) and priority pollutant metals (Method 6010/7471) and cyanide (Method 9010) during the Initial Phase II Site Assessment field investigation.

Based upon the analytical results, VOCs were not detected at concentrations exceeding NYSDEC TAGM criteria. In addition, although there were several SVOCs detected at concentrations that exceeded the NYSDEC TAGM criteria for *individual* compounds, the criterion for *total* SVOCs of 500,000 ug/kg was not exceeded. However, the criterion for *total* CaPAHs of 10,000 ug/kg was exceeded in the 2'-4' soil sample collected at soil probe B-10 located at the Area North of Electrical Switch Gear and Heat Exchanger Building. As a result, it appears that further investigation at this location is warranted.

The STARS VOCs and SVOCs by TCLP were not detected at concentrations which exceeded STARS Tables 1 and 2 TCLP Extraction guidance values.

In addition, ethylene glycol, was detected at a low level (i.e., < 50,000 ug/kg) in the 2'-4' soil sample collected at soil probe B-4 located in the Area North of the North Structural Test Hangar and PCBs were detected at low levels (i.e., < 10,000 ug/kg for total PCBs) in the 0-2' and 7'-9' soil samples collected at soil probes B-7 and B-16 located at the Area South of the Butler Building and the Sump in Condensate Pit, respectively.

Copper and zinc were detected in several soil samples at concentrations which exceeded Eastern USA background level of 50 mg/kg for these constituents. However, it is important to

note that neither copper nor zinc are classified as RCRA metals, that is, metals which in elevated concentrations could classify a waste as a hazardous waste. In addition, neither elemental copper nor zinc are identified as hazardous constituents in Appendix 23 of the NYSDEC's regulations found at 6 NYCRR Part 371. As a result, copper and zinc do not appear to warrant further investigation.

However, chromium was detected in the 0-2' soil sample collected at soil probe B-10 located at the Area North of Electrical Switch Gear and Heat Exchanger Building at a concentration which exceeded the Eastern USA background level of 50 mg/kg for this constituent. In addition, mercury was detected in the 4'-6' and 6'-8' soil samples collected at soil probe B-13; the 7'-9' soil sample collected at soil probe B-16 and; the 2'-4' and 4'-6' soil samples collected at soil probe B-19 located at the Dry Well in Pipe Trench in South Structural Test Hangar, Sump in Condensate Pit and at the Pit in Hydraulic Laboratory, respectively, at concentrations which exceeded the Eastern USA background level of 0.20 mg/kg for this constituent. It should be noted that mercury was undetected in the deeper (i.e., 9'-11') soil sample collected at soil probe B-16 located in the Sump in Condensate Pit. As a result, it appears that further investigation at soil probe locations B-10, B-13 and B-19 is warranted and remediation of the soil in the vicinity of soil probe B-16 is warranted.

Also, cyanide was undetected in the soil samples collected at soil probes B-5 and B-17 located in the Area of Former Waste Holding Tank No. 625 and the Hydraulic Storage Room, respectively.

Recommendations

Based upon the findings of the Initial Phase II Site Assessment field investigation, further investigation is warranted at soil probes B-10, B-13 and B-19 located in the Area North of Electrical Switch Gear and Heat Exchanger Building, Dry Well in Pipe Trench in South Structural Test Hangar and Pit in Hydraulic Laboratory, respectively.

Further investigation is warranted in the Area North of Electrical Switch Gear and Heat Exchanger Building due to elevated levels of SVOCs (i.e., *total* CaPAHs > 10,000 ug/kg) and chromium (i.e., > 50 mg/kg) detected in the 2'-4' and 0-2' soil samples, respectively, collected at soil probe B-10. In addition, further investigation is warranted at the Dry Well in Pipe Trench in South Structural Test Hangar and Pit in Hydraulic Laboratory due to the elevated levels of mercury (i.e., > 0.20 mg/kg) detected in the 4'-6' and 6'-8' soil samples collected at soil probe B-13 and the 2'-4' and 4'-6' soil samples collected at soil probe B-19, respectively.

Accordingly, Table 3-3 presents the recommended Supplemental Phase II Site Assessment field investigation activities for the Area North of Electrical Switch Gear and Heat Exchanger Building, Dry Well in Pipe Trench in South Structural Test Hangar and Pit in Hydraulic Laboratory.

In addition, as part of site remediation activities to be conducted subsequent to the recommended Supplemental Phase II Site Assessment field investigation activities discussed above, it is recommended that a minimum of approximately 2 feet of soil be excavated from within the Sump in Condensate Pit in the vicinity of soil probe B-16 due to the elevated level of mercury and zinc detected in the 7'-9' soil sample collected at soil probe B-16 during the Initial Phase II Site Assessment field investigation activities. In addition, the excavated material should be properly containerized, transported and disposed of off-site. Subsequent to the removal of the contaminated soil, the excavation should be backfilled with clean sand backfill material.

Also, although zinc was observed at elevated levels in soil samples B-11 (5'-7'), B-12 (4'-6' and 6'-8') and B-13 (6'-8') collected at soil probes B-11, B-12 and B-13 located in the Dry Wells in Pipe Trench in South Structural Test Hangar during the Initial Phase II Site Assessment field investigation activities, it is more important to note that due to the potential discharge of contaminants of concern to these dry wells, remediation and closure of these dry wells in accordance with the USEPA UIC program is required.

TABLE 3-3
NORTHROP GRUMMAN CORPORATION
PHASE I/II SITE ASSESSMENT - STRUCTURAL TEST HANGARS/PLANT 5
RECOMMENDED SUPPLEMENTAL PHASE II SITE ASSESSMENT FIELD INVESTIGATION ACTIVITIES
INTERIOR AND EXTERIOR AREAS

AOC NO.	AREA OF ENVIRONMENTAL CONCERN	INITIAL PHASE II BORING ID. *	RECOMMENDED SUPPLEMENTAL PHASE II INVESTIGATION ACTIVITIES	Soil Borings				Recommended Analyses **				
				No. of Borings	No. of Samples	Sampling Intervals	No. of Samples for Analysis	1	2	3	4	5
I-5	Dry Well in Pipe Trench in South Structural Test Hangar	B-13	Advance one boring adjacent to B-13 to a depth of 12 feet and collect soil samples at 8'-10' and 10'-12' for laboratory analysis in order to determine the vertical extent of mercury impacted soil.	1	2	8'-10' and 10'-12'	2	--	--	--	--	■
I-8	Pit in Hydraulic Laboratory	B-19	Advance one boring adjacent to B-19 to a depth of 8 feet and collect soil samples at 4'-6' and 6'-8' for laboratory analysis in order to determine the vertical extent of mercury impacted soil.	1	2	4'-6' and 6'-8'	2	--	--	--	--	■
E-4	Area North of Electrical Switch Gear and Heat Exchanger Building	B-10	Advance one boring adjacent to B-10 to a depth of 10 feet and collect soil samples at 4'-6', 6'-8' and 8'-10' for laboratory analysis in order to determine the vertical extent of SVOC impacted soil at B-10.	1	3	4'-6', 6'-8' and 8'-10'	3	--	■	--	--	--
			Advance four borings north, south, east and west of B-10 to a depth of 10 feet and collect soil samples at 0-2', 2'-4', 4'-6', 6'-8' and 8'-10' for laboratory analysis in order to determine the horizontal and vertical extent of SVOC and chromium impacted soil surrounding B-10.	4	8	0-2' and 2'-4'	8	--	■	--	■	--
					12	4'-6', 6'-8' and 8'-10'	12	--	■	--	--	--
			TOTALS	7	27	--	27					

****Target Constituents and Analytical Methods**

1. VOCs (Method 8240) including those listed in STARS
2. SVOCs (Method 8270) including those listed in STARS
3. Phenols (Method 8270)
4. Chromium (Method 6010)
5. Mercury (Method 7471)

Notes:

*: Refer to Figure 3-1 for locations of borings.

3.3.2 Flush/Dye Testing Activities

Conclusions

As discussed in Section 3.1.2, construction drawings were reviewed and flush/dye testing activities were conducted on floor drains, slop sinks and a funnel drain at the Structural Test Hangars in order to confirm connection/discharge to dry wells, sanitary sewer system or storm water sewer system.

Based upon the findings of the construction drawing reviews and flush/dye testing activities, the following floor drains, slops sinks and funnel drain confirm discharge to the sanitary sewer system:

- Slop Sink in Structural Test Area
- Floor Drain in Hydraulic Pump Room
- Slop Sink in Load Cell Calibration Lab
- Slop Sink in Weld Shop
- Floor Drain in Raw Metal Storage
- Funnel Drain in Generator Room
- Slop Sink in Engineering Mezzanine
- Slop Sinks in First Mezzanine
- Slop Sinks in Second Mezzanine

However, the following floor drains and slops sinks confirm discharge to the storm water sewer system:

- Slop Sink in South Structural Test Hangar
- Floor Drains in South Structural Test Hangar
- Slop Sink in North Structural Test Hangar
- Floor Drain in Butler Building

Also, it was determined that the floor drain located on the Second Mezzanine adjacent to the Fan Room discharges to a pipe which is capped on the First Mezzanine below.

Recommendations

Based upon the results of the construction drawing reviews and flush/dye testing activities, no further investigation and/or remediation activities are warranted at the following floor drains, slops sinks and funnel drain which confirm discharge to the sanitary sewer system:

- Slop Sink in Structural Test Area
- Floor Drain in Hydraulic Pump Room
- Slop Sink in Load Cell Calibration Lab
- Slop Sink in Weld Shop
- Floor Drain in Raw Metal Storage
- Funnel Drain in Generator Room
- Slop Sink in Engineering Mezzanine
- Slop Sinks in First Mezzanine
- Slop Sinks in Second Mezzanine

Also, it was determined that the floor drain located on the Second Mezzanine adjacent to the Fan Room discharges to a pipe which is capped on the First Mezzanine below.

NGC's State Pollutant Discharge Elimination System (SPDES) Permit No. NY-009 6792 permits the discharge of "Non-Contact Cooling Water and Stormwater" from Plant 5 to a recharge basin identified as discharge point "Outfall 006". In addition, in accordance with the United States Environmental Protection Agency (USEPA) and Nassau County Heath Department (NCDH) Underground Injection Control (UIC) program, an injection well is defined as "any bored, drilled or driven shaft, or a dug hole whose depth is greater than its largest surface dimension."

Based on the above, it is recommended that the following floor drains and slops sinks, which are not specifically identified in the Plant 5 SPDES Permit and/or a USEPA/NCDH UIC program, be reconfigured so they discharge to the sanitary sewer system:

- Slop Sink in South Structural Test Hangar
- Floor Drains in South Structural Test Hangar
- Slop Sink in North Structural Test Hangar
- Floor Drain in Butler Building

Section 4

4.0 SUPPLEMENTAL PHASE II SITE ASSESSMENT

This section provides a description of the field program activities conducted as part of the Supplemental Phase II Site Assessment at the Structural Test Hangars. A dedicated bound field log book, which includes the field program activities of the Initial Phase II Site Assessment, is available in the project file and provides documentation of the Supplemental Phase II Site Assessment field program activities, which included air monitoring, installation of soil probes and collection of soil samples for laboratory analysis.

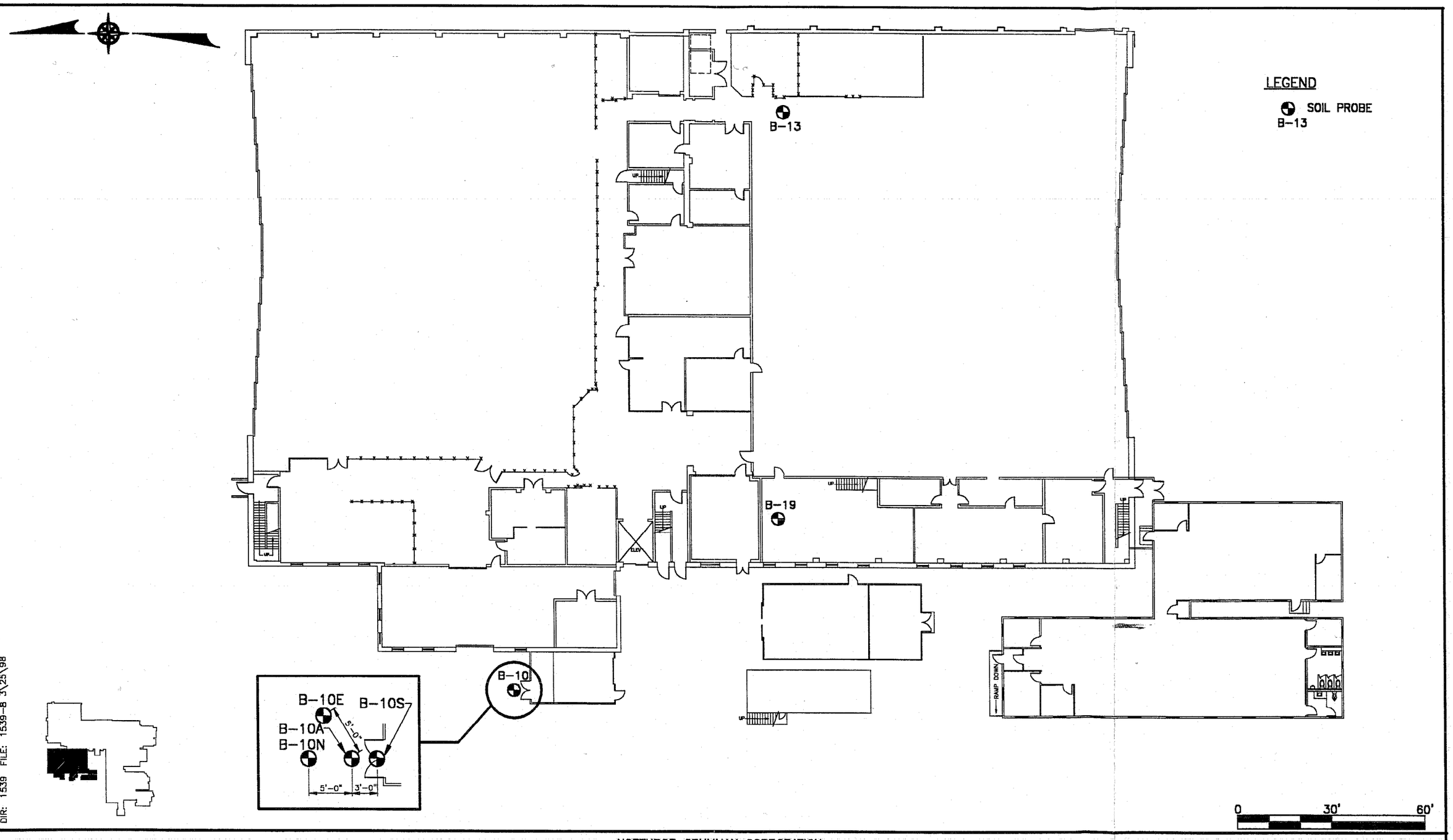
4.1 Field Program

4.1.1 Soil Sampling Program

Six soil probes, identified on Figure 4-1 as B-10A, B-10N, B-10S, B-10E, B-19 and B-13 were advanced as described on Table 4-1.

Soil probes were advanced manually utilizing Geoprobe tooling and an electric hammer-drill. The electric hammer-drill was equipped with Geoprobe tooling which consisted of a 1.5-inch outside diameter by 2-foot long soil probe sampler and drill rods. A 1-inch diameter clear PETG sample tube liner, dedicated to each soil probe sample, was utilized to secure the sample within the soil probe sampler. Each soil probe was advanced utilizing the electric hammer-drill by driving the soil probe sampler, sample tube liner and drill rods to the desired depth. The soil probe sampler was then mechanically lifted to the surface by a mechanical floor jack.

During advancement of the soil probes, monitoring for volatile organic vapors was conducted in the workers' breathing zone and at the probehole utilizing a photoionization detector (PID). Air monitoring results are documented in the project log book. Prior to use, the PID was calibrated utilizing a 100 ppm concentration of isobutylene gas. Equipment calibration was also documented in the project log book.



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NORTHROP GRUMMAN CORPORATION
BETHPAGE, NEW YORK
STRUCTURAL TEST HANGARS/PLANT 5 – PHASE I/II SITE ASSESSMENT

STRUCTURAL TEST HANGARS – SUPPLEMENTAL PHASE II
SOIL PROBE LOCATION MAP

FIGURE 4–1

Dvirka and Bartilucci
Consulting Engineers
A Division of William F. Cosulich Associates, P.C.

TABLE 4-1
NORTHROP GRUMMAN CORPORATION
PHASE I/II SITE ASSESSMENT - STRUCTURAL TEST HANGARS/PLANT 5
SUPPLEMENTAL PHASE II SITE ASSESSMENT FIELD INVESTIGATION ACTIVITIES
INTERIOR AND EXTERIOR AREAS

AOC NO.	BORING ID. *	LOCATION DESCRIPTION	Soil Borings				Analytical Parameters**				
			No. of Borings	No. of Samples	Sampling Intervals	No. of Samples Analyzed	1	2	3	4	5
I-5	B-13	Dry Well in Pipe Trench in South Structural Test Hangar	1	1	8'-10'	1	--	--	--	--	■
I-8	B-19	Pit in Hydraulic Laboratory	1	2	4'-6' and 6'-8'	2	--	--	--	--	■
E-4	B-10A	Area North of Electrical Switch Gear and Heat Exchanger Building	1	3	4'-6', 6'-8' and 8'-10'	3	--	■	--	--	--
	B-10N, B-10S and B-10E		3	15	0-2', 4'-6', 6'-8' and 8'-10'	15	--	■	--	0-2' and 2'-4' only	--
		TOTALS	6	21	--	21					

**Target Constituents and Analytical Methods

1. VOCs (Method 8240) including those listed in STARS
2. SVOCs (Method 8270) including those listed in STARS
3. Phenols (Method 8270)
4. Chromium (Method 6010)
5. Mercury (Method 7471)

Notes:
*: Refer to Figure 3-1 for locations of borings.

All soil probe samples collected utilizing the electric hammer-drill were physically and visually characterized and inspected for the presence of staining, discoloration or odors and were screened for volatile organic vapors utilizing the PID. This information is presented on soil boring logs presented in Appendix B. All sampling equipment, excluding the PETG sample tube liners which were dedicated to each soil probe sample, was decontaminated between each sample location. Decontamination procedures consisted of an external alconox wash and tap water rinse, followed by a distilled/deionized water rinse.

4.2 Findings

This section presents the findings of the Supplemental Phase II Site Assessment including a summary of the analytical results of the soil samples obtained during the Supplemental Phase II Site Assessment field investigation. Soil sample results are compared to the criteria included in Appendix A of the New York State Department of Environmental Conservation (NYSDEC) Technical and Administrative Guidance Memorandum (TAGM) No. 4046 (referred to in this document as "NYSDEC TAGM criteria"), as well as the typical Eastern USA background soil contaminant concentration ranges included in the TAGM (referred to in this document as "Eastern USA background levels").

In addition to the criteria for *individual* compounds, the criterion for *total* SVOCs of 500,000 ug/kg and the criterion for *total* CaPAHs of 10,000 ug/kg, as presented in the TAGM, were utilized.

4.2.1 Soil Sampling Program

As previously stated, a total of six soil probes (B-10A, B-10N, B-10S, B-10E, B-19 and B-13) were advanced with 21 subsurface soil samples collected and analyzed for the analytical parameters shown on Tables 4-1 during the Supplemental Phase II Site Assessment field investigation.

The analytical results for the soil samples collected and analyzed for semivolatile organic compounds (Method 8270) and chromium and mercury (Methods 6010 and 7471, respectively) are shown on Tables C-2 and C-6 in Appendix C, respectively and are summarized as follows:

Semivolatile Organic Compounds

The analytical results for the soil samples collected and analyzed for semivolatile organic compounds are shown on Table C-2 in Appendix C and are summarized as follows:

- Phenanthrene, fluoranthene, pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene and indeno(1,2,3-cd)pyrene were detected at concentrations which exceeded NYSDEC TAGM criteria in soil sample B-10E (0-2').
- Benzo(a)anthracene was detected at concentrations which exceeded NYSDEC TAGM criteria in soil samples B-10S (0-2') and B-10E (0-2', 2'-4' and 6'-8').
- Chrysene was detected at concentrations which exceeded NYSDEC TAGM criteria in soil samples B-10S (0-2') and B-10E (0-2', 2'-4' and 6'-8').
- Benzo(a)pyrene was detected at concentrations which exceeded NYSDEC TAGM criteria in soil samples B-10N (0-2' and 4'-6'), B-10S (0-2' and 2'-4') and B-10E (0-2', 2'-4' and 6'-8').
- Dibenzo(a,h)anthracene was detected at concentrations which exceeded NYSDEC TAGM criteria in soil samples B-10N (4'-6'), B-10S (0-2') and B-10E (0-2', 2'-4' and 6'-8').

As indicated above, although there were several SVOCs detected at concentrations that exceeded the NYSDEC TAGM criteria for *individual* compounds, the criterion for *total* SVOCs of 500,000 ug/kg was not exceeded. However, the criterion for *total* CaPAHs of 10,000 ug/kg was exceeded in soil sample B-10E (0-2').

Chromium and Mercury

The analytical results for the soil samples collected and analyzed for chromium and mercury are shown on Table C-6 in Appendix C and are summarized as follows:

- Mercury was detected at a concentration of 0.21 mg/kg in soil sample B-19 (4'-6') which is above the Eastern USA background level of 0.20 mg/kg for this constituent.

4.3 Conclusions and Recommendations

Based upon the findings of the Supplemental Phase II Site Assessment field investigation discussed in Section 4.2, conclusions and recommendations are presented in this section regarding the need for further investigation activities and any remedial actions, if necessary, at the Structural Test Hangars site.

In support of providing conclusions and technical recommendations with regard to the level and degree to which remediation is required, we have relied on the Technical and Administrative Guidance Memorandum (TAGM) No. 4046 - Determination of Soil Cleanup Objectives and Cleanup Levels dated January 24, 1994 published by the New York State Department of Environmental Conservation (NYSDEC).

As discussed in the introduction of the TAGM, the document is designed to provide a basis and procedure for NYSDEC Project Managers at "...individual Federal Superfund, State Superfund, 1986 EQBA Title 3 and Responsible Party (RP) sites..." to determine soil cleanup levels. The TAGM provide a number of methods to determine the degree to which these sites are cleaned up including recommended soil cleanup objectives (NYSDEC TAGM criteria) and Eastern USA background concentrations.

The Structural Test Hangar site is not a Federal Superfund or State Superfund site nor is it an RP or 1986 EQBA Title 3 property. However, we believe it is reasonable to establish the NYSDEC TAGM criteria for SVOCs and the Eastern USA background level for mercury, as

presented in the TAGM, as the levels of cleanup for the Structural Test Hangar site. In addition, the proposed revised NYSDEC TAGM criteria for chromium was established as the level of cleanup at the Structural Test Hangars site for this metal.

In addition to the criteria for *individual* compounds, the criterion for *total* SVOCs of 500,000 ug/kg and the criterion for *total* CaPAHs of 10,000 ug/kg, as presented in the TAGM, were utilized.

4.3.1 Soil Sampling Program

Conclusions

As discussed in Section 4.2.1, a total of 21 subsurface soil samples were collected at six soil probe locations and analyzed for semivolatile organic compounds (Method 8270) and chromium and mercury (Method 6010 and 7471, respectively) during the Supplemental Phase II Site Assessment field investigation.

Based upon the analytical results, several SVOCs were detected at concentrations that exceeded the NYSDEC TAGM criteria for *individual* compounds but the criterion for *total* SVOCs of 500,000 ug/kg was not exceeded. However, the criterion for *total* CaPAHs of 10,000 ug/kg was exceeded in the 0-2' soil sample collected at soil probe B-10E located at the Area North of Electrical Switch Gear and Heat Exchanger Building. As a result, it appears that remediation of the soil in the vicinity of soil probe B-10E is warranted.

Mercury was detected at 0.73 mg/kg and 0.21 mg/kg in the 2'-4' and 4'-6' soil samples, respectively, collected at soil probe B-19 located at the Pit in Hydraulic Laboratory a concentration which exceeded the Eastern USA background level of 0.20 mg/kg for this constituent. As a result, it appears that remediation of the soil in the vicinity of soil probe B-19 is warranted.

In addition, elevated levels of SVOCs (i.e. *total* CaPAHs > 10,000 ug/kg) were detected in the 2'-4' soil sample collected at soil probe B-10 during the Initial Phase II Site Assessment field investigation activities. As a result, during the Supplemental Phase II Site Assessment field activities, soil probe B-10A was advanced immediately adjacent to soil probe B-10. However, as the analytical results of the Supplemental Phase II Site Assessment field activities indicate, SVOCs were not detected at elevated levels in the 4'-6', 6'-8' and 8'-10' soil samples collected at soil probe B-10A. Therefore, it appears that remediation of the soil in the vicinity of soil probe B-10 is warranted due to the elevated level of *total* CaPAHs in the 2'-4' soil sample collected at soil probe B-10 during the Initial Phase II Site Assessment field investigation.

Also, mercury was detected at elevated levels in the 4'-6' and 6'-8' soil samples collected at soil probe B-13 during the Initial Phase II Site Assessment field investigation activities. As a result, during the Supplemental Phase II Site Assessment field activities, an 8'-10' soil sample was collected at soil probe location B-13. However, as the analytical results of the Supplemental Phase II Site Assessment field activities indicate, mercury was undetected in the 8'-10' soil sample collected at soil probe B-13. Therefore, it appears that remediation of the soil in the vicinity of soil probe B-13 is warranted due to the elevated level of mercury detected in the 4'-6' and 6'-8' soil samples collected at soil probe B-13 during the Initial Phase II Site Assessment field investigation.

Recommendations

Based upon the findings of the Supplemental Phase II Site Assessment field investigation, it is recommended that the soil in the vicinity of soil probe B-10E be excavated to a minimum depth of approximately two feet below grade across an area of approximately 5 feet (width) by 5 feet (length). In addition, the excavated material should be properly containerized, transported and disposed of off-site. Subsequent to the removal of the contaminated soil, the excavation should be backfilled to grade with clean sand backfill material and resurfaced with concrete, as necessary.

In addition, based upon the findings of the Supplemental Phase II Site Assessment field investigation, it is recommended that a minimum of approximately 4 feet of soil be excavated from the Pit in Hydraulic Laboratory in the vicinity of soil probe B-19 due to the elevated level of mercury detected in the 2'-4' and 4'-6' soil samples collected at this soil probe during the Initial Phase II Site Assessment field investigation activities. In addition, the excavated material should be properly containerized, transported and disposed of off-site. Subsequent to the removal of the contaminated soil, the excavation should be backfilled with clean sand backfill material.

Also, due to elevated levels of SVOCs (i.e. *total* CaPAHs > 10,000 ug/kg) detected in the 2'-4' soil sample collected at soil probe B-10 during the Initial Phase II Site Assessment field investigation activities, it is recommended that the soil in the vicinity of soil probe B-10 be excavated to a minimum depth of approximately four feet below grade across an area of approximately 5 feet (width) by 5 feet (length). In addition, the excavated material should be properly containerized, transported and disposed of off-site. Subsequent to the removal of the contaminated soil, the excavation should be backfilled to grade with clean sand backfill material and resurfaced with concrete, as necessary.

Mercury was detected at elevated levels in the 4'-6' and 6'-8' soil samples collected at soil probe B-13 (February 12, 1998) located in the Dry Well in Pipe Trench in South Structural Test Hangar during the Initial Phase II Site Assessment. However, mercury was undetected in the 8'-10' soil sample collected at soil probe B-13 (March 13, 1998) during the Supplemental Phase II Site Assessment. Accordingly, remediation of the soil within the dry well at soil probe B-13 at a depth of 4' to 8' is recommended.

It is important to note that due to the manner in which discharges were conveyed to this dry well, remediation and closure of the dry well in accordance with the USEPA UIC program is required.

Appendix A

APPENDIX A

SUPPLEMENTAL INFORMATION

MARY T. McGUNNIGLE, widow of Stephen A. McGunnigle, deceased, residing at Broadway (no street number), Hicksville, Nassau County, New York,

part y of the first part, and GRUMMAN AIRCRAFT ENGINEERING CORPORATION, a domestic corporation having its principal place of business at Bethpage, Nassau County, New York,

, part y of the second part,

WITNESSETH, that the part y of the first part, in consideration of

ONE ($1.00) Dollars,

lawful money of the United States, and other valuable considerations, , paid by the part y of the second part, do es hereby grant and release unto the part y of the second part, its successors heirs and assigns forever,

ALL those certain tracts or parcels of land, situate, lying and being between Hicksville and Bethpage, (formerly Central Park), in the Town of Oyster Bay, County of Nassau and State of New York, bounded and described as follows:

FIRST PARCEL: BEGINNING at the corner formed by the intersection of the southerly side of Hazel Street with the westerly side of South Oyster Bay Road; running thence along the westerly side of South Oyster Bay Road, the following three (3) courses and distances: (1) South three degrees, fifty-three minutes, four seconds West (S.3°53'04"W.) eighteen hundred forty-one and six one-hundredths (1841.06) feet; (2) South one degree, thirty-six minutes, forty seconds West (S.1°36'40"W.) Nine hundred twenty-three and eighty one-hundredths (923.80) feet; (3) South seven degrees, fifty-four minutes, twenty seconds West (S.7°54'20"W.) seventy-eight and thirty-five one-hundredths (78.35) feet to the extreme northerly end of the curve connecting the westerly side of South Oyster Bay Road with the easterly side of Massapequa Hicksville Road (roadway); running thence along said curve bearing to the right having a radius of forty-nine (49) feet and whose chord bears South seventy-four degrees, forty-eight minutes, forty seconds West (S.74°48'40"W.) and is ninety-two and forty-eight one-hundredths (92.48) feet in length, a distance of one hundred twenty and eighty-nine one-hundredths (120.89) feet to a point in the easterly side of Massapequa Hicksville Road; running thence along the easterly side of Massapequa Hicksville Road the following five courses and distances: (1) North thirty-four degrees, thirty minutes, ten seconds West (N.34°30'10"W.) one hundred ninety-two and seventy-two one-hundredths (192.72) feet; (2) northerly on a curve bearing to the right having a radius of seventeen hundred sixty-six and fifty-nine one-hundredths (1766.59) feet and whose chord bears North twenty-nine degrees, forty-three minutes, fifty seconds West (N.29°43'50"W.) and is two hundred ninety-six and sixty-seven (296.67) feet in length, a distance of two hundred ninety-seven and two one-hundredths (297.02) feet; (3) North twenty-five degrees, two minutes, forty seconds West (N.25°02'40"W.) four hundred eighty-eight and eighty-four one-hundredths (488.84) feet; (4) North twenty-five degrees, fifty-one minutes, forty seconds West (N.25°51'40"W.) five hundred forty-one and thirty-two one-hundredths (541.32) feet; (5) North twenty-three degrees, fifty minutes, thirty seconds West (N.23°50'30"W.) six hundred seventy-two and forty-five one-hundredths (672.45) feet; running thence North sixty-six degrees, nine minutes, thirty seconds East (N.66°09'30"E.) five hundred and thirty (530) feet; thence North twenty-three degrees, fifty minutes, thirty seconds West (N.23°50'30"W.) eight hundred fifty-three and seventy one-hundredths (853.70) feet to a point in the

southerly side of Hazle Street; thence along the southerly side of Hazle Street the following two courses and distances:(1) South eighty-five degrees, no minutes, no seconds East (S.85°00'00"E.) five hundred thirty-two and forty-seven one-hundredths (532.47) feet to a monument; (2) South eighty-five degrees, two minutes, ten seconds East (S.85°02'10"E.) five hundred fifty-three and seventy-five one-hundredths (553.75) feet to the corner, at the point or place of beginning.

SECOND PARCEL: BEGINNING at the corner formed by the intersection of the northerly side of Hazle Street with the westerly side of South Oyster Bay Road; running thence along the northerly side of Hazle Street North eighty-five degrees, two minutes, ten seconds West (N.85°02'10"W.) five hundred fifty-two and thirty-one one-hundredths (552.31) feet; thence North five degrees, fifteen minutes, thirty seconds East (N.5°15'30"E.) five hundred eight and ninety-eight one-hundredths (508.98) feet to an old stone monument; thence South eighty-five degrees, six minutes, no seconds East (S.85°06'00"E.) four hundred eighty-three and eighty-six one-hundredths(483.86) feet to the southwesterly side of land of the Long Island Railroad Co.; thence along said land South thirty-eight degrees, thirty-six minutes, thirty seconds East (S.38°36'30"E.) eighty-three and twenty-six one-hundredths (83.26) feet to the westerly side of South Oyster Bay Road; thence along the westerly side of South Oyster Bay Road, South three degrees, fifty-three minutes, four seconds East (S.3°53'04"E.) four hundred forty-nine and twenty-seven one-hundredths (449.27) feet to the corner at the point or place of beginning.

TOGETHER with all the right, title and interest of the party of the first part in the highways adjacent to the premises above described.

Said courses and distances being taken from a survey of the premises made by H.G.Holzmacher, C.E., Bethpage, N.Y., November 4, 1953, and said premises containing according to said survey the following area:

FIRST PARCEL: 44.602 Acres
SECOND PARCEL: 6.847 Acres

be the same more or less.

SUBJECT to zoning regulations affecting the premises adopted by the Town Board of the Town of Oyster Bay; subject also to any rights or easements which may exist for the maintenance of telephone poles and wires and electric light poles and wires, and subject to right of Irwin Krakower and Muriel G. Hallacher, doing business as Long Island Check Cashing Service, under a Lease covering a portion of said premises, executed February 20, 1953, and the right of said tenant to remove from said premises the building erected by them thereon.

Together with the appurtenances and all the estate and rights of the part y of the first part, in and to said premises.

To have and to hold the premises herein granted unto the part y of the second part, its successors and assigns forever.

And said part y of the first part covenant s as follows:

FIRST. That the part y of the first part is seized of said premises in fee simple, and ha s good right to convey the same; subject as aforesaid.

SECOND. That the part y of the second part shall quietly enjoy the said premises;

THIRD. That the said premises are free from incumbrances; except as aforesaid.

FOURTH. That the part y of the first part will execute or procure any further necessary assurance of the title to said premises;

FIFTH. That the part y of the first part will forever warrant the title to said premises;

SIXTH. The part y of the first part, in compliance with Section 13 of the Lien Law, covenants that AND WILL HOLD THE RIGHT TO RECEIVE SUCH CONSIDERATION s he will receive the consideration for this conveyance as a trust fund to be applied first for the purpose of paying the cost of the improvement and that s he will apply the same first to the payment of the cost of the improvement before using any part of the total of the same for any other purpose.

In Witness Whereof, the part y of the first part ha s hereunto set he hand and seal the day and year first above written.

IN PRESENCE OF

David Underhill; Mary T. McGunigle

STATE OF NEW YORK, CITY OF NEW YORK, COUNTY OF Kings } ss.:

On the 18th day of November, one thousand nine hundred and forty-three, before me came MARY T. McGUNIGLE to me known to be the individual described in and who executed the foregoing instrument, and she duly acknowledged that s he executed the same.

Theodore L. Jackson
Notary Public, Kings County
Certificate filed in Kings County
Commission expires March 30, 1944

STATE OF NEW YORK,
CITY OF NEW YORK,
COUNTY OF } ss.:

On the day of , nineteen hundred and , before me personally came

to me known, who, being by me duly sworn, did depose and say that he resides at , in ; that he is the of

the corporation described in and which executed the above instrument; that he knows the seal of the said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of of said corporation, and that he signed his name thereto by like order.

STATE OF NEW YORK,
CITY OF NEW YORK,
COUNTY OF } ss.:

On the day of , nineteen hundred and , before me came , the subscribing witness to the foregoing instrument, with whom I am personally acquainted, who, being by me duly sworn, did depose and say that he resides at , in ; that he knows to be the individual described in and who executed the foregoing instrument; and he, said subscribing witness, was present and saw execute the same; and that he, said witness, at the same time subscribed h name as witness thereto.

46- V 33

21 463 70

NOV 22 1943

Mary T. McGunnigle, widow of Stephen A. McGunnigle, deceased

23455

TO

Grumman Aircraft Engineering Corporation

Deed

Dated November 194 3

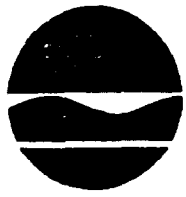
The land affected by the within instrument lies in Section 46 *, in Block* V *, on the Land Map of the County of* Nassau

UNDERHILL & FOSTER
COUNSELLORS AT LAW

Recorded in Clerk's Office Nassau County
Liber of Deeds Page of
minutes past
Under Section
Land Map of Nassau County.

COUNTY CLERK'S OFFICE
NOV 22 11 16 AM '43
NASSAU COUNTY, N.Y.

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233 - 7010



Langdon Marsh
Commissioner

FEB 24 1995

Mr. John Ohlmann
Director
Corporate Environmental Technology & Compliance
Grumman Aerospace Corp.
Mail Stop: D08-GHQ
Bethpage, New York 11714-3580

Re: Petition to modify portion of
Grumman Aerospace Corporation
Site No. 130003A
Plant 5, Hicksville, NY 11801

Dear Mr. Ohlmann:

Commissioner Marsh has asked me to respond to your repetition of January 24, 1995 requesting that the boundary of the subject site be modified to exclude the Plant 5 area [Section 46, Block 323, Lots 72, 222 (partial), 223 (partial), and 224 (partial)], at Hicksville, New York in the Registry of Inactive Hazardous Waste Disposal Sites in New York State (The Registry).

The Plant 5 area was originally petitioned for exclusion on February 23, 1993 and denied on September 29, 1993. Additional information was submitted on June 23, 1994 and the petition was again denied on September 30, 1994. Upon review of the latest information submitted, we agree that the Plant 5 area can, indeed, be removed from consideration as part of Site No. 130003A. This letter is official notification that the Registry database will be modified to reflect this.

If we may be of further assistance regarding this matter, please contact Mr. Robert Marino, of my staff, at (518) 457-0747.

Sincerely,

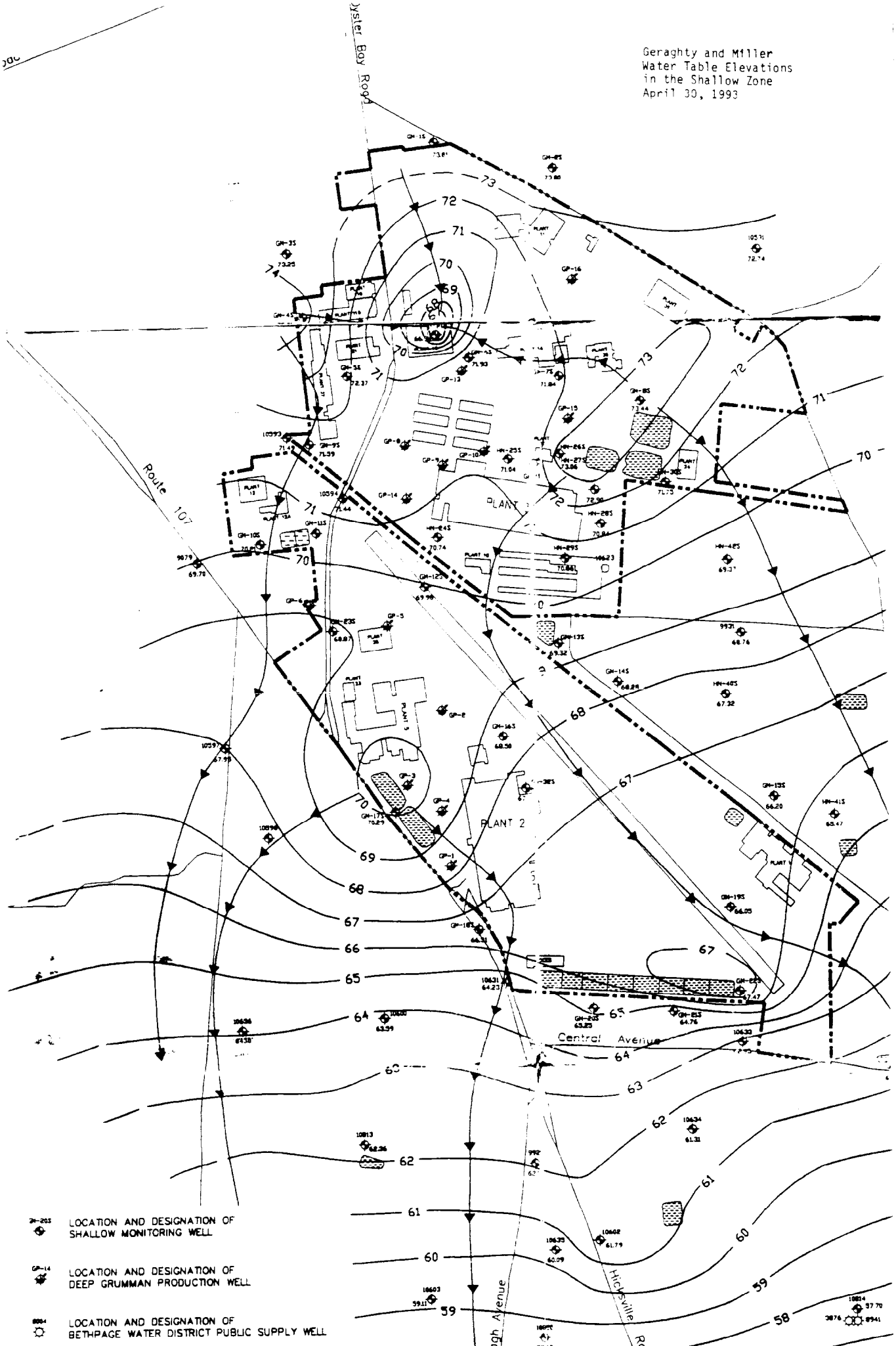
Michael J. O'Toole, Jr.
Director
Division of Hazardous Waste Remediation

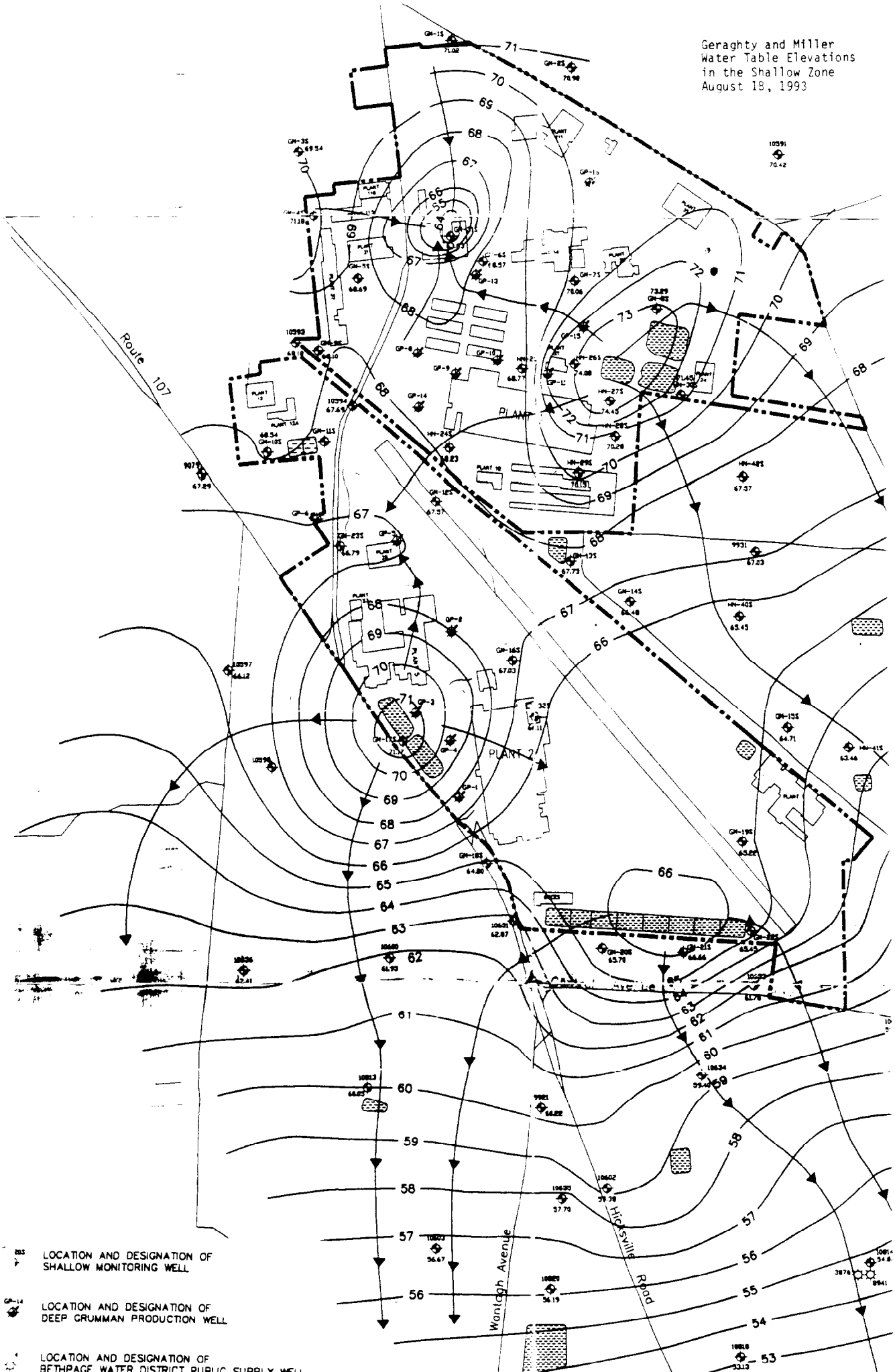
cc: Commissioner Marsh

J. CHAIRMAN

FEB 28 1995

Director Corp...
Technical ...


Geraghty and Miller
Water Table Elevations
in the Shallow Zone
April 30, 1993
Jyster Bay Road
Route 107
PLANT 2
Central Avenue
Hicksville Road
LOCATION AND DESIGNATION OF SHALLOW MONITORING WELL
LOCATION AND DESIGNATION OF DEEP GRUMMAN PRODUCTION WELL
LOCATION AND DESIGNATION OF BETHPAGE WATER DISTRICT PUBLIC SUPPLY WELL


Geraghty and Miller
Water Table Elevations
in the Shallow Zone
August 18, 1993
Route 107
PLANT 2
Hicksville Road
Wantagh Avenue
LOCATION AND DESIGNATION OF SHALLOW MONITORING WELL
LOCATION AND DESIGNATION OF DEEP GRUMMAN PRODUCTION WELL
LOCATION AND DESIGNATION OF BETHPAGE WATER DISTRICT PUBLIC SUPPLY WELL

Base from New York State Department of Transportation
Amityville, Freeport, Hicksville and Huntington, 1981, 1:24,000

EXPLANATION

	DETECTED COMPOUNDS
1	1: 1, 1, 1 - TRICHLOROETHANE
2	2: VINYL CHLORIDE
1, 2	3: 1,2 - DICHLOROETHYLENE
1, 2, 3	4: 1, 1 - DICHLOROETHANE

Figure 14B.--Distribution of four frequently detected contaminants in the middle zone of the Magothy aquifer (75 to 275 feet below water table), fall 1987.

SOURCE: USGS, "Ground-Water Quality in the Bethpage-Hicksville-Levittown Area, Long Island, New York, with Emphasis on Volatile Organic Compounds." Report 90-4182 1992

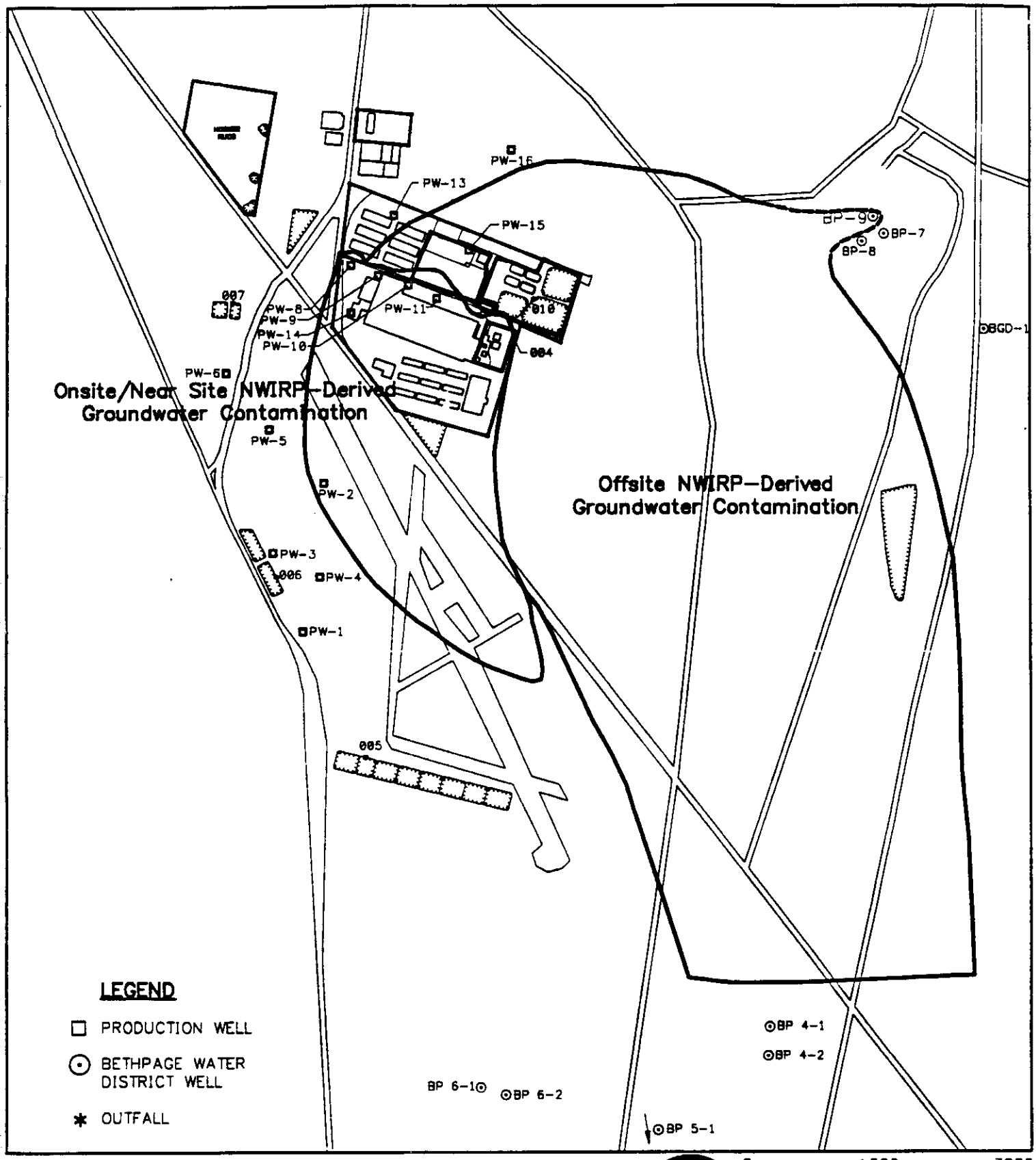
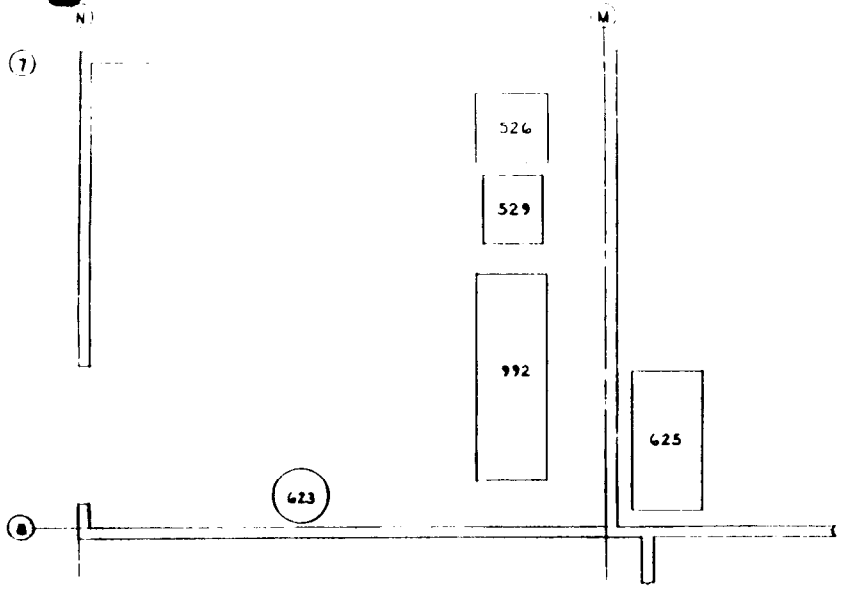


FIGURE 10

ESTIMATED AREAL EXTENT OF ONSITE/NEAR SITE AND OFFSITE NWIRP-DERIVED GROUNDWATER CONTAMINATION FEASIBILITY STUDY, NWIRP BETHPAGE, NEW YORK

HALLIBURTON NUS
Environmental Corporation

REVISION	DESCRIPTION	DATE	APPD



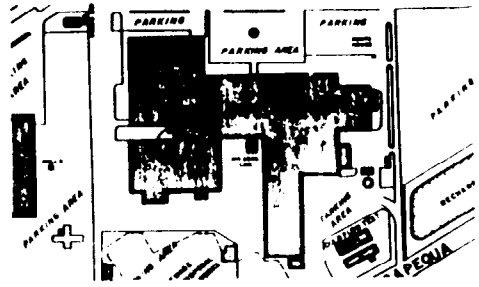
N

TANK Nº	TANK SIZE	TANK DWG. Nº	TANK SOLUTION
526	3'×3'×3'H	F 1062	WATER RINSE
529	3'-2"×2'-6"H	F 1064	CHROME PLATE STRIP
992	9'×3'×3'-6"H	GB 155 M1	HARD CHROME PLATE
623	2'-4"DIA×4'H	NO DWG	HOT MASKANT WAX
625	6'×3'×3'H		WASTE HOLDING

G.A.C. SPEC

G S S 8250

Does not apply



CHEMICAL PROCESS FACILITIES

TANK LOCATIONS & Nº'S

HARD CHROME PLATE DEPT 05004

MECHANICAL

DRAWN BY FB	DATE 3 29 72	
CHECKED BY MJZ	DATE 3-29-72	
APPROVED BY [illegible]	DATE 3-30-72	
SCALE 1/4"-1'-0"	PLT. 05	

GRUMMAN AEROSPACE CORPORATION
BETHPAGE NEW YORK 11714
FACILITIES DEPARTMENT

DRAWING NO. C-BP0003

M14 OF REV. R

INDUSTRIAL WASTES
HARD CHROME PLATE

PLT 05 DEPT ____
DWG. NO. [illegible]

Tank No.	Operating Capacity (gal)	Name of Solution	Chemical Make-up	Dump Frequency or overflow (gpm)	Average Yearly Dump	Date	PM No.	Remarks
[illegible]36	170	Water Rinse Spray (Chrome Plate [illegible] Chrome [illegible])	Very dilute chromic acid	45 gpm spray 15 min/day)	17,500 gal	3/29/72	—	To Plt 0[illegible] [illegible] House via [illegible] holding t[illegible]
[illegible]31	20	Chrome Plate Strip	32 oz Unichrome 80 per gallon of solution. Unichrome 80 contains 12% Free cyanide, complex phosphates	Dumped about once a year when solution is contaminated	180 lb. Unichrome 80	3/29/72	—	Pumped to [illegible] holding tank #6 Taken to Plt [illegible] Acid House via waste acid truck
29[illegible]	600	Hard Chrome Plate	30 oz CR-110/gal of solution. CR 110 contains by wt: ≥70% chromic [illegible], also chromates, inorganic salts and silicofluoride	Normally not dumped	0	3/29/72	—	No dumps in past year
623	[illegible]	Unichrome [illegible] [illegible] compound	100% Unichrome #321. Unichrome #321 is an inert wax insoluble in water.	Normally not dumped	0	3/29/72	—	may [illegible] by solvents
6[illegible]	[illegible]	[illegible] holding	contaminated rinse water from tank [illegible] and strip solution (when dumped)	Dump volume covered by other tank dumps		3/29/72	—	To Plt [illegible] House via acid truck

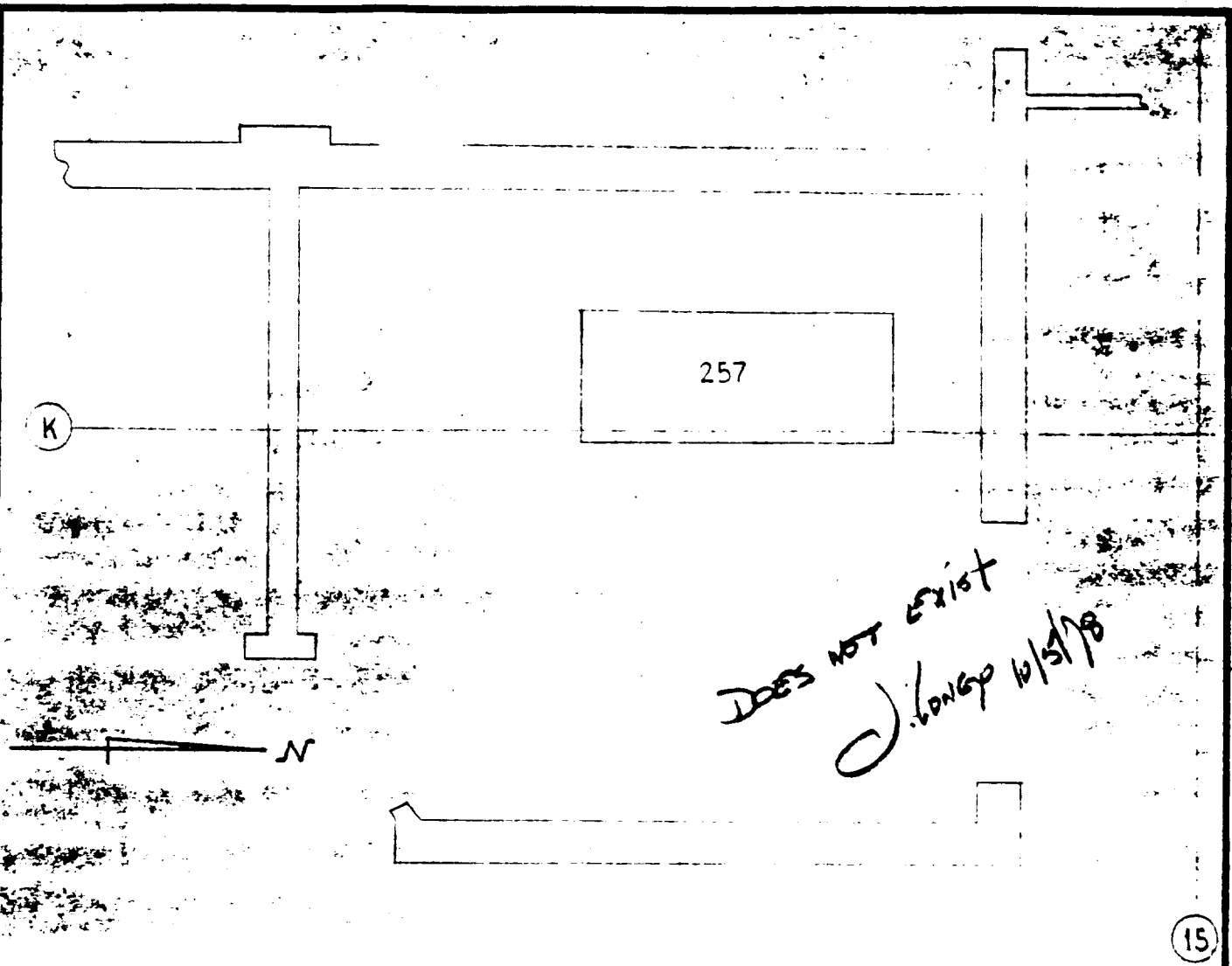
PRODUCTION TANK OPERATIONAL RECORD

TANK NUMBER	PLANT NUMBER	DEPARTMENT NUMBER
192	05	004

SOLUTION	VAPOR DEGREASER
COMPOSITION	TRICHLOROETHYLENE 182-192°F
OPTIMUM CONDITIONS	
ADDITION FACTOR	
CAPACITY - GALLONS	
GALLONS/INCH	
TANK CONSTRUCTION	STEEL, size 82" X 34" X 35"
POWER SUPPLY	None
EXHAUST	Yes
SPECIFICATION	GSS 7010A
PREVENTATIVE MAINTENANCE	FREQUENCY CODE
SOLUTION MAKE-UP	

MISCELLANEOUS TANK INFORMATION

PREPARED BY	DATE



DOES NOT EXIST
J. LONGO 10/5/78

15

TANK Nº	TANK SIZE	TANK DWG. Nº	TANK SOLUTION
257	7'-3" x 3'-3" x 5'-4" H	NO DWG.	TRICHLOROETHYLENE

NOTE: TANK & SOLUTION OPERATED AS PER G.S.S. 7010

DRAWN BY F.B.	CHEMICAL PROCESS FACILITIES	APPROVED BY [illegible]	DATE 3-30-72
DATE 3-23-72	TANK Nº'S & LOCATIONS DETAILS & ASSEMBLIES DEPT 05046	SCALE 1/4" = 1'-0"	PLT. 05
CHECKED BY M.J.Z.	GRUMMAN AEROSPACE CORPORATION BETHPAGE, NEW YORK 11714 FACILITIES DEPARTMENT	DRAWING NO. A-BP0003	
DATE 3-29-72		M19 OF	REV.

*GAC 425A REV. 4 4-71 QR 3146 500

12

NOTE: Reproduce return original and repro
order to Corporate Forms Control, Plant 30.

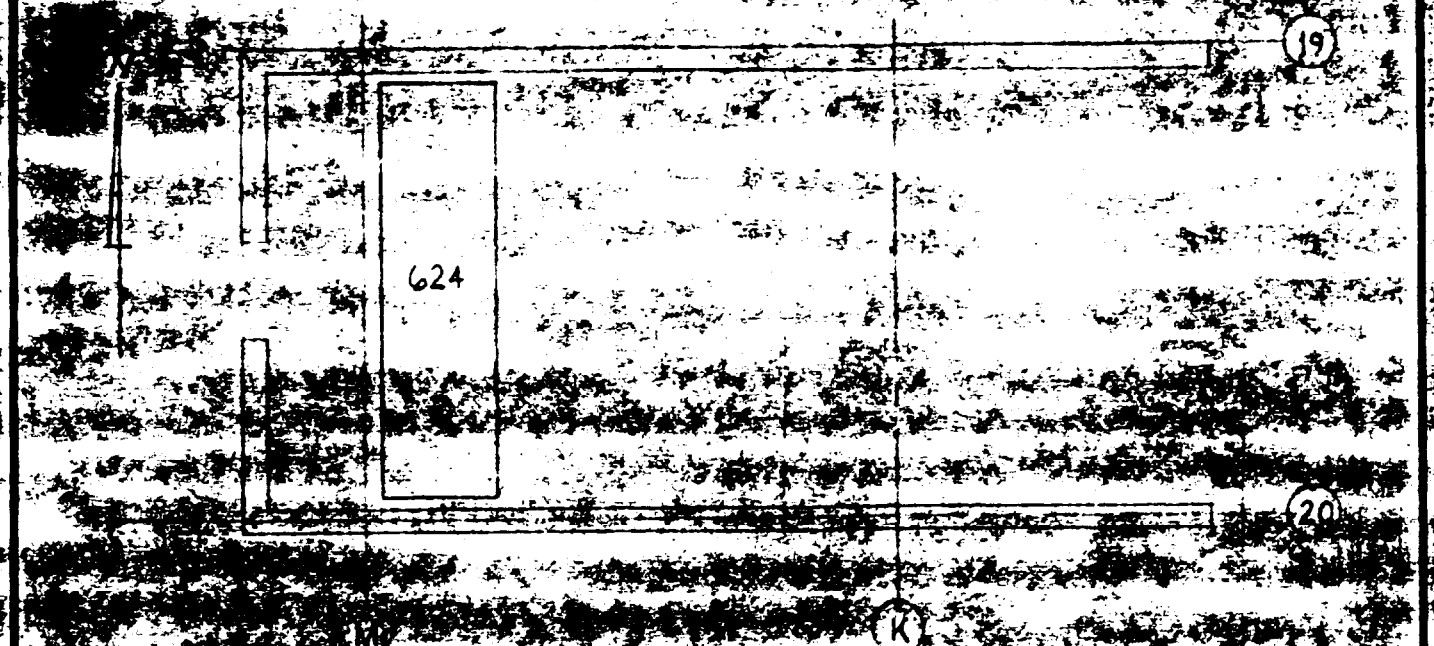
INDUSTRIAL WASTES
DETAILS AND ASSEMBLIES

PLT 05 DEPT 046
DWG NO. A-BP 0003

Tank No.	Operating Capacity (gal)	Name of Solution	Chemical Make-up	Dump Frequency or overflow (gpm)	Average Yearly Dump	Date	PM No.	Remarks
T-7	[illegible] 5'-4"H	Degreaser	[illegible] Trichloroethylene	Normally not dumped	0	3/21/72	—	1,200 gal added 1 tank per year

GAC 2792
11-69

FOR INTERNAL NON-RECURRING USE ONLY



TANK Nº	TANK SIZE	TANK DWG Nº	TANK SOLUTION
624	17'-4"-8"-2'H	NO DWG.	DEACTIVATING SOLUTION

NOTE: THIS SOLUTION IS NOT COVERED BY ANY SPEC.

DRAWN BY F.B.	CHEMICAL PROCESS FACILITIES	APPROVED BY [illegible]	DATE 3-31-72
DATE 3-23-72	TANK LOCATIONS & Nº'S PAINT SHOP DEPT 05046	SCALE 1/8" = 1'-0"	PLT. 05
CHECKED BY M.J.Z.	GRUMMAN AEROSPACE CORPORATION BETHPAGE, NEW YORK 11714 FACILITIES DEPARTMENT	DRAWING NO. A-BP0003	
DATE 3-29-72		M18 OF [illegible]	REV.

TE: Reproducti[illegible] return original and repro
order to Co[illegible]ate Forms Control, Plant 30.

Pa[illegible] 1

INDUSTRIAL WASTES
PAINT SHOP

PLT 05 DEPT 04-6
DWG. NO. C-PP 7002 M1

No.	Operating Capacity (gal)	Name of Solution	Chemical Make-up	Dump Frequency or overflow (gpm)	Average Yearly Dump	Date	PM No.	Remarks
1	950	Deactivating Solution	.0079 lb Klarifiant per gallon of solution. Klarifiant contains: H_2O, wetting agent, solvents, silicates, $Ca(OH)_2$	Dumped every two weeks	195 lb Klarifiant	3/29/72	—	To 1H 02 Acid House via waste truck

AC 2792
1-69

FOR INTERNAL NON-RECURRING USE ONLY

-Spill Report-

NORTHROP GRUMMAN

Grumman Aerospace Corporation
Electronics & Systems Integration Division
A Subsidiary of Northrop Grumman
South Oyster Bay Road
Bethpage, New York 11714

Date: 8/27/96

Time: ---

Product Spilled: Diesel Fuel

Amount Spilled: 10 Gallons

Is NYSDEC Notification Required ?

No ____ Proceed with clean-up and corrective action

Yes__X__ Contact NYSDEC Hotline (1-800-457-7362), obtain Spill Number and proceed with clean-up and corrective action

NYSDEC Spill Number 96-06777

Description of Spill

A surge in a Plant 5 emergency generator day tank caused tank 05-01-1 to overfill. The product spilled from the tank vent, over an asphalt paved area in the Plant 5 maintenance parking area, to a storm drain catch basin.

Affected Areas (Ground, Recharge Basin, Leaching Pool, Etc.)

Catch basin and parking area.

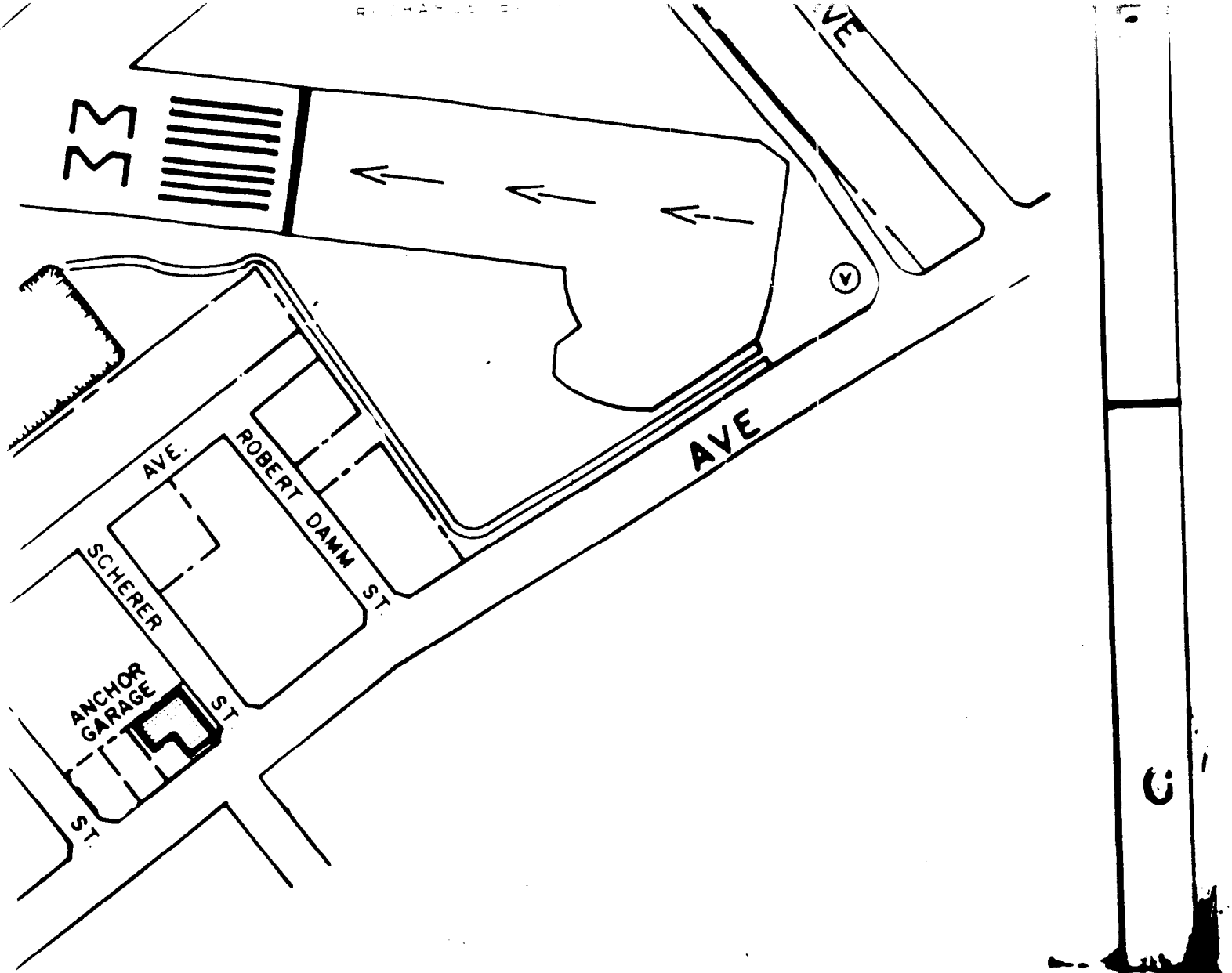
Clean-Up Activity

Environmental Operations cleaned the spilled material with speedy dry from the catch basin and pavement. The Plant 5 recharge basin was not affected. No contaminated soil was generated.

Root Cause and Corrective Action

It was determined that the tank was recently topped-off with product for tank testing. Approximately 30 gallons of product was removed from the tank after testing to eliminate overfilling by expansion. It is possible that this tank requires additional product removal after testing. Therefore facilities engineering will require at least 50 gallons of product to be removed from this tank after testing.

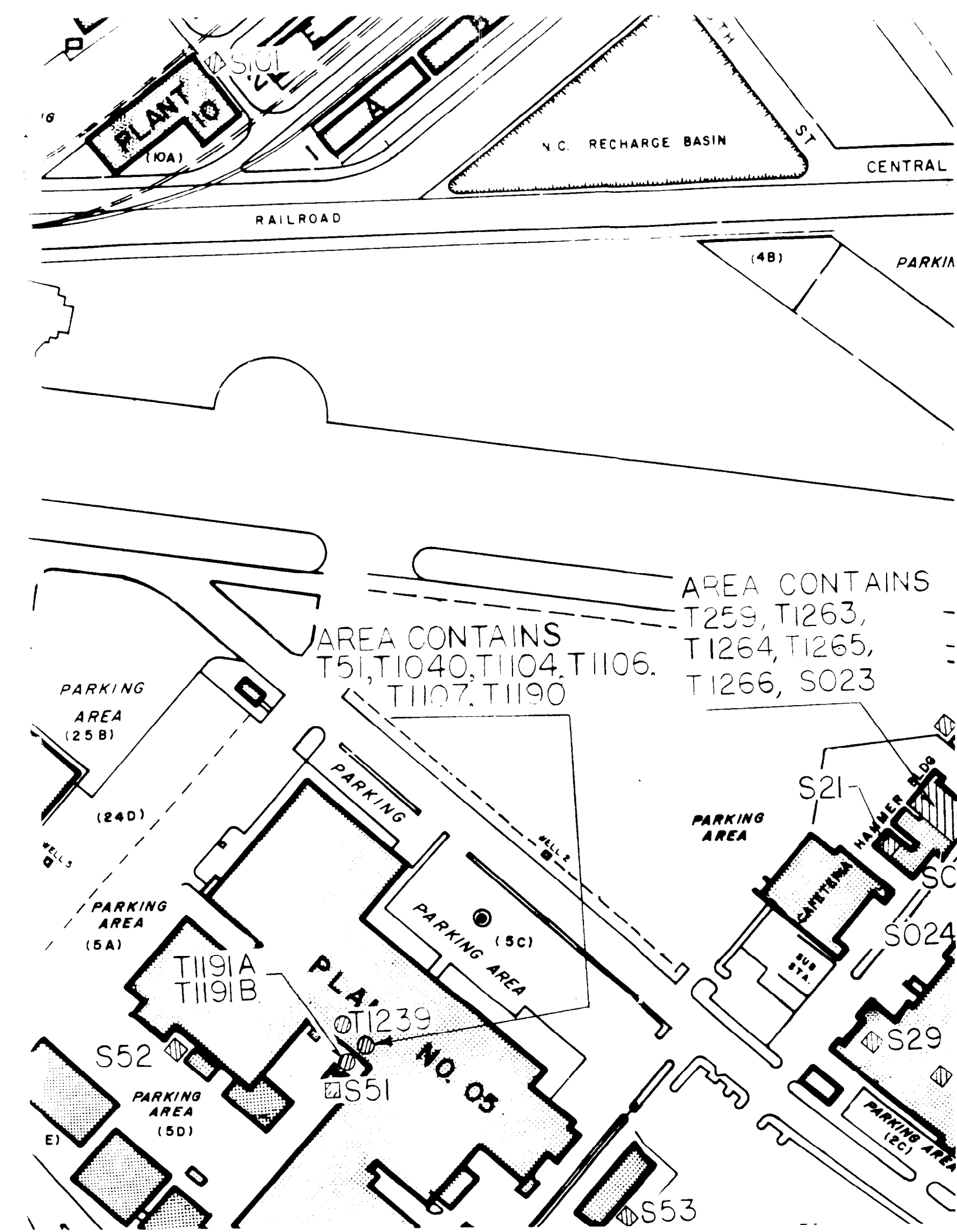
Person completing this form: John Selva

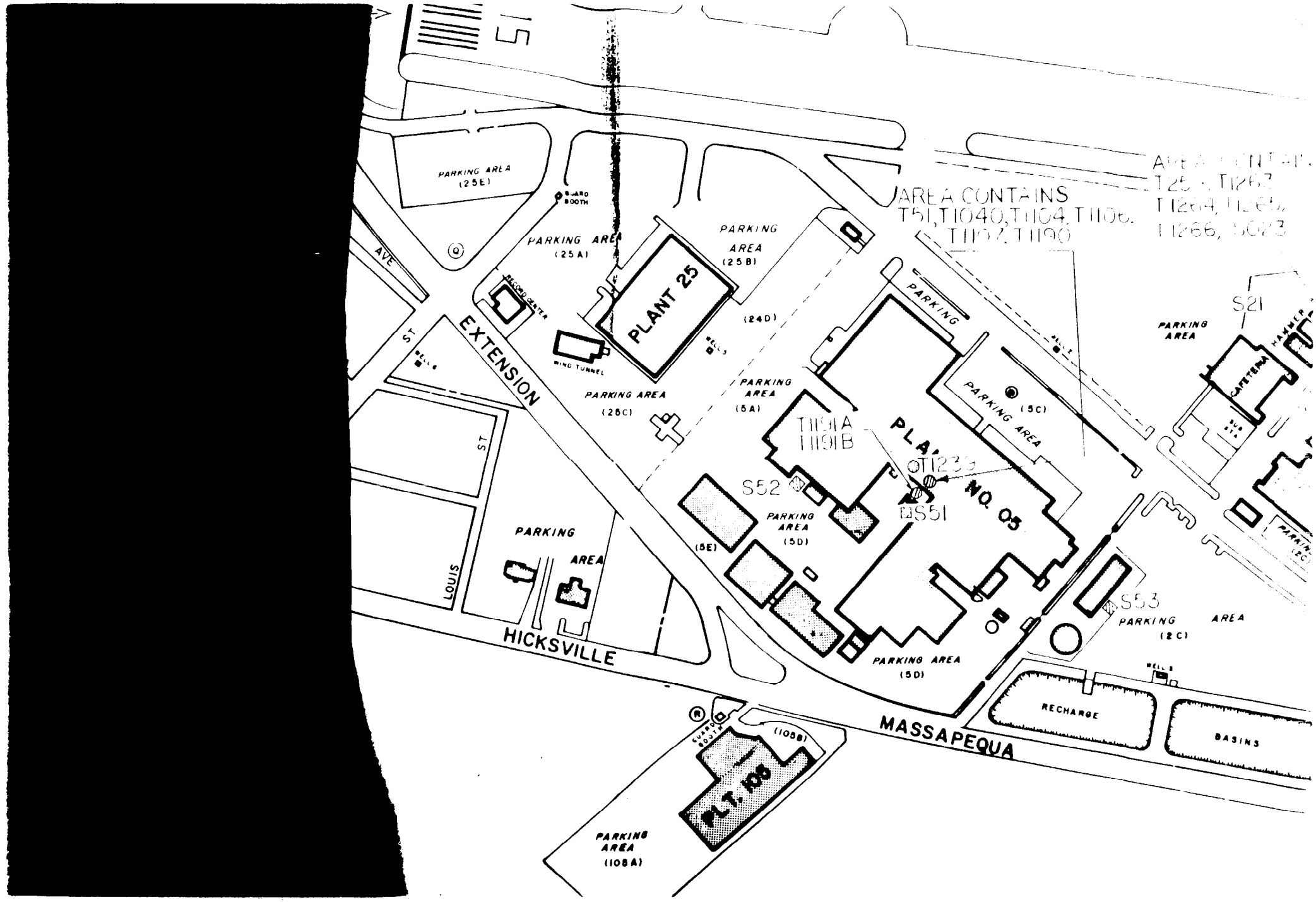


NCDH-ARTICLE XI
TANK & CONTAINER
STORAGE REGISTRATION

PAGE
GEN PLAN
EPARTMENT
11-85
ING SECTION

Figure 7 DATE: 10-30-8


S101
PLANT 10
(10A)
N.C. RECHARGE BASIN
CENTRAL
RAILROAD
(4B)
AREA CONTAINS
T51, T1040, T1104, T1106,
T1107, T1190
AREA CONTAINS
T259, T1263,
T1264, T1265,
T1266, S023
PARKING
AREA
(25B)
(24D)
PARKING
PARKING
AREA
(5A)
T1191A
T1191B
PARKING AREA
(5C)
T1239
PLANT NO. 05
S52
S51
PARKING
AREA
(5D)
S21
HAMMER BLDG
CAFETERIA
SUB STA.
S024
S29
S53
PARKING AREA (2C)


51
PARKING AREA (25E)
GUARD BOOTH
PARKING AREA (25A)
PARKING AREA (25B)
AREA CONTAINS
T51, T1040, T1104, T1106, T1102, T1190
AVE
RECORD DATA
PLANT 25
(24D)
WELL 5
WIND TUNNEL
PARKING AREA (28C)
PARKING AREA (5A)
PARKING
(5C)
PARKING AREA
T1191A
T1191B
PLANT
QT1235
NO. 03
S52
S51
PARKING AREA (5D)
(5E)
S21
PARKING AREA
CISTERN
HAMMER
EXTENSION
ST
ST
LOUIS
PARKING AREA
HICKSVILLE
PARKING AREA (5D)
S53
PARKING AREA (2C)
WELL 8
RECHARGE BASINS
MASSAPEQUA
GUARD BOOTH
(108B)
PLT. 108
PARKING AREA (108A)

NASSAU COUNTY DEPARTMENT OF HEALTH
APPLICATION FOR A TANK OR HAZARDOUS MATERIALS STORAGE FACILITY PERMIT
FORM 3 - BULK AND CONTAINER STORAGE REGISTRATION
SEE INSTRUCTION SHEETS

Date Application Received	Facility I.D.
Reviewed By	Date Reviewed
Action: ☐ Not Req'd. ☐ Approved ☐ Disapproved	No. of Months

Facility Name: GRUMMAN CORPORATION - PLANT 5

Facility Address: BETHPAGE, NY 11714

Action: ☒ Register Existing Area ☐ Add Area ☐ Remove Area ☐ Modify Area — Area No. S 51

Location: ☐ Indoors ☒ Outdoors — Bulk Storage Max. Quantity Stored: 0 — Container Storage Max. No. 30 Max. Vol. 1500

Secondary Containment: ☒ Impervious Berm/Dike ☒ Impervious Floor/Pad ☒ Roof ☒ Walls ☐ Floor Drain & Storage Tank ☐ None ☒ Other (Specify): FLOOR DRAIN W/SUMP

Construction Material of Dike & Pad (Check all that Apply): ☒ Concrete ☒ Steel ☐ Other (Specify): — Security: ☒ Yes ☐ No

Type	NCDH Number	Material Name	Physical State	Amount Stored: Average Quantity	Amount Stored: Units	Storage Method: Average Number	Storage Method: Type
1	04062	FREON	1	150	1	3	1
1	09122	1,1,1-TRICHLOROETHANE	1	100	1	2	1
1	05772	METHYLENE CHLORIDE	1	50	1	1	1
1	09032	CEE BEE C-50 (CONTAINS METHYLENE CHLORIDE)	1	50	1	1	1
1	04771	ISOPROPANOL	1	100	1	2	1
1	08941	TOLUENE	1	50	1	1	1
1	04921	LACQUER THINNERS	1	250	1	5	1
1	05451	PETROLEUM NAPTHA	1	50	1	1	1
1	09021	AQUA QUENCH/GLYCOLS, WATER	1	200	1	4	1
2	09611	OIL	1	50	1	1	1
2	08340	HALOGENATED SOLVENTS	1	50	1	1	1
2	06651	PAINT THINNERS/SOLIDS	1	150	1	2	1

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Page 28 of 90 ☐ D.P.

NASSAU COUNTY DEPARTMENT OF HEALTH
APPLICATION FOR A TOXIC OR HAZARDOUS MATERIALS STORAGE FACILITY PERMIT
FORM 3 - BULK AND CONTAINER STORAGE REGISTRATION
SEE INSTRUCTION SHEET

For State Use Only

Date Application Received	Facility I.D.
Reviewed By	Date Reviewed
Action: ☐ Not Req'd. ☐ Approved ☐ Disapproved	No. of Months

Facility Name: GRUMMAN CORPORATION - PLANT 5

Facility Address: BETHPAGE, N.Y. 11714

Action: ☒ Register Existing Area ☐ Add Area ☐ Remove Area ☐ Modify Area — Area No. S51

Location: ☐ Indoors ☒ Outdoors — Bulk Storage Max. Quantity Stored: 0 — Container Storage Max. No. 30 Max. Vol. 1500

Secondary Containment: ☒ Impervious Berm/Dike ☒ Impervious Floor/Pad ☒ Roof ☒ Walls ☐ Floor Drain & Storage Tank ☐ None ☒ Other (Specify): FLOOR DRAIN W/ SUMP

Construction Material of Dike & Pad (Check all that Apply): ☒ Concrete ☐ Steel ☐ Other (Specify): — Security: ☒ Yes ☐ No

Type	NCDH Number	Material Name	Physical State	Amount Stored: Average Quantity	Amount Stored: Units	Storage Method: Average Number	Storage Method: Type
2	06451	SYNTHETIC CUTTING FLUID	1	50	1	1	1
1		MEK	1	100	1	2	1

6/84 46 P 84

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NASSAU COUNTY DEPARTMENT OF HEALTH
APPLICATION FOR A TOXIC OR HAZARDOUS MATERIALS STORAGE FACILITY PERMIT
FORM 3 - BULK AND CONTAINER STORAGE REGISTRATION
SEE INSTRUCTION SHEET

Date Application Received	Facility ...
Reviewed By	Date Reviewed
Action: ☐ Not Req'd. ☐ Approved ☐ Disapproved	No. of Months

Facility Name: GRUMMAN CORPORATION - PLANT 5

Facility Address: BETHPAGE, NY 11714

Action: ☒ Register Existing Area ☐ Add Area ☐ Remove Area ☐ Modify Area — Area No. 552

Location: ☐ Indoors ☒ Outdoors — Bulk Storage Max. Quantity Stored: — Container Storage Max. No. 6 Max. Vol. 300

Secondary Containment: ☐ Impervious Berm/Dike ☒ Impervious Floor/Pad ☐ Roof ☐ Walls ☐ Floor Drain & Storage Tank ☐ None ☐ Other (Specify):

Construction Material of Dike & Pad (Check all that Apply): ☒ Concrete ☐ Steel ☐ Other (Specify):

Security: ☒ Yes ☐ No

Type	NCDH Number	Material Name	Physical State	Amount Stored: Average Quantity	Amount Stored: Units	Storage Method: Average Number	Storage Method: Type
1	06461	HYDRAULIC OIL	1	250	1	5	1
1	M451	CEE BEE C-50	1	50	1	1	1
1	R911	MINERAL SPIRITS	1	50	1	1	1

11.21

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Page 20 of 40 ☐ D.P.

FORM 2 - TANK REGISTRA...
SEE INSTRUCTION SHEETS

Facility Name: GRUMMAN CORPORATION - PLANT 5

Facility Address: BETHPAGE, NY 11714

By

Action: ☐ Not Req'd. ☐ Approved ☐ Disapproved

No. of Months

Action	Tank Number	Location	Design Capacity (Gallons)	Material of Construction	Internal Protection	External Protection	Piping Type	Material Currently or Last Stored: NCOH Number	Material Currently or Last Stored: Name	Status	Tank Installation Date (Month/yr)	Leak Detection	Secondary Sys. Containment	Product Gauge	Dispenser Method	Fill	Additional Information for Abandoned Tanks: Date Last Used (Month/yr)	Additional Information for Abandoned Tanks: Condition
1	1239	1	900	1	2	4	1	1	09021	GLYCOL AQUA QUENCH 251.	1	1984	5	5	1	2	1		
1	1191	3	900	8	2	4	8	2	00043	WASTE (ALODINE, DEOXIDIZER, RIDULENE)	1	1981	5	1	1	2	1		
1	1191	3	ONE TANK 900 ISEA	8	2	4	8	2	09021	WASTE (AQUA QUENCH)	1	1981	5	1	1	2	1		
1	51	1	180	8	2	4	8	1	01780 #07043	DETERGENT	1	1976	5	1	2	2	1		
1	1104	1	185	8	2	4	8	1	5 GAL 06143	~~NITRIC~~ RINSE ~~ACID~~	1	1976	5	1	2	2	1		
1	1106	1	185	2	2	4	8	1	00043	ALODINE	1	1976	5	1	2	2	1		
1	1107	1	185	2	2	4	8	1	15 GAL 06143	RINSE	1	1976	5	1	2	2	1		
1	1190	1	170	8	2	4	8	1	~~09143 A45 23~~	~~RINSE~~ NITRIC ACID	1	1976	5	1	2	2	1		
	*																		

EH

EH 858 4/86

Date Submitted 6/88

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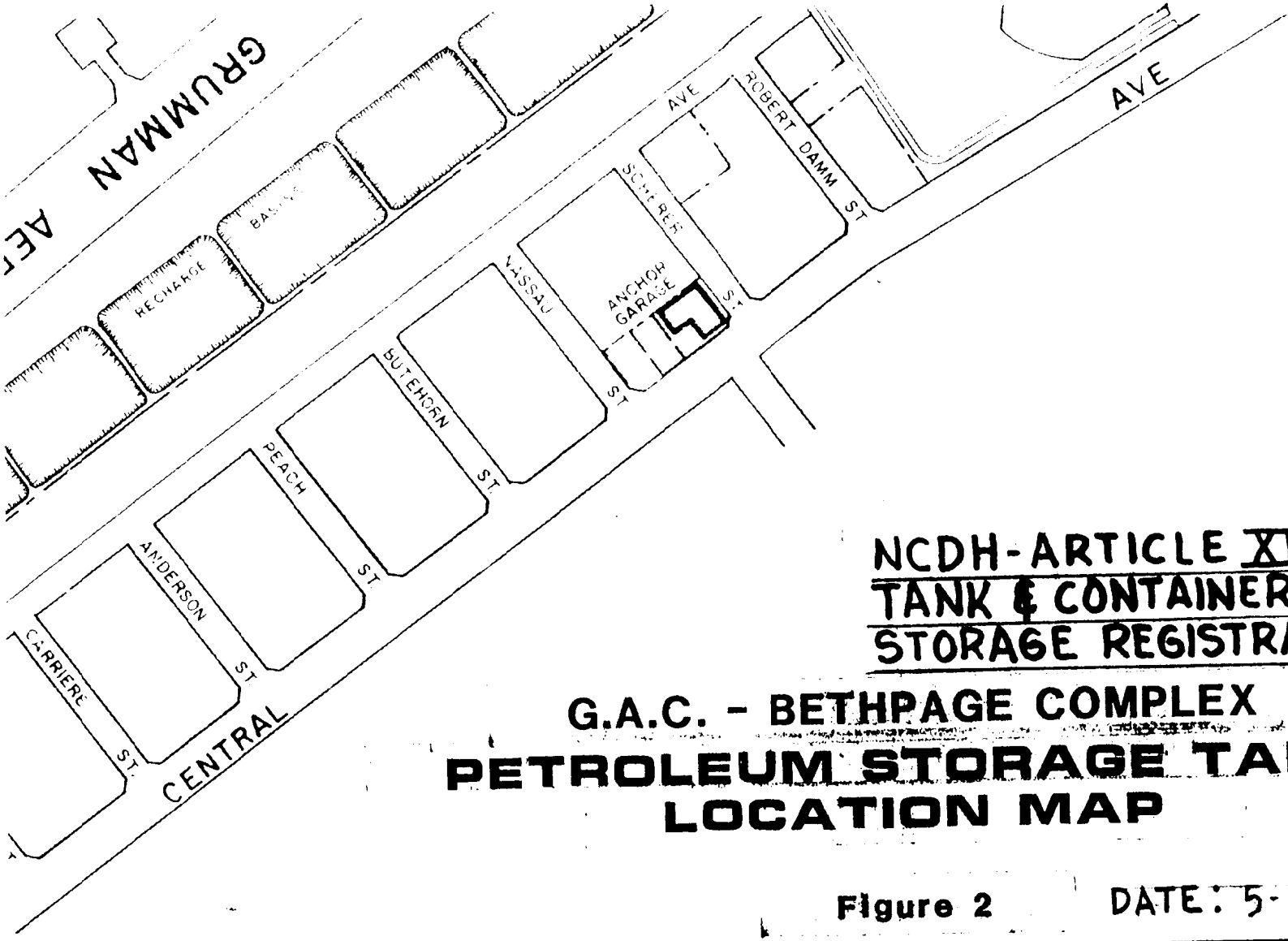
☐ D.P.

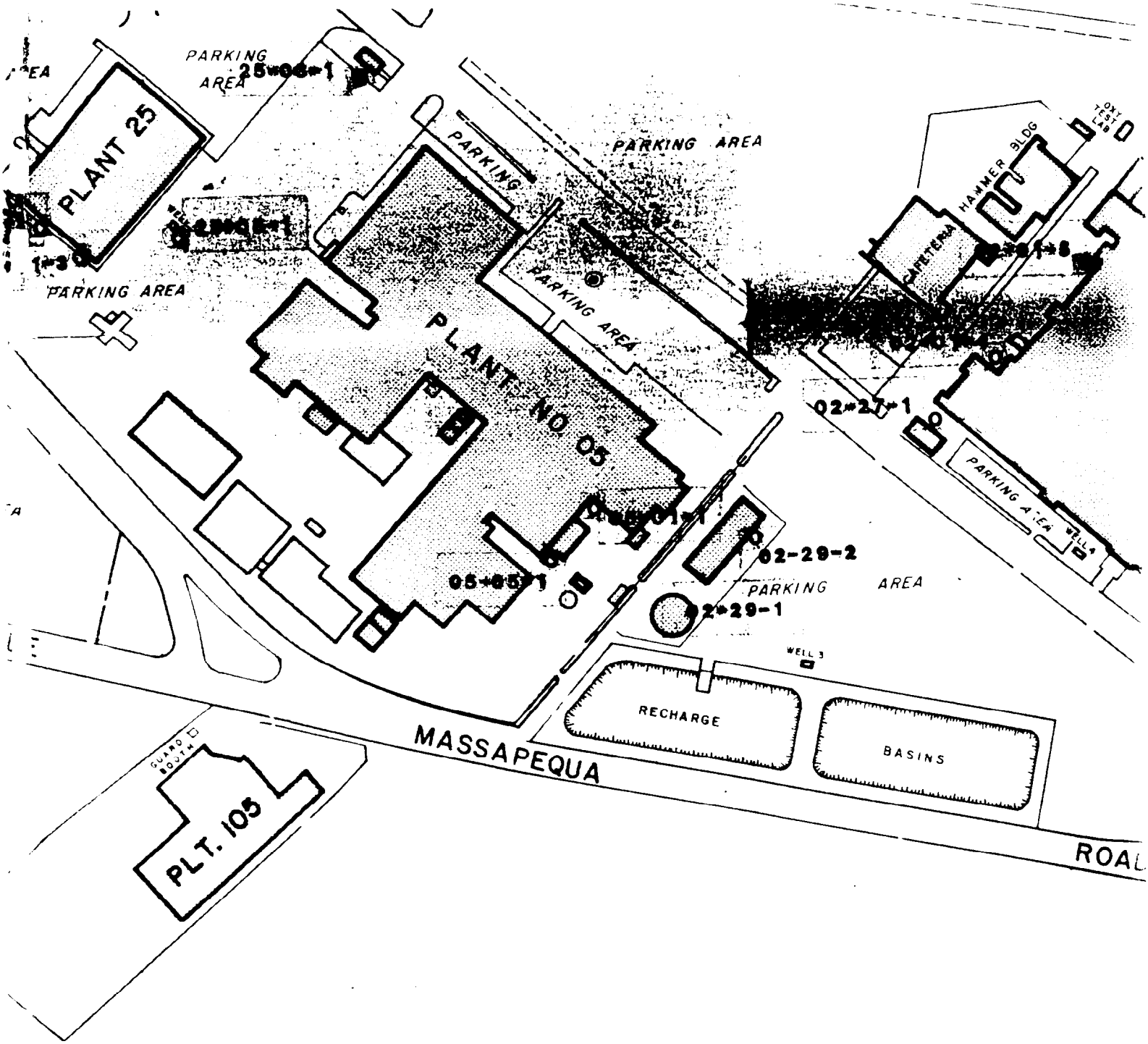


NCDH-ARTICLE XI
TANK & CONTAINER
STORAGE REGISTRATION

G.A.C. - BETHPAGE COMPLEX
PETROLEUM STORAGE TANK LOCATION MAP

Figure 2 DATE: 5-20-88

[redacted]


PARKING AREA
PLANT 25
PARKING AREA
PARKING
PARKING AREA
PARKING
PARKING AREA
PLANT NO. 05
HAMMER BLDG
CAFETERIA
02-27-1
PARKING AREA
02-29-2
PARKING AREA
02-29-1
WELL 3
RECHARGE
BASINS
MASSAPEQUA
GUARD BOOTH
PLT. 103

Tank No.	Location/Use	Contents	Gallons Buried	Gallons Above Ground	Material of Construction	Age of Tank (Yr) As of 1985
05-01-1	Plant 5 - Generator	Diesel	1,000	--	Steel-Asphalt Coating	41
05-05-1	Fire Pump House	Gasoline	250	--	Steel-Asphalt Coating	32
12-02-1	Maintenance Facilities-Fueling	Diesel	--	275	Steel	5
12-03-1	Boiler House - Boiler	6	15,000	--	Steel-Asphalt Coating	19
12-03-2	Boiler House - Boiler	4	15,000	--	Steel-Asphalt Coating	19
12-03-3	Boiler House - Generator	Diesel	--	275	Steel	40
12-03-4	Boiler House - Generator	Diesel	--	275	Steel	40
12-05-1	Environmental Operations - Boiler	2	1,000	--	Steel-Asphalt Coating	17
12B-1	Maintenance Warehouse - Boiler	4	10,000	--	Steel-Asphalt Coating	14
14-01-1	Electrical Systems Center-Boiler	6	10,000	--	Steel-Asphalt Coating	25
14-01-2	Electrical Systems Center - Boiler	6	10,000	--	Steel-Asphalt Coating	25
14-01-3	Electrical Systems Center-Generator	Diesel	275	--	Steel-Asphalt Coating	25
14-01-4	Electrical Systems Center-Generator	Diesel	550	--	Fiberglass	1
15-01-1	Engineering Building - Boiler	2	10,000	--	Steel-Asphalt Coating	27
15-01-2	Engineering Building - Boiler	2	--	550	Steel	27
15-01-3	Engineering Building - Boiler	2	--	275	Steel	1
15-01-4	Engineering Building - Generator	Diesel	--	275	Steel	7

TABLE A-1

ank No.	Location/Use	Contents	Gallons Buried	Gallons Above Ground	Material of Construction	Age of Tank (Yr) As of 1985
4-01-1	Receiving & Inspection - Boiler	4	10,000	--	Steel-Asphalt Coating	19
4-01-2	Receiving & Inspection - Waste Oil Storage	Misc.Oil	2,000	--	Steel-Asphalt Coating	19
5-01-1	Space & Missile Center - Boiler	6	20,000	--	Steel-Asphalt Coating	22
5-01-2	Space & Missile Center - Boiler	6	20,000	--	Steel-Asphalt Coating	22
5-01-3	Space & Missile Center - Generator	Diesel	550	--	Steel-Asphalt Coating	22
5-03-1	Guard House - Boiler	2	--	275	Steel	40
5-05-1	Well #5 - Pump	Gasoline	275	--	Steel-Asphalt Coating	40
5-08-1	Record Center - Boiler	2	2,000	--	Fiberglass	3
6-01-1	Research Lab - Boiler	2	20,000	--	Fiberglass	1
6-01-2	Research Lab - Generator	Diesel	550	--	Fiberglass	0
28-01-1	Office Bldg. - Boiler	2	4,000	--	Steel-Asphalt Coating	21
28A-01-1	Recreation Bldg.	2	5,000	--	Steel-Asphalt Coating	21
30-01-1	Office Building - Boiler	6	15,000	--	Steel-Asphalt Coating	21
30-01-2	Office Building - Boiler	6	15,000	--	Steel-Asphalt Coating	21
30-01-3	Office Building - Generator	Diesel	550	--	Steel-Asphalt Coating	21
31-01-1	Air Testing Facility - Boiler	2	12,000	--	Fiberglass	0

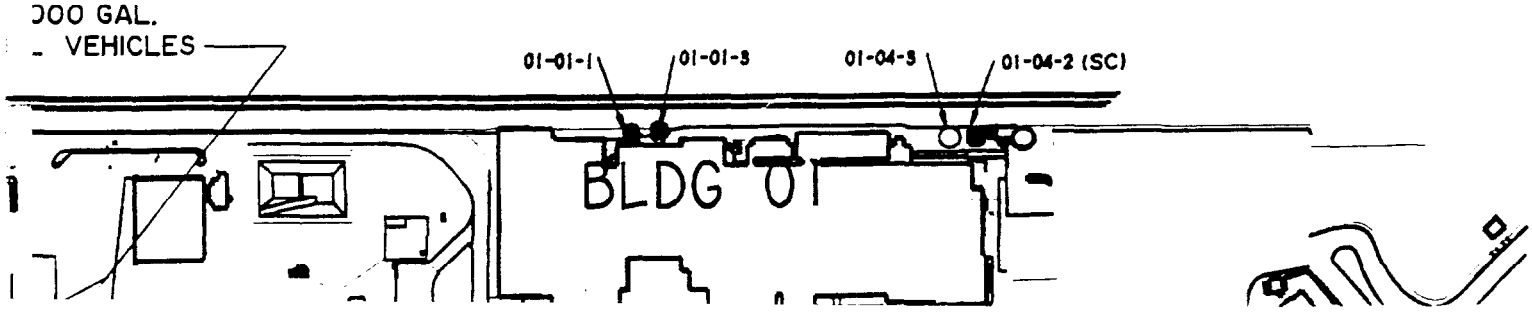
FIGURE 2-2

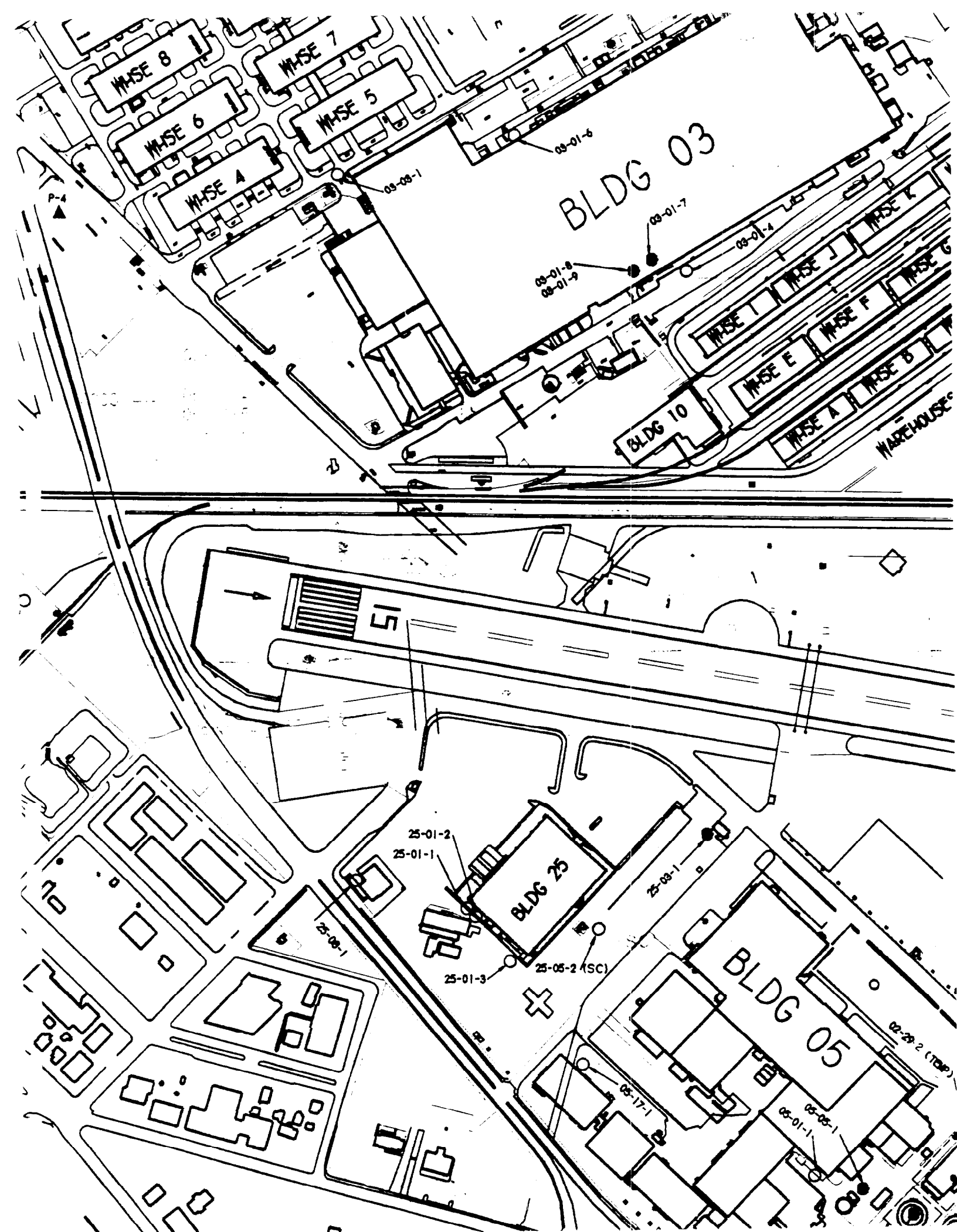
GRUMMAN AEROSPACE CORPORATION BETHPAGE COMPLEX

GROUNDWATER PROTECTION PLAN SITE MAP

LEGEND

- ● LOCATION OF ABOVE GROUND PETROLEUM STORAGE TANK
- ○ LOCATION OF BURIED PETROLEUM STORAGE TANK
- 01-01-1 TANK IDENTIFICATION NUMBER
- SC SECONDARY CONTAINMENT
- ▲ MPPL MONITORING WELL




WHSE 8
WHSE 7
WHSE 6
WHSE 5
WHSE 4
BLDG 03
03-01-6
03-05-1
03-01-7
03-01-4
03-01-8
03-01-9
WHSE J
WHSE I
WHSE F
WHSE E
WHSE B
WHSE A
BLDG 10
WAREHOUSE
P-4
51
25-01-2
25-01-1
BLDG 25
25-03-1
25-05-1
25-01-3
25-05-2 (SC)
BLDG 05
05-17-1
05-05-1
05-01-1

18-20 1a (2/90)—9a

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

MAJOR PETROLEUM FACILITY LICENSE

Tank Listing For License Number: 1-1280

TANK NUMBER	DATE INSTALLED (Month/Year)	TANK LOCATION	TANK TYPE	CAPACITY (Gallons)	PRODUCT STORED
12B-1	12/71	Underground	Steel/Carbon Steel	10,000	Nos. 1,2, or 4 Fuel Oil
01-01-1	12/83	Aboveground on rack	Steel/Carbon Steel	275	Diesel
01-01-2	12/57	Underground	Steel/Carbon Steel	2,500	Other
01-01-3	12/83	Aboveground on rack	Steel/Carbon Steel	275	Diesel
01-04-2	12/85	Aboveground on rack	Steel/Carbon Steel	275	Diesel
02-01-5	12/76	Aboveground on rack	Steel/Carbon Steel	275	Diesel
02-01-7	12/41	Aboveground on rack	Steel/Carbon Steel	275	Diesel
02-01-8	12/86	Underground	FRP	550	Diesel
02-04-1	12/88	Aboveground on rack	Steel/Carbon Steel	275	Diesel
02-29-1	12/68	Aboveground	Steel/Carbon Steel	556,000	Nos. 5 or 6 Fuel Oil
02-35-1	12/78	Underground	Steel/Carbon Steel	10,000	Nos. 1,2, or 4 Fuel Oil
03-01-4	12/77	Underground	Steel/Carbon Steel	550	Diesel
03-01-6	12/80	Underground	FRP	2,500	Other
03-01-7	12/77	Aboveground on rack	Steel/Carbon Steel	275	Diesel
03-01-8	12/43	Aboveground on rack	Steel/Carbon Steel	275	Diesel
03-03-1	12/74	Underground	Steel/Carbon Steel	550	Diesel
03-34-2	12/82	Underground	FRP	550	Diesel
03-34-3	12/82	Underground	FRP	2,000	Nos. 1,2, or 4 Fuel Oil
03-34-4	12/82	Underground	FRP	4,000	Other
04-03-1	12/65	Underground	Steel/Carbon Steel	2,000	Nos. 1,2, or 4 Fuel Oil
04-04-1	12/85	Aboveground on rack	Steel/Carbon Steel	275	Diesel
04-04-2	12/43	Underground	Steel/Carbon Steel	275	Leaded Gasoline
04-04-3	12/43	Underground	Steel/Carbon Steel	275	Leaded Gasoline
→05-01-1	12/44	Underground	Steel/Carbon Steel	1,000	Diesel
→05-05-1	12/85	Aboveground on rack	Steel/Carbon Steel	275	Diesel
→05-17-1	06/89	Underground	FRP	550	Diesel
12-02-1	12/80	Aboveground on rack	Steel/Carbon Steel	275	Diesel
12-03-1	12/66	Underground	Steel/Carbon Steel	15,000	Nos. 1,2, or 4 Fuel Oil
12-03-2	12/66	Underground	Steel/Carbon Steel	15,000	Nos. 1,2, or 4 Fuel Oil
12-03-3	12/45	Aboveground on rack	Steel/Carbon Steel	275	Diesel

8 20-1a (2/90)--9a

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
MAJOR PETROLEUM FACILITY LICENSE

Tank Listing For License Number: 1-1280

TANK NUMBER	DATE INSTALLED (Month/Year)	TANK LOCATION	TANK TYPE	CAPACITY (Gallons)	PRODUCT STORED
12-03-4	12/45	Aboveground on rack	Steel/Carbon Steel	275	Diesel
12-05-1	12/68	Underground	Steel/Carbon Steel	1,000	Nos. 1,2, or 4 Fuel Oil
14-01-1	12/60	Underground	Steel/Carbon Steel	10,000	Nos. 5 or 6 Fuel Oil
14-01-2	12/60	Underground	Steel/Carbon Steel	10,000	Nos. 5 or 6 Fuel Oil
14-01-3	12/60	Underground	Steel/Carbon Steel	275	Diesel
14-01-4	12/84	Underground	FRP	550	Diesel
15-01-1	12/58	Underground	Steel/Carbon Steel	10,000	Nos. 1,2, or 4 Fuel Oil
15-01-2	12/58	Aboveground on rack	Steel/Carbon Steel	550	Nos. 1,2, or 4 Fuel Oil
15-01-4	12/78	Aboveground on rack	Steel/Carbon Steel	275	Diesel
17-20-1	12/44	Underground	Steel/Carbon Steel	15,000	Nos. 1,2, or 4 Fuel Oil
17-22-3	12/87	Aboveground on rack	Steel/Carbon Steel	275	Diesel
20-01-1	12/77	Underground	FRP	6,000	Diesel
20-01-2	12/77	Underground	FRP	4,000	Unleaded Gasoline
20-01-3	12/77	Underground	FRP	6,000	Unleaded Gasoline
20-01-6	12/43	Aboveground on rack	Steel/Carbon Steel	275	Nos. 1,2, or 4 Fuel Oil
20-01-7	12/68	Underground	Steel/Carbon Steel	2,000	Other
20-01-8	12/68	Aboveground on rack	Steel/Carbon Steel	275	Other
20-01-9	12/68	Underground	Steel/Carbon Steel	550	Other
24-01-1	12/66	Underground	Steel/Carbon Steel	10,000	Nos. 1,2, or 4 Fuel Oil
24-01-2	12/66	Underground	Steel/Carbon Steel	1,000	Other
25-01-1	12/86	Underground	Fiberglass Coated Steel	10,000	Nos. 5 or 6 Fuel Oil
25-01-2	12/86	Underground	Fiberglass Coated Steel	10,000	Nos. 5 or 6 Fuel Oil
25-01-3	12/63	Underground	Steel/Carbon Steel	550	Diesel
25-03-1	12/45	Aboveground on rack	Steel/Carbon Steel	275	Nos. 1,2, or 4 Fuel Oil
25-05-2	09/90	Underground	FRP	550	Diesel
25-08-1	12/82	Underground	FRP	2,000	Nos. 1,2, or 4 Fuel Oil
26-01-1	12/84	Underground	FRP	20,000	Nos. 1,2, or 4 Fuel Oil
26-01-2	12/85	Underground	FRP	550	Diesel
28-01-1	12/64	Underground	Steel/Carbon Steel	4,000	Nos. 1,2, or 4 Fuel Oil
30-01-1	12/64	Underground	Steel/Carbon Steel	15,000	Nos. 5 or 6 Fuel Oil

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
MAJOR PETROLEUM FACILITY LICENSE

Tank Listing For License Number: 1-1280

TANK NUMBER	DATE INSTALLED (Month/Year)	TANK LOCATION	TANK TYPE	CAPACITY (Gallons)	PRODUCT STORED
30-01-2	12/64	Underground	Steel/Carbon Steel	15,000	Nos. 5 or 6 Fuel Oil
30-01-3	12/64	Underground	Steel/Carbon Steel	550	Diesel
31-01-1	12/85	Underground	FRP	12,000	Nos. 1,2, or 4 Fuel Oil
35-01-1	12/66	Underground	Steel/Carbon Steel	15,000	Nos. 5 or 6 Fuel Oil
35-01-2	12/66	Underground	Steel/Carbon Steel	15,000	Nos. 5 or 6 Fuel Oil
35-01-3	12/66	Underground	Steel/Carbon Steel	550	Diesel
35-04-1	12/74	Underground	Steel/Carbon Steel	3,000	Nos. 1,2, or 4 Fuel Oil
111-01-1	12/70	Underground	Steel/Carbon Steel	4,000	Nos. 1,2, or 4 Fuel Oil
111-01-2	12/70	Underground	Steel/Carbon Steel	4,000	Nos. 1,2, or 4 Fuel Oil
111-01-3	12/70	Underground	Steel/Carbon Steel	1,000	Diesel
111-01-4	12/85	Aboveground on rack	Steel/Carbon Steel	275	Diesel
20-01-10	12/64	Underground	Steel/Carbon Steel	550	Diesel
20-01-11	02/79	Underground	FRP	20,000	Leaded Gasoline
20-01-12	12/79	Underground	FRP	20,000	Unleaded Gasoline
20-01-13	12/79	Underground	FRP	10,000	Diesel
20-01-14	12/79	Underground	FRP	6,000	Nos. 1,2, or 4 Fuel Oil
20-01-15	12/85	Underground	FRP	1,000	Nos. 1,2, or 4 Fuel Oil
20-01-19	12/82	Underground	FRP	550	Other
20-01-20	12/68	Aboveground on rack	Steel/Carbon Steel	275	Other
20-01-21	12/68	Aboveground on rack	Steel/Carbon Steel	275	Other

APPLICATION FOR RENEWAL OF A TOXIC OR HAZARDOUS MATERIALS
STORAGE FACILITY PERMIT
DIVISION OF ENVIRONMENTAL HEALTH
NASSAU COUNTY DEPARTMENT OF HEALTH

PAGE 1
08/01/93

FACILITY ID NUMBER : 000001 APPLICATION DUE : 08/01/93

NEW YORK STATE TAX EXEMPT? MUNICIPALITY
( ) YES ( ) NO
IF YES, INDICATE TAX EXEMPT NUMBER AND ENCLOSE COPY OF CERTIFICATE (FORM ST-119.1)
CERTIFICATE NUMBER:

ATTENTION: RENEWAL APPLICATION PAST DUE SECTION 6(A) OF ARTICLE XI, NASSAU COUNTY PUBLIC HEALTH ORDINANCE REQUIRES THAT THIS FACILITY HAVE A VALID OPERATING PERMIT. OPERATION WITHOUT A VALID PERMIT WILL SUBJECT FACILITY OWNER/OPERATOR TO LEGAL ACTION.

GRUMMAN AEROSPACE CORP.
STEWART AVE. MS D08-GHQ
BETHPAGE NY 11714

NOV 9 1993
NCDH-BEM

FACILITY NAME	STREET ADDRESS	FACILITY PHONE
GRUMMAN AEROSPACE CORP. BETHPAGE NY 11714	STEWART AVE.	516-575-2385
CONTACT PERSON	CONTACT TITLE	CONTACT PHONE
JOHN OHLMANN	DIR. ENV. PROT.	516-575-2385
FACILITY OWNER	STREET ADDRES	OWNER PHONE
GRUMMAN AEROSPACE CORP. BETHPAGE NY 11714	STEWART AVE.	516-575-2385
PROPERTY OWNER	STREET ADDRESS	PROPERTY PHONE
GRUMMAN AEROSPACE CORP. BETHPAGE NY 11714	STEWART AVE.	516-575-2385
PERMITTEE NAME	STREET ADDRESS	PERMITTEE PHONE
GRUMMAN AEROSPACE CORP. BETHPAGE NY 11714	STEWART AVE.	

PERMITTEE'S RELATIONSHIP TO FACILITY OWNER: X SAME OPERATOR OF FACILITY --OTHER SPECIFY

	TANK/STORAGE	CAPACITY	STATUS	LOCATION	TYPE OF MATERIAL STORED
	0010 TANK	4000	~~INSERVC~~	~~OUTABOVE~~	TRICHLOROETHYLENE
	0011 TANK	4000	~~INSERVC~~	~~OUTABOVE~~	TRICHLOROETHYLENE
	0028 TANK	338	~~INSERVC~~	~~INABOVEG~~	ALODINE
	0036 TANK	390	~~INSERVC~~	~~INABOVEG~~	OAKITE, #160
	0040 TANK	270	~~INSERVC~~	~~INABOVEG~~	HYDROCHLORIC ACID
	0044 TANK	400	~~INSERVC~~	~~INABOVEG~~	RINSEWATER, ALKALINE
	0047 TANK	1465	INSERVC	INABOVEG	RIDOLENE 53
→	0051 TANK	180	INSERVC	INABOVEG	SURFACTANTS
	0069 TANK	400	~~INSERVC~~	~~INABOVEG~~	BASIC DEACTIVATING SOLUTION
	0086 TANK	250	~~INSERVC~~	~~INABOVEG~~	RINSEWATER, ACID

IF THERE IS ANY TANK(S) OR STORAGE AREA(S), AT YOUR FACILITY WHICH ARE NOT LISTED ABOVE PLEASE PROVIDE US WITH THE FOLLOWING INFORMATION ABOUT EACH TANK OR AREA: CAPACITY, LOCATION, TYPE OF MATERIAL STORED IN THE TANK OR AREA, AND THE STATUS OF THE TANK OR AREA.

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PRINT NAME	SIGNATURE	TITLE	DATE
J. Ohlmann	J. Ohlmann	Dir. Corp. Env. Tech. and Compl.	11/24/93

APPLICATION FOR RENEWAL OF A TOXIC OR HAZARDOUS MATERIALS
STORAGE FACILITY PERMIT
DIVISION OF ENVIRONMENTAL HEALTH
NASSAU COUNTY DEPARTMENT OF HEALTH

08/01/93

RECEIVED
NOV 0 1993
NCDH-bam

FACILITY ID NUMBER : 000001

APPLICATION DUE : 08/01/93

TANK/STORAGE		CAPACITY	STATUS	LOCATION	TYPE OF MATERIAL STORED
0109	TANK	400	~~INSERVC~~	~~INABOVEG~~	BASIC DEACTIVATING SOLUTION
0116	TANK	1000	~~INSERVC~~	~~INABOVEG~~	ALKALINE SOLUTIONS, NOS
0117	TANK	800	~~INSERVC~~	~~INABOVEG~~	ACIDS, NOS
0131	TANK	760	INSERVC	INABOVEG	RINSEWATER, ACID
0132	TANK	619	INSERVC	INABOVEG	ZYGLO PENETRANT
0137	TANK	400	INSERVC	INABOVEG	BASIC DEACTIVATING SOLUTION
0138	TANK	560	INSERVC	INABOVEG	ZYGLO PENETRANT
0139	TANK	400	INSERVC	INABOVEG	BASIC DEACTIVATING SOLUTION
0140	TANK	160	INSERVC	INABOVEG	EMPTY/AUXILARY TANK
0141	TANK	670	INSERVC	INABOVEG	CHROMIC ACID
0142	TANK	760	INSERVC	INABOVEG	RINSEWATER, ACID
0143	TANK	670	INSERVC	INABOVEG	SULPHURIC ACID
0144	TANK	760	INSERVC	INABOVEG	RINSEWATER, ACID
0152	TANK	400	INSERVC	INABOVEG	BASIC DEACTIVATING SOLUTION
0166	TANK	50	~~INSERVC~~	~~INABOVEG~~	TRICHLOROETHANE, 1,1,1-
0167	TANK	560	INSERVC	INABOVEG	ZYGLO PENETRANT
0168	TANK	50	INSERVC	INABOVEG	TRICHLOROETHANE, 1,1,1-
0170	TANK	400	INSERVC	INABOVEG	BASIC DEACTIVATING SOLUTION
0206	TANK	470	~~INSERVC~~	~~INABOVEG~~	NITRIC & HYDROFLUORIC ACID MIX
0207	TANK	650	~~INSERVC~~	~~INABOVEG~~	RINSEWATER, ALKALINE
0208	TANK	470	~~INSERVC~~	~~INABOVEG~~	RINSEWATER, ACID
0209	TANK	650	~~INSERVC~~	~~INABOVEG~~	SODIUM HYDROXIDE
0210	TANK	55	INSERVC	INABOVEG	TRICHLOROETHYLENE
0211	TANK	250	INSERVC	INABOVEG	RINSEWATER, ACID
0213	TANK	190	INSERVC	INABOVEG	EMPTY/AUXILARY TANK
0214	TANK	250	INSERVC	INABOVEG	TANK, WATER RINSE
0215	TANK	350	INSERVC	INABOVEG	EMPTY/AUXILARY TANK
0216	TANK	350	INSERVC	INABOVEG	EMPTY/AUXILARY TANK
0228	TANK	4800	INSERVC	INABOVEG	RIDOLENE 53
0229	TANK	4300	INSERVC	INABOVEG	RINSEWATER, ALKALINE
0230	TANK	5000	INSERVC	INABOVEG	RINSEWATER, ACID
0231	TANK	5600	INSERVC	INABOVEG	ALODINE
0232	TANK	6000	INSERVC	INABOVEG	TANK, WATER RINSE
0256	TANK	250	INSERVC	INABOVEG	TRICHLOROETHYLENE
0259	TANK	50	INSERVC	INABOVEG	TRICHLOROETHANE, 1,1,1-
0261	TANK	760	INSERVC	INABOVEG	RINSEWATER, ACID
0262	TANK	760	INSERVC	INABOVEG	RINSEWATER, ALKALINE
0285	TANK	50	INSERVC	INABOVEG	TRICHLOROETHANE, 1,1,1-

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PRINT NAME	SIGNATURE	TITLE	DATE
J. OHLMANN	J. Ohlmann	Dir., Corp. Env. Tech. & Compliance	11/24/93

APPLICATION FOR RENEWAL OF A TOXIC OR HAZARDOUS MATERIALS
STORAGE FACILITY PERMIT
DIVISION OF ENVIRONMENTAL HEALTH
NASSAU COUNTY DEPARTMENT OF HEALTH

08/01/93

NOV 29 199

NCDH-BEH

FACILITY ID NUMBER : 000001

APPLICATION DUE : 08/01/93

TANK/STORAGE		CAPACITY	STATUS	LOCATION	TYPE OF MATERIAL STORED
0304	TANK	300	INSERVC	INABOVEG	PAINT, MISC
0305	TANK	300	INSERVC	INABOVEG	PAINT, MISC
0326	TANK	50	INSERVC	INABOVEG	TRICHLOROETHANE, 1,1,1-
0350	TANK	50	~~INSERVC~~	~~INABOVEG~~	TRICHLOROETHANE, 1,1,1-
0355	TANK	450	INSERVC	INABOVEG	CHROME DEACTIVATING SOLUTION
0357	TANK	450	INSERVC	INABOVEG	CHROME DEACTIVATING SOLUTION
0359	TANK	450	INSERVC	INABOVEG	CHROME DEACTIVATING SOLUTION
0360	TANK	14000	INSERVC	INABOVEG	POTASSIUM HYDROXIDE & NITRATE
0361	TANK	10500	INSERVC	INABOVEG	RINSEWATER, ALKALINE
0362	TANK	9800	INSERVC	INABOVEG	NITRIC & HYDROFLUORIC ACID MIX
0363	TANK	10500	INSERVC	INABOVEG	RINSEWATER, ACID
0365	TANK	10500	INSERVC	INABOVEG	RINSEWATER, ALKALINE
0366	TANK	10500	INSERVC	INABOVEG	RIDOLENE 73
0371	TANK	10500	INSERVC	OUTABOVE	ALKALINE SOLUTIONS, NOS
0372	TANK	10500	INSERVC	BELOWG	NITRIC & HYDROFLUORIC ACID MIX
0378	TANK	618	INSERVC	INABOVEG	ZYGLO PENETRANT
0384	TANK	115	INSERVC	INABOVEG	SURFACTANTS
0388	TANK	1570	INSERVC	INABOVEG	ALODINE
0399	TANK	4418	INSERVC	INABOVEG	SODIUM HYDROXIDE
0400	TANK	4418	INSERVC	INABOVEG	SODIUM HYDROXIDE
0402	TANK	2800	INSERVC	INABOVEG	GLYCOL
0403	TANK	2800	INSERVC	INABOVEG	GLYCOL
0449	TANK	1570	INSERVC	INABOVEG	RINSEWATER, ACID
0451	TANK	12630	INSERVC	INABOVEG	TURCO MASKANT
0455	TANK	6120	~~INSERVC~~	~~INABOVEG~~	RIDOLENE 53
0456	TANK	6300	~~INSERVC~~	~~INABOVEG~~	RINSEWATER, ALKALINE
0457	TANK	6120	~~INSERVC~~	~~INABOVEG~~	ALODINE
0458	TANK	6300	~~INSERVC~~	~~INABOVEG~~	RINSEWATER, ACID
0459	TANK	6885	INSERVC	INABOVEG	SULPHURIC ACID
0460	TANK	6300	INSERVC	INABOVEG	RINSEWATER, ACID
0461	TANK	6120	INSERVC	INABOVEG	SODIUM DICHROMATE
0462	TANK	6100	INSERVC	INABOVEG	TANK, WATER RINSE
0490	TANK	2700	INSERVC	INABOVEG	ZYGLO PENETRANT
0491	TANK	2200	INSERVC	INABOVEG	MAGNAFLUX
0493	TANK	6750	INSERVC	INABOVEG	MAGNAFLUX
0503	TANK	115	INSERVC	INABOVEG	ALKALINE SOLUTIONS, NOS
0506	TANK	1300	INSERVC	INABOVEG	CHROME DEACTIVATING SOLUTION
0508	TANK	1300	INSERVC	INABOVEG	CHROME DEACTIVATING SOLUTION

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PRINT NAME	SIGNATURE	TITLE	DATE
J. OHLMANN	J. Ohlmann	Dir., Corp. ~~Env. Tech. & Comp.~~	11/24/93

STORAGE FACILITY PERMIT
VISION OF ENVIRONMENTAL HEALTH
SSAU COUNTY DEPARTMENT OF HEALTH

08/01/93

RECEIVED

NOV 29 1993

NCOH-BEM

CILITY ID NUMBER : 000001

PPLICATION DUE : 08/01/93

TANK/STORAGE		CAPACITY	STATUS	LOCATION	TYPE OF MATERIAL STORED
0520	TANK	4670	INSERVC	INABOVEG	ALODINE
0594	TANK	3200	INSERVC	INABOVEG	SODIUM NITRATE
0601	TANK	650	INSERVC	INABOVEG	BASIC DEACTIVATING SOLUTION
0602	TANK	550	INSERVC	INABOVEG	CHROME DEACTIVATING SOLUTION
0603	TANK	1300	INSERVC	INABOVEG	CHROME DEACTIVATING SOLUTION
0604	TANK	1300	INSERVC	INABOVEG	CHROME DEACTIVATING SOLUTION
0605	TANK	1300	INSERVC	INABOVEG	CHROME DEACTIVATING SOLUTION
0606	TANK	1300	INSERVC	INABOVEG	CHROME DEACTIVATING SOLUTION
0607	TANK	290	~~INSERVC~~	~~INABOVEG~~	TANK, WATER RINSE
0644	TANK	2350	INSERVC	INABOVEG	NITRIC ACID & SODIUM SULFATE
0645	TANK	2350	INSERVC	INABOVEG	RINSEWATER, ACID
0697	TANK	1800	INSERVC	INABOVEG	TURCO MASKANT
0740	TANK	185	INSERVC	INABOVEG	PHOSPHORIC ACID
0780	TANK	748	INSERVC	INABOVEG	CAUSTICS
0793	TANK	3600	INSERVC	OUTABOVE	PAINT, MISC
0794	TANK	3500	INSERVC	OUTABOVE	PAINT, MISC
0815	TANK	3600	INSERVC	OUTABOVE	ALODINE
0885	TANK	4000	~~INSERVC~~	~~OUTABOVE~~	TRICHLOROETHYLENE
0930	TANK	50	INSERVC	INABOVEG	FREON
0934	TANK	675	~~INSERVC~~	~~INABOVEG~~	NITRIC ACID
0935	TANK	675	~~INSERVC~~	~~INABOVEG~~	RINSEWATER, ACID
0939	TANK	1570	INSERVC	INABOVEG	RINSEWATER, ALKALINE
0941	TANK	500	INSERVC	INABOVEG	TRICHLOROETHANE, 1,1,1-
0947	TANK	470	INSERVC	INABOVEG	NITRIC & HYDROFLUORIC ACID MIX
0956	TANK	6100	INSERVC	INABOVEG	RIDOLENE 53
0957	TANK	6100	INSERVC	INABOVEG	RINSEWATER, ALKALINE
0958	TANK	6100	INSERVC	INABOVEG	ALODINE
0959	TANK	6100	INSERVC	INABOVEG	RINSEWATER, ACID
0984	TANK	50	~~INSERVC~~	~~INABOVEG~~	TRICHLOROETHANE, 1,1,1-
1021	TANK	1465	INSERVC	INABOVEG	SULFURIC & OXALIC ACID MIX
1022	TANK	1465	INSERVC	INABOVEG	RINSEWATER, ACID
1023	TANK	1465	INSERVC	INABOVEG	ALODINE
1024	TANK	1465	INSERVC	INABOVEG	TANK, WATER RINSE
1039	TANK	330	INSERVC	INABOVEG	EMPTY/AUXILARY TANK
1052	TANK	157	INSERVC	INABOVEG	TANK, WATER RINSE
1053	TANK	157	INSERVC	INABOVEG	SURFACTANTS
1054	TANK	157	INSERVC	INABOVEG	TANK, WATER RINSE
1055	TANK	157	INSERVC	INABOVEG	TRICHLOROETHANE, 1,1,1-

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PRINT NAME	SIGNATURE	TITLE	DATE
J. OHLMANN	J. Ohlmann	Dir., Corp. Env. Tech. & Compliance	11/24/93

APPLICATION FOR RENEWAL OF A TOXIC OR HAZARDOUS MATERIALS
TORAGE FACILITY PERMIT
IVISION OF ENVIRONMENTAL HEALTH
NASSAU COUNTY DEPARTMENT OF HEALTH

RECEIVED
NOV 29 1993
NCDH-DEH

ACILITY ID NUMBER : 000001

APPLICATION DUE : 08/01/93

TANK/STORAGE		CAPACITY	STATUS	LOCATION	TYPE OF MATERIAL STORED
1056	TANK	45	INSERVC	INABOVEG	NITRIC & HYDROFLUORIC ACID MIX
1057	TANK	23	INSERVC	INABOVEG	TANK, WATER RINSE
1058	TANK	45	INSERVC	INABOVEG	NITRIC & HYDROFLUORIC ACID MIX
1059	TANK	270	INSERVC	INABOVEG	TANK, WATER RINSE
1063	TANK	157	INSERVC	INABOVEG	ISOPROPYL ALCOHOL
1068	TANK	1570	INSERVC	INABOVEG	RIDOLENE 53
1069	TANK	1570	INSERVC	INABOVEG	RINSEWATER, ALKALINE
1071	TANK	630	INSERVC	INABOVEG	ACIDS, NOS
1092	TANK	5000	INSERVC	BELOWG	DYES/PIGMENTS, N.O.S.
1093	TANK	5000	INSERVC	BELOWG	DYES/PIGMENTS, N.O.S.
1104	TANK	185	INSERVC	INABOVEG	TANK, WATER RINSE
1106	TANK	185	INSERVC	INABOVEG	ALODINE
1107	TANK	185	INSERVC	INABOVEG	TANK, WATER RINSE
1111	TANK	2160	~~INSERVC~~	~~OUTABOVE~~	WATER, WASTE-ORGANIC
1112	TANK	9975	INSERVC	INABOVEG	RINSEWATER, ACID
1120	TANK	9743	INSERVC	INABOVEG	SODIUM HYDROXIDE
1121	TANK	9743	INSERVC	INABOVEG	SODIUM HYDROXIDE
1122	TANK	18200	INSERVC	INABOVEG	RINSEWATER, ALKALINE
1123	TANK	9743	INSERVC	INABOVEG	NITRIC ACID
1124	TANK	18200	INSERVC	INABOVEG	RINSEWATER, ACID
1125	TANK	9743	INSERVC	INABOVEG	SODIUM HYDROXIDE
1126	TANK	18200	INSERVC	INABOVEG	RINSEWATER, ALKALINE
1127	TANK	9743	INSERVC	INABOVEG	HYDROFLUORIC ACID
1128	TANK	18200	INSERVC	INABOVEG	RINSEWATER, ACID
1129	TANK	9743	INSERVC	INABOVEG	NITRIC ACID
1130	TANK	18200	INSERVC	INABOVEG	RINSEWATER, ACID
1131	TANK	9743	INSERVC	OUTABOVE	SODIUM HYDROXIDE
1132	TANK	9743	INSERVC	OUTABOVE	WATER, MISC. INDUSTRIAL WASTES
1133	TANK	9743	INSERVC	OUTABOVE	NITRIC ACID
1134	TANK	9743	INSERVC	OUTABOVE	NITRIC ACID
1137	TANK	7700	INSERVC	INABOVEG	TRICHLOROETHANE, 1,1,1-
1138	TANK	9200	INSERVC	INABOVEG	RIDOLENE 57
1139	TANK	17400	INSERVC	INABOVEG	RINSEWATER, ALKALINE
1140	TANK	9200	INSERVC	INABOVEG	SODIUM HYDROXIDE
1141	TANK	9200	INSERVC	INABOVEG	ALODINE
1142	TANK	17400	INSERVC	INABOVEG	RINSEWATER, ACID
1144	TANK	9200	INSERVC	INABOVEG	CHROMIC ACID
1145	TANK	17400	INSERVC	INABOVEG	RINSEWATER, ACID

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PRINT NAME	SIGNATURE	TITLE	DATE
J. OHLMANN	J. Ohlmann	Dir., Corp. Env. Tech. & Compliance	11/24/93

APPLICATION FOR RENEWAL OF A TOXIC [illegible] 08/01/93
STORAGE FACILITY PERMIT
VISION OF ENVIRONMENTAL HEALTH
NASSAU COUNTY DEPARTMENT OF HEALTH

RECEIVED

NOV 29 1993

NCDH-BEM

FACILITY ID NUMBER : 000001

APPLICATION DUE : 08/01/93

TANK/STORAGE		CAPACITY	STATUS	LOCATION	TYPE OF MATERIAL STORED
1150	TANK	9200	INSERVC	OUTABOVE	ACIDS, NOS
1151	TANK	9200	INSERVC	OUTABOVE	ACIDS, NOS
1152	TANK	9200	INSERVC	OUTABOVE	ACIDS, NOS
1156	TANK	517	INSERVC	INABOVEG	EMPTY/AUXILARY TANK
1157	TANK	517	INSERVC	INABOVEG	EMPTY/AUXILARY TANK
1184	TANK	10300	INSERVC	OUTABOVE	NITRIC & HYDROFLUORIC ACID MIX
→1190	TANK	170	INSERVC	INABOVEG	NITRIC ACID
→1191	TANK	1800	INSERVC	OUTABOVE	TRADE NAME, ORGANIC
1193	TANK	3700	INSERVC	OUTABOVE	ACIDS, NOS
1194	TANK	3700	INSERVC	OUTABOVE	ACIDS, NOS
1196	TANK	2000	INSERVC	BELOWG	ACIDS, NOS
1199	TANK	750	~~INSERVC~~	~~OUTABOVE~~	HYDROFLUORIC ACID
1200	TANK	5000	~~INSERVC~~	~~OUTABOVE~~	HYDROFLUORIC ACID
1201	TANK	1000	INSERVC	INABOVEG	TURCO MASKANT
1204	TANK	1000	INSERVC	BELOWG	OIL, FUEL #2
1207	TANK	10000	INSERVC	OUTABOVE	TETRACHLOROETHYLENE
1214	TANK	1850	INSERVC	INABOVEG	ORGANICS, MISC
1215	TANK	1850	INSERVC	INABOVEG	TRADE NAME, ORGANIC HALOGENATED
1221	TANK	2500	INSERVC	INABOVEG	TRICHLOROETHYLENE
1222	TANK	8800	INSERVC	INABOVEG	RIDOLENE 57
1223	TANK	17400	INSERVC	INABOVEG	TANK, WATER RINSE
1224	TANK	8800	INSERVC	INABOVEG	NITRIC ACID
1225	TANK	8800	INSERVC	INABOVEG	NITRIC ACID
1226	TANK	17400	INSERVC	INABOVEG	TANK, WATER RINSE
1228	TANK	8800	INSERVC	INABOVEG	ALODINE
1229	TANK	17400	INSERVC	INABOVEG	TANK, WATER RINSE
1230	TANK	8800	INSERVC	INABOVEG	SULPHURIC ACID
1231	TANK	17400	INSERVC	INABOVEG	TANK, WATER RINSE
1232	TANK	8800	INSERVC	INABOVEG	SODIUM DICHROMATE
1233	TANK	17400	INSERVC	INABOVEG	TANK, WATER RINSE
→1239	TANK	900	INSERVC	INABOVEG	GLYCOL
1251	TANK	365	INSERVC	INABOVEG	TRICHLOROETHYLENE
1252	TANK	38430	INSERVC	INABOVEG	SILICATES, NOS
1253	TANK	38430	INSERVC	INABOVEG	TANK, WATER RINSE
1254	TANK	6000	INSERVC	OUTABOVE	METHANOL
1263	TANK	1600	INSERVC	INABOVEG	POTASSIUM NITRATE
1264	TANK	2700	INSERVC	INABOVEG	SODIUM NITRITE
1265	TANK	375	INSERVC	INABOVEG	LEAD

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PLICATION FOR RENEWAL OF A TOXIC OR HAZARDOUS MATERIALS
ORAGE FACILITY PERMIT
IVISION OF ENVIRONMENTAL HEALTH
SSAU COUNTY DEPARTMENT OF HEALTH

RECEIVED
NOV 29 1993
NCDH-BEM

CILITY ID NUMBER : 000001

PLICATION DUE : 08/01/93

TANK/STORAGE		CAPACITY	STATUS	LOCATION	TYPE OF MATERIAL STORED
1266	TANK	250	INSERVC	INABOVEG	ZINC
1267	TANK	5300	INSERVC	INABOVEG	ETHYLENE GLYCOL
1272	TANK	700	INSERVC	INABOVEG	TETRACHLOROETHYLENE
1273	TANK	2958	INSERVC	INABOVEG	TANK, WATER RINSE
1274	TANK	1525	INSERVC	INABOVEG	ETHYLENE GLYCOL
1275	TANK	1525	INSERVC	INABOVEG	TANK, WATER RINSE
1276	TANK	1960	INSERVC	INABOVEG	SODIUM NITRATE
1303	TANK	600	INSERVC	OUTABOVE	TRICHLOROETHANE, 1,1,1-
1304	TANK	500	INSERVC	OUTABOVE	AMMONIA, ANHYDROUS
1403	TANK	3000	INSERVC	BELOWG	PHOTO CHEMICALS, NOS
1404	TANK	2500	INSERVC	BELOWG	PHOTO CHEMICALS, NOS
2004	TANK	550	~~INSERVC~~	~~BELOWG~~	WASTE OIL
2090	TANK	517	INSERVC	OUTABOVE	PHOTO CHEMICALS, NOS
2402	TANK	1000	INSERVC	BELOWG	WASTE OIL
6006	TANK	175	INSERVC	INABOVEG	ORGANICS, MISC
6008	TANK	175	INSERVC	INABOVEG	WASTEWATER TREATMENT CHEMICALS, NOS
7002	TANK	4800	INSERVC	INABOVEG	FREON
9001	TANK	11000	INSERVC	INABOVEG	WATER, MISC. INDUSTRIAL WASTES
9002	TANK	11000	INSERVC	INABOVEG	WATER, MISC. INDUSTRIAL WASTES
9003	TANK	11000	INSERVC	INABOVEG	WATER, MISC. INDUSTRIAL WASTES
9004	TANK	11000	INSERVC	INABOVEG	WATER, MISC. INDUSTRIAL WASTES
9005	TANK	15000	INSERVC	INABOVEG	WATER, MISC. INDUSTRIAL WASTES
9006	TANK	15000	INSERVC	INABOVEG	WATER, MISC. INDUSTRIAL WASTES
9007	TANK	15000	INSERVC	INABOVEG	WATER, MISC. INDUSTRIAL WASTES
9008	TANK	15000	INSERVC	INABOVEG	WATER, MISC. INDUSTRIAL WASTES
9009	TANK	15000	INSERVC	INABOVEG	WATER, MISC. INDUSTRIAL WASTES
9010	TANK	4700	INSERVC	INABOVEG	SLUDGE WASTES, INORGANIC
9011	TANK	4700	INSERVC	INABOVEG	SLUDGE WASTES, INORGANIC
9012	TANK	2000	INSERVC	INABOVEG	INORGANICS, MISC
9013	TANK	300	INSERVC	INABOVEG	CALCIUM CARBONATE
9014	TANK	300	INSERVC	INABOVEG	CALCIUM CARBONATE
9301	TANK	65000	INSERVC	BELOWG	TANK, WASTE TREATMENT
9302	TANK	40000	INSERVC	BELOWG	TANK, WASTE TREATMENT
9303	TANK	3800	INSERVC	INABOVEG	TANK, WASTE TREATMENT
9304	TANK	65000	INSERVC	BELOWG	TANK, WASTE TREATMENT
9305	TANK	103000	INSERVC	BELOWG	TANK, WASTE TREATMENT
9306	TANK	11770	INSERVC	BELOWG	TANK, WASTE TREATMENT
9307	TANK	16000	INSERVC	INABOVEG	TANK, WASTE TREATMENT

THERE IS ANY TANK(S) OR STORAGE AREA(S), AT YOUR FACILITY WHICH ARE NOT LISTED OVE PLEASE PROVIDE US WITH THE FOLLOWING INFORMATION ABOUT EACH TANK OR AREA: PACITY, LOCATION, TYPE OF MATERIAL STORED IN THE TANK OR AREA, AND THE STATUS F THE TANK OR AREA.

HEREBY AFFIRM UNDER PENALTY OF PERJURY, THAT ALL THE INFORMATION PROVIDED ON HIS FORM AND ON ANY ATTACHED FORMS, STATEMENTS AND EXHIBITS IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

PRINT NAME	SIGNATURE	TITLE	DATE
J. OHLMANN	J. Ohlmann	Dir., Corp. Env. Tech. & Compliance	11/24/93

APPLICATION FOR RENEWAL OF A TOXIC OR HAZARDOUS MATERIALS
STORAGE FACILITY PERMIT
DIVISION OF ENVIRONMENTAL HEALTH
NASSAU COUNTY DEPARTMENT OF HEALTH

RECEIVED

NOV 29 1993

HOEH-SEN

FACILITY ID NUMBER : 000001

APPLICATION DUE : 08/01/93

TANK/STORAGE		CAPACITY	STATUS	LOCATION	TYPE OF MATERIAL STORED
9308	TANK	16000	INSERVC	BELOWG	TANK, WASTE TREATMENT
9309	TANK	16000	INSERVC	INABOVEG	TANK, WASTE TREATMENT
9310	TANK	20600	INSERVC	OUTABOVE	ACIDS, NOS
9311	TANK	12690	INSERVC	OUTABOVE	CHARACTERISTIC OF CORROSIVITY
9312	TANK	16900	INSERVC	INABOVEG	NITRIC ACID
9313	TANK	10000	INSERVC	OUTABOVE	SULPHURIC ACID
9316	TANK	16000	INSERVC	INABOVEG	ORGANICS, MISC
9317	TANK	4000	INSERVC	INABOVEG	WATER TANK
9318	TANK	40	INSERVC	INABOVEG	ORGANICS, MISC
9320	TANK	7000	INSERVC	OUTABOVE	HYDROGEN PEROXIDE
9322	TANK	2000	INSERVC	INABOVEG	AMMONIUM NITRATE
9323	TANK	980	INSERVC	INABOVEG	ORGANICS, MISC
9328	TANK	11800	INSERVC	BELOWG	INORGANICS, MISC
9329	TANK	8000	INSERVC	OUTABOVE	SODIUM HYDROXIDE
9330	TANK	11800	INSERVC	OUTABOVE	HYDROFLUORIC ACID
9331	TANK	11800	INSERVC	BELOWG	FLUORIDE
9332	TANK	5800	INSERVC	OUTABOVE	WATER TANK
9333	TANK	5800	INSERVC	OUTABOVE	WATER TANK
9334	TANK	600	INSERVC	BELOWG	INORGANICS, MISC
9337	TANK	10000	INSERVC	BELOWG	SLUDGE, NOS
9338	TANK	10000	INSERVC	BELOWG	SLUDGE, NOS
0011	BULK	100	~~INSERVC~~	~~INDOOR~~	MULTIPLE CHEMICALS STORED IN BULK AREA
0012	BULK	1150	~~INSERVC~~	~~OUTDOOR~~	MULTIPLE CHEMICALS STORED IN BULK AREA
0014	BULK	800	INSERVC	OUTDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0020	BULK	1600	~~INSERVC~~	~~INDOOR~~	MULTIPLE CHEMICALS STORED IN BULK AREA
0020	BULK	110	~~INSERVC~~	~~INDOOR~~	MULTIPLE CHEMICALS STORED IN BULK AREA
0021	BULK	370	INSERVC	INDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0022	BULK	400	~~INSERVC~~	~~INDOOR~~	MULTIPLE CHEMICALS STORED IN BULK AREA
0023	BULK	1310	~~INSERVC~~	~~INDOOR~~	MULTIPLE CHEMICALS STORED IN BULK AREA
0025	BULK	100	~~INSERVC~~	~~INDOOR~~	FREON
0026	BULK	3885	~~INSERVC~~	~~INDOOR~~	MULTIPLE CHEMICALS STORED IN BULK AREA
0027	BULK	575	~~INSERVC~~	~~INDOOR~~	MULTIPLE CHEMICALS STORED IN BULK AREA
0028	BULK	500	~~INSERVC~~	~~INDOOR~~	MULTIPLE CHEMICALS STORED IN BULK AREA
0029	BULK	600	~~INSERVC~~	~~INDOOR~~	OIL, MISC
0031	BULK	2000	~~INSERVC~~	~~INDOOR~~	MULTIPLE CHEMICALS STORED IN BULK AREA
0032	BULK	400	INSERVC	INDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0034	BULK	100	~~INSERVC~~	~~INDOOR~~	TRICHLOROETHANE, 1,1,1-
0035	BULK	200	~~INSERVC~~	~~INDOOR~~	MULTIPLE CHEMICALS STORED IN BULK AREA

IF THERE IS ANY TANK(S) OR STORAGE AREA(S), AT YOUR FACILITY WHICH ARE NOT LISTED ABOVE PLEASE PROVIDE US WITH THE FOLLOWING INFORMATION ABOUT EACH TANK OR AREA: CAPACITY, LOCATION, TYPE OF MATERIAL STORED IN THE TANK OR AREA, AND THE STATUS OF THE TANK OR AREA.

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PRINT NAME	SIGNATURE	TITLE	DATE
J. OHLMANN	J. Ohlmann	Dir., Corp. Env. Tech. & Compliance	11/24/93

PPLICATION FOR RENEWAL OF A TOXIC OR HAZARDOUS MATERIALS
ORAGE FACILITY PERMIT
IVISION OF ENVIRONMENTAL HEALTH
ASSAU COUNTY DEPARTMENT OF HEALTH

RECEIVED

NOV 29 1993

CILITY ID NUMBER : 000001

PPLICATION DUE : 08/01/93

TANK/STORAGE		CAPACITY	STATUS	LOCATION	TYPE OF MATERIAL STORED
0037	BULK	1800	~~INSERVC~~	~~INDOOR~~	MULTIPLE CHEMICALS STORED IN BULK AREA
0038	BULK	25650	INSERVC	INDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0038	BULK	5300	INSERVC	INDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0039	BULK	270	INSERVC	INDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0041	BULK	1500	INSERVC	OUTDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0042	BULK	500	INSERVC	OUTDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0051	BULK	1500	INSERVC	OUTDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0052	BULK	300	INSERVC	OUTDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0053	BULK	400	INSERVC	OUTDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0061	BULK	440	INSERVC	INDOOR	OIL, MISC
0081	BULK	45000	INSERVC	INDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0082	BULK	47000	INSERVC	OUTDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0091	BULK	800	INSERVC	INDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0101	BULK	350	INSERVC	OUTDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0102	BULK	435	~~INSERVC~~	~~OUTDOOR~~	MULTIPLE CHEMICALS STORED IN BULK AREA
0111	BULK	1050	INSERVC	INDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0112	BULK	750	~~INSERVC~~	~~INDOOR~~	MULTIPLE CHEMICALS STORED IN BULK AREA
0113	BULK	300	~~INSERVC~~	~~OUTDOOR~~	MULTIPLE CHEMICALS STORED IN BULK AREA
0121	BULK	550	INSERVC	INDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0122	BULK	350	INSERVC	OUTDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0123	BULK	150	INSERVC	OUTDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0124	BULK	250	~~INSERVC~~	~~OUTDOOR~~	WASTE OIL
0125	BULK	2000	INSERVC	INDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0126	BULK	1535	~~INSERVC~~	~~INDOOR~~	MULTIPLE CHEMICALS STORED IN BULK AREA
0127	BULK	5050	~~INSERVC~~	~~INDOOR~~	MULTIPLE CHEMICALS STORED IN BULK AREA
0141	BULK	500	INSERVC	OUTDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0142	BULK	500	INSERVC	OUTDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0151	BULK	250	INSERVC	OUTDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0201	BULK	2840	~~INSERVC~~	~~OUTDOOR~~	MULTIPLE CHEMICALS STORED IN BULK AREA
0211	BULK	6000	INSERVC	INDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0211	BULK	12000	INSERVC	INDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0241	BULK	150	INSERVC	INDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0242	BULK	250	INSERVC	OUTDOOR	WASTE OIL
0261	BULK	500	INSERVC	OUTDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0301	BULK	18000	INSERVC	INDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0301	BULK	500	INSERVC	INDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0351	BULK	250	INSERVC	INDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0371	BULK	10600	INSERVC	OUTDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA

F THERE IS ANY TANK(S) OR STORAGE AREA(S), AT YOUR FACILITY WHICH ARE NOT LISTED BOVE PLEASE PROVIDE US WITH THE FOLLOWING INFORMATION ABOUT EACH TANK OR AREA: APACITY, LOCATION, TYPE OF MATERIAL STORED IN THE TANK OR AREA, AND THE STATUS F THE TANK OR AREA.

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PRINT NAME	SIGNATURE	TITLE	DATE
J. OHLMANN	J. Ohlmann	Dir., Copr. Env. Tech. & Compliance	11/24/93

APPLICATION FOR RENEWAL OF A TOXIC OR HAZARDOUS MATERIALS
STORAGE FACILITY PERMIT
VISION OF ENVIRONMENTAL HEALTH
NASSAU COUNTY DEPARTMENT OF HEALTH

08/01/93

NOV 29 1993

CILITY ID NUMBER : 000001

PPLICATION DUE : 08/01/93

TANK/STORAGE		CAPACITY	STATUS	LOCATION	TYPE OF MATERIAL STORED
0372	BULK	1125	INSERVC	INDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0911	BULK	410	INSERVC	INDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0912	BULK	550	INSERVC	OUTDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0913	BULK	350	INSERVC	INDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0920	BULK	100	INSERVC	INDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0920	BULK	2025	INSERVC	INDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0921	BULK	2500	~~INSERVC~~	~~INDOOR~~	MULTIPLE CHEMICALS STORED IN BULK AREA
0922	BULK	86000	INSERVC	INDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0923	BULK	4000	INSERVC	INDOOR	POTASSIUM NITRATE
0930	BULK	55000	INSERVC	OUTDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0931	BULK	10000	INSERVC	INDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0931	BULK	3500	INSERVC	INDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0932	BULK	800	INSERVC	OUTDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA
0933	BULK	600000	INSERVC	INDOOR	SODIUM CHLORIDE
0934	BULK	700	INSERVC	INDOOR	MULTIPLE CHEMICALS STORED IN BULK AREA

THERE IS ANY TANK(S) OR STORAGE AREA(S), AT YOUR FACILITY WHICH ARE NOT LISTED
BOVE PLEASE PROVIDE US WITH THE FOLLOWING INFORMATION ABOUT EACH TANK OR AREA:
PACITY, LOCATION, TYPE OF MATERIAL STORED IN THE TANK OR AREA, AND THE STATUS
THE TANK OR AREA.

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IS FORM AND ON ANY ATTACHED FORMS, STATEMENTS AND EXHIBITS IS TRUE AND CORRECT
O THE BEST OF MY KNOWLEDGE AND BELIEF.

PRINT NAME	SIGNATURE	TITLE	DATE
J. OHLMANN	J. Ohlmann	Dir., Corp. Env. Tech. & Compliance	11/24/93

NORTHROP GRUMMAN

Electronics & Systems Integration Division
Northrop Grumman Corporation
South Oyster Bay Road
Bethpage, New York 11714-3580

F D

97

August 13, 1997
ETC97-181

Mike Sekreta
Nassau County Department of Health
240 Old Country Road
Mineola, NY 11501-4250

Subject: **Toxic or Hazardous Materials Storage Permit Renewal Application-Facility ID Number: 000001, Bethpage Complex**

Enclosures:
(1) Renewal Application
(2) Form 2 - Tank Registration for Removed Tanks Only
(3) Form 3 - Bulk and Container Storage Registration for Removed Areas Only

Dear Mr. Sekreta,

Please find the above enclosures necessary for the subject permit renewal.

Tanks and container storage areas that have been removed are shown with a line drawn through the listing on the renewal application. In addition, each removed tank or area is identified on a Nassau County Department of Health Form 2 or Form 3 as required.

If you have any questions please contact me at (516) 575-2333 or J. Selva of this office at (516) 575-8176.

Very truly yours,

NORTHROP GRUMMAN CORPORATION

Larry Leskovjan, Manager
Environmental Health, Safety & Medical Services
M/S: D08-001

ToxHazAppl/Beth

APPLICATION FOR RENEWAL OF A TOXIC OR HAZARDOUS MATERIALS STORAGE FACILITY PERMIT
IVISION OF ENVIRONMENTAL HEALTH
NASSAU COUNTY DEPARTMENT OF HEALTH

ACILITY ID NUMBER : 000001

APPLICATION DUE : 08/01/1997

..ED
1997

NEW YORK STATE
TAX EXEMPT?
MUNICIPALITY
( ) YES ( ) NO
IF YES, INDICATE
TAX EXEMPT NUMBER
AND ENCLOSE COPY
OF CERTIFICATE
(FORM ST-119.1)
CERTIFICATE
NUMBER:

NORTHRUP GRUMMAN
STEWART AVE. MS D08-001
BETHPAGE NY 11714

FACILITY NAME	STREET ADDRESS	FACILITY PHONE
NORTHRUP GRUMMAN BETHPAGE NY 11714	STEWART AVE.	516-575-2385

CONTACT PERSON	CONTACT TITLE	CONTACT PHONE
JOHN COFMAN	ENV TECH & COMM	516-575-2385

FACILITY OWNER	STREET ADDRES	OWNER PHONE
NORTHRUP GRUMMAN CORP. BETHPAGE NY 11714	STEWART AVE.	516-575-2385

PROPERTY OWNER	STREET ADDRESS	PROPERTY PHONE
NORTHRUP GRUMMAN CORP. BETHPAGE NY 11714	STEWART AVE.	516-575-2385

PERMITTEE NAME	STREET ADDRESS	PERMITTEE PHONE
NORTHRUP GRUMMAN CORP. BETHPAGE NY 11714	STEWART AVE.	

PERMITTEE'S RELATIONSHIP TO FACILITY OWNER X SAME OPERATOR OF FACILITY OTHER SPECIFY

TANK/STORAGE	CAPACITY	STATUS	LOCATION	TYPE OF MATERIAL STORED
~~0047 TANK~~	~~1465~~	~~INSERVC~~	~~INABOVEG~~	~~KIDDLENE 53~~
~~0131 TANK~~	~~760~~	~~INSERVC~~	~~INABOVEG~~	~~RINSEWATER, ACID~~
0139 TANK	400	INSERVC	INABOVEG	EMPTY/AUXILARY TANK
~~0140 TANK~~	~~160~~	~~INSERVC~~	~~INABOVEG~~	~~EMPTY/AUXILARY TANK~~
~~0141 TANK~~	~~670~~	~~INSERVC~~	~~INABOVEG~~	~~CHROMIC ACID~~
~~0142 TANK~~	~~760~~	~~INSERVC~~	~~INABOVEG~~	~~RINSEWATER, ACID~~
~~0143 TANK~~	~~670~~	~~INSERVC~~	~~INABOVEG~~	~~SULPHURIC ACID~~
~~0144 TANK~~	~~760~~	~~INSERVC~~	~~INABOVEG~~	~~RINSEWATER, ACID~~
~~0213 TANK~~	~~190~~	~~INSERVC~~	~~INABOVEG~~	~~EMPTY/AUXILARY TANK~~
~~0214 TANK~~	~~250~~	~~INSERVC~~	~~INABOVEG~~	~~TANK, WATER RINSE~~

F THERE IS ANY TANK(S) OR STORAGE AREA(S), AT YOUR FACILITY WHICH ARE NOT LISTED ABOVE PLEASE PROVIDE US WITH THE FOLLOWING INFORMATION ABOUT EACH TANK OR AREA: CAPACITY, LOCATION, TYPE OF MATERIAL STORED IN THE TANK OR AREA, AND THE STATUS OF THE TANK OR AREA.

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PRINT NAME	SIGNATURE	TITLE	DATE

ACILITY ID NUMBER : 000001

PLICATION DUE : 08/01/1997

TANK/STORAGE	CAPACITY	STATUS	LOCATION	TYPE OF MATERIAL STORED
0215 TANK	350	INSERVC	INABOVEG	EMPTY/AUXILARY TANK
0216 TANK	350	INSERVC	INABOVEG	EMPTY/AUXILARY TANK
0256 TANK	250	INSERVC	INABOVEG	TRICHLOROETHYLENE
0259 TANK	50	INSERVC	INABOVEG	TRICHLOROETHANE, 1,1,1
0261 TANK	760	INSERVC	INABOVEG	RINSEWATER, ACID
0262 TANK	760	INSERVC	INABOVEG	RINSEWATER, ALKALINE
0285 TANK	50	INSERVC	INABOVEG	TRICHLOROETHANE, 1,1,1
0360 TANK	14000	INSERVC	INABOVEG	POTASSIUM HYDROXIDE & NITRATE
0361 TANK	10500	INSERVC	INABOVEG	RINSEWATER, ALKALINE
0363 TANK	10500	INSERVC	INABOVEG	RINSEWATER, ACID
0365 TANK	10500	INSERVC	INABOVEG	RINSEWATER, ALKALINE
0366 TANK	10500	INSERVC	INABOVEG	RIDOLENE 73
0371 TANK	10500	INSERVC	OUTABOVE	ALKALINE SOLUTIONS, NOS
0372 TANK	10500	INSERVC	BELOWG	NITRIC & HYDROFLUORIC ACID MIX
0384 TANK	115	INSERVC	INABOVEG	SURFACTANTS
0388 TANK	1570	INSERVC	INABOVEG	ALODINE
0399 TANK	4418	INSERVC	INABOVEG	SODIUM HYDROXIDE
0400 TANK	4418	INSERVC	INABOVEG	SODIUM HYDROXIDE
0449 TANK	1570	INSERVC	INABOVEG	RINSEWATER, ACID
0451 TANK	12630	INSERVC	INABOVEG	TURCO MASKANT
0490 TANK	2700	INSERVC	INABOVEG	ZYGLO PENETRANT
0491 TANK	2200	INSERVC	INABOVEG	MAGNAFLUX
0493 TANK	6750	INSERVC	INABOVEG	MAGNAFLUX
0503 TANK	115	INSERVC	INABOVEG	ALKALINE SOLUTIONS, NOS
0506 TANK	1300	INSERVC	INABOVEG	CHROME DEACTIVATING SOLUTION
0508 TANK	1300	INSERVC	INABOVEG	CHROME DEACTIVATING SOLUTION
0594 TANK	3200	INSERVC	INABOVEG	SODIUM NITRATE
0601 TANK	650	INSERVC	INABOVEG	BASIC DEACTIVATING SOLUTION
0603 TANK	1300	INSERVC	INABOVEG	CHROME DEACTIVATING SOLUTION
0604 TANK	1300	INSERVC	INABOVEG	CHROME DEACTIVATING SOLUTION
0605 TANK	1300	INSERVC	INABOVEG	CHROME DEACTIVATING SOLUTION
0606 TANK	1300	INSERVC	INABOVEG	CHROME DEACTIVATING SOLUTION
0644 TANK	2350	INSERVC	INABOVEG	NITRIC ACID & SODIUM SULFATE
0645 TANK	2350	INSERVC	INABOVEG	RINSEWATER, ACID
0740 TANK	185	INSERVC	INABOVEG	PHOSPHORIC ACID
0780 TANK	748	INSERVC	INABOVEG	CAUSTICS
0793 TANK	3600	INSERVC	OUTABOVE	PAINT, MISC
0794 TANK	3500	INSERVC	OUTABOVE	PAINT, MISC

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PRINT NAME SIGNATURE TITLE DATE

PPLICATION FOR RENEWAL OF A TOXIC OR HAZARDOUS MATERIALS
TORAGE FACILITY PERMIT
IVISION OF ENVIRONMENTAL HEALTH
ASSAU COUNTY DEPARTMENT OF HEALTH

ACILITY ID NUMBER : 000001

PPLICATION DUE : 08/01/1997

ED

1997

TANK/STORAGE		CAPACITY	STATUS	LOCATION	TYPE OF MATERIAL STORED
~~0815~~	~~TANK~~	~~3600~~	~~INSERVC~~	~~OUTABOVE~~	~~ALODINE~~
~~0930~~	~~TANK~~	~~50~~	~~INSERVC~~	~~INABOVEG~~	~~FREON~~
~~0939~~	~~TANK~~	~~1570~~	~~INSERVC~~	~~INABOVEG~~	~~RINSEWATER, ALKALINE~~
~~0941~~	~~TANK~~	~~500~~	~~INSERVC~~	~~INABOVEG~~	~~TRICHLOROETHANE, 1,1,1-~~
~~0956~~	~~TANK~~	~~6100~~	~~INSERVC~~	~~INABOVEG~~	~~RIDOLENE 53~~
~~0957~~	~~TANK~~	~~6100~~	~~INSERVC~~	~~INABOVEG~~	~~RINSEWATER~~, ALKALINE
~~0958~~	~~TANK~~	~~6100~~	~~INSERVC~~	~~INABOVEG~~	~~ALODINE~~
~~0959~~	~~TANK~~	~~6100~~	~~INSERVC~~	~~INABOVEG~~	~~RINSEWATER, ACID~~
~~1021~~	~~TANK~~	~~1465~~	~~INSERVC~~	~~INABOVEG~~	~~SULFURIC & OXALIC ACID MIX~~
~~1022~~	~~TANK~~	~~1465~~	~~INSERVC~~	~~INABOVEG~~	~~RINSEWATER, ACID~~
~~1023~~	~~TANK~~	~~1465~~	~~INSERVC~~	~~INABOVEG~~	~~ALODINE~~
~~1024~~	~~TANK~~	~~1465~~	~~INSERVC~~	~~INABOVEG~~	~~TANK, WATER RINSE~~
~~1039~~	~~TANK~~	~~330~~	~~INSERVC~~	~~INABOVEG~~	~~EMPTY/AUXILARY TANK~~
~~1052~~	~~TANK~~	~~157~~	~~INSERVC~~	~~INABOVEG~~	~~TANK, WATER RINSE~~
~~1053~~	~~TANK~~	~~157~~	~~INSERVC~~	~~INABOVEG~~	~~SURFACTANTS~~
~~1054~~	~~TANK~~	~~157~~	~~INSERVC~~	~~INABOVEG~~	~~TANK, WATER RINSE~~
~~1055~~	~~TANK~~	~~157~~	~~INSERVC~~	~~INABOVEG~~	~~TRICHLOROETHANE, 1,1,1~~
~~1056~~	~~TANK~~	~~45~~	~~INSERVC~~	~~INABOVEG~~	~~NITRIC & HYDROFLUORIC ACID MIX~~
~~1057~~	~~TANK~~	~~23~~	~~INSERVC~~	~~INABOVEG~~	~~TANK, WATER RINSE~~
~~1058~~	~~TANK~~	~~45~~	~~INSERVC~~	~~INABOVEG~~	~~NITRIC & HYDROFLUORIC ACID MIX~~
~~1059~~	~~TANK~~	~~270~~	~~INSERVC~~	~~INABOVEG~~	~~TANK, WATER RINSE~~
~~1063~~	~~TANK~~	~~157~~	~~INSERVC~~	~~INABOVEG~~	~~ISOPROPYL ALCOHOL~~
~~1068~~	~~TANK~~	~~1570~~	~~INSERVC~~	~~INABOVEG~~	~~RIDOLENE 53~~
~~1069~~	~~TANK~~	~~1570~~	~~INSERVC~~	~~INABOVEG~~	~~RINSEWATER, ALKALINE~~
~~1071~~	~~TANK~~	~~630~~	~~INSERVC~~	~~INABOVEG~~	~~ACIDS, NOS~~
~~1104~~	~~TANK~~	~~185~~	~~INSERVC~~	~~INABOVEG~~	~~TANK, WATER RINSE~~
~~1106~~	~~TANK~~	~~185~~	~~INSERVC~~	~~INABOVEG~~	~~ALODINE~~
~~1107~~	~~TANK~~	~~185~~	~~INSERVC~~	~~INABOVEG~~	~~TANK, WATER RINSE~~
~~1112~~	~~TANK~~	~~9975~~	~~INSERVC~~	~~INABOVEG~~	~~RINSEWATER, ACID~~
1120	TANK	9743	INSERVC	INABOVEG	SODIUM HYDROXIDE
1121	TANK	9743	INSERVC	INABOVEG	SODIUM HYDROXIDE
1122	TANK	18200	INSERVC	INABOVEG	RINSEWATER, ALKALINE
1123	TANK	9743	INSERVC	INABOVEG	NITRIC ACID
1124	TANK	18200	INSERVC	INABOVEG	RINSEWATER, ACID
1125	TANK	9743	INSERVC	INABOVEG	SODIUM HYDROXIDE
1126	TANK	18200	INSERVC	INABOVEG	RINSEWATER, ALKALINE
1127	TANK	9743	INSERVC	INABOVEG	HYDROFLUORIC ACID
1128	TANK	18200	INSERVC	INABOVEG	RINSEWATER, ACID

IF THERE IS ANY TANK(S) OR STORAGE AREA(S), AT YOUR FACILITY WHICH ARE NOT LISTED BOVE PLEASE PROVIDE US WITH THE FOLLOWING INFORMATION ABOUT EACH TANK OR AREA: APACITY, LOCATION, TYPE OF MATERIAL STORED IN THE TANK OR AREA, AND THE STATUS OF THE TANK OR AREA.

HEREBY AFFIRM UNDER PENALTY OF PERJURY, THAT ALL THE INFORMATION PROVIDED ON THIS FORM AND ON ANY ATTACHED FORMS, STATEMENTS AND EXHIBITS IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

PRINT NAME	SIGNATURE	TITLE	DATE
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APPLICATION FOR RENEWAL OF A TOXIC OR HAZARDOUS MATERIALS
STORAGE FACILITY PERMIT
DIVISION OF ENVIRONMENTAL HEALTH
NASSAU COUNTY DEPARTMENT OF HEALTH

FILED
1997

FACILITY ID NUMBER : 000001

APPLICATION DUE : 08/01/1997

TANK/STORAGE		CAPACITY	STATUS	LOCATION	TYPE OF MATERIAL STORED
1129	TANK	9743	INSERVC	INABOVEG	NITRIC ACID
1130	TANK	18200	INSERVC	INABOVEG	RINSEWATER, ACID
1131	TANK	9743	INSERVC	OUTABOVE	SODIUM HYDROXIDE
1132	TANK	9743	INSERVC	OUTABOVE	WATER, MISC. INDUSTRIAL WASTES
1133	TANK	9743	INSERVC	OUTABOVE	NITRIC ACID
1134	TANK	9743	INSERVC	OUTABOVE	NITRIC ACID
~~1137~~	~~TANK~~	~~7700~~	~~INSERVC~~	~~INABOVEG~~	~~TRICHLOROETHANE, 1,1,1-~~
~~1138~~	~~TANK~~	~~9200~~	~~INSERVC~~	~~INABOVEG~~	~~RIDOLENE 57~~
~~1139~~	~~TANK~~	~~17400~~	~~INSERVC~~	~~INABOVEG~~	~~RINSEWATER, ALKALINE~~
~~1140~~	~~TANK~~	~~9200~~	~~INSERVC~~	~~INABOVEG~~	~~SODIUM HYDROXIDE~~
~~1141~~	~~TANK~~	~~9200~~	~~INSERVC~~	~~INABOVEG~~	~~ALODINE~~
~~1142~~	~~TANK~~	~~17400~~	~~INSERVC~~	~~INABOVEG~~	~~RINSEWATER, ACID~~
~~1144~~	~~TANK~~	~~9200~~	~~INSERVC~~	~~INABOVEG~~	~~CHROMIC ACID~~
~~1145~~	~~TANK~~	~~17400~~	~~INSERVC~~	~~INABOVEG~~	~~RINSEWATER, ACID~~
~~1150~~	~~TANK~~	~~9200~~	~~INSERVC~~	~~OUTABOVE~~	~~ACIDS, NOS~~
~~1151~~	~~TANK~~	~~9200~~	~~INSERVC~~	~~OUTABOVE~~	~~ACIDS, NOS~~
~~1152~~	~~TANK~~	~~9200~~	~~INSERVC~~	~~OUTABOVE~~	~~ACIDS, NOS~~
~~1156~~	~~TANK~~	~~517~~	~~INSERVC~~	~~INABOVEG~~	~~EMPTY/AUXILARY TANK~~
~~1157~~	~~TANK~~	~~517~~	~~INSERVC~~	~~INABOVEG~~	~~EMPTY/AUXILARY TANK~~
~~1184~~	~~TANK~~	~~10300~~	~~INSERVC~~	~~OUTABOVE~~	~~NITRIC & HYDROFLUORIC ACID MIX~~
~~1190~~	~~TANK~~	~~170~~	~~INSERVC~~	~~INABOVEG~~	~~NITRIC ACID~~
~~1191~~	~~TANK~~	~~1800~~	~~INSERVC~~	~~OUTABOVE~~	~~TRADE NAME, ORGANIC~~
~~1193~~	~~TANK~~	~~3700~~	~~INSERVC~~	~~OUTABOVE~~	~~ACIDS, NOS~~
~~1194~~	~~TANK~~	~~3700~~	~~INSERVC~~	~~OUTABOVE~~	~~ACIDS, NOS~~
~~1207~~	~~TANK~~	~~10000~~	~~INSERVC~~	~~OUTABOVE~~	~~TETRACHLOROETHYLENE~~
~~1221~~	~~TANK~~	~~2500~~	~~INSERVC~~	~~INABOVEG~~	~~TRICHLOROETHYLENE~~
~~1222~~	~~TANK~~	~~3800~~	~~INSERVC~~	~~INABOVEG~~	~~RIDOLENE 57~~
~~1223~~	~~TANK~~	~~17400~~	~~INSERVC~~	~~INABOVEG~~	~~TANK, WATER RINSE~~
~~1224~~	~~TANK~~	~~3800~~	~~INSERVC~~	~~INABOVEG~~	~~NITRIC ACID~~
~~1225~~	~~TANK~~	~~3800~~	~~INSERVC~~	~~INABOVEG~~	~~NITRIC ACID~~
~~1226~~	~~TANK~~	~~17400~~	~~INSERVC~~	~~INABOVEG~~	~~TANK, WATER RINSE~~
~~1228~~	~~TANK~~	~~3800~~	~~INSERVC~~	~~INABOVEG~~	~~ALODINE~~
~~1229~~	~~TANK~~	~~17400~~	~~INSERVC~~	~~INABOVEG~~	~~TANK, WATER RINSE~~
~~1230~~	~~TANK~~	~~3800~~	~~INSERVC~~	~~INABOVEG~~	~~SULPHURIC ACID~~
~~1231~~	~~TANK~~	~~17400~~	~~INSERVC~~	~~INABOVEG~~	~~TANK, WATER RINSE~~
~~1232~~	~~TANK~~	~~3800~~	~~INSERVC~~	~~INABOVEG~~	~~SODIUM DICHROMATE~~
~~1233~~	~~TANK~~	~~17400~~	~~INSERVC~~	~~INABOVEG~~	~~TANK, WATER RINSE~~
~~1239~~	~~TANK~~	~~900~~	~~INSERVC~~	~~INABOVEG~~	~~GLYCOL~~

IF THERE IS ANY TANK(S) OR STORAGE AREA(S), AT YOUR FACILITY WHICH ARE NOT LISTED ABOVE PLEASE PROVIDE US WITH THE FOLLOWING INFORMATION ABOUT EACH TANK OR AREA: CAPACITY, LOCATION, TYPE OF MATERIAL STORED IN THE TANK OR AREA, AND THE STATUS OF THE TANK OR AREA.

I HEREBY AFFIRM UNDER PENALTY OF PERJURY, THAT ALL THE INFORMATION PROVIDED ON THIS FORM AND ON ANY ATTACHED FORMS, STATEMENTS AND EXHIBITS IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

PRINT NAME	SIGNATURE	TITLE	DATE

NASSAU COUNTY DEPARTMENT OF HEALTH
APPLICATION FOR A TOXIC OR HAZARDOUS MATERIALS STORAGE FACILITY PERMIT
FORM 2 - TANK REGISTRATION
SEE INSTRUCTION SHEETS

For Office Use Only

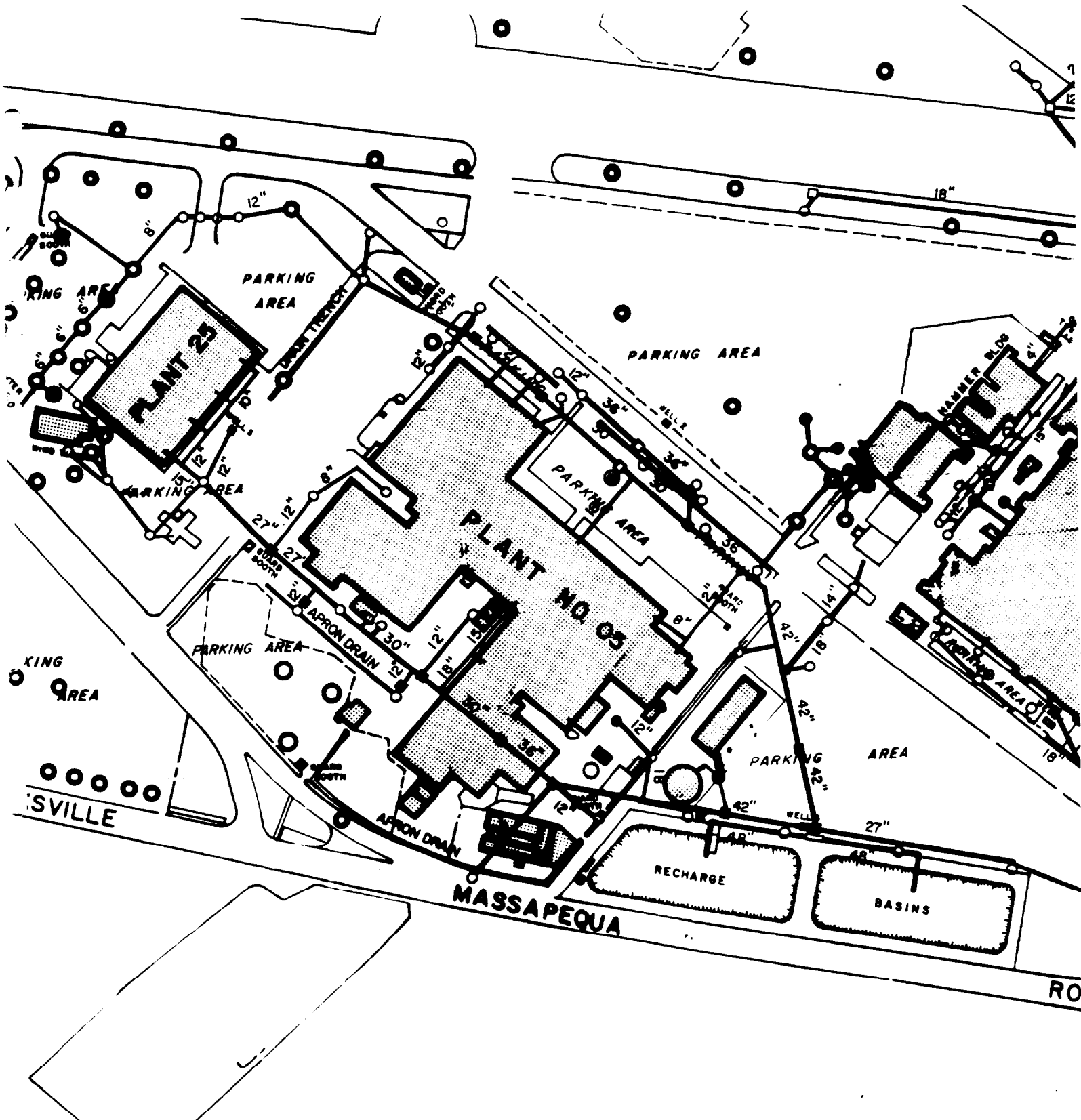
Date Application Received: 8/18/97
Facility I.D: 1
Reviewed By: DES
Date Reviewed: 9/19/97
Action: ☐ Not Req'd. ☐ Approved ☐ Disapproved
No. of Months:

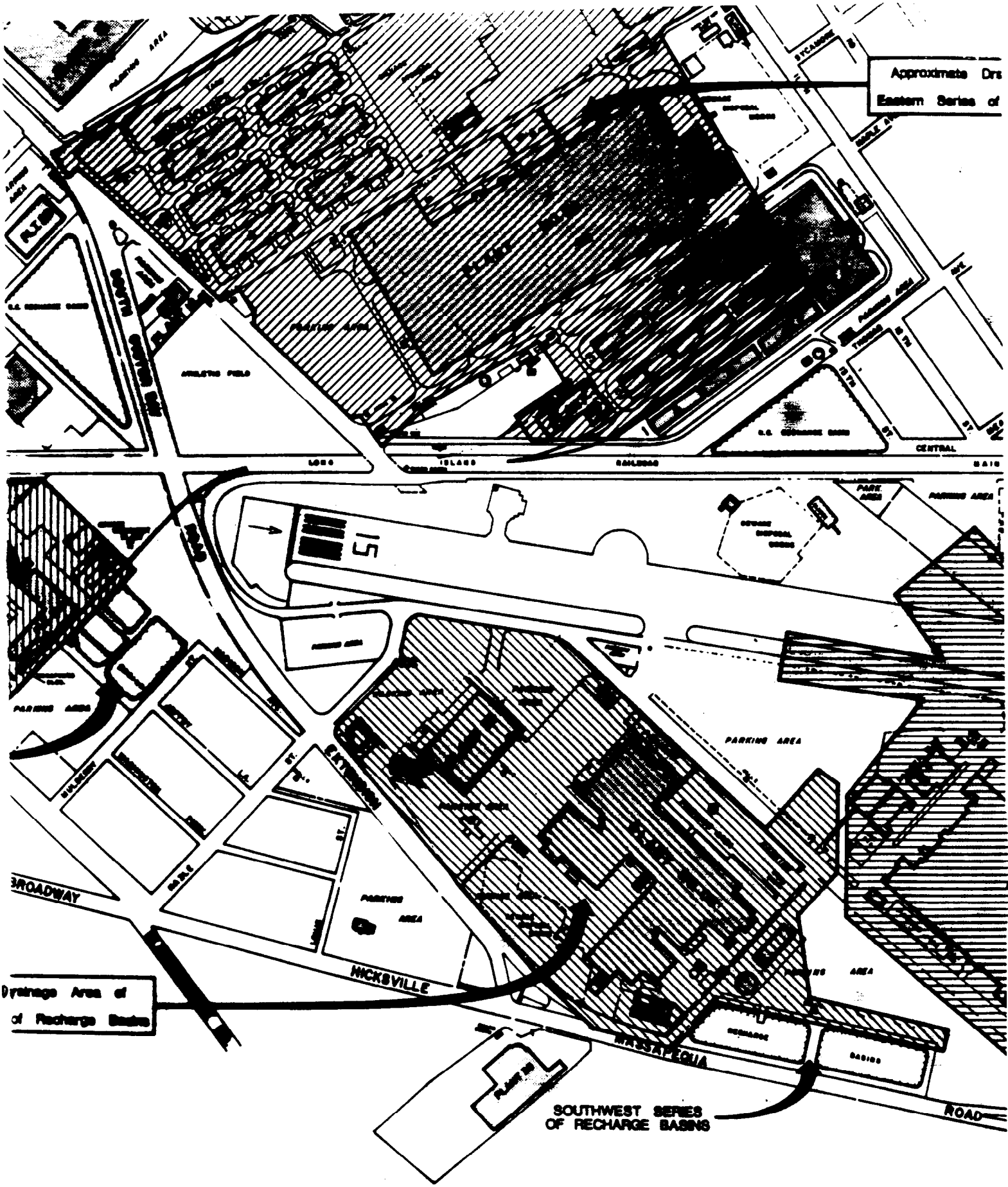
Facility Name: Grumman Aerospace Corporation

Facility Address: Mail Stop D08-001 Bethpage, NY 11714, Plant 5

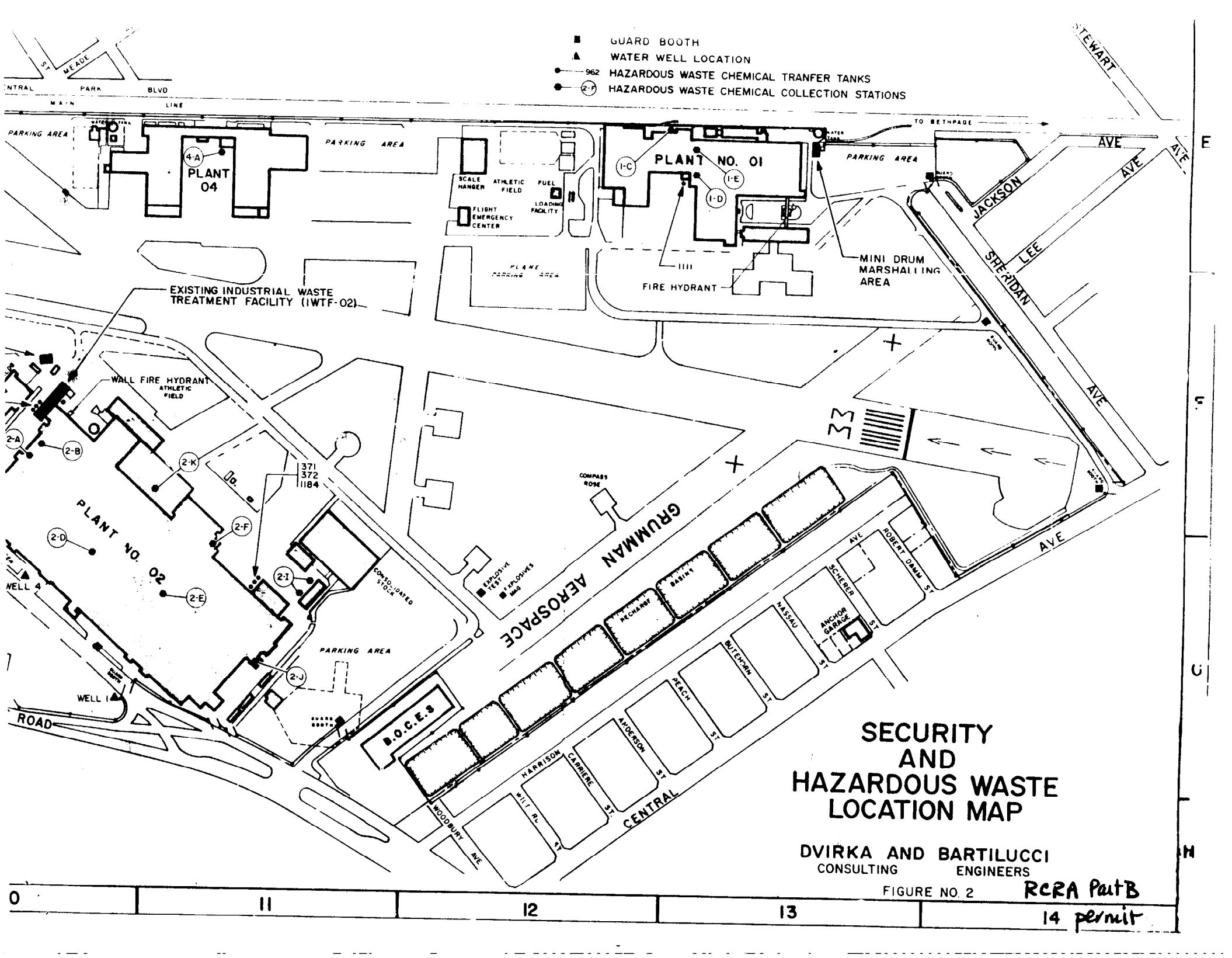
Action	Tank Number	Location	Design Capacity (Gallons)	Material of Construction	Internal Protection	External Protection	Piping	Type	Material Currently or Last Stored: NCDH Number	Material Currently or Last Stored: Name	Status	Tank Installation Date (Month/yr)	Leak Detection	Secondary Containment	Product Gauge	Dispenser Method	Additional Information for Abandoned Tanks: Date Last Used (Month/yr)	Additional Information for Abandoned Tanks: Condition
3	1104	1	185	8	2	4	8	1	06143	NITRIC ACID	3	1976	5	1	2	2	1	
3	1106	1	185	2	2	4	8	1	00043	ALODINE	3	1976	5	1	2	2	1	
3	1107	1	185	2	2	4	8	1	04573	RINSE	3	1976	5	1	2	2	1	
3	1190	1	170	8	2	4	8	1	04573	RINSE	3	1976	5	1	2	2	1	
3	1239	1	900	1	2	4	1	1	09021	AQUA QUENCH 251	3	1984	5	1	2	2	1	
3	1191	1	900	8	2	4	8	2	00043	WASTE ALODINE	3	1981	5	1	2	2	1	

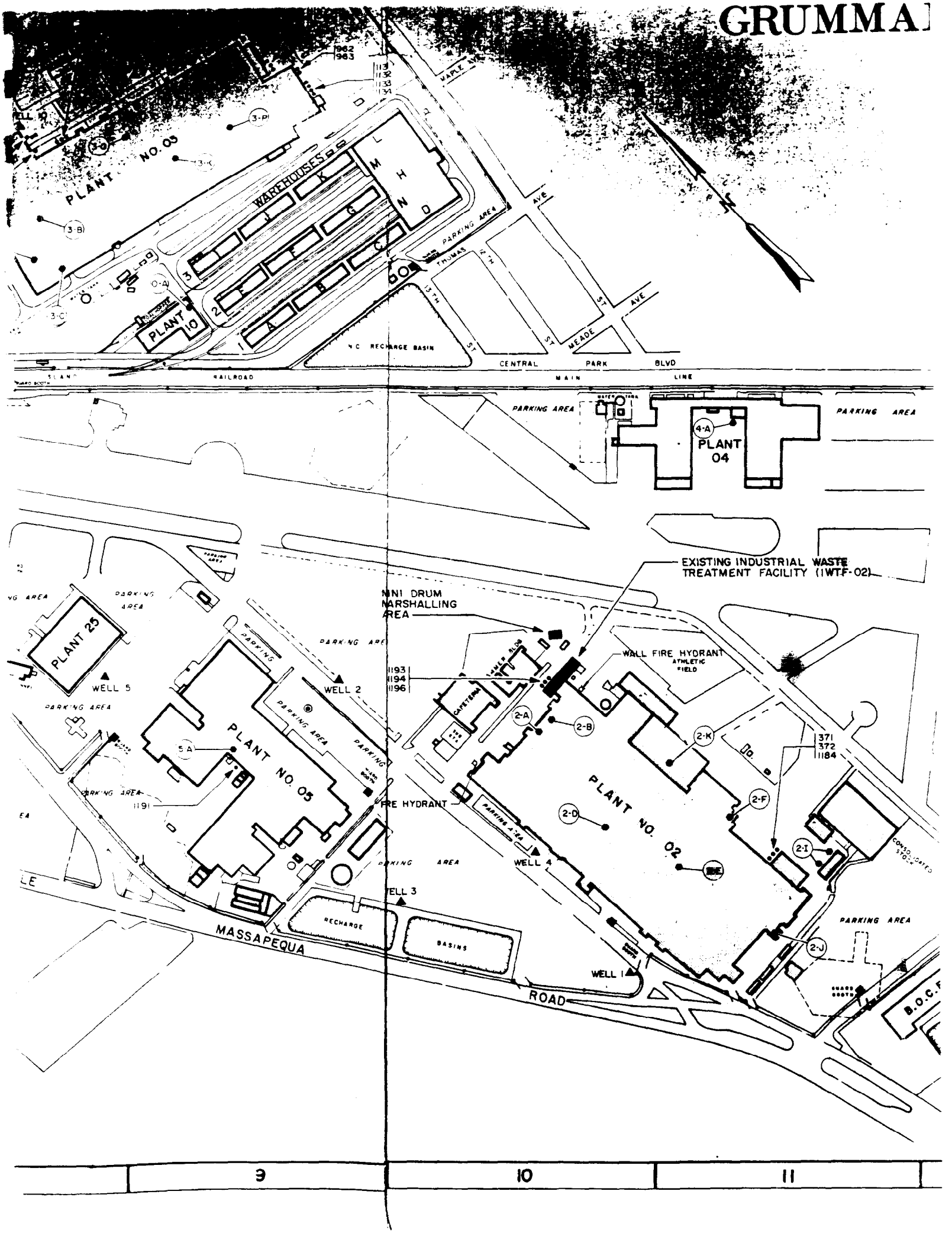
TH 858 1/86 Date Submitted Page 1 of 1


PARKING AREA
PLANT 25
DRAIN TRENCH
PARKING AREA
PLANT NO. 03
PARKING AREA
PARKING AREA
APRON DRAIN
APRON DRAIN
PARKING AREA
PARKING AREA
RECHARGE BASINS
MASSAPEQUA
12"
8"
18"
36"
30"
27"
42"
48"


Approximate Drs
Eastern Series of
PARKING AREA
BROADWAY
NICKSVILLE
Drainage Area of
of Recharge Basins
SOUTHWEST SERIES
OF RECHARGE BASINS
ROAD

7	8	9	10


GUARD BOOTH
WATER WELL LOCATION
962 HAZARDOUS WASTE CHEMICAL TRANFER TANKS
2-F HAZARDOUS WASTE CHEMICAL COLLECTION STATIONS
MAIN LINE
PARKING AREA
PLANT 04
4-A
SCALE HANGER
ATHLETIC FIELD
FUEL
LOADING FACILITY
FLIGHT EMERGENCY CENTER
PLANE PARKING AREA
PLANT NO. 01
1-C
1-E
1-D
FIRE HYDRANT
TO BETHPAGE
MINI DRUM MARSHALLING AREA
JACKSON AVE
LEE AVE
SHERIDAN AVE
STEWART AVE
EXISTING INDUSTRIAL WASTE TREATMENT FACILITY (IWTF-02)
WALL FIRE HYDRANT
ATHLETIC FIELD
2-A
2-B
2-K
371
372
1184
PLANT NO. 02
2-D
2-F
2-I
2-E
2-J
WELL 4
WELL 1
ROAD
CONSOLIDATED STOCK
EXPLOSIVE TEST
EXPLOSIVES MAG
COMPASS ROSE
GRUMMAN AEROSPACE
RECHARGE BASINS
B.O.C.E.S
GUARD BOOTH
PARKING AREA
HARRISON
CARRIERE
WILLARD ST
ANDERSON ST
PEACH ST
BUTLEMAN ST
NASSAU ST
ANCHOR GARAGE
SCHERER ST
ROBERT OAMM ST
WOODBURY AVE
CENTRAL
SECURITY AND HAZARDOUS WASTE LOCATION MAP
DVIRKA AND BARTILUCCI CONSULTING ENGINEERS
FIGURE NO. 2
RCRA Part B permit
0
11
12
13
14


GRUMMA
PLANT NO. 05
WAREHOUSES
PARKING AREA
PLANT 10
N.C. RECHARGE BASIN
CENTRAL PARK BLVD
MAIN LINE
RAILROAD
PARKING AREA
PLANT 04
EXISTING INDUSTRIAL WASTE TREATMENT FACILITY (IWTF-02)
DRUM MARSHALLING AREA
PLANT 25
WELL 5
WELL 2
PLANT NO. 05
FIRE HYDRANT
WELL 4
WELL 3
RECHARGE BASINS
WELL 1
PLANT NO. 02
WALL FIRE HYDRANT
ATHLETIC FIELD
CHIMNEY
MASSAPEQUA ROAD
PARKING AREA
9
10
11

Appendix B

APPENDIX B

BORING LOGS

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1539-00
Project Name: NGC - Structural Test Hangars / Plant 5

Well/Boring No.: B-1
Sheet 1 of 1
By: DO Date: 2-10-98
Chk'd: _____ Date: _____

Drilling Contractor: Emington Environmental
Driller: W Roland Geologist: D. Obradovich
Drill Rig: Portable Hilte Drill Drilling Method: ~~Geoprobe~~ Portable Drill Hammer
Sample Spoon I.D.: _____ Drive Hammer Wt.: N/A
Date Started: 2-10-98 Date Completed: 2-10-98

Borehole Completion Depth: 4'
Borehole Diameter: 2"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
						Feet Below Concrete
-0-	1	0-2'	18"	-	0.0	(0-2') 0-6" DK. br. - blk. silt, some f-m sand, little brick & f-m gravel, moist
-1-						6-18" Br. f-m SAND, little silt & clay, tr. f-m gravel, v. moist
-2-	2	2-4'	24"	-	0.0	(2-4') 0-5" Br. - orange f-m SAND, little silt & clay, tr. f-m gravel, wet
-3-						5-15" Br. f-c SAND, little f-c gravel, v. moist, tr silt
-4-						15-24" Br. f-c SAND, little f-c gravel, tr. silt, v. moist
-5-						
-6-						
-7-						* 5" concrete @ surface
-8-						* EOB -
-9-						
-10						

Remarks:
* submitted 0-2 & 2-4' samples for Laboratory Analysis

Water Level Measurement
_____ Date _____
_____ Date _____
_____ Date _____
_____ Date _____

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1539-00
Project Name: NGC - Structural Test Hangars / Plant 5

Well/Boring No.: B-2
Sheet 1 of 1
By: D.O Date: 2-10-98
Chk'd: _____ Date: _____

Drilling Contractor: Emington Environmental
Driller: W. Roland
Drill Rig: Portable Drill
Sample Spoon I.D.: NA
Date Started: 2-10-98

Geologist: D. Obradovich
Drilling Method: ~~Geoprobe~~ Port. Drill
Drive Hammer Wt.: NA
Date Completed: 2-10-98

Hammer
Borehole Completion Depth: 4'
Borehole Diameter: 2"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
-0-	1	0-2	22"	-	0.0	Feet below concrete (0-2') 0-8" DK. br.-blk f-m SAND, little f-c gravel + silt, tr. clay, moist
-1-						8-22" Red-br. f-m SAND, little f-c gravel + silt, tr. cobble, v. moist, sl compact
-2-	2	2-4	20"	-	0.0	
-3-						(2-4') 0-6" Tan-orange f-c ~~SAND~~ grey SILT, little ~~silt~~ clay, tr. f. gravel, v moist-wet 6-20" Orange-grey f-v.c SAND, some f-c gravel, tr. silt + cobble, v. moist-wet
-4-						
-5-						
-6-						* 4" concrete surface
-7-						- EOB -
-8-						
-9-						
-10						

Remarks:
Submitted 0-2 & 2-4' samples for laboratory analysis

Water Level Measurement
_____ Date _____
_____ Date _____
_____ Date _____
_____ Date _____

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1539-00
Project Name: NGC - Structural Test Hangars / Plant 5

Well/Boring No.: B-3
Sheet 1 of 1
By: D.O. Date: 2-10-98
Chk'd: _____ Date: _____

Drilling Contractor: Emington Environmental
Driller: W. Roland
Drill Rig: Portable Hitte Drill
Sample Spoon I.D.: NA
Date Started: 2-10-98
Geologist: D. Obradovich
Drilling Method: ~~Geoprobe~~ Post. Drill Hammer
Drive Hammer Wt.: NA
Date Completed: 2-10-98

Borehole Completion Depth: 4'
Borehole Diameter: 2"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
-0-	1	0-2	23"	-	0.0	Feet Below Concrete (0-2') 0-12" Grey-br.-red f-m SAND, little silt & f-m gravel, tr. clay
-1-						12-23" Orange-sl. br. SILT, some clay, little vf. sand, v. moist, tr. f. gravel
-2-	2	2-4	19"	-	0.0	(2-4') Tan-grey f-c SAND, ~~little~~ some f-m gravel, little silt, tr. c. gravel, v. moist
-3-						
-4-						- EOB -
-5-						* 3" concrete @ surface
-6-						
-7-						
-8-						
-9-						
-10						

Remarks:
* Submitted 0-2' & 2-4' samples for analyses

Water Level Measurement _____ Date _____
_____ Date _____
_____ Date _____
_____ Date _____

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1539-00
Project Name: NGC - Structural Test Hangars / Plant 5

Well/Boring No: B-4
Sheet 1 of 1
By: D.O. Date: 2-10-98
Chk'd: _____ Date: _____

Drilling Contractor: Emington Environmental
Driller: W. Roland
Drill Rig: Portable Hole Drill
Sample Spoon I.D.: _____
Date Started: 2-10-98
Geologist: D. Obradovich
Drilling Method: ~~Geoprobe~~ Hammer Drill
Drive Hammer Wt.: NA
Date Completed: 2-10-98

Borehole Completion Depth: 4'
Borehole Diameter: 2"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
						Feet Below Concrete
-0-	1	0-2'	24"	–	0.0	(0-2') 0-4" Blk SILT & ~~some~~ f SAND little conc. & f-c gravel 4-12" Br. v.f-m sand, little silt & f-c gravel, tr. clay, moist 12-24" Orange-red - lt br. SILT & CLAY, tr. f. sand & f. gravel, sl plastic, moist
-1-						
-2-	2	2-4'	9"	–	0.0	
-3-						(2-4') br-red f-c SAND little (+) f-c gravel, tr. silt (some iron stain sand), v. moist (0-2' red-orange SILT & CLAY, little f sand)
-4-						
-5-						- EOB -
-6-						* 3" concrete @ surface
-7-						Impenetrable surface @ 4' below grade - conc.?
-8-						
-9-						
-10						

Remarks:

* Submitted 0-2' & 2-4' samples for analyses

Water Level Measurement

_____ Date _____
_____ Date _____
_____ Date _____
_____ Date _____

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1539-00
Project Name: NGC - Structural Test Hangars / Plant 5

Well/Boring No.: B-5
Sheet 1 of 1
By: D.O. Date: 2-10-98
Chk'd: _____ Date: 2-10-98

Drilling Contractor: Emington Environmental
Driller: W. Roland
Drill Rig: Portable Drill
Sample Spoon I.D.: NA
Date Started: 2-10-98
Geologist: D. Obradovich
Drilling Method: ~~Geoprobe~~ Drill Hammer
Drive Hammer Wt.: NA
Date Completed: 2-10-98

Borehole Completion Depth: 4'
Borehole Diameter: 2"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION (Feet Below Concrete)
-0-	1	0-2'	13"	-	0.0	(0-2') Br.-red f-c SAND, little(+) f-c gravel, tr. silt, moist
-1-						
-2-	2	2-4'	14"	-	0.0	(2-4') Orange-br. f-c SAND, little f-m gravel, little silt, tr. clay + c. gravel, moist
-3-						
-4-						- EOB -
-5-						*5" concrete @ surface
-6-						
-7-						
-8-						
-9-						
-10						

Remarks:
Submitted 0-2' & 2-4' samples for analysis

Water Level Measurement _____ Date _____
_____ Date _____
_____ Date _____
_____ Date _____

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1539-00
Project Name: NGC - Structural Test Hangars / Plant 5

Well/Boring No.: B-6
Sheet 1 of 1
By: D.O Date: 2-10-98
Chk'd: _____ Date: _____

Drilling Contractor: Emington Environmental
Driller: W. Roland Geologist: D. Obradovich
Drill Rig: Portable Drill Drilling Method: ~~Geoprobe~~ Drill
Sample Spoon I.D.: NA Drive Hammer Wt.: NA Hammer
Date Started: 2-10-98 Date Completed: 2-10-98

Borehole Completion Depth: 4'
Borehole Diameter: 1.5"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION Feet Below Concrete
-0-	1	0-2'	24"	-	0.0	(0-2') 0-15" Br.-red f-c SAND, little silt & f-m gravel, moist 15-24" Red-orange-br. SILT and CLAY, tr. f. sand & gravel, v. moist
-1-						
-2-	2	2-4	16"	-	0.0	(2-4') Tan-br. f-c SAND, little f-m gravel, tr. silt, sl. moist
-3-						
-4-						-EOB-
-5-						* 12" of concrete @ surface
-6-						
-7-						
-8-						
-9-						
-10						

Remarks:
* Submitted 0-2' & 2-4' samples for analyses

Water Level Measurement _____ Date _____
_____ Date _____
_____ Date _____
_____ Date _____

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1539-00
Project Name: NGC - Structural Test Hangars / Plant 5

Well/Boring No.: B-7
Sheet 1 of 1
By: D.O. Date: 2-10-98
Chk'd: _____ Date: _____

Drilling Contractor: Emington Environmental
Driller: W. Roland Geologist: D. Obradovich
Drill Rig: Portable Drill (Hammer) Drilling Method: ~~Geoprobe~~ Hammer Drill
Sample Spoon I.D.: NA Drive Hammer Wt.: NA
Date Started: 2-10-98 Date Completed: 2-10-98

Borehole Completion Depth: 4'
Borehole Diameter: 2"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
						Feet below concrete
-0-	1	0-2'	4"/20" 1st/2nd attempt	-	0.0	(0-2') Br. f-c SAND, little f-c gravel, tr. silt, moist + clay
-1-						
-2-	2	2-4	0"/23"	-	0.0	(2-4') No recovery Terminated Boring - moved 1½' east
-3-						* 2nd attempt
-4-						(0-2') same as @ 0-2' above
-5-						(2-4') Orange-br. f-m SAND, little f-c gravel, v. moist
-6-						-EOB-
-7-						7" concrete @ surface
-8-						
-9-						
-10						

Remarks:
* Submitted 0-2' & 2-4' samples for analysis

Water Level Measurement _____ Date _____
_____ Date _____
_____ Date _____
_____ Date _____

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1539-00
Project Name: NGC - Structural Test Hangars / Plant 5

Well/Boring No.: B-8
Sheet 1 of 1
By: D.O. Date: 2-10-98
Chk'd: _____ Date: 2-11-98

Drilling Contractor: Emington Environmental
Driller: W. Roland
Drill Rig: Portable Drill
Sample Spoon I.D.: NA
Date Started: 2-10-98
Geologist: D. Obradovich
Drilling Method: ~~Geoprobe~~ Hammer NA Drill
Drive Hammer Wt.: NA
Date Completed: 2-11-98

Borehole Completion Depth: 4'
Borehole Diameter: 2"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION (Feet Below Concrete)
-0-	1	0-2'	13"	-	0.0	(0-2') Red br. f-m SAND, little f-c gravel + silt; moist
-1-						
-2-	2	2-4'	11"	-	0.0	(2-4') Red-br. f-c SAND, some f-c gravel, tr. silt, moist
-3-						- EOB -
-4-						
-5-						
-6-						* 8" concrete @ surface
-7-						
-8-						
-9-						
-10						

Remarks:
* Submitted 0-2' & 2-4' samples for analysis

Water Level Measurement _____ Date _____
_____ Date _____
_____ Date _____
_____ Date _____

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1539-00
Project Name: NGC - Structural Test Hangars / Plant 5

Well/Boring No.: B-9
Sheet 1 of ____
By: DO Date: 2-11-98
Chk'd: ____ Date: 2-11-98

Drilling Contractor: Emington Environmental
Driller: W. Roland
Drill Rig: Post Hammer Drill
Sample Spoon I.D.: NA
Date Started: 2-11-98
Geologist: D. Obradovich
Drilling Method: ~~Geoprobe~~ Drill Hammer
Drive Hammer Wt.: NA
Date Completed: 2-11-98

Borehole Completion Depth: 4'
Borehole Diameter: 2"
Ground Surface El.: ____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
						Feet Below Concrete
-0-	1	0-2	24"	–	0.0	(0-2') Red-br f-c SAND, little f-c gravel, tr silt + clay, moist
-1-						
-2-	2	2-4'	16"	–	0.0	(2-4') Red-br. f-c SAND, little f-c gravel, tr. silt, moist - v. moist (Red-br. CLAY + SILT from 2½ - 3¼') - sl plastic
-3-						
-4-						* 8" concrete @ surface
-5-						EOB
-6-						
-7-						
-8-						
-9-						
-10						

Remarks:
* Submitted 0-2' & 2-4' samples for analyses

Water Level Measurement ____ Date ____
____ Date ____
____ Date ____
____ Date ____

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1539-00
Project Name: NGC - Structural Test Hangars / Plant 5

Well/Boring No.: B-10
Sheet 1 of 1
By: DO Date: 2-11-98
Chk'd: _____ Date: "

Drilling Contractor: Emington Environmental
Driller: W. Roland Geologist: D. Obradovich
Drill Rig: Port. Hammer Drill Drilling Method: ~~Geoprobe~~ Hammer Drill
Sample Spoon I.D.: NA Drive Hammer Wt.: NA
Date Started: 2-11-98 Date Completed: 2-11-98

Borehole Completion Depth: 4'
Borehole Diameter: 2"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	Feet Below Concrete — SAMPLE DESCRIPTION
-0-	1	0-2	20"	-	0.0	(0-2') Orange-red-br. f-m SAND, little f. gravel + silt, tr. clay, v. moist
-1-						
-2-	2	2-4	19"	-	0.0	(2-4') Red-br. f-m SAND, little f-m gravel, tr. silt + clay
-3-						(Red-br. CLAY, little-some silt from 2.6-3.2')
-4-						EOB
-5-						* 5" concrete @ surface
-6-						
-7-						
-8-						
-9-						
-10						

Remarks:

* submitted @ 2-2' + 2-4' samples for analyses

Water Level Measurement

_____ Date _____
_____ Date _____
_____ Date _____
_____ Date _____

BL

DVIRKA AND BARTILUCCI

DRILLING CONTRACTOR	DRILLING LOG	BORING NUMBER B-10A
Driller Emington Env.	PROJECT NAME N6 Plant 5	Sheet 1 of 1
Inspector Ema		Boring Location
Rig Type Earth Probe	PROJECT # 1539 00	
Drilling Method direct push	Location/Address Bethpage NY	
Drive Hammer Weight —		

GROUNDWATER OBSERVATIONS			
Water Level			
Time			
Date			
Casing Depth			

Weather COLD - Windy 30's

Date/Time Start

Date/Time Finish

Plot Plan

Sample Depth	Sample Number	SPT	PID/FID Reading	FIELD IDENTIFICATION OF MATERIAL	WELL SCHEMATIC	COMMENTS
1				NO Sampling from 0 - 4'		no ~~of~~ odors observed from Samples
2						
3				4-6 br. or tan fmc qtz SAND, little fm Gravel, tr. Silt. Damp - no odors		
4						
5			NA			
6				6-8' br-tan fmc-qtz SAND, little fm Gravel, tr-little Silt moist-wet 7'		
7			NA			
8						
9			NA	8-10 br-tan fmc qtz SAND, little fm Gravel, tr-little Silt moist/wet		
10				End of Boring @ 10'		

SPT = STANDARD PENETRATION TEST

Soil Stratigraphy Summary

DRILLCON.PM4

DVIRKA AND BARTILUCCI

DRILLING CONTRACTOR	DRILLING LOG	BORING NUMBER B-10 N
Driller Emington Env.	PROJECT NAME N6 Plant 5	Sheet 1 of 1
Inspector Ema		Boring Location
Rig Type Earth Probe	PROJECT # 1539 00	
Drilling Method direct push	Location/Address Bethpage NY	
Drive Hammer Weight —		

GROUNDWATER OBSERVATIONS			
Water Level			
Time			
Date			
Casing Depth			

Weather COLD - Windy 30's

Date/Time Start

Date/Time Finish

Plot Plan

Sample Depth	Sample Number	SPT	PID/FID Reading	FIELD IDENTIFICATION OF MATERIAL	WELL SCHEMATIC	COMMENTS
1				0-4" Concrete		
			NA	4"-2' Orange-red, br. fmc SAND, little fm Gravel, tr. Silt		no odors observed from samples
2						
3			NA	2-4' Dr br. fmc SAND, little fm Gravel, tr. Silt. Damp		
4						
5			NA	4-6' Br-tan-tan fmc SAND, tr+-little fm Gravel, tr+-little Silt		
6						
7			NA	6-8 Br-tan fmc Obz SAND, little f Gravel, tr Silt. moist-wet.		
8						
9			NA	8-10 Br-tan fmc Obz SAND, little f Gravel, tr Silt. moist-wet		
10				10		
				End of Boring 10'		

SPT = STANDARD PENETRATION TEST

Soil Stratigraphy Summary

DRILLCON.PM4

DVIRKA AND BARTILUCCI

DRILLING CONTRACTOR	DRILLING LOG	BORING NUMBER B-10S
Driller Emington Env.	PROJECT NAME N6 Plant 5	Sheet 1 of 1
Inspector EMA		Boring Location
Rig Type Earth Probe	PROJECT # 1539 00	
Drilling Method direct push	Location/Address Bethpage NY	
Drive Hammer Weight —		

GROUNDWATER OBSERVATIONS			
Water Level			
Time			
Date			
Casing Depth			

Weather COLD - Windy 30's

Date/Time Start

Date/Time Finish

Plot Plan

Sample Depth	Sample Number	SPT	PID/FID Reading	FIELD IDENTIFICATION OF MATERIAL	WELL SCHEMATIC	COMMENTS
0				0-4" Concrete		
1			ND	4"-2' Orange-red, br. fmc qtz SAND, little f. Gravel little S.lt. Damp.		no odors observed in Samples
2			NA			
3			NA	2'-4' orange, br. red fmc qtz SAND, little f. Gravel, little S.lt. Damp.		
4			ND			
5			NA	4'-6' brown-orange fmc qtz SAND, little fm Gravel, little S.lt.		
6			ND	6-8 br-tan fmc qtz SAND, little fm Gravel, tr. S.lt. Moist/wet		
7			NA			
8			NA	8-10 br. tan fmc qtz SAND, little fm Gravel, tr. S.lt, Moist-wet		
9			NA			
10				End of Boring @ 10'		

SPT = STANDARD PENETRATION TEST

Soil Stratigraphy Summary

DRILLCON.PM4

DVIRKA AND BARTILUCCI

DRILLING CONTRACTOR	DRILLING LOG	BORING NUMBER B-10F
Driller Emington Env.	PROJECT NAME N6 Plant 5	Sheet 1 of 1
Inspector Ema		Boring Location
Rig Type Earth Probe	PROJECT # 1539 00	
Drilling Method direct push	Location/Address Bethpage NY	
Drive Hammer Weight —		

GROUNDWATER OBSERVATIONS			
Water Level			
Time			
Date			
Casing Depth			

Weather COLD - Windy 30's

Date/Time Start

Date/Time Finish

Plot Plan

Sample Depth	Sample Number	SPT	PID/FID Reading	FIELD IDENTIFICATION OF MATERIAL	WELL SCHEMATIC	COMMENTS
				0-4" Concrete		no odors observed from Samples
1						
			NA	4"-2' Or rd-br fmc gtz SAND, little fm Gravel, tr+ Silt. Damp		
2						
3			NA	2-4' Or-br fmc gtz SAND, little fm Gravel, tr Silt Damp		
4						
5			NA	4-6' Br. or tan. fmc gtz SAND little fm Gravel, little Silt Damp		
6						
7			NA	6-8 Br-tan fmc gtz SAND, little f Gravel, little Silt. moist-wet @ 7'		
8						
9			NA	8-10 Br tan fmc gtz Sand, little f Gravel, little silt moist-wet		
10				10		
				End of Boring @ 10'		

SPT = STANDARD PENETRATION TEST

Soil Stratigraphy Summary

DRILLCON.PM4

BORING LOG

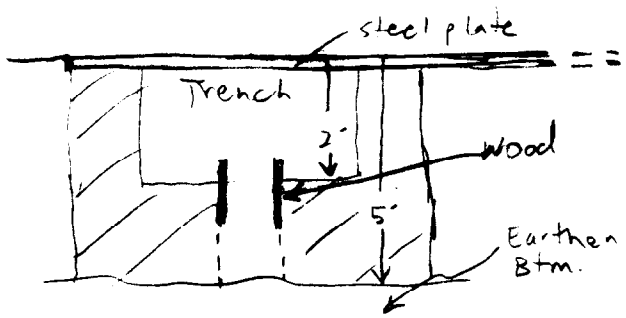
DVIRKA AND BARTILUCCI

Project No.: 1539-00
Project Name: NGC - Structural Test Hangars / Plant 5

Well/Boring No.: B-4
Sheet 1 of 1
By: D.O. Date: 2-11-98
Chk'd: _____ Date: ↓

Drilling Contractor: Emington Environmental
Driller: W. Roland Geologist: D. Obrudovich
Drill Rig: Port. Hammer Drill Drilling Method: ~~Geoprobe~~ Hammer Drill
Sample Spoon I.D.: NA Drive Hammer Wt.: NA
Date Started: 2-11-98 Date Completed: 2-11-98

Borehole Completion Depth: 9'
Borehole Diameter: 3"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
-0-						0-2' Trench
-1-						2-5' Void - Headspace above Earth
-2-						5-7' Orange-brn f-c SAND, little f-c gravel, tr. silt & cobble moist sl. paint ? odor (greasy-oily)
-3-						
-4-						7-9' Bright orange-red iron stained f-c SAND, some f-m gravel, little silt, tr. c. gravel moist, v. sl. paint ? odor visually-greasy-oily
-5-	1	5-7'	16"	-	0.0	
-6-						-EOB-
-7-	2	7-9'	20"	-	0.0	Cross Section of Trench
-8-						
-9-						
-10						

Remarks:
* Submitted 5-7' + 7-9' samples for analyses

Water Level Measurement
_____ Date _____
_____ Date _____
_____ Date _____
_____ Date _____

BL

BORING LOG

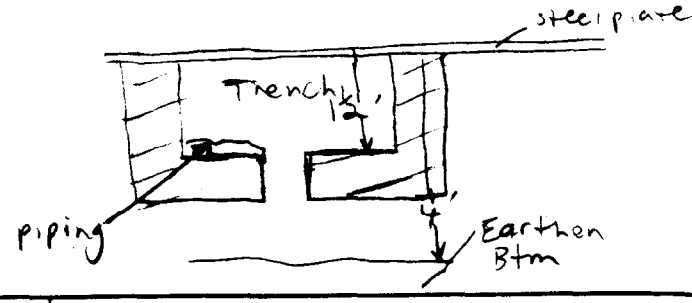
DVIRKA AND BARTILUCCI

Project No.: 1539-00
Project Name: NGC - Structural Test Hangars / Plant 5

Well/Boring No.: B-12
Sheet 1 of 1
By: D.O. Date: 2-11-98
Chk'd: _____ Date: _____

Drilling Contractor: Emington Environmental
Driller: W. Roland
Drill Rig: Portable Hammer Drill
Sample Spoon I.D.: NA
Date Started: 2-11-98
Geologist: D. Obrudovich
Drilling Method: ~~Geoprobe~~ Hammer
Drive Hammer Wt.: NA Drill
Date Completed: 2-11-98

Borehole Completion Depth: 8'
Borehole Diameter: 2"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
-0-						0-2' Trench
-1-						
-2-						2-4' (2-3') Conc. Trench (3-4') Void - Headspace below trench (conc.)
-3-						
-4-	1	4-6'	20"	-	0.0	(4-6') 0-5" Red-br.-blk. f-c SAND, some m-c gravel, tr. silt - oily oil odor 5-20' Tan f-c. SAND little f-c gravel, tr. silt, moist oil-paint odor
-5-						
-6-	2	6-8'	21"	-	0.0	(6-8') Red-br. f-C. SAND, little f-c gravel, tr. silt, oil-paint odor
-7-						-EOB-
-8-						Cross Section of Trench
-9-						
-10						

Remarks:
* Submitted 4-6' + 6-8' samples for analyses

Water Level Measurement
_____ Date _____
_____ Date _____
_____ Date _____
_____ Date _____

BL

BORING LOG

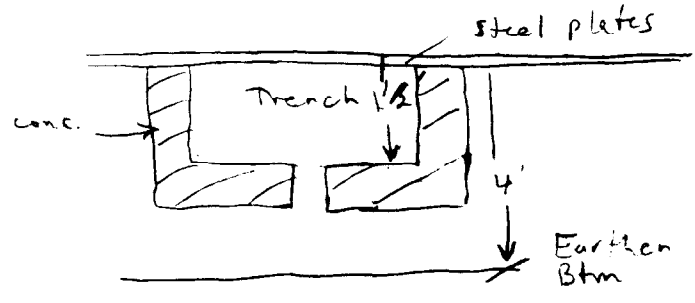
DVIRKA AND BARTILUCCI

Project No.: 1539-00
Project Name: NGC - Structural Test Hangars / Plant 5

Well/Boring No.: B-13
Sheet 1 of 1
By: D.O. Date: 2-11-98
Chk'd: _____ Date: _____

Drilling Contractor: Emington Environmental
Driller: W. Roland
Drill Rig: Port. Hammer Drill
Sample Spoon I.D.: NA
Date Started: 2-11-98
Geologist: D. Obradovich
Drilling Method: ~~Geoprobe~~ Hammer Drill
Drive Hammer Wt.: NA
Date Completed: 2-11-98

Borehole Completion Depth: _____
Borehole Diameter: 2"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
-0-						0-2' Trench
-1-						
-2-						2-4' (2-3') Conc. trench (3-4') Void below conc. trench construction
-3-						
-4-	1	4-6'	24"	-	620 280 170	(4-6') 0-1" Blk. silt + f gravel 1"-1½' Tan-orange f-c SAND, little (+) f-c. gravel, tr. silt dry-sl. moist paint odor
-5-					22	1½-2' Br. f-c SAND, some f-m gravel (2⅜-2⅝') Br. - blk. silt + f-c gravel, strong paint odor
-6-	2	6-8'	10"	-	62	(6-8') Br. f-c SAND, little (-) f-m gravel moist
-7-						Cross Section of Trench
-8-						
-9-						
-10						

Remarks:
* Submitted 4-6' & 6-8' samples for Analyses

Water Level Measurement
_____ Date _____
_____ Date _____
_____ Date _____
_____ Date _____

BL

DVIRKA AND BARTILUCCI

DRILLING CONTRACTOR	DRILLING LOG	BORING NUMBER B-13
Driller Emington Env.	PROJECT NAME N6 Plant 5	Sheet 1 of 1
Inspector Ema		Boring Location
Rig Type Earth Probe	PROJECT # 1539 00	
Drilling Method direct push	Location/Address Bethpage NY	
Drive Hammer Weight —		

GROUNDWATER OBSERVATIONS			
Water Level			
Time			
Date			
Casing Depth			

Weather COLD - Windy 30's

Date/Time Start

Date/Time Finish

Plot Plan

Sample Depth	Sample Number	SPT	PID/FID Reading	FIELD IDENTIFICATION OF MATERIAL	WELL SCHEMATIC	COMMENTS
1				0-2' VOID		
2				NO Samples Collected from 2-8'		
3						
4						
5						
6						
7						
8	↑		NA	Br. fine gr. SAND, little fn Gravel, little S.lt. damp no odors		
9						
10	↓			10' End of Boring @ 10'		Attempt to Sample from 10'-12' failed due to difficult Sampling
11						
12						
13						
14						
15						

SPT = STANDARD PENETRATION TEST

Soil Stratigraphy Summary

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1539-00
Project Name: NGC - Structural Test Hangars / Plant 5

Well/Boring No.: B-14
Sheet 1 of 1
By: D.O Date: 2-12-98
Chk'd: _____ Date: ↓

Drilling Contractor: Emington Environmental
Driller: W. Roland Geologist: D. Obradovich
Drill Rig: Port. Hammer Drill Drilling Method: ~~Geoprobe~~ Hammer Drill
Sample Spoon I.D.: NA Drive Hammer Wt.: NA
Date Started: 2-12-98 Date Completed: 2-12-98

Borehole Completion Depth: 4'
Borehole Diameter: 2"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	Feet Below Concrete — SAMPLE DESCRIPTION
-0-		0-2	13"	-	3.9	(0-2') Br. f-c SAND, little f-c gravel + silt, tr. clay compact no odor, moist
-1-						
-2-		2-4	12"	-	2.0	(2-4') Br.-red-blk. f-c SAND little f-c gravel + silt (blk) tr. clay, no odor moist, compact
-3-						
-4-						- EOB -
-5-						* 6" concrete @ surface
-6-						
-7-						
-8-						
-9-						
-10						

Remarks:
* Submitted 0-2' + 2-4' samples for analyses

Water Level Measurement _____ Date _____
_____ Date _____
_____ Date _____
_____ Date _____

BL

BORING LOG

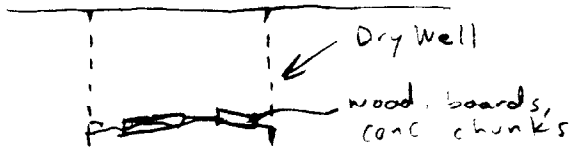
DVIRKA AND BARTILUCCI

Project No.: 1539-00
Project Name: NGC - Structural Test Hangars / Plant 5

Well/Boring No.: B-15
Sheet 1 of 1
By: D.O. Date: 2-13-98
Chk'd: _____ Date: ↓

Drilling Contractor: Emington Environmental
Driller: W. Roland
Geologist: D. Obradovich
Drill Rig: Portable Hammer
Drilling Method: Hammer Drill
Sample Spoon I.D.: NA Drill
Drive Hammer Wt.: NA
Date Started: 2-13-98
Date Completed: 2-13-98

Borehole Completion Depth: _____
Borehole Diameter: 2"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION (Feet Below Grade)
-0-						(0-5') Void Headspace of Dry well (Former Dry well)
-1-						
-2-						
-3-						
-4-						* wood pieces, boards @ ~4½-5' below grade
-5-	1	5-7	18"	–	0.0	(5-7') Bn. f-c SAND, little f-c gravel & silt, dry (2/13/98)
-6-	2	5½-8'	22"	–	0.0	2nd attempt (5½-8') Tan-br. f-c SAND, some silt, little f-c gravel, dry (little conc. powder)
-7-						
-8-						-EOB-
-9-						Cross Section
-10						

Remarks:
* Submitted 5-7' sample for analysis

Water Level Measurement _____ Date _____
_____ Date _____
_____ Date _____
_____ Date _____

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1539-00
Project Name: NGC - Structural Test Hangars / Plant 5

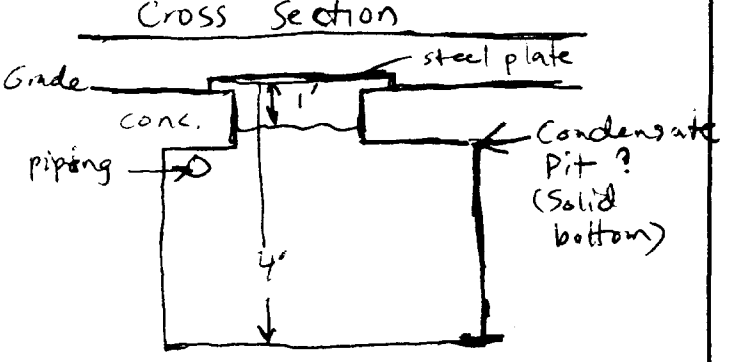
Well/Boring No.: B-15A
Sheet 1 of 1
By: D.O Date: 2-12-98
Chk'd: _____ Date: ↓

Drilling Contractor: Emington Environmental
Driller: W. Roland
Drill Rig: Port. Hammer Drill
Sample Spoon I.D.: NA
Date Started: 2-12-98
Geologist: D. Obradovich
Drilling Method: [redacted] Hammer Drill
Drive Hammer Wt.: NA
Date Completed: 2-12-98

Borehole Completion Depth: 4'
Borehole Diameter: 2"
Ground Surface El.:

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
-0-						0-1' Void - headspace in drywell
-1-	1	1-3	24"	-	0.0	(1-3') Orange f-m SAND, little c. sand, tr silt, dry-sl. moist
-2-						(1' overlap) ↓
-3-	2	3-4	12"	-	0.0	(3-4') Tan f-m SAND, little c. sand, tr. silt, dry
-4-						-EOB-
-5-						
-6-						
-7-						
-8-						
-9-						
-10						

Cross Section



Remarks:
~~* Submitted 2-4' sample for analyses (Hold until B-15 is performed)~~ D.O.

Water Level Measurement _____ Date _____
_____ Date _____
_____ Date _____
_____ Date _____

BL

BORING LOG

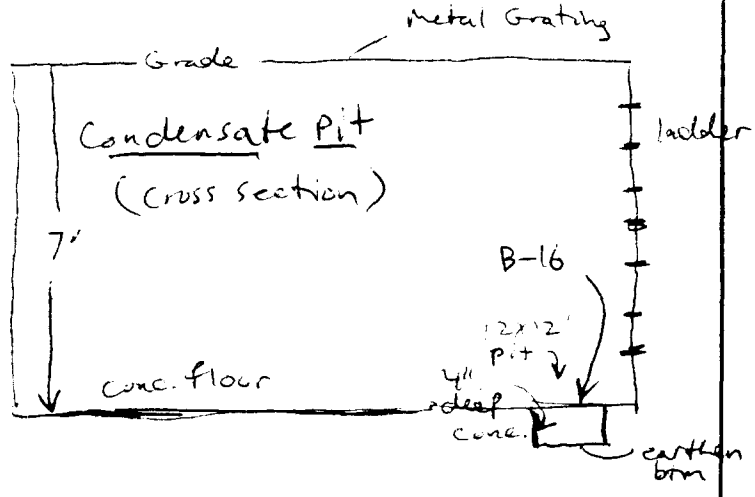
DVIRKA AND BARTILUCCI

Project No.: 1539-00
Project Name: NGC - Structural Test Hangars / Plant 5

Well/Boring No.: B-16
Sheet 1 of 1
By: D.O. Date: 2-12-98
Chk'd: _____ Date: _____

Drilling Contractor: Emington Environmental
Driller: W. Roland
Drill Rig: Port. Hammer Drill
Sample Spoon I.D.: NA
Date Started: 2-12-98
Geologist: D. Obradovich
Drilling Method: ~~Hammer~~ Drill
Drive Hammer Wt.: NA
Date Completed: 2-12-98

Borehole Completion Depth: 11'
Borehole Diameter: 2"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
-0-						
-1-						
-2-						
-3-						
-4-						
-5-						
-6-						
-7-	1	7-9'	16"	-	6.8 0.0	(7-9') 0-3" Blk. - dk grey SILT w/ conc. debris & matted mat'l fibers - hair ? w/ f. sand, v moist-wet 3"-16" Br.-red f-c SAND, little f-c gravel, tr. silt, no odor
-8-						
-9-	2	9-11'	20"	-	0.2	(9-11') Red-br. f-c SAND, little f-c gravel & silt, v. moist
-10						- EOB -
11						

Remarks:
* Submitted 7-9' & 9-11' samples for analyses

Water Level Measurement
_____ Date _____
_____ Date _____
_____ Date _____
_____ Date _____

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1539-00
Project Name: NGC - Structural Test Hangars / Plant 5

Well/Boring No.: B-17
Sheet 1 of 1
By: D.O. Date: 2-12-98
Chk'd: _____ Date: 2-12-98

Drilling Contractor: Emington Environmental
Driller: W. Roland
Drill Rig: Portable Hammer Drill
Sample Spoon I.D.: NA
Date Started: 2-12-98
Geologist: D. Obradovich
Drilling Method: ~~Geoprobe~~ Drill Hammer
Drive Hammer Wt.: NA
Date Completed: 2-12-98

Borehole Completion Depth: 4'
Borehole Diameter: 2"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	Feet Below Concrete — SAMPLE DESCRIPTION
-0-	1	0-2'	8"	-	0.0	(0-2') Br. f-c SAND, little f-m gravel & silt (Orange-br. CLAY, little silt from 6-8"), moist (Oxidized-br. fibrous SILT? from 2-2½")
-1-						
-2-	2	2-4'	19"	-	0.0	(2-4') Br. f-c SAND, little f-c gravel (0-5") 5-13" Orange-br. SILT, tr. f sand & f. gravel, moist 13-19" Lt. br. f-c SAND, little clay, little f-c gravel & silt, moist
-3-						
-4-						- EOB -
-5-						* " concrete @ Surface
-6-						
-7-						
-8-						
-9-						
-10						

Remarks:
* Submitted 0-2' & 2-4' samples for analyses

Water Level Measurement
_____ Date _____
_____ Date _____
_____ Date _____
_____ Date _____

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1539-00
Project Name: NGC - Structural Test Hangars / Plant 5

Well/Boring No.: B-18
Sheet 1 of 1
By: D.O. Date: 2-13-98
Chk'd: _____ Date: 2-13-98

Drilling Contractor: Emington Environmental
Driller: W. Leland
Drill Rig: Port Hammer Drill
Sample Spoon I.D.: NA
Date Started: 2-13-98
Geologist: D. Obradovich
Drilling Method: ~~Concrete~~
Drive Hammer Wt.: NA
Date Completed: 2-13-98

Borehole Completion Depth: _____
Borehole Diameter: 2"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
						Feet Below Concrete
-0-	1	0-2'	11"	-	290	(0-2') Orange-br. f-c SAND, little f-c gravel, tr. silt, moist, no odor
-1-						
-2-	2	2-4'	7"	-	0.0	(2-4') Orange-br. f-c sand, tr.-little f-m gravel + silt, moist
-3-						
-4-						* 10" concrete @ surface
-5-						-EOB-
-6-						
-7-						
-8-						
-9-						
-10						

Remarks:
* Submitted 0-2' and 2-4' samples for analyses

Water Level Measurement
_____ Date _____
_____ Date _____
_____ Date _____
_____ Date _____

BL

BORING LOG

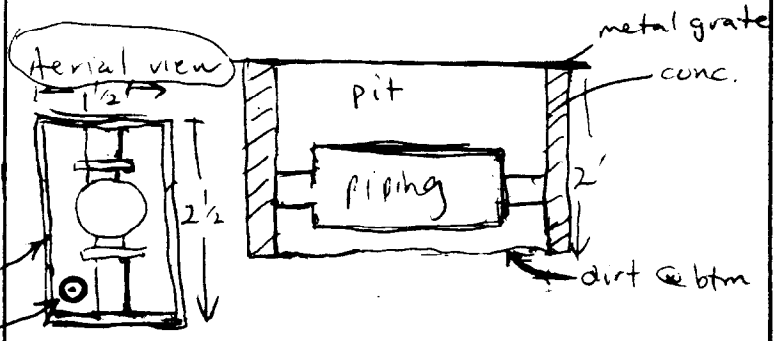
DVIRKA AND BARTILUCCI

Project No.: 1539-00
Project Name: NGC - Structural Test Hangars / Plant 5

Well/Boring No.: B-19
Sheet 1 of 1
By: D.O. Date: 2-13-98
Chk'd: _____ Date: 2-13-98

Drilling Contractor: Emington Environmental
Driller: Roland
Drill Rig: Port. Hammer Drill
Sample Spoon I.D.: NA
Date Started: 2-13-98
Geologist: D. Obradovich
Drilling Method: Hammer Drill
Drive Hammer Wt.: NA
Date Completed: 2-13-98

Borehole Completion Depth: 6'
Borehole Diameter: 2"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
-0-						(0-2') Void - headspace in pit
-1-						
-2-	1	2-4'	15"	—	0 0	(2-4') Red-br-orange f-c SAND, little f-c gravel, tr. silt & clay moist, no odor
-3-						
-4-	2	4-6'	0"	—	—	(4-6') No recovery Refusal @ 4' below grade Conc.?
-5-						
-6-						-EOB-
-7-						Cross Section of Pit
-8-						
-9-						
-10						

Remarks:
* Submitted 2-4' for analyses

Water Level Measurement _____ Date _____
_____ Date _____
_____ Date _____
_____ Date _____

BL

DVIRKA AND BARTILUCCI

DRILLING LOG

BORING NUMBER B-19
Sheet 1 of 1
Boring Location

DRILLING CONTRACTOR
Driller Emington Env.
Inspector Ema
Rig Type Earth Probe
Drilling Method direct push
Drive Hammer Weight —

PROJECT NAME N6 Plant 5
PROJECT # 1539 00
Location/Address Bethpage NY

GROUNDWATER OBSERVATIONS

Water Level			
Time			
Date			
Casing Depth			

Weather COLD - Windy 30's
Date/Time Start
Date/Time Finish

Plot Plan

Sample Depth	Sample Number	SPT	PID/FID Reading	FIELD IDENTIFICATION OF MATERIAL	WELL SCHEMATIC	COMMENTS
1				0-2' VOID		
2				NO Sampling from 0-4'		
3						
4				4-6' Red-br. orange fmc SAND, little fm Gravel tr+-little Silt, Damp no odors		
			NA			
5						
6						
7			NA			
8				6-8' red, tan-br fmc qtz SAND, little fm Gravel, tr+-little Silt Damp no odors		
9						
10				End of Borings 8'		

SPT = STANDARD PENETRATION TEST

Soil Stratigraphy Summary

DRILLCON.PM4

DVIRKA AND BARTILUCCI

DRILLING CONTRACTOR
Driller: Envirotech Envi'tal
Inspector: D. Obradovich
Rig Type: CME-75
Drilling Method: ~~6¼" HSA~~ 6¼" HSA
Drive Hammer Weight: 140 lbs.

DRILLING LOG
PROJECT NAME: NGC - Structural Test Hangars / Plant 5
PROJECT #: 1539-00
Location/Address: NGC, Bethpage N.Y.

BORING NUMBER B-20
Sheet 1 of 1
Boring Location: 6' west of Freight Elevator

GROUNDWATER OBSERVATIONS

Water Level			
Time			
Date			
Casing Depth			

Weather: M Sunny
Date/Time Start: 2-13-98 1145
Date/Time Finish: 2-13-98

Plot Plan: Structural Test Hangar Bldg; Freight Elevator; Outside 7'; conc. 6'

Sample Depth	Sample Number	SPT	PID/FID Reading	FIELD IDENTIFICATION OF MATERIAL	WELL SCHEMATIC	COMMENTS
			0.0	0-6" Concrete		
				6"-8' Br. f-c. SAND, little f-c gravel + silt, v moist		
			0.0	8'-20' Orange ~~br.~~ f-c SAND little f-c. gravel, tr. silt + cobble, moist		
			0.0	20-22' Orange-br. m-c GRAVEL, little f-c sand, tr. silt, moist		
				22- Orange-br. f-c SAND, little f-m gravel, tr. silt + c. gravel, moist		
			0.0			
			0.0	(46-48') Tan-orange v.f-m SAND, occassional - some orange silt layers (some iron stained), moist		
46-48	1	14,16	0.0	(48-50') Same as 46-48' except for white-grey CLAY, some silt from 8-10"), moist		* Submitted 46-48' sample for analysis
Rec.	22"	17,16				
48-50	2	11,13	0.0	(50-52') 0-16" Grey SILT and orange-grey iron-stained v.f sand + silt moist 10-19" Tan-Orange v.f-m SAND w/ occassional grey silt layers, moist		* Submitted 48-50' sample for analysis
Rec.	16	13,12				
50-52	3	12,12	0.0			
Rec	19"	13,13				
				END OF BORING AT 52' bg		

SPT = STANDARD PENETRATION TEST

Soil Stratigraphy Summary

DRILLCON.PM4

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1539-00
Project Name: NGC - Structural Test Hangars / Plant 5

Well/Boring No.: B-21
Sheet 1 of 1
By: D.O. Date: 2-13-98
Chk'd: _____ Date: _____

Drilling Contractor: Emington Environmental
Driller: W. Roland
Drill Rig: Port. Hammer Drill
Sample Spoon I.D.: _____
Date Started: 2-13-98

Geologist: D. Obradovich
Drilling Method: ~~[illegible]~~ Hammer Drill
Drive Hammer Wt.: NA
Date Completed: 2-13-98

Borehole Completion Depth: 4'
Borehole Diameter: 2"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
-0-	1	0-2'	20"	—	0.0	(0-2') Br.-red f-c SAND, little (+) f-c gravel, little silt, compact, moist
-1-						
-2-	2	2-4'	15"	—	0.0	(2-4') same as 0-2'
-3-						
-4-						* 3-4" wood floor w/ 5" concrete below (@ surface)
-5-						
-6-						-EOB-
-7-						
-8-						
-9-						
-10						

Feet Below Concrete * wood

Remarks:
* Submitted 0-2' & 2-4' samples for analysis

Water Level Measurement
_____ Date _____
_____ Date _____
_____ Date _____
_____ Date _____

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1539-00
Project Name: NGC - Structural Test Hangars / Plant 5

Well/Boring No.: B-22
Sheet 1 of 1
By: PO Date: 2-17-98
Chk'd: _____ Date: ↓

Drilling Contractor: Emington Environmental
Driller: N. Roland
Drill Rig: Fort. Hammer Drill
Sample Spoon I.D.: NA
Date Started: 2-17-98
Geologist: D. Obradovich
Drilling Method: ~~Sample~~ Hammer Drill
Drive Hammer Wt.: NA
Date Completed: 2-17-98

Borehole Completion Depth: _____
Borehole Diameter: 2"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION (Feet Below Concrete)
-0-	1	0-2	12"	–	0.0	(0-2') Red-br. f-c SAND, little f-c gravel & silt, moist
-1-						
-2-	2	2-4'	11"	–	0.0	(2-4') 0-5" Tan f-c SAND, some f-m gravel, moist 5"-11" Br. f-c SAND, little f-m gravel, red brick, tr. silt, moist
-3-						
-4-						* 6" conc. @ surface
-5-						-EOB-
-6-						
-7-						
-8-						
-9-						
-10						

Remarks:
* Submitted 0-2' and 2-4' samples for analysis

Water Level Measurement _____ Date _____
_____ Date _____
_____ Date _____
_____ Date _____

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1539-00
Project Name: NGC - Structural Test Hangars / Plant 5

Well/Boring No.: B-23
Sheet 1 of 1
By: DO Date: 2-17-98
Chk'd: _____ Date: ↓

Drilling Contractor: Emington Environmental
Driller: W Roland
Drill Rig: Post Hammer Drill
Sample Spoon I.D.: NA
Date Started: 2-17-98
Geologist: D. Obradovich
Drilling Method: ~~Concrete~~ Hammer Drill
Drive Hammer Wt.: NA
Date Completed: 2-17-98

Borehole Completion Depth: _____
Borehole Diameter: 2"
Ground Surface El.: -

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
						Feet Below Concrete
-0-	1	0-2'	13"	-	0.0	(0-2') Br. f-c SAND, little f-c gravel, tr. silt + cobble, moist
-1-						
-2-	2	2-4'	15"	-	0.0	(2-4') 0-10" Tan - Br. - red f-c SAND, little f-c gravel + silt, moist
-3-						10" - 15" Tan f-c SAND + f-m
-4-						- EOB -
-5-						* 6-8" conc. @ surface
-6-						
-7-						
-8-						
-9-						
-10						

Remarks:
* Submitted 0-2' and 2-4' samples for analyses

Water Level Measurement
_____ Date _____
_____ Date _____
_____ Date _____
_____ Date _____

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1539-00
Project Name: NGC - Structural Test Hangars / Plant 5

Well/Boring No.: B-24
Sheet 1 of 1
By: D.O. Date: 2-17-98
Chk'd: _____ Date: _____

Drilling Contractor: Emington Environmental
Driller: W. Leland
Drill Rig: Pirt Hammer Drill
Sample Spoon I.D.: NA
Date Started: 2-17-98

Geologist: D. Obradovich
Drilling Method: ~~Geoprobe~~ Hammer Drill
Drive Hammer Wt.: NA
Date Completed: 2-17-98

Borehole Completion Depth: _____
Borehole Diameter: 2"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION (Feet Below Concrete)
-0-	1	0-2'	13"	-	0.0	(0-2') Red-br. f-c SAND, little f-m gravel, tr. silt & c. gravel, moist
-1-						
-2-	2	2-4'	0"	-	-	(2-4') No recovery Refusal @ 4' below grade due to metal?
-3-						
-4-						3" wood * * 5" concrete @ surface
-5-						-EOB-
-6-						
-7-						
-8-						
-9-						
-10						

Remarks:
* Submitted 0-2' sample for analyses

Water Level Measurement _____ Date _____
_____ Date _____
_____ Date _____
_____ Date _____

BL

Appendix C

APPENDIX C

LABORATORY DATA

TABLE C-1
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
VOLATILE ORGANIC COMPOUNDS

PROBE/BORING IDENTIFICATION	B-1		B-2		B-3		CONTRACT REQUIRED DETECTION LIMITS (ug/kg)	NYSDEC TAGM 4046 APPENDIX A CRITERIA (ug/kg)
SAMPLE IDENTIFICATION	B-1 (0-2')	B-1 (2'-4')	B-2 (0-2')	B-2 (2'-4')	B-3 (0-2')	B-3 (2'-4')		
SAMPLE DEPTH	0' - 2'	2' - 4'	0' - 2'	2' - 4'	0' - 2'	2' - 4'		
DATE OF COLLECTION	02/10/98	02/10/98	02/10/98	02/10/98	02/10/98	02/10/98		
DILUTION FACTOR	1 0	1 0	1.0	1 0	1 0	1 0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)		
Chloromethane	U	U	U	U	U	U	10	----
Bromomethane	U	U	U	U	U	U	10	----
Vinyl Chloride	U	U	U	U	U	U	10	200
Chloroethane	U	U	U	U	U	U	10	1,900
Methylene Chloride	1 0 JB	1.1 JB	1 2 JB	0 8 JB	1 1 JB	U	10	100
Acetone	U	U	U	U	U	U	10	200
Carbon Disulfide	U	U	U	U	U	U	10	2,700
1,1-Dichloroethene	U	U	U	U	U	U	10	400
1,1-Dichloroethane	U	U	U	U	U	U	10	200
trans-1,2-Dichloroethene	U	U	U	U	U	U	10	300
cis-1,2-Dichloroethene	U	U	U	U	U	U	10	250 *
Chloroform	U	U	U	U	U	U	10	300
1,2-Dichloroethane	U	U	U	U	U	U	10	100
2-Butanone	U	U	U	U	U	U	10	300
1,1,1-Trichloroethane	U	U	U	U	U	U	10	800
Carbon Tetrachloride	U	U	U	U	U	U	10	600
Bromodichloromethane	U	U	U	U	U	U	10	----
1,2-Dichloropropane	U	U	U	U	U	U	10	----
cis-1,3-Dichloropropene	U	U	U	U	U	U	10	----
Trichloroethene	U	U	U	U	U	U	10	700
Dibromochloromethane	U	U	U	U	U	U	10	----
1,1,2-Trichloroethane	U	U	U	U	U	U	10	----
Benzene	U	U	U	U	U	U	10	60
trans-1,3-Dichloropropene	U	U	U	U	U	U	10	----
Bromoform	U	U	U	U	U	U	10	----
4-Methyl-2-pentanone	U	U	U	U	U	U	10	1,000
2-Hexanone	U	U	U	U	U	U	10	----
Tetrachloroethene	U	U	U	U	U	U	10	1,400
1,1,2,2-Tetrachloroethane	U	U	U	U	U	U	10	600
Toluene	U	U	U	U	U	U	10	1,500
Chlorobenzene	U	U	U	U	U	U	10	1,700
Ethylbenzene	U	U	U	U	U	U	10	5,500
Styrene	U	U	U	U	U	U	10	----
Xylene (total)	U	U	U	U	U	U	10	1,200
MTBE	U	U	U	U	U	U	10	----
Naphthalene	U	U	U	U	U	U	10	1,300
Isopropylbenzene	U	U	U	U	U	U	10	----
n-Propylbenzene	U	U	U	U	U	U	10	----
1,3,5-Trimethylbenzene	U	U	U	U	U	U	10	----
tert-Butylbenzene	U	U	U	U	U	U	10	----
1,2,4-Trimethylbenzene	U	U	U	U	U	U	10	----
sec-Butylbenzene	U	U	U	U	U	U	10	----
p-Isopropyltoluene	U	U	U	U	U	U	10	----
n-Butylbenzene	U	U	U	U	U	U	10	----
1,2,3-Trichlorobenzene	U	U	U	U	U	U	10	----
TOTAL VOCs	1	1 1	1.2	0 8	1 1	0		10,000

Qualifiers:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.
B: Compound found in the method blank as well as the sample.

Notes:
---- : Not established.
* : Proposed revised criteria listed in TAGM 4046 Appendix A

TABLE C-1 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
VOLATILE ORGANIC COMPOUNDS

PROBE/BORING IDENTIFICATION	B-4		B-5		B-6			
SAMPLE IDENTIFICATION	B-4 (0-2')	B-4 (2'-4')	B-5 (0-2')	B-5 (2'-4')	B-6 (0-2')	B-6 (2'-4')	CONTRACT REQUIRED DETECTION LIMITS	NYSDEC TAGM 4046 APPENDIX A CRITERIA
SAMPLE DEPTH	0' - 2'	2' - 4'	0' - 2'	2' - 4'	0' - 2'	2' - 4'		
DATE OF COLLECTION	02/10/98	02/10/98	02/10/98	02/10/98	02/10/98	02/10/98		
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Chloromethane	U	U	U	U	U	U	10	----
Bromomethane	U	U	U	U	U	U	10	----
Vinyl Chloride	U	U	U	U	U	U	10	200
Chloroethane	U	U	U	U	U	U	10	1,900
Methylene Chloride	1.6 B	0.7 JB	1.2 B	0.8 JB	1.0 JB	1.1 B	10	100
Acetone	U	U	U	U	U	U	10	200
Carbon Disulfide	U	U	U	U	U	U	10	2,700
1,1-Dichloroethene	U	U	U	U	U	U	10	400
1,1-Dichloroethane	U	U	U	U	U	U	10	200
trans-1,2-Dichloroethene	U	U	U	U	U	U	10	300
cis-1,2-Dichloroethene	U	U	U	U	U	U	10	250 *
Chloroform	U	U	U	U	U	U	10	300
1,2-Dichloroethane	U	U	U	U	U	U	10	100
2-Butanone	U	U	U	U	U	U	10	300
1,1,1-Trichloroethane	U	U	U	U	U	U	10	800
Carbon Tetrachloride	U	U	U	U	U	U	10	600
Bromodichloromethane	U	U	U	U	U	U	10	----
1,2-Dichloropropane	U	U	U	U	U	U	10	----
cis-1,3-Dichloropropene	U	U	U	U	U	U	10	----
Trichloroethene	U	U	U	U	1.7	U	10	700
Dibromochloromethane	U	U	U	U	U	U	10	----
1,1,2-Trichloroethane	U	U	U	U	U	U	10	----
Benzene	U	U	U	U	U	U	10	60
trans-1,3-Dichloropropene	U	U	U	U	U	U	10	----
Bromoform	U	U	U	U	U	U	10	----
4-Methyl-2-pentanone	U	U	U	U	U	U	10	1,000
2-Hexanone	U	U	U	U	U	U	10	----
Tetrachloroethene	U	U	U	U	U	U	10	1,400
1,1,2,2-Tetrachloroethane	U	U	U	U	U	U	10	600
Toluene	U	U	U	U	U	U	10	1,500
Chlorobenzene	U	U	U	U	U	U	10	1,700
Ethylbenzene	U	U	U	U	U	U	10	5,500
Styrene	U	U	U	U	U	U	10	----
Xylene (total)	U	U	U	U	U	U	10	1,200
MTBE	U	U	U	U	U	U	10	----
Naphthalene	U	U	U	U	U	U	10	1,300
Isopropylbenzene	U	U	U	U	U	U	10	----
n-Propylbenzene	U	U	U	U	U	U	10	----
1,3,5-Trimethylbenzene	U	U	U	U	U	U	10	----
tert-Butylbenzene	U	U	U	U	U	U	10	----
1,2,4-Trimethylbenzene	U	U	U	U	U	U	10	----
sec-Butylbenzene	U	U	U	U	U	U	10	----
p-Isopropyltoluene	U	U	U	U	U	U	10	----
n-Butylbenzene	U	U	U	U	U	U	10	----
1,2,3-Trichlorobenzene	U	U	U	U	U	U	10	----
TOTAL VOCs	1.6	0.7	1.2	0.8	2.7	1.1		10,000

Qualifiers:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.
B: Compound found in the method blank as well as the sample.

Notes
---- Not established.
* Proposed revised criteria listed in TAGM 4046 Appendix A

TABLE C-1 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
VOLATILE ORGANIC COMPOUNDS

PROBE/BORING IDENTIFICATION	B-7		B-8		B-9		CONTRACT REQUIRED DETECTION LIMITS (ug/kg)	NYSDEC TAGM 4046 APPENDIX A CRITERIA (ug/kg)
SAMPLE IDENTIFICATION	B-7 (0-2')	B-7 (2'-4')	B-8 (0-2')	B-8 (2'-4')	B-9 (0-2')	B-9 (2'-4')		
SAMPLE DEPTH	0' - 2'	2' - 4'	0' - 2'	2' - 4'	0' - 2'	2' - 4'		
DATE OF COLLECTION	02/11/98	02/11/98	02/11/98	02/11/98	02/11/98	02/11/98		
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)		
Chloromethane	U	U	U	U	U	U	10	----
Bromomethane	U	U	U	U	U	U	10	----
Vinyl Chloride	U	U	U	U	U	U	10	200
Chloroethane	U	U	U	U	U	U	10	1,900
Methylene Chloride	U	0.7 JB	1.0 JB	0.8 JB	0.7 JB	0.8 JB	10	100
Acetone	U	U	U	U	47	U	10	200
Carbon Disulfide	U	U	U	U	U	U	10	2,700
1,1-Dichloroethene	U	U	U	U	U	U	10	400
1,1-Dichloroethane	U	U	U	U	U	U	10	200
trans-1,2-Dichloroethene	U	U	U	U	U	U	10	300
cis-1,2-Dichloroethene	U	U	U	U	U	U	10	250 *
Chloroform	U	U	U	U	U	U	10	300
1,2-Dichloroethane	U	U	U	U	U	U	10	100
2-Butanone	U	U	U	U	12	U	10	300
1,1,1-Trichloroethane	U	U	U	U	U	U	10	800
Carbon Tetrachloride	U	U	U	U	U	U	10	600
Bromodichloromethane	U	U	U	U	U	U	10	----
1,2-Dichloropropane	U	U	U	U	U	U	10	----
cis-1,3-Dichloropropene	U	U	U	U	U	U	10	----
Trichloroethene	U	U	U	U	U	U	10	700
Dibromochloromethane	U	U	U	U	U	U	10	----
1,1,2-Trichloroethane	U	U	U	U	U	U	10	----
Benzene	U	U	U	U	U	U	10	60
trans-1,3-Dichloropropene	U	U	U	U	U	U	10	----
Bromoform	U	U	U	U	U	U	10	----
4-Methyl-2-pentanone	U	U	U	U	U	U	10	1,000
2-Hexanone	U	U	U	U	U	U	10	----
Tetrachloroethene	U	U	U	U	U	U	10	1,400
1,1,2,2-Tetrachloroethane	U	U	U	U	U	U	10	600
Toluene	U	U	U	U	U	U	10	1,500
Chlorobenzene	U	U	U	U	U	U	10	1,700
Ethylbenzene	U	U	U	U	U	U	10	5,500
Styrene	U	U	U	U	U	U	10	----
Xylene (total)	U	U	U	U	U	U	10	1,200
MTBE	U	U	U	U	U	U	10	----
Naphthalene	U	U	U	U	U	U	10	1,300
Isopropylbenzene	U	U	U	U	U	U	10	----
n-Propylbenzene	U	U	U	U	U	U	10	----
1,3,5-Trimethylbenzene	U	U	U	U	U	U	10	----
tert-Butylbenzene	U	U	U	U	U	U	10	----
1,2,4-Trimethylbenzene	U	U	U	U	U	U	10	----
sec-Butylbenzene	U	U	U	U	U	U	10	----
p-Isopropyltoluene	U	U	U	U	U	U	10	----
n-Butylbenzene	U	U	U	U	U	U	10	----
1,2,3-Trichlorobenzene	U	U	U	U	U	U	10	----
TOTAL VOCs	0	0.7	1.0	0.8	59.7	0.8		10,000

Qualifiers:
U. Compound analyzed for but not detected.
J. Compound found at a concentration below the detection limit.
B. Compound found in the method blank as well as the sample.

Notes:
---- Not established.
* Proposed revised criteria listed in TAGM 4046 Appendix A

TABLE C-1 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
VOLATILE ORGANIC COMPOUNDS

PROBE/BORING IDENTIFICATION	B-10		B-11		B-12			
SAMPLE IDENTIFICATION	B-10 (0-2')	B-10 (2'-4')	B-11 (5'-7')	B-11 (7'-9')	B-12 (4'-6')	B-12 (6'-8')	CONTRACT REQUIRED DETECTION LIMITS	NYSDEC TAGM 4046 APPENDIX A CRITERIA
SAMPLE DEPTH	0' - 2'	2' - 4'	5' - 7'	7' - 9'	4' - 6'	6' - 8'		
DATE OF COLLECTION	02/11/98	02/11/98	02/11/98	02/11/98	02/11/98	02/11/98		
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Chloromethane	U	U	U	U	U	U	10	----
Bromomethane	U	U	U	U	U	U	10	----
Vinyl Chloride	U	U	U	U	U	U	10	200
Chloroethane	U	U	U	U	U	U	10	1,900
Methylene Chloride	0.9 JB	1.3 B	1.5 B	0.8 JB	1.0 JB	1.2 B	10	100
Acetone	13	U	U	U	U	U	10	200
Carbon Disulfide	U	U	U	U	U	U	10	2,700
1,1-Dichloroethene	U	U	U	U	U	U	10	400
1,1-Dichloroethane	U	U	U	U	U	U	10	200
trans-1,2-Dichloroethene	U	U	U	U	U	U	10	300
cis-1,2-Dichloroethene	U	U	U	U	U	U	10	250 *
Chloroform	U	U	U	U	U	U	10	300
1,2-Dichloroethane	U	U	U	U	U	U	10	100
2-Butanone	U	U	U	U	U	U	10	300
1,1,1-Trichloroethane	U	U	U	U	U	U	10	800
Carbon Tetrachloride	U	U	U	U	U	U	10	600
Bromodichloromethane	U	U	U	U	U	U	10	----
1,2-Dichloropropane	U	U	U	U	U	U	10	----
cis-1,3-Dichloropropene	U	U	U	U	U	U	10	----
Trichloroethene	1.1	0.9 J	U	U	U	U	10	700
Dibromochloromethane	U	U	U	U	U	U	10	----
1,1,2-Trichloroethane	U	U	U	U	U	U	10	----
Benzene	U	U	U	U	U	U	10	60
trans-1,3-Dichloropropene	U	U	U	U	U	U	10	----
Bromoform	U	U	U	U	U	U	10	----
4-Methyl-2-pentanone	U	U	U	U	U	U	10	1,000
2-Hexanone	U	U	U	U	U	U	10	----
Tetrachloroethene	U	U	U	U	U	U	10	1,400
1,1,2,2-Tetrachloroethane	U	U	U	U	U	U	10	600
Toluene	U	U	1.6	2.1	U	U	10	1,500
Chlorobenzene	U	U	U	U	U	U	10	1,700
Ethylbenzene	U	U	U	0.7 J	U	U	10	5,500
Styrene	U	U	U	1.0 J	U	U	10	----
Xylene (total)	U	U	1.5	4.1	U	U	10	1,200
MTBE	U	U	U	U	U	U	10	----
Naphthalene	U	U	1.1	U	U	U	10	1,300
Isopropylbenzene	U	U	U	U	U	U	10	----
n-Propylbenzene	U	U	U	0.6 J	U	U	10	----
1,3,5-Trimethylbenzene	U	U	U	3.8	U	U	10	----
tert-Butylbenzene	U	U	U	U	U	U	10	----
1,2,4-Trimethylbenzene	U	U	U	4.0	0.6 J	1.1	10	----
sec-Butylbenzene	U	U	U	U	U	U	10	----
p-Isopropyltoluene	U	U	U	U	U	U	10	----
n-Butylbenzene	U	U	U	U	U	U	10	----
1,2,3-Trichlorobenzene	U	U	U	U	U	U	10	----
TOTAL VOCs	15	2.2	5.7	17.1	1.6	2.3		10,000

Qualifiers:
U: Compound analyzed for but not detected
J: Compound found at a concentration below the detection limit
B: Compound found in the method blank as well as the sample

Notes
---- Not established
* Proposed revised criteria listed in TAGM 4046 Appendix A

TABLE C-1 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
VOLATILE ORGANIC COMPOUNDS

PROBE/BORING IDENTIFICATION	B-13		B-14		B-15	B-16		
SAMPLE IDENTIFICATION	B-13 (4'-6')	B-13 (6'-8')	B-14 (0-2')	B-14 (2'-4')	B-15 (6'-7')	B-16 (7'-9')	CONTRACT REQUIRED DETECTION LIMITS (ug/kg)	NYSDEC TAGM 4046 APPENDIX A CRITERIA (ug/kg)
SAMPLE DEPTH	4' - 6'	6' - 8'	0' - 2'	2' - 4'	6' - 7'	7' - 9'		
DATE OF COLLECTION	02/12/98	02/12/98	02/12/98	02/12/98	02/13/98	02/12/98		
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)		
Chloromethane	U	U	U	U	U	U	10	----
Bromomethane	U	U	U	U	U	U	10	----
Vinyl Chloride	U	U	U	U	U	U	10	200
Chloroethane	U	U	U	U	U	U	10	1,900
Methylene Chloride	9.3 B	9.8 B	2.4 B	4.8 B	5.0 B	4.2 B	10	100
Acetone	U	U	U	U	16	U	10	200
Carbon Disulfide	U	U	U	U	U	U	10	2,700
1,1-Dichloroethene	U	U	U	U	U	U	10	400
1,1-Dichloroethane	U	U	U	U	U	U	10	200
trans-1,2-Dichloroethene	U	U	U	U	U	U	10	300
cis-1,2-Dichloroethene	U	U	U	U	U	U	10	250 *
Chloroform	U	U	U	U	U	U	10	300
1,2-Dichloroethane	U	U	U	U	U	U	10	100
2-Butanone	U	U	U	U	U	U	10	300
1,1,1-Trichloroethane	U	U	U	U	6.0	U	10	800
Carbon Tetrachloride	U	U	U	U	U	U	10	600
Bromodichloromethane	U	U	U	U	U	U	10	----
1,2-Dichloropropane	U	U	U	U	U	U	10	----
cis-1,3-Dichloropropene	U	U	U	U	U	U	10	----
Trichloroethene	U	U	U	U	22	U	10	700
Dibromochloromethane	U	U	U	U	U	U	10	----
1,1,2-Trichloroethane	U	U	U	U	U	U	10	----
Benzene	U	U	U	U	U	U	10	60
trans-1,3-Dichloropropene	U	U	U	U	U	U	10	----
Bromoform	U	U	U	U	U	U	10	----
4-Methyl-2-pentanone	U	U	U	U	3.1 J	U	10	1,000
2-Hexanone	U	U	U	U	U	U	10	----
Tetrachloroethene	U	U	U	U	9.0	U	10	1,400
1,1,2,2-Tetrachloroethane	U	U	U	U	U	U	10	600
Toluene	U	U	U	U	1.2	U	10	1,500
Chlorobenzene	U	U	U	U	U	U	10	1,700
Ethylbenzene	U	U	U	U	U	U	10	5,500
Styrene	U	U	U	U	U	U	10	----
Xylene (total)	U	U	U	U	0.7 J	U	10	1,200
MTBE	U	U	U	U	U	U	10	----
Naphthalene	U	U	U	U	U	U	10	1,300
Isopropylbenzene	U	U	U	U	U	U	10	----
n-Propylbenzene	U	U	U	U	U	U	10	----
1,3,5-Trimethylbenzene	U	U	U	U	U	U	10	----
tert-Butylbenzene	U	U	U	U	U	U	10	----
1,2,4-Trimethylbenzene	U	U	U	U	0.7 J	U	10	----
sec-Butylbenzene	U	U	U	U	U	U	10	----
p-Isopropyltoluene	U	U	U	U	U	U	10	----
n-Butylbenzene	U	U	U	U	U	U	10	----
1,2,3-Trichlorobenzene	U	U	U	U	U	U	10	----
TOTAL VOCs	9.3	9.8	2.4	4.8	63.7	4.2		10,000

Qualifiers:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.
B: Compound found in the method blank as well as the sample.

Notes
---- Not established
* Proposed revised criteria listed in TAGM 4046 Appendix A

TABLE C-1 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
VOLATILE ORGANIC COMPOUNDS

PROBE/BORING IDENTIFICATION	B-16	B-17		B-18		B-19		
SAMPLE IDENTIFICATION	B-16 (9'-11')	B-17 (0-2')	B-17 (2'-4')	B-18 (0-2')	B-18 (2'-4')	B-19 (2'-4')	CONTRACT REQUIRED DETECTION LIMITS (ug/kg)	NYSDEC TAGM 4046 APPENDIX A CRITERIA (ug/kg)
SAMPLE DEPTH	9' - 11'	0' - 2'	2' - 4'	0' - 2'	2' - 4'	2' - 4'		
DATE OF COLLECTION	02/12/98	02/12/98	02/12/98	02/13/98	02/13/98	02/13/98		
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)		
Chloromethane	U	U	U	U	U	U	10	----
Bromomethane	U	U	U	U	U	U	10	----
Vinyl Chloride	U	U	U	U	U	U	10	200
Chloroethane	U	U	U	U	U	U	10	1,900
Methylene Chloride	2.7 B	8.8 B	3.6 B	5.2 B	3.2 B	3.8 B	10	100
Acetone	U	U	U	U	U	U	10	200
Carbon Disulfide	U	U	U	U	U	U	10	2,700
1,1-Dichloroethene	U	U	U	U	U	U	10	400
1,1-Dichloroethane	U	U	U	U	U	U	10	200
trans-1,2-Dichloroethene	U	U	U	U	U	U	10	300
cis-1,2-Dichloroethene	U	U	U	U	U	U	10	250 *
Chloroform	U	U	U	U	U	U	10	300
1,2-Dichloroethane	U	U	U	U	U	U	10	100
2-Butanone	U	U	U	U	U	U	10	300
1,1,1-Trichloroethane	U	U	U	U	U	U	10	800
Carbon Tetrachloride	U	U	U	U	U	U	10	600
Bromodichloromethane	U	U	U	U	U	U	10	----
1,2-Dichloropropane	U	U	U	U	U	U	10	----
cis-1,3-Dichloropropene	U	U	U	U	U	U	10	----
Trichloroethene	U	U	U	U	U	U	10	700
Dibromochloromethane	U	U	U	U	U	U	10	----
1,1,2-Trichloroethane	U	U	U	U	U	U	10	----
Benzene	U	U	U	U	U	U	10	60
trans-1,3-Dichloropropene	U	U	U	U	U	U	10	----
Bromoform	U	U	U	U	U	U	10	----
4-Methyl-2-pentanone	U	U	U	U	U	U	10	1,000
2-Hexanone	U	U	U	U	U	U	10	----
Tetrachloroethene	U	U	U	U	U	U	10	1,400
1,1,2,2-Tetrachloroethane	U	U	U	U	U	U	10	600
Toluene	U	U	U	U	U	U	10	1,500
Chlorobenzene	U	U	U	U	U	U	10	1,700
Ethylbenzene	U	U	U	U	U	U	10	5,500
Styrene	U	U	U	U	U	U	10	----
Xylene (total)	U	U	U	U	U	U	10	1,200
MTBE	U	U	U	U	U	U	10	----
Naphthalene	U	U	U	U	U	U	10	1,300
Isopropylbenzene	U	U	U	U	U	U	10	----
n-Propylbenzene	U	U	U	U	U	U	10	----
1,3,5-Trimethylbenzene	U	U	U	U	U	U	10	----
tert-Butylbenzene	U	U	U	U	U	U	10	----
1,2,4-Trimethylbenzene	U	U	U	U	U	U	10	----
sec-Butylbenzene	U	U	U	U	U	U	10	----
p-Isopropyltoluene	U	U	U	U	U	U	10	----
n-Butylbenzene	U	U	U	U	U	U	10	----
1,2,3-Trichlorobenzene	U	U	U	U	U	U	10	----
TOTAL VOCs	2.7	8.8	3.6	5.2	3.2	3.8		10,000

Qualifiers:
U: Compound analyzed for but not detected
B: Compound found in the method blank as well as the sample

Notes:
---- Not established
* Proposed revised criteria listed in TAGM 4046 Appendix A

TABLE C-1 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
VOLATILE ORGANIC COMPOUNDS

PROBE/BORING IDENTIFICATION	B-20		B-21		B-22		CONTRACT REQUIRED DETECTION LIMITS (ug/kg)	NYSDEC TAGM 4046 APPENDIX A CRITERIA (ug/kg)
SAMPLE IDENTIFICATION	B-20 (46'-48')	B-20 (48'-50')	B-21 (0-2')	B-21 (2'-4')	B-22 (0'-2')	B-22 (2'-4')		
SAMPLE DEPTH	46' - 48'	48' - 50'	0' - 2'	2' - 4'	0' - 2'	2' - 4'		
DATE OF COLLECTION	02/13/98	02/13/98	02/13/98	02/13/98	02/17/98	02/17/98		
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)		
Chloromethane	U	U	U	U	U	U	10	----
Bromomethane	U	U	U	U	U	U	10	----
Vinyl Chloride	U	U	U	U	U	U	10	200
Chloroethane	U	U	U	U	U	U	10	1,900
Methylene Chloride	3.3 B	4.1 B	3.8 B	3.9 B	5.3 B	3.9 B	10	100
Acetone	U	U	U	U	U	U	10	200
Carbon Disulfide	U	U	U	U	U	U	10	2,700
1,1-Dichloroethene	U	U	U	U	U	U	10	400
1,1-Dichloroethane	U	U	U	U	U	U	10	200
trans-1,2-Dichloroethene	U	U	U	U	U	U	10	300
cis-1,2-Dichloroethene	U	U	U	U	U	U	10	250 *
Chloroform	U	U	U	U	U	U	10	300
1,2-Dichloroethane	U	U	U	U	U	U	10	100
2-Butanone	U	U	U	U	U	U	10	300
1,1,1-Trichloroethane	U	U	U	U	U	U	10	800
Carbon Tetrachloride	U	U	U	U	U	U	10	600
Bromodichloromethane	U	U	U	U	U	U	10	----
1,2-Dichloropropane	U	U	U	U	U	U	10	----
cis-1,3-Dichloropropene	U	U	U	U	U	U	10	----
Trichloroethene	U	U	U	U	U	U	10	700
Dibromochloromethane	U	U	U	U	U	U	10	----
1,1,2-Trichloroethane	U	U	U	U	U	U	10	----
Benzene	U	U	U	U	U	U	10	60
trans-1,3-Dichloropropene	U	U	U	U	U	U	10	----
Bromoform	U	U	U	U	U	U	10	----
4-Methyl-2-pentanone	U	U	U	U	U	U	10	1,000
2-Hexanone	U	U	U	U	U	U	10	----
Tetrachloroethene	U	U	U	U	U	U	10	1,400
1,1,2,2-Tetrachloroethane	U	U	U	U	U	U	10	600
Toluene	U	U	U	U	U	U	10	1,500
Chlorobenzene	U	U	U	U	U	U	10	1,700
Ethylbenzene	U	U	U	U	U	U	10	5,500
Styrene	U	U	U	U	U	U	10	----
Xylene (total)	U	U	U	U	U	U	10	1,200
MTBE	U	U	U	U	U	U	10	----
Naphthalene	U	U	U	U	U	U	10	1,300
Isopropylbenzene	U	U	U	U	U	U	10	----
n-Propylbenzene	U	U	U	U	U	U	10	----
1,3,5-Trimethylbenzene	U	U	U	U	U	U	10	----
tert-Butylbenzene	U	U	U	U	U	U	10	----
1,2,4-Trimethylbenzene	U	U	U	U	U	U	10	----
sec-Butylbenzene	U	U	U	U	U	U	10	----
p-Isopropyltoluene	U	U	U	U	U	U	10	----
n-Butylbenzene	U	U	U	U	U	U	10	----
1,2,3-Trichlorobenzene	U	U	U	U	U	U	10	----
TOTAL VOCs	3.3	4.1	3.8	3.9	5.3	3.9		10,000

Qualifiers:
U: Compound analyzed for but not detected.
B: Compound found in the method blank as well as the sample.

Notes
---- Not established.
* Proposed revised criteria listed in TAGM 4046 Appendix A

TABLE C-1 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
VOLATILE ORGANIC COMPOUNDS

PROBE/BORING IDENTIFICATION	B-23		B-24			CONTRACT REQUIRED DETECTION LIMITS (ug/kg)	NYSDEC TAGM 4046 APPENDIX A CRITERIA (ug/kg)
SAMPLE IDENTIFICATION	B-23 (0-2')	B-23 (2'-4')	B-24 (0-2')	FB-1	FB 2		
SAMPLE DEPTH	0' - 2'	2' - 4'	0' - 2'	--	--		
DATE OF COLLECTION	02/17/98	02/17/98	02/17/98	02/11/98	02/13/98		
DILUTION FACTOR	1 0	1 0	1 0	1 0	1 0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/L)	(ug/L)		
Chloromethane	U	U	U	U	U	10	----
Bromomethane	U	U	U	U	U	10	----
Vinyl Chloride	U	U	U	U	U	10	200
Chloroethane	U	U	U	U	U	10	1,900
Methylene Chloride	40 B	39 B	52 B	15	06 J	10	100
Acetone	U	U	U	31	33	10	200
Carbon Disulfide	U	U	U	U	U	10	2,700
1,1-Dichloroethene	U	U	U	U	U	10	400
1,1-Dichloroethane	U	U	U	U	U	10	200
trans-1,2-Dichloroethene	U	U	U	U	U	10	300
cis-1,2-Dichloroethene	U	U	U	U	U	10	250 *
Chloroform	U	U	U	U	U	10	300
1,2-Dichloroethane	U	U	U	U	U	10	100
2-Butanone	U	U	U	U	U	10	300
1,1,1-Trichloroethane	U	U	U	U	U	10	800
Carbon Tetrachloride	U	U	U	U	U	10	600
Bromodichloromethane	U	U	U	U	U	10	----
1,2-Dichloropropane	U	U	U	U	U	10	----
cis-1,3-Dichloropropene	U	U	U	U	U	10	----
Trichloroethene	U	U	U	U	U	10	700
Dibromochloromethane	U	U	U	U	U	10	----
1,1,2-Trichloroethane	U	U	U	U	U	10	----
Benzene	U	U	U	U	U	10	60
trans-1,3-Dichloropropene	U	U	U	U	U	10	----
Bromoform	U	U	U	U	U	10	----
4-Methyl-2-pentanone	U	U	U	U	U	10	1,000
2-Hexanone	U	U	U	U	U	10	----
Tetrachloroethene	U	U	U	U	U	10	1,400
1,1,2,2-Tetrachloroethane	U	U	U	U	U	10	600
Toluene	U	U	U	U	U	10	1,500
Chlorobenzene	U	U	U	U	U	10	1,700
Ethylbenzene	U	U	U	U	U	10	5,500
Styrene	U	U	U	U	U	10	----
Xylene (total)	U	U	U	U	U	10	1,200
MTBE	U	U	U	U	U	10	----
Naphthalene	U	U	U	U	U	10	1,300
Isopropylbenzene	U	U	U	U	U	10	----
n-Propylbenzene	U	U	U	U	U	10	----
1,3,5-Trimethylbenzene	U	U	U	U	U	10	----
tert-Butylbenzene	U	U	U	U	U	10	----
1,2,4-Trimethylbenzene	U	U	U	U	U	10	----
sec-Butylbenzene	U	U	U	U	U	10	----
p-Isopropyltoluene	U	U	U	U	U	10	----
n-Butylbenzene	U	U	U	U	U	10	----
1,2,3-Trichlorobenzene	U	U	U	U	U	10	----
TOTAL VOCs	40	39	52	325	336		10,000

Qualifiers:
U: Compound analyzed for but not detected
J: Compound found at a concentration below the detection limit
B: Compound found in the method blank as well as the sample

Notes
---- Not established
* Proposed revised criteria listed in TAGM 4046 Appendix A

TABLE C-2
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

PROBE/BORING IDENTIFICATION	B-1		B-2		B-3			
SAMPLE IDENTIFICATION	B-1 (0-2')	B-1 (2'-4')	B-2 (0-2')	B-2 (2'-4')	B-3 (0-2')	B-3 (2'-4')	CONTRACT REQUIRED	NYSDEC TAGM 4046
SAMPLE DEPTH	0' - 2'	2' - 4'	0' - 2'	2' - 4'	0' - 2'	2' - 4'	DETECTION	APPENDIX A
DATE OF COLLECTION	02/10/98	02/10/98	02/10/98	02/10/98	02/10/98	02/10/98	LIMITS	CRITERIA
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Phenol	U	U	U	U	U	U	330	30 or MDL
2-Chlorophenol	U	U	U	U	U	U	330	800
2-Methylphenol	U	U	U	U	U	U	330	100 or MDL
4-Methylphenol	U	U	U	U	U	U	330	900
2-Nitrophenol	U	U	U	U	U	U	330	330 or MDL
2,4-Dimethylphenol	U	U	U	U	U	U	330	----
2,4-Dichlorophenol	U	U	U	U	U	U	330	400
4-Chloro-3-methylphenol	U	U	U	U	U	U	330	240 or MDL
2,4,6-Trichlorophenol	U	U	U	U	U	U	330	----
2,4,5-Trichlorophenol	U	U	U	U	U	U	800	100
2,4-Dinitrophenol	U	U	U	U	54 J	U	800	200 or MDL
4-Nitrophenol	U	U	U	U	U	U	800	100 or MDL
4,6-Dinitro-2-methylphenol	U	U	9 J	U	U	U	800	----
Pentachlorophenol	U	U	U	U	U	U	800	1,000 or MDL
bis(2-Chloroethyl)ether	U	U	U	U	U	U	330	----
1,3-Dichlorobenzene	U	U	U	U	U	U	330	1,600
1,4-Dichlorobenzene	U	U	U	U	U	U	330	8,500
1,2-Dichlorobenzene	U	U	U	U	U	U	330	7,900
bis(2-chloroisopropyl)ether	U	U	U	U	U	U	330	----
N-Nitroso-di-n-propylamine	U	U	U	U	U	U	330	----
Hexachloroethane	U	U	U	U	U	U	330	----
Nitrobenzene	U	U	U	U	U	U	330	200 or MDL
Isophorone	U	U	U	U	U	U	330	4,400
bis(2-Chloroethoxy)methane	U	U	U	U	U	U	330	----
1,2,4-Trichlorobenzene	U	U	U	U	U	U	330	3,400
Naphthalene	U	U	U	U	U	U	330	13,000
4-Chloroaniline	U	U	U	U	U	U	330	220 or MDL
Hexachlorobutadiene	U	U	U	U	U	U	330	----
2-Methylnaphthalene	U	U	U	U	U	U	330	36,400
Hexachlorocyclopentadiene	U	U	U	U	U	U	330	----
2-Chloronaphthalene	U	U	U	U	U	U	330	----
2-Nitroaniline	U	U	U	U	U	U	800	430 or MDL
Dimethylphthalate	U	U	U	U	U	U	330	2,000
Acenaphthylene	28	U	U	U	U	U	330	41,000
2,6-Dinitrotoluene	U	U	U	U	U	U	330	1,000

TABLE C-2 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

PROBE/BORING IDENTIFICATION	B-1		B-2		B-3			
SAMPLE IDENTIFICATION	B-1 (0-2')	B-1 (2'-4')	B-2 (0-2')	B-2 (2'-4')	B-3 (0-2')	B-3 (2'-4')	CONTRACT REQUIRED DETECTION LIMITS	NYSDEC TAGM 4046 APPENDIX A CRITERIA
SAMPLE DEPTH	0' - 2'	2' - 4'	0' - 2'	2' - 4'	0' - 2'	2' - 4'		
DATE OF COLLECTION	02/10/98	02/10/98	02/10/98	02/10/98	02/10/98	02/10/98		
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
3-Nitroaniline	U	U	U	U	U	U	800	500 or MDL
Acenaphthene	32	U	29	U	U	U	330	50,000
Dibenzofuran	16 J	U	8.3 J	U	U	U	330	6,200
2,4-Dinitrotoluene	U	U	U	U	U	U	330	----
Diethylphthalate	U	U	U	U	U	U	330	7,100
4-Chlorophenyl-phenylether	U	U	U	U	U	U	330	----
Fluorene	44	U	18 J	U	U	U	330	50,000
4-Nitroaniline	U	U	U	U	U	U	800	----
N-Nitrosodiphenylamine	U	U	U	U	U	U	330	----
4-Bromophenyl-phenylether	U	U	U	U	U	U	330	----
Hexachlorobenzene	U	U	U	U	U	U	330	410
Phenanthrene	470	U	310	U	110	U	330	50,000
Anthracene	110	U	85	U	24	U	330	50,000
Carbazole	40 J	U	35 J	U	U	U	330	----
Di-n-butylphthalate	U	U	U	U	U	U	330	8,100
Fluoranthene	1,000	U	1,200	U	450	U	330	50,000
Pyrene	970	U	1,200	U	420	U	330	50,000
Butylbenzylphthalate	U	U	U	U	U	U	330	50,000
3,3'-Dichlorobenzidine	U	U	U	U	U	U	330	----
Benzo(a)anthracene	**480**	U	**790**	U	**280**	18	330	224 or MDL
Chrysene	**470**	U	**780**	U	320	9.3 J	330	400
bis(2-Ethylhexyl)phthalate	U	U	U	U	U	U	330	50,000
Di-n-octylphthalate	U	U	U	U	U	U	330	50,000
Benzo(b)fluoranthene	920	U	950	U	390	U	330	1,100
Benzo(k)fluoranthene	320	U	380	U	140	U	330	1,100
Benzo(a)pyrene	**750**	U	**740**	U	**270**	U	330	61 or MDL
Indeno(1,2,3-cd)pyrene	730	U	430	U	170	U	330	3,200
Dibenzo(a,h)anthracene	**140**	U	**120**	U	**52**	U	330	14 or MDL
Benzo(g,h,i)perylene	800	U	450	U	200	U	330	50,000
TOTAL CaPAHs	3,810	0	4,190	0	1,622	27.3		10,000*
TOTAL SVOCs	7,320	0	7,534.3	0	2,880	27.3		500,000

Qualifiers:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.

Notes:
---- : Not established.
bold : Value exceeds TAGM 4046 Appendix A Criteria
* : Proposed revised criteria for total CaPAHs in NYSDEC TAGM 4046 Appendix A

TABLE C-2 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

PROBE/BORING IDENTIFICATION	B-4		B-5		B-6		CONTRACT REQUIRED DETECTION LIMITS (ug/kg)	NYSDEC TAGM 4046 APPENDIX A CRITERIA (ug/kg)
SAMPLE IDENTIFICATION	B-4 (0-2')	B-4 (2'-4')	B-5 (0-2')	B-5 (2'-4')	B-6 (0-2')	B-6 (2'-4')		
SAMPLE DEPTH	0' - 2'	2' - 4'	0' - 2'	2' - 4'	0' - 2'	2' - 4'		
DATE OF COLLECTION	02/10/98	02/10/98	02/10/98	02/10/98	02/10/98	02/10/98		
DILUTION FACTOR	5.0	1.0	1.0	1.0	1.0	1.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)		
Phenol	U	U	U	U	U	U	330	30 or MDL
2-Chlorophenol	U	U	U	U	U	U	330	800
2-Methylphenol	U	U	U	U	U	U	330	100 or MDL
4-Methylphenol	U	U	U	U	U	U	330	900
2-Nitrophenol	U	U	U	U	U	U	330	330 or MDL
2,4-Dimethylphenol	U	U	U	U	U	U	330	----
2,4-Dichlorophenol	U	U	U	U	U	U	330	400
4-Chloro-3-methylphenol	U	U	U	U	U	U	330	240 or MDL
2,4,6-Trichlorophenol	U	U	U	U	U	U	330	----
2,4,5-Trichlorophenol	U	U	U	U	U	U	800	100
2,4-Dinitrophenol	U	U	U	U	U	U	800	200 or MDL
4-Nitrophenol	U	U	U	U	U	U	800	100 or MDL
4,6-Dinitro-2-methylphenol	U	U	U	U	U	U	800	----
Pentachlorophenol	U	U	U	U	U	U	800	1,000 or MDL
bis(2-Chloroethyl)ether	U	U	U	U	U	U	330	----
1,3-Dichlorobenzene	U	U	U	U	U	U	330	1,600
1,4-Dichlorobenzene	U	U	U	U	U	U	330	8,500
1,2-Dichlorobenzene	U	U	U	U	U	U	330	7,900
bis(2-chloroisopropyl)ether	U	U	U	U	U	U	330	----
N-Nitroso-di-n-propylamine	U	U	U	U	U	U	330	----
Hexachloroethane	U	U	U	U	U	U	330	----
Nitrobenzene	U	U	U	U	U	U	330	200 or MDL
Isophorone	U	U	U	U	U	U	330	4,400
bis(2-Chloroethoxy)methane	U	U	U	U	U	U	330	----
1,2,4-Trichlorobenzene	U	U	U	U	U	U	330	3,400
Naphthalene	U	U	U	U	U	U	330	13,000
4-Chloroaniline	U	U	U	U	U	U	330	220 or MDL
Hexachlorobutadiene	U	U	U	U	U	U	330	----
2-Methylnaphthalene	42 J	U	U	U	U	U	330	36,400
Hexachlorocyclopentadiene	U	U	U	U	U	U	330	----
2-Chloronaphthalene	U	U	U	U	U	U	330	----
2-Nitroaniline	U	U	U	U	U	U	800	430 or MDL
Dimethylphthalate	U	U	U	U	U	U	330	2,000
Acenaphthylene	U	U	U	U	U	U	330	41,000
2,6-Dinitrotoluene	U	U	U	U	U	U	330	1,000

TABLE C-2 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

PROBE/BORING IDENTIFICATION	B-4		B-5		B-6			
SAMPLE IDENTIFICATION	B-4 (0-2')	B-4 (2'-4')	B-5 (0-2')	B-5 (2'-4')	B-6 (0-2')	B-6 (2'-4')	CONTRACT REQUIRED	NYSDEC TAGM 4046
SAMPLE DEPTH	0' - 2'	2' - 4'	0' - 2'	2' - 4'	0' - 2'	2' - 4'	DETECTION	APPENDIX A
DATE OF COLLECTION	02/10/98	02/10/98	02/10/98	02/10/98	02/10/98	02/10/98	LIMITS	CRITERIA
DILUTION FACTOR	5.0	1.0	1.0	1.0	1.0	1.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
3-Nitroaniline	U	U	U	U	U	U	800	500 or MDL
Acenaphthene	U	U	11 J	8.3 J	U	U	330	50,000
Dibenzofuran	U	U	U	U	U	U	330	6,200
2,4-Dinitrotoluene	U	U	U	U	U	U	330	----
Diethylphthalate	U	U	U	U	U	U	330	7,100
4-Chlorophenyl-phenylether	U	U	U	U	U	U	330	----
Fluorene	U	U	U	U	U	U	330	50,000
4-Nitroaniline	U	U	U	U	U	U	800	----
N-Nitrosodiphenylamine	U	U	U	U	U	U	330	----
4-Bromophenyl-phenylether	U	U	U	U	U	U	330	----
Hexachlorobenzene	U	U	U	U	U	U	330	410
Phenanthrene	130	U	110	110	55	U	330	50,000
Anthracene	U	U	27	26	14 J	U	330	50,000
Carbazole	U	U	14 J	12 J	U	U	330	----
Di-n-butylphthalate	U	U	U	U	U	U	330	8,100
Fluoranthene	85 J	U	260	160	68	U	330	50,000
Pyrene	120	U	240	140	54	U	330	50,000
Butylbenzylphthalate	U	210 J	U	U	U	U	330	50,000
3,3'-Dichlorobenzidine	U	U	U	U	U	U	330	----
Benzo(a)anthracene	86 J	U	150	82	44	U	330	224 or MDL
Chrysene	41 J	U	160	78	31	U	330	400
bis(2-Ethylhexyl)phthalate	U	U	100 J	U	U	U	330	50,000
Di-n-octylphthalate	U	U	U	U	U	U	330	50,000
Benzo(b)fluoranthene	84 J	U	180	77	38	U	330	1,100
Benzo(k)fluoranthene	U	U	72	44	16 J	U	330	1,100
Benzo(a)pyrene	**63 J**	U	**110**	60	29	U	330	61 or MDL
Indeno(1,2,3-cd)pyrene	130	U	74	37	U	U	330	3,200
Dibenzo(a,h)anthracene	U	U	U	U	U	U	330	14 or MDL
Benzo(g,h,i)perylene	160	U	77	35	U	U	330	50,000
TOTAL CaPAHs	404	0	746	378	158	0		10,000*
TOTAL SVOCs	941	210	1,585	869.3	349	0		500,000

Qualifiers:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.

Notes:
---- : Not established.
bold : Value exceeds TAGM 4046 Appendix A Criteria
* : Proposed revised criteria for total CaPAHs in NYSDEC TAGM 4046 Appendix A

TABLE C-2 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

PROBE/BORING IDENTIFICATION	B-7		B-8		B-9			
SAMPLE IDENTIFICATION	B-7 (0-2')	B-7 (2'-4')	B-8 (0-2')	B-8 (2'-4')	B-9 (0-2')	B-9 (2'-4')	CONTRACT REQUIRED DETECTION LIMITS	NYSDEC TAGM 4046 APPENDIX A CRITERIA
SAMPLE DEPTH	0' - 2'	2' - 4'	0' - 2'	2' - 4'	0' - 2'	2' - 4'		
DATE OF COLLECTION	02/11/98	02/11/98	02/11/98	02/11/98	02/11/98	02/11/98		
DILUTION FACTOR	5.0	1.0	1.0	5.0	1.0	1.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Phenol	U	13 J	U	U	U	U	330	30 or MDL
2-Chlorophenol	U	U	U	U	U	U	330	800
2-Methylphenol	U	U	U	U	U	U	330	100 or MDL
4-Methylphenol	U	U	11 J	U	23 J	U	330	900
2-Nitrophenol	U	U	U	U	U	U	330	330 or MDL
2,4-Dimethylphenol	U	U	U	U	U	U	330	----
2,4-Dichlorophenol	U	U	U	U	U	U	330	400
4-Chloro-3-methylphenol	U	U	U	U	U	U	330	240 or MDL
2,4,6-Trichlorophenol	U	U	U	U	U	U	330	----
2,4,5-Trichlorophenol	U	U	U	U	U	U	800	100
2,4-Dinitrophenol	U	U	U	U	U	U	800	200 or MDL
4-Nitrophenol	U	U	U	U	U	U	800	100 or MDL
4,6-Dinitro-2-methylphenol	U	U	U	U	U	U	800	----
Pentachlorophenol	U	U	U	U	U	U	800	1,000 or MDL
bis(2-Chloroethyl)ether	U	U	U	U	U	U	330	----
1,3-Dichlorobenzene	U	U	U	U	U	U	330	1,600
1,4-Dichlorobenzene	U	U	U	U	U	U	330	8,500
1,2-Dichlorobenzene	U	U	U	U	U	U	330	7,900
bis(2-chloroisopropyl)ether	U	U	U	U	U	U	330	----
N-Nitroso-di-n-propylamine	U	U	U	U	U	U	330	----
Hexachloroethane	U	U	U	U	U	U	330	----
Nitrobenzene	U	U	U	U	U	U	330	200 or MDL
Isophorone	U	U	U	U	U	U	330	4,400
bis(2-Chloroethoxy)methane	U	U	U	U	U	U	330	----
1,2,4-Trichlorobenzene	U	U	U	U	U	U	330	3,400
Naphthalene	U	U	U	U	U	U	330	13,000
4-Chloroaniline	U	U	U	U	U	U	330	220 or MDL
Hexachlorobutadiene	U	U	U	U	U	U	330	----
2-Methylnaphthalene	U	U	U	U	U	U	330	36,400
Hexachlorocyclopentadiene	U	U	U	U	U	U	330	----
2-Chloronaphthalene	U	U	U	U	U	U	330	----
2-Nitroaniline	U	U	U	U	U	U	800	430 or MDL
Dimethylphthalate	U	U	U	U	U	U	330	2,000
Acenaphthylene	U	U	U	U	U	U	330	41,000
2,6-Dinitrotoluene	U	U	U	U	U	U	330	1,000

TABLE C-2 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

PROBE/BORING IDENTIFICATION	B-7		B-8		B-9		CONTRACT	NYSDEC
SAMPLE IDENTIFICATION	B-7 (0-2')	B-7 (2'-4')	B-8 (0-2')	B-8 (2'-4')	B-9 (0-2')	B-9 (2'-4')	REQUIRED	TAGM 4046
SAMPLE DEPTH	0' - 2'	2' - 4'	0' - 2'	2' - 4'	0' - 2'	2' - 4'	DETECTION	APPENDIX A
DATE OF COLLECTION	02/11/98	02/11/98	02/11/98	02/11/98	02/11/98	02/11/98	LIMITS	CRITERIA
DILUTION FACTOR	5.0	1.0	1.0	5.0	1.0	1.0	(ug/kg)	(ug/kg)
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)		
3-Nitroaniline	U	U	U	U	U	U	800	500 or MDL
Acenaphthene	U	U	U	U	33	U	330	50,000
Dibenzofuran	U	U	U	U	13 J	U	330	6,200
2,4-Dinitrotoluene	U	U	U	U	U	U	330	----
Diethylphthalate	U	U	U	U	U	U	330	7,100
4-Chlorophenyl-phenylether	U	U	U	U	U	U	330	----
Fluorene	U	U	U	U	18	U	330	50,000
4-Nitroaniline	U	U	U	U	U	U	800	----
N-Nitrosodiphenylamine	U	U	U	U	U	U	330	----
4-Bromophenyl-phenylether	U	U	U	U	U	U	330	----
Hexachlorobenzene	U	U	U	U	U	U	330	410
Phenanthrene	44 J	14 J	22	U	230	46	330	50,000
Anthracene	U	U	12 J	U	54	U	330	50,000
Carbazole	U	U	U	U	31 J	U	330	----
Di-n-butylphthalate	U	U	U	U	U	U	330	8,100
Fluoranthene	U	51	51	U	450	78	330	50,000
Pyrene	U	U	50	U	430	71	330	50,000
Butylbenzylphthalate	U	U	U	U	U	U	330	50,000
3,3'-Dichlorobenzidine	U	U	U	U	U	U	330	----
Benzo(a)anthracene	U	35	51	U	**230**	50	330	224 or MDL
Chrysene	U	18	68	U	240	38	330	400
bis(2-Ethylhexyl)phthalate	U	U	400	U	U	U	330	50,000
Di-n-octylphthalate	U	U	U	U	U	U	330	50,000
Benzo(b)fluoranthene	U	35	110	U	450	44	330	1,100
Benzo(k)fluoranthene	U	14 J	29	U	200	20 J	330	1,100
Benzo(a)pyrene	58 J	U	**69**	U	**370**	51	330	61 or MDL
Indeno(1,2,3-cd)pyrene	85 J	U	150	U	300	41	330	3,200
Dibenzo(a,h)anthracene	U	U	U	U	**57**	U	330	14 or MDL
Benzo(g,h,i)perylene	120	U	210	U	340	38	330	50,000
TOTAL CaPAHs	143	102	477	0	1,847	244	---	10,000*
TOTAL SVOCs	307	180	1,233	0	3,469	477	---	500,000

Qualifiers:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.

Notes:
---- : Not established.
bold : Value exceeds TAGM 4046 Appendix A Criteria
* : Proposed revised criteria for total CaPAHs in NYSDEC TAGM 4046 Appendix A

TABLE C-2 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

PROBE/BORING IDENTIFICATION	B-10							
SAMPLE IDENTIFICATION	B-10 (0-2')	B-10 (2'-4')	B-10A (4'-6')	B-10A (6'-8')	B-10A (8'-10')	B-10N (0-2')	CONTRACT REQUIRED DETECTION LIMITS (ug/kg)	NYSDEC TAGM 4046 APPENDIX A CRITERIA (ug/kg)
SAMPLE DEPTH	0' - 2'	2' - 4'	4' - 6'	6' - 8'	8'- 10'	0 - 2'		
DATE OF COLLECTION	02/11/98	02/11/98	3/12/98	3/12/98	3/12/98	3/12/98		
DILUTION FACTOR	5.0	5.0	1.0	1.0	1.0	1.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)		
Phenol	U	U	U	U	U	U	330	30 or MDL
2-Chlorophenol	U	U	U	U	U	U	330	800
2-Methylphenol	U	U	U	U	U	U	330	100 or MDL
4-Methylphenol	U	U	U	U	U	U	330	900
2-Nitrophenol	U	U	U	U	U	U	330	330 or MDL
2,4-Dimethylphenol	U	U	U	U	U	U	330	----
2,4-Dichlorophenol	U	U	U	U	U	U	330	400
4-Chloro-3-methylphenol	U	U	U	U	U	U	330	240 or MDL
2,4,6-Trichlorophenol	U	U	U	U	U	U	330	----
2,4,5-Trichlorophenol	U	U	U	U	U	U	800	100
2,4-Dinitrophenol	U	U	U	U	U	U	800	200 or MDL
4-Nitrophenol	U	U	U	U	U	U	800	100 or MDL
4,6-Dinitro-2-methylphenol	U	U	U	U	U	U	800	----
Pentachlorophenol	U	U	U	U	U	U	800	1,000 or MDL
bis(2-Chloroethyl)ether	U	U	U	U	U	U	330	----
1,3-Dichlorobenzene	U	U	U	U	U	U	330	1,600
1,4-Dichlorobenzene	U	U	U	U	U	U	330	8,500
1,2-Dichlorobenzene	U	U	U	U	U	U	330	7,900
bis(2-chloroisopropyl)ether	U	U	U	U	U	U	330	----
N-Nitroso-di-n-propylamine	U	U	U	U	U	U	330	----
Hexachloroethane	U	U	U	U	U	U	330	----
Nitrobenzene	U	U	U	U	U	U	330	200 or MDL
Isophorone	U	U	U	U	U	U	330	4,400
bis(2-Chloroethoxy)methane	U	U	U	U	U	U	330	----
1,2,4-Trichlorobenzene	U	U	U	U	U	U	330	3,400
Naphthalene	U	460	U	U	U	U	330	13,000
4-Chloroaniline	U	U	U	U	U	U	330	220 or MDL
Hexachlorobutadiene	U	U	U	U	U	U	330	----
2-Methylnaphthalene	U	320 J	U	U	U	U	330	36,400
Hexachlorocyclopentadiene	U	U	U	U	U	U	330	----
2-Chloronaphthalene	U	U	U	U	U	U	330	----
2-Nitroaniline	U	U	U	U	U	U	800	430 or MDL
Dimethylphthalate	U	U	U	U	U	U	330	2,000
Acenaphthylene	U	U	U	U	U	U	330	41,000
2,6-Dinitrotoluene	U	U	U	U	U	U	330	1,000

TABLE C-2 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

PROBE/BORING IDENTIFICATION	B-10							
SAMPLE IDENTIFICATION	B-10 (0-2')	B-10 (2'-4')	B-10A (4'-6')	B-10A (6'-8')	B-10A (8'-10')	B-10N (0-2')	CONTRACT REQUIRED	NYSDEC TAGM 4046
SAMPLE DEPTH	0' - 2'	2' - 4'	4' - 6'	6' - 8'	8'- 10'	0 - 2'	DETECTION	APPENDIX A
DATE OF COLLECTION	02/11/98	02/11/98	3/12/98	3/12/98	3/12/98	3/12/98	LIMITS	CRITERIA
DILUTION FACTOR	5.0	5.0	1.0	1.0	1.0	1.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
3-Nitroaniline	U	U	U	U	U	U	800	500 or MDL
Acenaphthene	210	2,400	U	29 J	U	31 J	330	50,000
Dibenzofuran	61 J	1,400 J	U	13 J	U	13 J	330	6,200
2,4-Dinitrotoluene	U	U	U	U	U	U	330	----
Diethylphthalate	U	U	U	U	U	U	330	7,100
4-Chlorophenyl-phenylether	U	U	U	U	U	U	330	----
Fluorene	160	2,400	U	25 J	U	26 J	330	50,000
4-Nitroaniline	U	U	U	U	U	U	800	----
N-Nitrosodiphenylamine	U	U	U	U	U	U	330	----
4-Bromophenyl-phenylether	U	U	U	U	U	U	330	----
Hexachlorobenzene	U	U	U	U	U	U	330	410
Phenanthrene	1,800	19,000	U	220 J	51 J	280 J	330	50,000
Anthracene	400	3,600	U	54 J	10 J	65 J	330	50,000
Carbazole	190 J	2,500	U	29 J	U	94 J	330	----
Di-n-butylphthalate	U	U	U	U	U	U	330	8,100
Fluoranthene	3,400	18,000	U	230 J	57 J	350 J	330	50,000
Pyrene	3,200	15,000	U	190 J	48 J	320 J	330	50,000
Butylbenzylphthalate	U	U	U	U	U	U	330	50,000
3,3'-Dichlorobenzidine	U	U	U	U	U	U	330	----
Benzo(a)anthracene	**1,800**	**7,400**	U	98	34	170	330	224 or MDL
Chrysene	**2,000**	**7,200**	U	85 J	22 J	180 J	330	400
bis(2-Ethylhexyl)phthalate	U	U	U	U	U	U	330	50,000
Di-n-octylphthalate	U	U	U	U	U	U	330	50,000
Benzo(b)fluoranthene	**2,100**	**7,800**	U	84	U	150	330	1,100
Benzo(k)fluoranthene	840	**3,000**	U	34	U	65	330	1,100
Benzo(a)pyrene	**1,600**	**6,000**	U	58	U	**120**	330	61 or MDL
Indeno(1,2,3-cd)pyrene	1,000	**3,500**	U	45	U	87	330	3,200
Dibenzo(a,h)anthracene	**290**	**880**	U	U	U	13 J	330	14 or MDL
Benzo(g,h,i)perylene	1,000	3,700	U	50 J	U	70 J	330	50,000
TOTAL CaPAHs	9,630	**35,780**	0	404	56	785		10,000*
TOTAL SVOCs	20,051	104,560	0	1,244	222	2,034		500,000

Qualifiers:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.

Notes:
---- : Not established.
□ : Value exceeds TAGM 4046 Appendix A Criteria
* : Proposed revised criteria for total CaPAHs in NYSDEC TAGM 4046 Appendix A

TABLE C-2 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

PROBE/BORING IDENTIFICATION	B-10							
SAMPLE IDENTIFICATION	B-10N (2'-4')	B-10N (4'-6')	B-10N (6'-8')	B-10N (8'-10')	B-10S (0-2')	B-10S (2'-4')	CONTRACT REQUIRED DETECTION LIMITS	NYSDEC TAGM 4046 APPENDIX A CRITERIA
SAMPLE DEPTH	2' - 4'	4' - 6'	6' - 8'	8' - 10'	0 - 2'	2' - 4'		
DATE OF COLLECTION	3/12/98	3/12/98	3/12/98	3/12/98	3/12/98	3/12/98		
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Phenol	U	U	U	U	U	U	330	30 or MDL
2-Chlorophenol	U	U	U	U	U	U	330	800
2-Methylphenol	U	U	U	U	U	U	330	100 or MDL
4-Methylphenol	U	U	U	U	U	U	330	900
2-Nitrophenol	U	U	U	U	U	U	330	330 or MDL
2,4-Dimethylphenol	U	U	U	U	U	U	330	----
2,4-Dichlorophenol	U	U	U	U	U	U	330	400
4-Chloro-3-methylphenol	U	U	U	U	U	U	330	240 or MDL
2,4,6-Trichlorophenol	U	U	U	U	U	U	330	----
2,4,5-Trichlorophenol	U	U	U	U	U	U	800	100
2,4-Dinitrophenol	U	U	U	U	U	U	800	200 or MDL
4-Nitrophenol	U	U	U	U	U	U	800	100 or MDL
4,6-Dinitro-2-methylphenol	U	U	U	U	U	U	800	----
Pentachlorophenol	U	U	U	U	U	U	800	1,000 or MDL
bis(2-Chloroethyl)ether	U	U	U	U	U	U	330	----
1,3-Dichlorobenzene	U	U	U	U	U	U	330	1,600
1,4-Dichlorobenzene	U	U	U	U	U	U	330	8,500
1,2-Dichlorobenzene	U	U	U	U	U	U	330	7,900
bis(2-chloroisopropyl)ether	U	U	U	U	U	U	330	----
N-Nitroso-di-n-propylamine	U	U	U	U	U	U	330	----
Hexachloroethane	U	U	U	U	U	U	330	----
Nitrobenzene	U	U	U	U	U	U	330	200 or MDL
Isophorone	U	U	U	U	U	U	330	4,400
bis(2-Chloroethoxy)methane	U	U	U	U	U	U	330	----
1,2,4-Trichlorobenzene	U	U	U	U	U	U	330	3,400
Naphthalene	U	U	U	U	31 J	U	330	13,000
4-Chloroaniline	U	U	U	U	U	U	330	220 or MDL
Hexachlorobutadiene	U	U	U	U	U	U	330	----
2-Methylnaphthalene	U	U	U	U	21 J	U	330	36,400
Hexachlorocyclopentadiene	U	U	U	U	U	U	330	----
2-Chloronaphthalene	U	U	U	U	U	U	330	----
2-Nitroaniline	U	U	U	U	U	U	800	430 or MDL
Dimethylphthalate	U	U	U	U	U	U	330	2,000
Acenaphthylene	U	U	U	U	U	U	330	41,000
2,6-Dinitrotoluene	U	U	U	U	U	U	330	1,000

TABLE C-2 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

PROBE/BORING IDENTIFICATION	B-10							
SAMPLE IDENTIFICATION	B-10N (2'-4')	B-10N (4'-6')	B-10N (6'-8')	B-10N (8'-10')	B-10S (0-2')	B-10S (2'-4')	CONTRACT REQUIRED DETECTION LIMITS	NYSDEC TAGM 4046 APPENDIX A CRITERIA
SAMPLE DEPTH	2' - 4'	4' - 6'	6' - 8'	8' - 10'	0 - 2'	2' - 4'		
DATE OF COLLECTION	3/12/98	3/12/98	3/12/98	3/12/98	3/12/98	3/12/98		
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
3-Nitroaniline	U	U	U	U	U	U	800	500 or MDL
Acenaphthene	U	35 J	U	U	170 J	46 J	330	50,000
Dibenzofuran	U	12 J	U	U	90 J	21 J	330	6,200
2,4-Dinitrotoluene	U	U	U	U	U	U	330	----
Diethylphthalate	U	U	U	U	U	U	330	7,100
4-Chlorophenyl-phenylether	U	U	U	U	U	U	330	----
Fluorene	U	37 J	U	U	170 J	U	330	50,000
4-Nitroaniline	U	U	U	U	U	U	800	----
N-Nitrosodiphenylamine	U	U	U	U	U	U	330	----
4-Bromophenyl-phenylether	U	U	U	U	U	U	330	----
Hexachlorobenzene	U	U	U	U	U	U	330	410
Phenanthrene	U	330 J	18 J	U	1,800	400 J	330	50,000
Anthracene	U	96 J	U	U	340 J	78 J	330	50,000
Carbazole	U	17 J	U	U	240 J	48 J	330	----
Di-n-butylphthalate	U	U	U	U	U	U	330	8,100
Fluoranthene	U	510	48 J	U	2,200	380 J	330	50,000
Pyrene	U	430	44 J	U	1,700	320 J	330	50,000
Butylbenzylphthalate	U	U	U	U	U	U	330	50,000
3,3'-Dichlorobenzidine	U	U	U	U	U	U	330	----
Benzo(a)anthracene	U	210	23	U	**880**	180	330	224 or MDL
Chrysene	U	200 J	26 J	U	**860**	180 J	330	400
bis(2-Ethylhexyl)phthalate	U	U	U	U	U	U	330	50,000
Di-n-octylphthalate	U	U	U	U	U	U	330	50,000
Benzo(b)fluoranthene	U	200	U	U	860	140	330	1,100
Benzo(k)fluoranthene	U	90	U	U	350	61	330	1,100
Benzo(a)pyrene	U	**160**	U	U	**670**	**110**	330	61 or MDL
Indeno(1,2,3-cd)pyrene	U	90	U	U	400	60	330	3,200
Dibenzo(a,h)anthracene	U	**20**	U	U	**100**	U	330	14 or MDL
Benzo(g,h,i)perylene	U	100 J	U	U	450	65 J	330	50,000
TOTAL CaPAHs	0	970	49	0	4,120	731		10,000*
TOTAL SVOCs	0	2,537	159	0	11,332	2,089		500,000

Qualifiers:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.

Notes:
---- Not established.
Bold Value exceeds TAGM 4046 Appendix A Criteria
* Proposed revised criteria for total CaPAHs in NYSDEC TAGM 4046 Appendix A

TABLE C-2 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

PROBE/BORING IDENTIFICATION	B-10							
SAMPLE IDENTIFICATION	B-10S (4'-6')	B-10S (6'-8')	B-10S (8'-10')	B-10E (0-2')	B-10E (2'-4')	B-10E (4'-6')	CONTRACT REQUIRED DETECTION LIMITS	NYSDEC TAGM 4046 APPENDIX A CRITERIA
SAMPLE DEPTH	4' - 6'	6' - 8'	8' - 10'	0 - 2'	2' - 4'	4' - 6'		
DATE OF COLLECTION	3/12/98	3/12/98	3/12/98	3/12/98	3/12/98	3/12/98		
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Phenol	U	U	U	U	U	U	330	30 or MDL
2-Chlorophenol	U	U	U	U	U	U	330	800
2-Methylphenol	U	U	U	U	U	U	330	100 or MDL
4-Methylphenol	U	U	U	U	U	U	330	900
2-Nitrophenol	U	U	U	U	U	U	330	330 or MDL
2,4-Dimethylphenol	U	U	U	U	U	U	330	----
2,4-Dichlorophenol	U	U	U	U	U	U	330	400
4-Chloro-3-methylphenol	U	U	U	U	U	U	330	240 or MDL
2,4,6-Trichlorophenol	U	U	U	U	U	U	330	----
2,4,5-Trichlorophenol	U	U	U	U	U	U	800	100
2,4-Dinitrophenol	U	U	U	U	U	U	800	200 or MDL
4-Nitrophenol	U	U	U	U	U	U	800	100 or MDL
4,6-Dinitro-2-methylphenol	U	U	U	U	U	U	800	----
Pentachlorophenol	U	U	U	U	U	U	800	1,000 or MDL
bis(2-Chloroethyl)ether	U	U	U	U	U	U	330	----
1,3-Dichlorobenzene	U	U	U	U	U	U	330	1,600
1,4-Dichlorobenzene	U	U	U	U	U	U	330	8,500
1,2-Dichlorobenzene	U	U	U	U	U	U	330	7,900
bis(2-chloroisopropyl)ether	U	U	U	U	U	U	330	----
N-Nitroso-di-n-propylamine	U	U	U	U	U	U	330	----
Hexachloroethane	U	U	U	U	U	U	330	----
Nitrobenzene	U	U	U	U	U	U	330	200 or MDL
Isophorone	U	U	U	U	U	U	330	4,400
bis(2-Chloroethoxy)methane	U	U	U	U	U	U	330	----
1,2,4-Trichlorobenzene	U	U	U	U	U	U	330	3,400
Naphthalene	U	U	U	770 J	U	U	330	13,000
4-Chloroaniline	U	U	U	U	U	U	330	220 or MDL
Hexachlorobutadiene	U	U	U	U	U	U	330	----
2-Methylnaphthalene	U	U	U	830 J	U	U	330	36,400
Hexachlorocyclopentadiene	U	U	U	U	U	U	330	----
2-Chloronaphthalene	U	U	U	U	U	U	330	----
2-Nitroaniline	U	U	U	U	U	U	800	430 or MDL
Dimethylphthalate	U	U	U	U	U	U	330	2,000
Acenaphthylene	U	U	U	460 J	U	U	330	41,000
2,6-Dinitrotoluene	U	U	U	U	U	U	330	1,000

TABLE C-2 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

PROBE/BORING IDENTIFICATION	B-10							
SAMPLE IDENTIFICATION	B-10S (4'-6')	B-10S (6'-8')	B-10S (8'-10')	B-10E (0-2')	B-10E (2'-4')	B-10E (4'-6')	CONTRACT REQUIRED DETECTION LIMITS	NYSDEC TAGM 4046 APPENDIX A CRITERIA
SAMPLE DEPTH	4' - 6'	6' - 8'	8' - 10'	0 - 2'	2' - 4'	4' - 6'		
DATE OF COLLECTION	3/12/98	3/12/98	3/12/98	3/12/98	3/12/98	3/12/98		
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
3-Nitroaniline	U	U	U	U	U	U	800	500 or MDL
Acenaphthene	U	U	U	7,700	78 J	U	330	50,000
Dibenzofuran	U	U	U	3,300 J	38 J	U	330	6,200
2,4-Dinitrotoluene	U	U	U	U	U	U	330	----
Diethylphthalate	U	U	U	U	U	U	330	7,100
4-Chlorophenyl-phenylether	U	U	U	U	U	U	330	----
Fluorene	U	U	U	8,200	93 J	U	330	50,000
4-Nitroaniline	U	U	U	U	U	U	800	----
N-Nitrosodiphenylamine	U	U	U	U	U	U	330	----
4-Bromophenyl-phenylether	U	U	U	U	U	U	330	----
Hexachlorobenzene	U	U	U	U	U	U	330	410
Phenanthrene	U	U	U	**62,000**	600	U	330	50,000
Anthracene	U	U	U	16,000	180 J	U	330	50,000
Carbazole	U	U	U	3,800 J	44 J	U	330	----
Di-n-butylphthalate	U	U	U	U	U	U	330	8,100
Fluoranthene	U	U	U	**96,000**	1,000	U	330	50,000
Pyrene	U	U	U	**68,000**	860	U	330	50,000
Butylbenzylphthalate	U	U	U	U	U	U	330	50,000
3,3'-Dichlorobenzidine	U	U	U	U	U	U	330	----
Benzo(a)anthracene	U	U	U	**30,000**	**420**	U	330	224 or MDL
Chrysene	U	U	U	**36,000**	**510**	U	330	400
bis(2-Ethylhexyl)phthalate	U	U	U	U	U	U	330	50,000
Di-n-octylphthalate	U	U	U	U	U	U	330	50,000
Benzo(b)fluoranthene	U	U	U	**29,000**	380	U	330	1,100
Benzo(k)fluoranthene	U	U	U	**11,000**	180	U	330	1,100
Benzo(a)pyrene	U	U	U	**22,000**	**300**	U	330	61 or MDL
Indeno(1,2,3-cd)pyrene	U	U	U	**12,000**	180	U	330	3,200
Dibenzo(a,h)anthracene	U	U	U	**3,200**	**49**	U	330	14 or MDL
Benzo(g,h,i)perylene	U	U	U	13,000	190 J	U	330	50,000
TOTAL CaPAHs	0	0	0	**143,200**	2,019	0		10,000*
TOTAL SVOCs	0	0	0	423,260	5,102	0		500,000

Qualifiers:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.

Notes:
---- : Not established.
bold : Value exceeds TAGM 4046 Appendix A Criteria
* : Proposed revised criteria for total CaPAHs in NYSDEC TAGM 4046 Appendix A

TABLE C-2 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

PROBE/BORING IDENTIFICATION	B-10		B-11		B-12		CONTRACT REQUIRED DETECTION LIMITS (ug/kg)	NYSDEC TAGM 4046 APPENDIX A CRITERIA (ug/kg)
SAMPLE IDENTIFICATION	B-10E (6'-8')	B-10E (8'-10')	B-11 (5'-7')	B-11 (7'-9')	B-12 (4'-6')	B-12 (6'-8')		
SAMPLE DEPTH	6' - 8'	8' - 10'	5' - 7'	7' - 9'	4' - 6'	6' - 8'		
DATE OF COLLECTION	3/12/98	3/12/98	02/11/98	02/11/98	02/11/98	02/11/98		
DILUTION FACTOR	1.0	1.0	25.0	25.0	20.0	25.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)		
Phenol	U	U	U	U	U	U	330	30 or MDL
2-Chlorophenol	U	U	U	U	U	U	330	800
2-Methylphenol	U	U	U	U	U	U	330	100 or MDL
4-Methylphenol	U	U	U	U	U	U	330	900
2-Nitrophenol	U	U	U	U	U	U	330	330 or MDL
2,4-Dimethylphenol	U	U	U	U	U	U	330	----
2,4-Dichlorophenol	U	U	U	U	U	U	330	400
4-Chloro-3-methylphenol	U	U	U	U	U	U	330	240 or MDL
2,4,6-Trichlorophenol	U	U	U	U	U	U	330	----
2,4,5-Trichlorophenol	U	U	U	U	U	U	800	100
2,4-Dinitrophenol	U	U	U	U	U	U	800	200 or MDL
4-Nitrophenol	U	U	U	U	U	U	800	100 or MDL
4,6-Dinitro-2-methylphenol	U	U	U	U	U	U	800	----
Pentachlorophenol	U	U	U	U	U	U	800	1,000 or MDL
bis(2-Chloroethyl)ether	U	U	U	U	U	U	330	----
1,3-Dichlorobenzene	U	U	U	U	U	U	330	1,600
1,4-Dichlorobenzene	U	U	U	U	U	U	330	8,500
1,2-Dichlorobenzene	U	U	U	U	U	U	330	7,900
bis(2-chloroisopropyl)ether	U	U	U	U	U	U	330	----
N-Nitroso-di-n-propylamine	U	U	U	U	U	U	330	----
Hexachloroethane	U	U	U	U	U	U	330	----
Nitrobenzene	U	U	U	U	U	U	330	200 or MDL
Isophorone	U	U	U	U	U	U	330	4,400
bis(2-Chloroethoxy)methane	U	U	U	U	U	U	330	----
1,2,4-Trichlorobenzene	U	U	U	U	U	U	330	3,400
Naphthalene	U	U	U	U	U	U	330	13,000
4-Chloroaniline	U	U	U	U	U	U	330	220 or MDL
Hexachlorobutadiene	U	U	U	U	U	U	330	----
2-Methylnaphthalene	U	U	U	U	U	U	330	36,400
Hexachlorocyclopentadiene	U	U	U	U	U	U	330	----
2-Chloronaphthalene	U	U	U	U	U	U	330	----
2-Nitroaniline	U	U	U	U	U	U	800	430 or MDL
Dimethylphthalate	U	U	U	U	U	U	330	2,000
Acenaphthylene	U	U	U	U	U	U	330	41,000
2,6-Dinitrotoluene	U	U	U	U	U	U	330	1,000

TABLE C-2 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

PROBE/BORING IDENTIFICATION	B-10		B-11		B-12		CONTRACT REQUIRED DETECTION LIMITS	NYSDEC TAGM 4046 APPENDIX A CRITERIA
SAMPLE IDENTIFICATION	B-10E (6'-8')	B-10E (8'-10')	B-11 (5'-7')	B-11 (7'-9')	B-12 (4'-6')	B-12 (6'-8')		
SAMPLE DEPTH	6' - 8'	8' - 10'	5' - 7'	7' - 9'	4' - 6'	6' - 8'		
DATE OF COLLECTION	3/12/98	3/12/98	02/11/98	02/11/98	02/11/98	02/11/98		
DILUTION FACTOR	1.0	1.0	25.0	25.0	20.0	25.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
3-Nitroaniline	U	U	U	U	U	U	800	500 or MDL
Acenaphthene	71 J	U	U	U	U	U	330	50,000
Dibenzofuran	30 J	U	U	U	U	U	330	6,200
2,4-Dinitrotoluene	U	U	U	U	U	U	330	----
Diethylphthalate	U	U	U	U	U	U	330	7,100
4-Chlorophenyl-phenylether	U	U	U	U	U	U	330	----
Fluorene	81 J	U	U	U	U	U	330	50,000
4-Nitroaniline	U	U	U	U	U	U	800	----
N-Nitrosodiphenylamine	U	U	U	U	U	U	330	----
4-Bromophenyl-phenylether	U	U	U	U	U	U	330	----
Hexachlorobenzene	U	U	U	U	U	U	330	410
Phenanthrene	590	U	U	U	140 J	U	330	50,000
Anthracene	160 J	U	U	U	U	U	330	50,000
Carbazole	35 J	U	U	U	U	U	330	----
Di-n-butylphthalate	U	U	4,600 J	2,800 J	3,400 J	4,100 J	330	8,100
Fluoranthene	910	U	U	U	U	U	330	50,000
Pyrene	730	U	U	U	U	U	330	50,000
Butylbenzylphthalate	U	U	U	U	U	U	330	50,000
3,3'-Dichlorobenzidine	U	U	U	U	U	U	330	----
Benzo(a)anthracene	**380**	U	U	U	U	U	330	224 or MDL
Chrysene	**410**	U	U	U	U	U	330	400
bis(2-Ethylhexyl)phthalate	U	U	8,300 J	4,300 J	8,200	9,800	330	50,000
Di-n-octylphthalate	U	U	U	U	U	U	330	50,000
Benzo(b)fluoranthene	330	U	U	U	U	U	330	1,100
Benzo(k)fluoranthene	140	U	U	U	U	U	330	1,100
Benzo(a)pyrene	**260**	U	U	U	U	U	330	61 or MDL
Indeno(1,2,3-cd)pyrene	160	U	U	U	U	U	330	3,200
Dibenzo(a,h)anthracene	**40**	U	U	U	U	U	330	14 or MDL
Benzo(g,h,i)perylene	180 J	U	U	U	U	U	330	50,000
TOTAL CaPAHs	1,720	0	0	0	0	0		10,000*
TOTAL SVOCs	4,507	0	12,900	7,100	11,740	13,900		500,000

Qualifiers:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.

Notes:
---- : Not established.
▭ : Value exceeds TAGM 4046 Appendix A Criteria
* : Proposed revised criteria for total CaPAHs in NYSDEC TAGM 4046 Appendix A

TABLE C-2 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

PROBE/BORING IDENTIFICATION	B-13		B-14		B-15	B-16	CONTRACT	NYSDEC
SAMPLE IDENTIFICATION	B-13 (4'-6')	B-13 (6'-8')	B-14 (0-2')	B-14 (2'-4')	B-15 (6'-7')	B-16 (7'-9')	REQUIRED	TAGM 4046
SAMPLE DEPTH	4' - 6'	6' - 8'	0' - 2'	2' - 4'	6' - 7'	7' - 9'	DETECTION	APPENDIX A
DATE OF COLLECTION	02/12/98	02/12/98	02/12/98	02/12/98	02/13/98	02/12/98	LIMITS	CRITERIA
DILUTION FACTOR	20.0	5.0	2.0	2.0	1.0	2.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Phenol	U	**50 J**	**45 J**	**47 J**	U	**120 J**	330	30 or MDL
2-Chlorophenol	U	U	U	U	U	U	330	800
2-Methylphenol	U	U	U	U	U	U	330	100 or MDL
4-Methylphenol	190 J	150 J	150 J	41 J	U	U	330	900
2-Nitrophenol	U	U	U	U	U	U	330	330 or MDL
2,4-Dimethylphenol	U	U	U	U	U	U	330	----
2,4-Dichlorophenol	U	U	U	U	U	U	330	400
4-Chloro-3-methylphenol	U	U	U	U	U	U	330	240 or MDL
2,4,6-Trichlorophenol	U	U	U	U	U	U	330	----
2,4,5-Trichlorophenol	U	U	U	U	U	U	800	100
2,4-Dinitrophenol	U	U	U	U	U	U	800	200 or MDL
4-Nitrophenol	U	U	U	U	U	U	800	100 or MDL
4,6-Dinitro-2-methylphenol	U	U	U	U	U	U	800	----
Pentachlorophenol	U	U	U	U	U	81 J	800	1,000 or MDL
bis(2-Chloroethyl)ether	U	U	U	U	U	U	330	----
1,3-Dichlorobenzene	U	U	U	U	U	U	330	1,600
1,4-Dichlorobenzene	U	U	U	U	U	U	330	8,500
1,2-Dichlorobenzene	U	U	U	U	U	U	330	7,900
bis(2-chloroisopropyl)ether	U	U	U	U	U	U	330	----
N-Nitroso-di-n-propylamine	U	U	U	U	U	U	330	----
Hexachloroethane	U	U	U	U	U	U	330	----
Nitrobenzene	U	U	U	U	U	U	330	200 or MDL
Isophorone	U	U	U	U	U	U	330	4,400
bis(2-Chloroethoxy)methane	U	U	U	U	U	U	330	----
1,2,4-Trichlorobenzene	U	U	U	U	U	U	330	3,400
Naphthalene	U	65 J	U	U	16 J	26 J	330	13,000
4-Chloroaniline	U	U	U	U	U	U	330	220 or MDL
Hexachlorobutadiene	U	U	U	U	U	U	330	----
2-Methylnaphthalene	U	160 J	U	U	11 J	26 J	330	36,400
Hexachlorocyclopentadiene	U	U	U	U	U	U	330	----
2-Chloronaphthalene	U	U	U	U	U	U	330	----
2-Nitroaniline	U	U	U	U	U	U	800	430 or MDL
Dimethylphthalate	U	U	U	U	U	U	330	2,000
Acenaphthylene	U	U	U	U	U	25 J	330	41,000
2,6-Dinitrotoluene	U	U	U	U	U	U	330	1,000

TABLE C-2 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

PROBE/BORING IDENTIFICATION	B-13		B-14		B-15	B-16		
SAMPLE IDENTIFICATION	B-13 (4'-6')	B-13 (6'-8')	B-14 (0-2')	B-14 (2'-4')	B-15 (6'-7')	B-16 (7'-9')	CONTRACT REQUIRED DETECTION LIMITS	NYSDEC TAGM 4046 APPENDIX A CRITERIA
SAMPLE DEPTH	4' - 6'	6' - 8'	0' - 2'	2' - 4'	6' - 7'	7' - 9'		
DATE OF COLLECTION	02/12/98	02/12/98	02/12/98	02/12/98	02/13/98	02/12/98		
DILUTION FACTOR	20.0	5.0	2.0	2.0	1.0	2.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
3-Nitroaniline	U	U	U	U	U	U	800	500 or MDL
Acenaphthene	U	U	U	U	U	46	330	50,000
Dibenzofuran	220 J	200 J	U	U	U	33 J	330	6,200
2,4-Dinitrotoluene	U	U	U	U	U	U	330	----
Diethylphthalate	U	U	U	U	U	U	330	7,100
4-Chlorophenyl-phenylether	U	U	U	U	U	U	330	----
Fluorene	270 J	270	U	U	U	32 J	330	50,000
4-Nitroaniline	U	U	U	U	U	U	800	----
N-Nitrosodiphenylamine	U	U	U	U	U	27 J	330	----
4-Bromophenyl-phenylether	U	U	U	U	U	U	330	----
Hexachlorobenzene	U	U	U	U	U	U	330	410
Phenanthrene	320 J	290	23 J	U	U	1,100	330	50,000
Anthracene	U	35 J	U	U	U	180	330	50,000
Carbazole	U	U	U	U	U	180 J	330	----
Di-n-butylphthalate	U	610 J	U	U	U	880	330	8,100
Fluoranthene	U	52 J	38	16 J	8.4 J	2,600	330	50,000
Pyrene	U	55 J	54	23 J	62	1,900	330	50,000
Butylbenzylphthalate	U	U	U	U	U	4,100	330	50,000
3,3'-Dichlorobenzidine	U	U	U	U	U	U	330	----
Benzo(a)anthracene	180 J	U	23	U	U	**840**	330	224 or MDL
Chrysene	U	U	100	U	48	**2,000**	330	400
bis(2-Ethylhexyl)phthalate	U	1,800	340 J	160 J	U	13,000	330	50,000
Di-n-octylphthalate	U	U	U	U	U	360 J	330	50,000
Benzo(b)fluoranthene	U	U	53	22 J	U	**2,700**	330	1,100
Benzo(k)fluoranthene	U	U	13 J	U	U	860	330	1,100
Benzo(a)pyrene	U	U	21	U	21	**660**	330	61 or MDL
Indeno(1,2,3-cd)pyrene	U	U	20	U	14 J	830	330	3,200
Dibenzo(a,h)anthracene	U	U	9.6 J	U	U	**180**	330	14 or MDL
Benzo(g,h,i)perylene	U	U	43	U	27	690	330	50,000
TOTAL CaPAHs	180	0	239.6	22	83	8,070		10,000*
TOTAL SVOCs	1,180	3,737	932.6	309	207.4	33,476		500,000

Qualifiers:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.

Notes:
---- : Not established.
Bold : Value exceeds TAGM 4046 Appendix A Criteria
* : Proposed revised criteria for total CaPAHs in NYSDEC TAGM 4046 Appendix A

TABLE C-2 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

PROBE/BORING IDENTIFICATION	B-16	B-17		B-18		B-19	CONTRACT REQUIRED DETECTION LIMITS (ug/kg)	NYSDEC TAGM 4046 APPENDIX A CRITERIA (ug/kg)
SAMPLE IDENTIFICATION	B-16 (9'-11')	B-17 (0-2')	B-17 (2'-4')	B-18 (0-2')	B-18 (2'-4')	B-19 (2'-4')		
SAMPLE DEPTH	9' - 11'	0' - 2'	2' - 4'	0' - 2'	2' - 4'	2' - 4'		
DATE OF COLLECTION	02/12/98	02/12/98	02/12/98	02/13/98	02/13/98	02/13/98		
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)		
Phenol	U	U	U	U	U	U	330	30 or MDL
2-Chlorophenol	U	U	U	U	U	U	330	800
2-Methylphenol	U	U	U	U	U	U	330	100 or MDL
4-Methylphenol	U	U	U	U	U	U	330	900
2-Nitrophenol	U	U	U	U	U	U	330	330 or MDL
2,4-Dimethylphenol	U	U	U	U	U	U	330	----
2,4-Dichlorophenol	U	U	U	U	U	U	330	400
4-Chloro-3-methylphenol	U	U	U	U	U	U	330	240 or MDL
2,4,6-Trichlorophenol	U	U	U	U	U	U	330	----
2,4,5-Trichlorophenol	U	U	U	U	U	U	800	100
2,4-Dinitrophenol	U	U	U	U	U	U	800	200 or MDL
4-Nitrophenol	U	U	U	U	U	U	800	100 or MDL
4,6-Dinitro-2-methylphenol	U	U	U	U	U	U	800	----
Pentachlorophenol	13 J	U	U	U	U	U	800	1,000 or MDL
bis(2-Chloroethyl)ether	U	U	U	U	U	U	330	----
1,3-Dichlorobenzene	U	U	U	U	U	U	330	1,600
1,4-Dichlorobenzene	U	U	U	U	U	U	330	8,500
1,2-Dichlorobenzene	U	U	U	U	U	U	330	7,900
bis(2-chloroisopropyl)ether	U	U	U	U	U	U	330	----
N-Nitroso-di-n-propylamine	U	U	U	U	U	U	330	----
Hexachloroethane	U	U	U	U	U	U	330	----
Nitrobenzene	U	U	U	U	U	U	330	200 or MDL
Isophorone	U	U	U	U	17 J	U	330	4,400
bis(2-Chloroethoxy)methane	U	U	U	U	U	U	330	----
1,2,4-Trichlorobenzene	U	U	U	U	U	U	330	3,400
Naphthalene	U	U	U	U	U	U	330	13,000
4-Chloroaniline	U	U	U	U	U	U	330	220 or MDL
Hexachlorobutadiene	U	U	U	U	U	U	330	----
2-Methylnaphthalene	U	U	U	U	U	U	330	36,400
Hexachlorocyclopentadiene	U	U	U	U	U	U	330	----
2-Chloronaphthalene	U	U	U	U	U	U	330	----
2-Nitroaniline	U	U	U	U	U	U	800	430 or MDL
Dimethylphthalate	U	U	U	U	U	U	330	2,000
Acenaphthylene	U	U	U	U	U	U	330	41,000
2,6-Dinitrotoluene	U	U	U	U	U	U	330	1,000

TABLE C-2 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

PROBE/BORING IDENTIFICATION	B-16	B-17		B-18		B-19		
SAMPLE IDENTIFICATION	B-16 (9'-11')	B-17 (0-2')	B-17 (2'-4')	B-18 (0-2')	B-18 (2'-4')	B-19 (2'-4')	CONTRACT REQUIRED	NYSDEC TAGM 4046
SAMPLE DEPTH	9' - 11'	0' - 2'	2' - 4'	0' - 2'	2' - 4'	2' - 4'	DETECTION	APPENDIX A
DATE OF COLLECTION	02/12/98	02/12/98	02/12/98	02/13/98	02/13/98	02/13/98	LIMITS	CRITERIA
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
3-Nitroaniline	U	U	U	U	U	U	800	500 or MDL
Acenaphthene	U	U	U	U	7.5 J	U	330	50,000
Dibenzofuran	U	U	U	U	22 J	U	330	6,200
2,4-Dinitrotoluene	U	U	U	U	U	U	330	----
Diethylphthalate	U	U	U	U	U	U	330	7,100
4-Chlorophenyl-phenylether	U	U	U	U	U	U	330	----
Fluorene	U	U	U	U	U	U	330	50,000
4-Nitroaniline	U	U	U	U	U	U	800	----
N-Nitrosodiphenylamine	U	U	U	U	U	U	330	----
4-Bromophenyl-phenylether	U	U	U	U	U	U	330	----
Hexachlorobenzene	U	U	U	U	U	U	330	410
Phenanthrene	U	U	U	56	200	U	330	50,000
Anthracene	U	U	U	U	U	U	330	50,000
Carbazole	U	U	U	U	8.4 J	U	330	----
Di-n-butylphthalate	U	U	U	U	78 J	U	330	8,100
Fluoranthene	7.6 J	U	U	47	150	U	330	50,000
Pyrene	7.4 J	U	U	34	110	U	330	50,000
Butylbenzylphthalate	U	U	U	U	U	U	330	50,000
3,3'-Dichlorobenzidine	U	U	U	U	U	U	330	----
Benzo(a)anthracene	9.8 J	U	U	20	38	U	330	224 or MDL
Chrysene	5.7 J	U	U	15 J	42	U	330	400
bis(2-Ethylhexyl)phthalate	U	U	U	U	84 J	U	330	50,000
Di-n-octylphthalate	U	U	U	U	U	U	330	50,000
Benzo(b)fluoranthene	7.8 J	U	U	18	40	U	330	1,100
Benzo(k)fluoranthene	U	U	U	7 J	18	U	330	1,100
Benzo(a)pyrene	U	U	U	7.7 J	15 J	U	330	61 or MDL
Indeno(1,2,3-cd)pyrene	U	U	U	8 J	16 J	U	330	3,200
Dibenzo(a,h)anthracene	U	U	U	U	U	U	330	14 or MDL
Benzo(g,h,i)perylene	U	U	U	7.1 J	13 J	U	330	50,000
TOTAL CaPAHs	23.3	0	0	75.7	169	0		10,000*
TOTAL SVOCs	51.3	0	0	219.8	858.9	0		500,000

Qualifiers:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.

Notes:
---- : Not established.
* : Proposed revised criteria for total CaPAHs in NYSDEC TAGM 4046 Appendix A

TABLE C-2 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

PROBE/BORING IDENTIFICATION	B-20		B-21		B-22		CONTRACT REQUIRED DETECTION LIMITS (ug/kg)	NYSDEC TAGM 4046 APPENDIX A CRITERIA (ug/kg)
SAMPLE IDENTIFICATION	B-20 (46'-48')	B-20 (48'-50')	B-21 (0-2')	B-21 (2'-4')	B-22 (0-2')	B-22 (2'-4')		
SAMPLE DEPTH	46' - 48'	48' - 50'	0' - 2'	2' - 4'	0' - 2'	2' - 4'		
DATE OF COLLECTION	02/13/98	02/13/98	02/13/98	02/13/98	02/17/98	02/17/98		
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)		
Phenol	U	U	U	U	U	U	330	30 or MDL
2-Chlorophenol	U	U	U	U	U	U	330	800
2-Methylphenol	U	U	U	U	U	U	330	100 or MDL
4-Methylphenol	U	U	U	U	U	U	330	900
2-Nitrophenol	U	U	U	U	U	U	330	330 or MDL
2,4-Dimethylphenol	U	U	U	U	U	U	330	----
2,4-Dichlorophenol	U	U	U	U	U	U	330	400
4-Chloro-3-methylphenol	U	U	U	U	U	U	330	240 or MDL
2,4,6-Trichlorophenol	U	U	U	U	U	U	330	----
2,4,5-Trichlorophenol	U	U	U	U	U	U	800	100
2,4-Dinitrophenol	U	U	U	U	U	U	800	200 or MDL
4-Nitrophenol	U	U	U	U	U	U	800	100 or MDL
4,6-Dinitro-2-methylphenol	U	U	U	U	U	U	800	----
Pentachlorophenol	U	U	U	U	U	U	800	1,000 or MDL
bis(2-Chloroethyl)ether	U	U	U	U	U	U	330	----
1,3-Dichlorobenzene	U	U	U	U	U	U	330	1,600
1,4-Dichlorobenzene	U	U	U	U	U	U	330	8,500
1,2-Dichlorobenzene	U	U	U	U	U	U	330	7,900
bis(2-chloroisopropyl)ether	U	U	U	U	U	U	330	----
N-Nitroso-di-n-propylamine	U	U	U	U	U	U	330	----
Hexachloroethane	U	U	U	U	U	U	330	----
Nitrobenzene	U	U	U	U	U	U	330	200 or MDL
Isophorone	U	U	U	U	U	U	330	4,400
bis(2-Chloroethoxy)methane	U	U	U	U	U	U	330	----
1,2,4-Trichlorobenzene	U	U	U	U	U	U	330	3,400
Naphthalene	U	U	U	U	U	U	330	13,000
4-Chloroaniline	U	U	U	U	U	U	330	220 or MDL
Hexachlorobutadiene	U	U	U	U	U	U	330	----
2-Methylnaphthalene	U	U	U	U	U	U	330	36,400
Hexachlorocyclopentadiene	U	U	U	U	U	U	330	----
2-Chloronaphthalene	U	U	U	U	U	U	330	----
2-Nitroaniline	U	U	U	U	U	U	800	430 or MDL
Dimethylphthalate	U	U	U	U	U	U	330	2,000
Acenaphthylene	U	U	U	U	U	U	330	41,000
2,6-Dinitrotoluene	U	U	U	U	U	U	330	1,000

TABLE C-2 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

PROBE/BORING IDENTIFICATION	B-20		B-21		B-22			
SAMPLE IDENTIFICATION	B-20 (46'-48')	B-20 (48'-50')	B-21 (0-2')	B-21 (2'-4')	B-22 (0-2')	B-22 (2'-4')	CONTRACT REQUIRED	NYSDEC TAGM 4046
SAMPLE DEPTH	46' - 48'	48' - 50'	0' - 2'	2' - 4'	0' - 2'	2' - 4'	DETECTION	APPENDIX A
DATE OF COLLECTION	02/13/98	02/13/98	02/13/98	02/13/98	02/17/98	02/17/98	LIMITS	CRITERIA
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0	(ug/kg)	(ug/kg)
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)		
3-Nitroaniline	U	U	U	U	U	U	800	500 or MDL
Acenaphthene	U	U	U	U	28	28	330	50,000
Dibenzofuran	U	U	U	U	13 J	16 J	330	6,200
2,4-Dinitrotoluene	U	U	U	U	U	U	330	----
Diethylphthalate	U	U	U	U	U	U	330	7,100
4-Chlorophenyl-phenylether	U	U	U	U	U	U	330	----
Fluorene	U	U	U	U	26	33	330	50,000
4-Nitroaniline	U	U	U	U	U	U	800	----
N-Nitrosodiphenylamine	U	U	U	U	U	U	330	----
4-Bromophenyl-phenylether	U	U	U	U	U	U	330	----
Hexachlorobenzene	U	U	U	U	U	U	330	410
Phenanthrene	U	U	17 J	U	350	330	330	50,000
Anthracene	U	U	U	U	79	72	330	50,000
Carbazole	U	U	U	U	44 J	43 J	330	----
Di-n-butylphthalate	U	U	U	U	U	U	330	8,100
Fluoranthene	U	U	23	17 J	520	400	330	50,000
Pyrene	U	U	20	16 J	430	320	330	50,000
Butylbenzylphthalate	U	U	U	U	U	U	330	50,000
3,3'-Dichlorobenzidine	U	U	U	U	U	U	330	----
Benzo(a)anthracene	U	8.4 J	17 J	18 J	**260**	180	330	224 or MDL
Chrysene	U	U	10 J	11 J	280	180	330	400
bis(2-Ethylhexyl)phthalate	U	U	U	U	U	U	330	50,000
Di-n-octylphthalate	U	U	U	U	U	U	330	50,000
Benzo(b)fluoranthene	U	U	15 J	16 J	320	190	330	1,100
Benzo(k)fluoranthene	U	U	U	U	120	59	330	1,100
Benzo(a)pyrene	U	U	9.1 J	10 J	**240**	**140**	330	61 or MDL
Indeno(1,2,3-cd)pyrene	U	U	U	U	150	87	330	3,200
Dibenzo(a,h)anthracene	U	U	U	U	**38**	U	330	14 or MDL
Benzo(g,h,i)perylene	U	U	U	U	140	81	330	50,000
TOTAL CaPAHs	0	8.4	51.1	55	1,408	836		10,000*
TOTAL SVOCs	0	8.4	111.1	88	3,038	2,159		500,000

Qualifiers:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.

Notes:
---- : Not established.
Bold : Value exceeds TAGM 4046 Appendix A Criteria
* : Proposed revised criteria for total CaPAHs in NYSDEC TAGM 4046 Appendix A

TABLE C-2 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

PROBE/BORING IDENTIFICATION	B-23		B-24				CONTRACT REQUIRED DETECTION LIMITS (ug/kg)	NYSDEC TAGM 4046 APPENDIX A CRITERIA (ug/kg)
SAMPLE IDENTIFICATION	B-23 (0-2')	B-23 (2'-4')	B-24 (0-2')	FB-1	FB-2			
SAMPLE DEPTH	0' - 2'	2' - 4'	0' - 2'	--	--			
DATE OF COLLECTION	02/17/98	02/17/98	02/17/98	02/11/98	02/13/98			
DILUTION FACTOR	2.0	1.0	1.0	1.0	1.0			
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/L)	(ug/L)			
Phenol	U	U	U	U	U		330	30 or MDL
2-Chlorophenol	U	U	U	U	U		330	800
2-Methylphenol	U	U	U	U	U		330	100 or MDL
4-Methylphenol	U	U	U	U	U		330	900
2-Nitrophenol	U	U	U	U	U		330	330 or MDL
2,4-Dimethylphenol	U	U	U	U	U		330	----
2,4-Dichlorophenol	U	U	U	U	U		330	400
4-Chloro-3-methylphenol	U	U	U	U	U		330	240 or MDL
2,4,6-Trichlorophenol	U	U	U	U	U		330	----
2,4,5-Trichlorophenol	U	U	U	U	U		800	100
2,4-Dinitrophenol	U	U	U	U	U		800	200 or MDL
4-Nitrophenol	U	U	U	U	U		800	100 or MDL
4,6-Dinitro-2-methylphenol	U	U	U	U	U		800	----
Pentachlorophenol	U	U	U	U	U		800	1,000 or MDL
bis(2-Chloroethyl)ether	U	U	U	U	U		330	----
1,3-Dichlorobenzene	U	U	U	U	U		330	1,600
1,4-Dichlorobenzene	U	U	U	U	U		330	8,500
1,2-Dichlorobenzene	U	U	U	U	U		330	7,900
bis(2-chloroisopropyl)ether	U	U	U	U	U		330	----
N-Nitroso-di-n-propylamine	U	U	U	U	U		330	----
Hexachloroethane	U	U	U	U	U		330	----
Nitrobenzene	U	U	U	U	U		330	200 or MDL
Isophorone	U	U	U	U	U		330	4,400
bis(2-Chloroethoxy)methane	U	U	U	U	U		330	----
1,2,4-Trichlorobenzene	U	U	U	U	U		330	3,400
Naphthalene	U	U	U	U	U		330	13,000
4-Chloroaniline	U	U	U	U	U		330	220 or MDL
Hexachlorobutadiene	U	U	U	U	U		330	----
2-Methylnaphthalene	U	U	U	U	U		330	36,400
Hexachlorocyclopentadiene	U	U	U	U	U		330	----
2-Chloronaphthalene	U	U	U	U	U		330	----
2-Nitroaniline	U	U	U	U	U		800	430 or MDL
Dimethylphthalate	U	U	U	U	U		330	2,000
Acenaphthylene	U	U	U	U	U		330	41,000
2,6-Dinitrotoluene	U	U	U	U	U		330	1,000

TABLE C-2 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

PROBE/BORING IDENTIFICATION	B-23		B-24				CONTRACT	NYSDEC
SAMPLE IDENTIFICATION	B-23 (0-2')	B-23 (2'-4')	B-24 (0-2')	FB-1	FB-2		REQUIRED	TAGM 4046
SAMPLE DEPTH	0' - 2'	2' - 4'	0' - 2'	--	--		DETECTION	APPENDIX A
DATE OF COLLECTION	02/17/98	02/17/98	02/17/98	02/11/98	02/13/98		LIMITS	CRITERIA
DILUTION FACTOR	2.0	1.0	1.0	1.0	1.0		(ug/kg)	(ug/kg)
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/L)	(ug/L)			
3-Nitroaniline	U	U	U	U	U		800	500 or MDL
Acenaphthene	U	U	U	U	U		330	50,000
Dibenzofuran	U	U	U	U	U		330	6,200
2,4-Dinitrotoluene	U	U	U	U	U		330	----
Diethylphthalate	U	U	U	U	U		330	7,100
4-Chlorophenyl-phenylether	U	U	U	U	U		330	----
Fluorene	U	U	U	U	U		330	50,000
4-Nitroaniline	U	U	U	U	U		800	----
N-Nitrosodiphenylamine	U	U	U	U	U		330	----
4-Bromophenyl-phenylether	U	U	U	U	U		330	----
Hexachlorobenzene	U	U	U	U	U		330	410
Phenanthrene	110	U	130	U	U		330	50,000
Anthracene	30 J	U	29	U	U		330	50,000
Carbazole	U	U	15 J	U	U		330	----
Di-n-butylphthalate	U	U	U	U	U		330	8,100
Fluoranthene	160	U	170	U	U		330	50,000
Pyrene	160	U	150	U	U		330	50,000
Butylbenzylphthalate	U	U	U	U	U		330	50,000
3,3'-Dichlorobenzidine	U	U	U	U	U		330	----
Benzo(a)anthracene	98	U	90	U	U		330	224 or MDL
Chrysene	91	U	77	U	U		330	400
bis(2-Ethylhexyl)phthalate	U	U	U	2.7	U		330	50,000
Di-n-octylphthalate	U	U	U	U	U		330	50,000
Benzo(b)fluoranthene	120	U	U	U	U		330	1,100
Benzo(k)fluoranthene	51	U	U	U	U		330	1,100
Benzo(a)pyrene	100	U	U	U	U		330	61 or MDL
Indeno(1,2,3-cd)pyrene	93	U	42	U	U		330	3,200
Dibenzo(a,h)anthracene	U	U	U	U	U		330	14 or MDL
Benzo(g,h,i)perylene	100	U	32	U	U		330	50,000
TOTAL CaPAHs	553	0	209	0	0			10,000*
TOTAL SVOCs	1,113	0	735	2.7	0			500,000

Qualifiers:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.

Notes:
---- : Not established.
▭ : Value exceeds TAGM 4046 Appendix A Criteria
* : Proposed revised criteria for total CaPAHs in NYSDEC TAGM 4046 Appendix A

TABLE C-3
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
STARS VOLATILE AND SEMIVOLATILE ORGANIC COMPOUNDS - TCLP ANALYSIS

PROBE/BORING IDENTIFICATION	B-1		B-2		B-3		
SAMPLE IDENTIFICATION	B-1 (0-2')	B-1 (2'-4')	B-2 (0-2')	B-2 (2'-4')	B-3 (0-2')	B-3 (2'-4')	STARS TABLES 1 and 2 TCLP EXTRACTION GUIDANCE VALUES (ug/L)
SAMPLE DEPTH	0' - 2'	2' - 4'	0' - 2'	2' - 4'	0' - 2'	2' - 4'	
DATE OF COLLECTION	02/10/98	02/10/98	02/10/98	02/10/98	02/10/98	02/10/98	
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0	
UNITS	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	
VOLATILE COMPOUNDS							
Benzene	U	U	U	U	U	U	0.7
Toluene	U	U	U	U	U	U	5
Ethylbenzene	U	U	U	U	U	U	5
Isopropylbenzene	U	U	U	U	U	U	5
n-Propylbenzene	U	U	U	U	U	U	5
1,3,5-Trimethylbenzene	U	U	U	U	U	U	5
tert-Butylbenzene	U	U	U	U	U	U	5
1,2,4-Trimethylbenzene	U	U	U	U	U	U	5
sec-Butylbenzene	U	U	U	U	U	U	5
p-Isopropyltoluene	U	U	U	U	U	U	5
n-Butylbenzene	U	U	U	U	U	U	5
MTBE	U	U	U	U	U	U	50
Xylene (total)	U	U	U	U	U	U	5
SEMIVOLATILE COMPOUNDS							
Naphthalene	U	U	U	U	U	U	10
Acenaphthene	U	U	U	U	U	U	20
Fluorene	U	U	U	U	U	U	50
Phenanthrene	U	U	U	U	U	U	50
Anthracene	U	U	U	U	U	U	50
Fluoranthene	U	U	U	U	U	U	50
Pyrene	U	U	U	U	U	U	50
Benzo(a)anthracene	U	U	U	U	U	U	0.002
Chrysene	U	U	U	U	U	U	0.002
Benzo(b)fluoranthene	U	U	U	U	U	U	0.002
Benzo(k)fluoranthene	U	U	U	U	U	U	0.002
Benzo(a)pyrene	U	U	U	U	U	U	0.002
Indeno(1,2,3-cd)pyrene	U	U	U	U	U	U	0.002
Dibenzo(a,h)anthracene	U	U	U	U	U	U	50
Benzo(g,h,i)perylene	U	U	U	U	U	U	0.002

Qualifiers:
U: Compound analyzed for but not detected.

TABLE C-3 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
STARS VOLATILE AND SEMIVOLATILE ORGANIC COMPOUNDS - TCLP ANALYSIS

PROBE/BORING IDENTIFICATION	B-4		B-5		B-6		
SAMPLE IDENTIFICATION	B-4 (0-2')	B-4 (2'-4')	B-5 (0-2')	B-5 (2'-4')	B-6 (0-2')	B-6 (2'-4')	STARS TABLES 1 and 2 TCLP EXTRACTION GUIDANCE VALUES (ug/L)
SAMPLE DEPTH	0' - 2'	2' - 4'	0' - 2'	2' - 4'	0' - 2'	2' - 4'	
DATE OF COLLECTION	02/10/98	02/10/98	02/10/98	02/10/98	02/10/98	02/10/98	
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0	
UNITS	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	
VOLATILE COMPOUNDS							
Benzene	U	U	U	U	U	U	0.7
Toluene	U	U	U	U	U	U	5
Ethylbenzene	U	U	U	U	U	U	5
Isopropylbenzene	U	U	U**	U**	U**	U	5
n-Propylbenzene	U	U*	U	U	U	U	5
1,3,5-Trimethylbenzene	U	U*	U	U	U	U	5
tert-Butylbenzene	U	U	U	U	U	U	5
1,2,4-Trimethylbenzene	U	U	U	U	U	U	5
sec-Butylbenzene	U	U	U	U	U	U	5
p-Isopropyltoluene	U	U	U	U	U	U	5
n-Butylbenzene	U	U	U	U	U	U	5
MTBE	U	U	U	U	U	U	50
Xylene (total)	U	U	U	U	U	U	5
SEMIVOLATILE COMPOUNDS							
Naphthalene	U	U	U	U	U	U	10
Acenaphthene	U	U	U	U	U	U	20
Fluorene	U	U	U	U	U	U	50
Phenanthrene	U	U	U	U	U	U	50
Anthracene	U	U	U	U	U	U	50
Fluoranthene	U	U	U	U	U	U	50
Pyrene	U	U	U	U	U	U	50
Benzo(a)anthracene	U	U	U	U	U	U	0.002
Chrysene	U	U	U	U	U	U	0.002
Benzo(b)fluoranthene	U	U	U	U	U	U	0.002
Benzo(k)fluoranthene	U	U	U	U	U	U	0.002
Benzo(a)pyrene	U	U	U	U	U	U	0.002
Indeno(1,2,3-cd)pyrene	U	U	U	U	U	U	0.002
Dibenzo(a,h)anthracene	U	U	U	U	U	U	50
Benzo(g,h,i)perylene	U	U	U	U	U	U	0.002

Qualifiers:
U: Compound analyzed for but not detected.
U*: Result has been qualified as not detected due to interferences from the TCLP extraction solvents since the Method 8240 analysis did not contain this compound.
U**: Peak existed in the Method 8240 analysis at the same retention time as isopropylbenzene; however, the mass spectra did not match that of isopropylbenzene. This peak is not believed to be isopropylbenzene but related to the GC/MS peak described above.

TABLE C-3 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
STARS VOLATILE AND SEMIVOLATILE ORGANIC COMPOUNDS - TCLP ANALYSIS

PROBE/BORING IDENTIFICATION	B-7		B-8		B-9		
SAMPLE IDENTIFICATION	B-7 (0-2')	B-7 (2'-4')	B-8 (0-2')	B-8 (2'-4')	B-9 (0-2')	B-9 (2'-4')	STARS TABLES 1 and 2
SAMPLE DEPTH	0' - 2'	2' - 4'	0' - 2'	2' - 4'	0' - 2'	2' - 4'	TCLP EXTRACTION
DATE OF COLLECTION	02/11/98	02/11/98	02/11/98	02/11/98	02/11/98	02/11/98	GUIDANCE
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0	VALUES
UNITS	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
VOLATILE COMPOUNDS							
Benzene	U	U	U	U	U	U	0.7
Toluene	U	U	U	U	U	U	5
Ethylbenzene	U	U	U	U	U	U	5
Isopropylbenzene	U	U	U	U	U	U	5
n-Propylbenzene	U	U	U	U	U	U	5
1,3,5-Trimethylbenzene	U	U	U	U	U	U	5
tert-Butylbenzene	U	U	U	U	U	U	5
1,2,4-Trimethylbenzene	U	U	U	U	U	U	5
sec-Butylbenzene	U	U	U	U	U	U	5
p-Isopropyltoluene	U	U	U	U	U	U	5
n-Butylbenzene	U	U	U	U	U	U	5
MTBE	U	U	U	U	U	U	50
Xylene (total)	U*	U	U	U	U	U	5
SEMIVOLATILE COMPOUNDS							
Naphthalene	U*	U	U	U	U	U	10
Acenaphthene	U	U	U	U	U	U	20
Fluorene	U	U	U	U	U	U	50
Phenanthrene	U	U	U	U	U	U	50
Anthracene	U	U	U	U	U	U	50
Fluoranthene	U	U	U	U	U	U	50
Pyrene	U	U	U	U	U	U	50
Benzo(a)anthracene	U	U	U	U	U	U	0.002
Chrysene	U	U	U	U	U	U	0.002
Benzo(b)fluoranthene	U	U	U	U	U	U	0.002
Benzo(k)fluoranthene	U	U	U	U	U	U	0.002
Benzo(a)pyrene	U	U	U	U	U	U	0.002
Indeno(1,2,3-cd)pyrene	U	U	U	U	U	U	0.002
Dibenzo(a,h)anthracene	U	U	U	U	U	U	50
Benzo(g,h,i)perylene	U	U	U	U	U	U	0.002

Qualifiers:
U: Compound analyzed for but not detected.
U*: Result has been qualified as not detected due to interferences from the TCLP extraction solvents since the Method 8240 analysis did not contain this compound.

TABLE C-3 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
STARS VOLATILE AND SEMIVOLATILE ORGANIC COMPOUNDS - TCLP ANALYSIS

PROBE/BORING IDENTIFICATION	B-10		B-11		B-12		
SAMPLE IDENTIFICATION	B-10 (0-2')	B-10 (2'-4')	B-11 (5'-7')	B-11 (7'-9')	B-12 (4'-6')	B-12 (6'-8')	STARS TABLES 1 and 2 TCLP EXTRACTION GUIDANCE VALUES (ug/L)
SAMPLE DEPTH	0' - 2'	2' - 4'	5' - 7'	7' - 9'	4' - 6'	6' - 8'	
DATE OF COLLECTION	02/11/98	02/11/98	02/11/98	02/11/98	02/11/98	02/11/98	
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0	
UNITS	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	
VOLATILE COMPOUNDS							
Benzene	U	U	U	U	U	U	0.7
Toluene	U	U	U	U	U	U	5
Ethylbenzene	U	U	U	U	U	U	5
Isopropylbenzene	U	U	U	U	U	U*	5
n-Propylbenzene	U	U	U	U	U	U	5
1,3,5-Trimethylbenzene	U	U	U	U	U	U	5
tert-Butylbenzene	U	U	U	U	U	U	5
1,2,4-Trimethylbenzene	U	U	U	U	U	U	5
sec-Butylbenzene	U	U	U	U	U	U	5
p-Isopropyltoluene	U	U	U	U	U	U	5
n-Butylbenzene	U	U	U	U	U	U	5
MTBE	U	U	U	U	U	U	50
Xylene (total)	U	U	U	U	U	U	5
SEMIVOLATILE COMPOUNDS							
Naphthalene	U	U	U	U	U	U	10
Acenaphthene	U	U	U	U	U	U	20
Fluorene	U	U	U	U	U	U	50
Phenanthrene	U	U	U	U	U	U	50
Anthracene	U	U	U	U	U	U	50
Fluoranthene	U	U	U	U	U	U	50
Pyrene	U	U	U	U	U	U	50
Benzo(a)anthracene	U	U	U	U	U	U	0.002
Chrysene	U	U	U	U	U	U	0.002
Benzo(b)fluoranthene	U	U	U	U	U	U	0.002
Benzo(k)fluoranthene	U	U	U	U	U	U	0.002
Benzo(a)pyrene	U	U	U	U	U	U	0.002
Indeno(1,2,3-cd)pyrene	U	U	U	U	U	U	0.002
Dibenzo(a,h)anthracene	U	U	U	U	U	U	50
Benzo(g,h,i)perylene	U	U	U	U	U	U	0.002

Qualifiers:
U: Compound analyzed for but not detected.
U*: Result has been qualified as not detected due to interferences from the TCLP extraction solvents since the Method 8240 analysis did not contain this compound.

TABLE C-3 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
STARS VOLATILE AND SEMIVOLATILE ORGANIC COMPOUNDS - TCLP ANALYSIS

PROBE/BORING IDENTIFICATION	B-13		B-14		B-15	B-16	
SAMPLE IDENTIFICATION	B-13 (4'-6')	B-13 (6'-8')	B-14 (0-2')	B-14 (2'-4')	B-15 (6'-7')	B-16 (7'-9')	STARS TABLES 1 and 2
SAMPLE DEPTH	4' - 6'	6' - 8'	0' - 2'	2' - 4'	6' - 7'	7' - 9'	TCLP EXTRACTION
DATE OF COLLECTION	02/12/98	02/12/98	02/12/98	02/12/98	02/13/98	02/12/98	GUIDANCE
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0	VALUES
UNITS	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
VOLATILE COMPOUNDS							
Benzene	U	U	U	U	U	U	0.7
Toluene	U	U	U	U	U	U	5
Ethylbenzene	U	U	U	U	U	U	5
Isopropylbenzene	U	U	U	U	U	U	5
n-Propylbenzene	U	U	U	U	U	U	5
1,3,5-Trimethylbenzene	U	U	U	U	U	U	5
tert-Butylbenzene	U	U	U	U	U	U	5
1,2,4-Trimethylbenzene	U	U	U	U	U	U	5
sec-Butylbenzene	U	U	U	U	U	U	5
p-Isopropyltoluene	U	U	U	U	U	U	5
n-Butylbenzene	U	U	U	U	U	U	5
MTBE	U	U	U	U	U	U	50
Xylene (total)	U	U	U	U	U	U	5
SEMIVOLATILE COMPOUNDS							
Naphthalene	U	U	U	U	U	4.4 J	10
Acenaphthene	U	U	U	U	U	U	20
Fluorene	U	U	U	U	U	U	50
Phenanthrene	U	U	U	U	U	U	50
Anthracene	U	U	U	U	U	U	50
Fluoranthene	U	U	U	U	U	U	50
Pyrene	U	U	U	U	U	U	50
Benzo(a)anthracene	U	U	U	U	U	U	0.002
Chrysene	U	U	U	U	U	U	0.002
Benzo(b)fluoranthene	U	U	U	U	U	U	0.002
Benzo(k)fluoranthene	U	U	U	U	U	U	0.002
Benzo(a)pyrene	U	U	U	U	U	U	0.002
Indeno(1,2,3-cd)pyrene	U	U	U	U	U	U	0.002
Dibenzo(a,h)anthracene	U	U	U	U	U	U	50
Benzo(g,h,i)perylene	U	U	U	U	U	U	0.002

Qualifiers:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.

TABLE C-3 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
STARS VOLATILE AND SEMIVOLATILE ORGANIC COMPOUNDS - TCLP ANALYSIS

PROBE/BORING IDENTIFICATION	B-16	B-17		B-18		B-19	
SAMPLE IDENTIFICATION	B-16 (9'-11')	B-17 (0-2')	B-17 (2'-4')	B-18 (0-2')	B-18 (2'-4')	B-19 (2'-4')	STARS TABLES 1 and 2
SAMPLE DEPTH	9' - 11'	0' - 2'	2' - 4'	0' - 2'	2' - 4'	2' - 4'	TCLP EXTRACTION
DATE OF COLLECTION	02/12/98	02/12/98	02/12/98	02/13/98	02/13/98	02/13/98	GUIDANCE
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0	VALUES
UNITS	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
VOLATILE COMPOUNDS							
Benzene	U	U	U	U	U	U	0.7
Toluene	U	U*	U	U	U	U	5
Ethylbenzene	U	U	U	U	U	U	5
Isopropylbenzene	U	U	U	U**	U	U	5
n-Propylbenzene	U	U	U	U	U	U	5
1,3,5-Trimethylbenzene	U	U	U	U	U	U	5
tert-Butylbenzene	U	U	U	U	U	U	5
1,2,4-Trimethylbenzene	U	U	U	U	U	U	5
sec-Butylbenzene	U	U	U	U	U	U	5
p-Isopropyltoluene	U	U	U	U	U	U	5
n-Butylbenzene	U	U	U	U	U	U	5
MTBE	U	U	U	U	U	U	50
Xylene (total)	U	U	U	U	U	U	5
SEMIVOLATILE COMPOUNDS							
Naphthalene	U	U	U	U	U	U	10
Acenaphthene	U	U	U	U	U	U	20
Fluorene	U	U	U	U	U	U	50
Phenanthrene	U	U	U	1.0 J	3.8 J	U	50
Anthracene	U	U	U	U	U	U	50
Fluoranthene	U	U	U	U	1.1 J	U	50
Pyrene	U	U	U	U	U	U	50
Benzo(a)anthracene	U	U	U	U	U	U	0.002
Chrysene	U	U	U	U	U	U	0.002
Benzo(b)fluoranthene	U	U	U	U	U	U	0.002
Benzo(k)fluoranthene	U	U	U	U	U	U	0.002
Benzo(a)pyrene	U	U	U	U	U	U	0.002
Indeno(1,2,3-cd)pyrene	U	U	U	U	U	U	0.002
Dibenzo(a,h)anthracene	U	U	U	U	U	U	50
Benzo(g,h,i)perylene	U	U	U	U	U	U	0.002

Qualifiers:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.
U*: Result has been qualified as not detected due to interferences from the TCLP extraction solvents since the Method 8240 analysis did not contain this compound.
U**: Peak existed in the Method 8240 analysis at the same retention time as isopropylbenzene; however, the mass spectra did not match that of isopropylbenzene. This peak is not believed to be isopropylbenzene but related to the GC/MS peak described above.

TABLE C-3 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
STARS VOLATILE AND SEMIVOLATILE ORGANIC COMPOUNDS - TCLP ANALYSIS

PROBE/BORING IDENTIFICATION	B-20		B-21		B-22		
SAMPLE IDENTIFICATION	B-20 (46'-48')	B-20 (48'-50')	B-21 (0-2')	B-21 (2'-4')	B-22 (0-2')	B-22 (2'-4')	STARS TABLES 1 and 2 TCLP EXTRACTION GUIDANCE VALUES (ug/L)
SAMPLE DEPTH	46' - 48'	48' - 50'	0' - 2'	2' - 4'	0' - 2'	2' - 4'	
DATE OF COLLECTION	02/13/98	02/13/98	02/13/98	02/13/98	02/17/98	02/17/98	
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0	
UNITS	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	
VOLATILE COMPOUNDS							
Benzene	U	U	U	U	U	U	0.7
Toluene	U	U	U	U	U	U	5
Ethylbenzene	U	U	U	U	U	U	5
Isopropylbenzene	U	U	U	U	U	U	5
n-Propylbenzene	U	U	U	U	U	U	5
1,3,5-Trimethylbenzene	U	U	U	U	U	U	5
tert-Butylbenzene	U	U	U	U	U	U	5
1,2,4-Trimethylbenzene	U	U	U	U	U	U	5
sec-Butylbenzene	U	U	U	U	U	U	5
p-Isopropyltoluene	U	U	U	U	U	U	5
n-Butylbenzene	U	U	U	U	U	U	5
MTBE	U	U	U	U	U	U	50
Xylene (total)	U	U	U	U	U	U	5
SEMIVOLATILE COMPOUNDS							
Naphthalene	U	U	U	U	U	U	10
Acenaphthene	U	U	U	U	U	U	20
Fluorene	U	U	U	U	U	U	50
Phenanthrene	U	U	U	U	U	U	50
Anthracene	U	U	U	U	U	U	50
Fluoranthene	U	U	U	U	U	U	50
Pyrene	U	U	U	U	U	U	50
Benzo(a)anthracene	U	U	U	U	U	U	0.002
Chrysene	U	U	U	U	U	U	0.002
Benzo(b)fluoranthene	U	U	U	U	U	U	0.002
Benzo(k)fluoranthene	U	U	U	U	U	U	0.002
Benzo(a)pyrene	U	U	U	U	U	U	0.002
Indeno(1,2,3-cd)pyrene	U	U	U	U	U	U	0.002
Dibenzo(a,h)anthracene	U	U	U	U	U	U	50
Benzo(g,h,i)perylene	U	U	U	U	U	U	0.002

Qualifiers:
U: Compound analyzed for but not detected.

TABLE C-3 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
STARS VOLATILE AND SEMIVOLATILE ORGANIC COMPOUNDS - TCLP ANALYSIS

PROBE/BORING IDENTIFICATION	B-23		B-24	STARS TABLES 1 and 2 TCLP EXTRACTION GUIDANCE VALUES (ug/L)
SAMPLE IDENTIFICATION	B-23 (0-2')	B-23 (2'-4')	B-24 (0-2')	
SAMPLE DEPTH	0' - 2'	2' - 4'	0' - 2'	
DATE OF COLLECTION	02/17/98	02/17/98	02/17/98	
DILUTION FACTOR	1.0	1.0	1.0	
UNITS	(ug/L)	(ug/L)	(ug/L)	
VOLATILE COMPOUNDS				
Benzene	U	U	U	0.7
Toluene	U	U	U*	5
Ethylbenzene	U	U	U	5
Isopropylbenzene	U	U	U	5
n-Propylbenzene	U	U	U	5
1,3,5-Trimethylbenzene	U	U	U	5
tert-Butylbenzene	U	U	U	5
1,2,4-Trimethylbenzene	U	U	U	5
sec-Butylbenzene	U	U	U	5
p-Isopropyltoluene	U	U	U	5
n-Butylbenzene	U	U	U	5
MTBE	U	U	U	50
Xylene (total)	U	U	U	5
SEMIVOLATILE COMPOUNDS				
Naphthalene	U*	U	U	10
Acenaphthene	U	U	U	20
Fluorene	U	U	U	50
Phenanthrene	U	U	U	50
Anthracene	U	U	U	50
Fluoranthene	U	U	U	50
Pyrene	U	U	U	50
Benzo(a)anthracene	U	U	U	0.002
Chrysene	U	U	U	0.002
Benzo(b)fluoranthene	U	U	U	0.002
Benzo(k)fluoranthene	U	U	U	0.002
Benzo(a)pyrene	U	U	U	0.002
Indeno(1,2,3-cd)pyrene	U	U	U	0.002
Dibenzo(a,h)anthracene	U	U	U	50
Benzo(g,h,i)perylene	U	U	U	0.002

Qualifiers:
U: Compound analyzed for but not detected.
U*: Result has been qualified as not detected due to interferences from the TCLP extraction solvents since the Method 8240 analysis did not contain this compound.

TABLE C-4
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
SELECT GLYCOLS

PROBE/BORING IDENTIFICATION	B-3		B-4		B-7		
SAMPLE IDENTIFICATION	B-3 (0-2')	B-3 (2'-4')	B-4 (0-2')	B-4 (2'-4')	B-7 (0-2')	B-7 (2'-4')	INSTRUMENT DETECTION LIMITS
SAMPLE DEPTH	0' - 2'	2' - 4'	0' - 2'	2' - 4'	0' - 2'	2' - 4'	
DATE OF COLLECTION	02/10/98	02/10/98	02/10/98	02/10/98	02/11/98	02/11/98	
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0	
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Ethylene Glycol	U	U	U	4,780 J	U	U	5000
Propylene Glycol	U	U	U	U	U	U	5000

Qualifiers:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.

TABLE C-4 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
SELECT GLYCOLS

PROBE/BORING IDENTIFICATION	B-8							
SAMPLE IDENTIFICATION	B-8 (0-2')	B-8 (2'-4')	FB-1					INSTRUMENT DETECTION LIMITS
SAMPLE DEPTH	0' - 2'	2' - 4'	--					
DATE OF COLLECTION	02/11/98	02/11/98	02/11/98					
DILUTION FACTOR	1.0	1.0	1.0					
UNITS	(ug/kg)	(ug/kg)	(ug/L)					(ug/kg)
Ethylene Glycol	U	U	U					5000
Propylene Glycol	U	U	U					5000

Qualifiers:
U: Compound analyzed for but not detected.

TABLE C-5
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
POLYCHLORINATED BIPHENYLS (PCBs)

PROBE/BORING IDENTIFICATION	B-7		B-8		B-11			
SAMPLE IDENTIFICATION	B-7 (0-2')	B-7 (2'-4')	B-8 (0-2')	B-8 (2'-4')	B-11 (5'-7')	B-11 (7'-9')	CONTRACT REQUIRED DETECTION LIMITS	NYSDEC TAGM 4046 APPENDIX A CRITERIA
SAMPLE DEPTH	0' - 2'	2' - 4'	0' - 2'	2' - 4'	5' - 7'	7' - 9'		
DATE OF COLLECTION	02/11/98	02/11/98	02/11/98	02/11/98	02/11/98	02/11/98		
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Aroclor-1016	U	U	U	U	U	U	33	----
Aroclor-1221	U	U	U	U	U	U	67	----
Aroclor-1232	U	U	U	U	U	U	33	----
Aroclor-1242	U	U	U	U	U	U	33	----
Aroclor-1248	U	U	U	U	U	U	33	----
Aroclor-1254	84	U	U	U	U	U	33	----
Aroclor-1260	U	U	U	U	U	U	33	----
TOTAL PCBs	84	0	0	0	0	0		10,000*

Qualifiers:
U: Compound analyzed for but not detected.

Notes:
---- : Not established.
* : Criteria is for total PCBs in subsurface soils.

TABLE C-5 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
POLYCHLORINATED BIPHENYLS (PCBs)

PROBE/BORING IDENTIFICATION	B-12		B-13		B-16			
SAMPLE IDENTIFICATION	B-12 (4'-6')	B-12 (6'-8')	B-13 (4'-6')	B-13 (6'-8')	B-16 (7'-9')	B-16 (9'-11)	CONTRACT REQUIRED DETECTION LIMITS	NYSDEC TAGM 4046 APPENDIX A CRITERIA
SAMPLE DEPTH	4' - 6'	6' - 8'	4' - 6'	6' - 8'	7' - 9'	9' - 11'		
DATE OF COLLECTION	02/11/98	02/11/98	02/12/98	02/12/98	02/12/98	02/12/98		
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Aroclor-1016	U	U	U	U	U	U	33	----
Aroclor-1221	U	U	U	U	U	U	67	----
Aroclor-1232	U	U	U	U	U	U	33	----
Aroclor-1242	U	U	U	U	U	U	33	----
Aroclor-1248	U	U	U	U	200	U	33	----
Aroclor-1254	U	U	U	U	U	U	33	----
Aroclor-1260	U	U	U	U	U	U	33	----
TOTAL PCBs	0	0	0	0	200	0		10,000*

Qualifiers:
U: Compound analyzed for but not detected.

Notes:
---- : Not established.
* : Criteria is for total PCBs in subsurface soils.

TABLE C-5 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
POLYCHLORINATED BIPHENYLS (PCBs)

SAMPLE IDENTIFICATION	FB-1	FB-2	CONTRACT REQUIRED DETECTION LIMITS (ug/kg)	NYSDEC TAGM 4046 APPENDIX A CRITERIA (ug/kg)
SAMPLE DEPTH	--	--		
DATE OF COLLECTION	02/11/98	02/13/98		
DILUTION FACTOR	1.0	1.0		
UNITS	(ug/L)	(ug/L)		
Aroclor-1016	U	U	33	----
Aroclor-1221	U	U	67	----
Aroclor-1232	U	U	33	----
Aroclor-1242	U	U	33	----
Aroclor-1248	U	U	33	----
Aroclor-1254	U	U	33	----
Aroclor-1260	U	U	33	----
TOTAL PCBs	0	0		10,000*

Qualifiers:
U: Compound analyzed for but not detected.

Notes:
---- : Not established.
* : Criteria is for total PCBs in subsurface soils.

TABLE C-6
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
PRIORITY POLLUTANT METALS AND CYANIDE

PROBE/BORING IDENTIFICATION	B-1		B-2		B-3			
SAMPLE IDENTIFICATION	B-1 (0-2')	B-1 (2'-4')	B-2 (0-2')	B-2 (2'-4')	B-3 (0-2')	B-3 (2'-4')	INSTRUMENT DETECTION LIMITS	EASTERN USA BACKGROUND LEVELS
SAMPLE DEPTH	0' - 2'	2' - 4'	0' - 2'	2' - 4'	0' - 2'	2' - 4'		
DATE OF COLLECTION	02/10/98	02/10/98	02/10/98	02/10/98	02/10/98	02/10/98		
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Antimony	U	U	U	U	U	U	0.310	----
Arsenic	4.9	U	3.1	U	4.1	U	0.380	3 - 12*
Beryllium	0.50	0.22 B	0.34 B	0.13 B	0.46 B	0.14 B	0.030	0 - 1.75
Cadmium	0.85 B	U	U	U	0.56 B	U	0.060	0.1 - 1, (10***)
Chromium	17.2	4.1	11.1	3.1	16.9	4.6	0.160	1.5 - 40*, (50***)
Copper	10.0	3.4 B	6.1	2.5 B	10.4	2.3 B	0.270	1 - 50
Lead	12.0	1.8	5.8	1.1	16.9	2.1	0.240	200 - 500**
Mercury	U	U	U	U	U	U	0.017	0.001 - 0.2
Nickel	9.2	2.9 B	7.6 B	1.9 B	10.4	2.1 B	0.190	0.5 - 25
Selenium	U	U	U	U	U	U	0.490	0.1 - 3.9
Silver	U	U	U	U	U	U	0.120	----
Thallium	U	U	U	U	U	U	0.440	----
Zinc	30.3	7.0	18.6	5.1 B	26.7	5.3 B	0.390	9 - 50
Cyanide	NA	NA	NA	NA	NA	NA	0.5	----

Qualifiers:
U: Constituent analyzed for but not detected.
B: Constituent found in the method blank as well as the sample.

Notes:
---- : Not established.
NA : Constituent not analyzed for
* : New York State Background.
** : Background for metropolitan or suburban areas.
*** : Proposed revised criteria for cadmium and chromium in TAGM 4046 Appendix A.

TABLE C-6 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
PRIORITY POLLUTANT METALS AND CYANIDE

PROBE/BORING IDENTIFICATION	B-4		B-5		B-6			
SAMPLE IDENTIFICATION	B-4 (0-2')	B-4 (2'-4')	B-5 (0-2')	B-5 (2'-4')	B-6 (0-2')	B-6 (2'-4')	INSTRUMENT DETECTION LIMITS	EASTERN USA BACKGROUND LEVELS
SAMPLE DEPTH	0' - 2'	2' - 4'	0' - 2'	2' - 4'	0' - 2'	2' - 4'		
DATE OF COLLECTION	02/10/98	02/10/98	02/10/98	02/10/98	02/10/98	02/10/98		
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Antimony	U	U	U	U	U	U	0.310	----
Arsenic	3.8	2.0	1.9	1.4	4.4	1.4	0.380	3 - 12*
Beryllium	0.34 B	0.24 B	0.14 B	0.13 B	0.41 B	0.06 B	0.030	0 - 1.75
Cadmium	1.1 B	U	0.61 B	0.15 B	0.36 B	U	0.060	0.1 - 1, (10***)
Chromium	12.6	8.9	20.4	18.5	15.3	2.2	0.160	1.5 - 40*, (50***)
Copper	9.2	6.1	8.3	5.0 B	9.3	2.2 B	0.270	1 - 50
Lead	17.0	3.9	4.9	2.6	8.5	U	0.240	200 - 500**
Mercury	0.02 B	U	0.02 B	U	0.02 B	U	0.017	0.001 - 0.2
Nickel	9.3 B	6.2 B	4.0 B	3.6 B	9.8	1.4 B	0.190	0.5 - 25
Selenium	U	U	U	U	U	U	0.490	0.1 - 3.9
Silver	U	U	U	U	U	U	0.120	----
Thallium	U	U	U	U	U	U	0.440	----
Zinc	29.3	14.8	15.8	10.3	36.2	4.8 B	0.390	9 - 50
Cyanide	NA	NA	U	U	NA	NA	0.5	----

Qualifiers:
U: Constituent analyzed for but not detected.
B: Constituent found in the method blank as well as the sample.

Notes:
---- : Not established.
NA : Constituent not analyzed for
* : New York State Background.
** : Background for metropolitan or suburban areas.
*** : Proposed revised criteria for cadmium and chromium in TAGM 4046 Appendix A.

TABLE C-6 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
PRIORITY POLLUTANT METALS AND CYANIDE

PROBE/BORING IDENTIFICATION	B-7		B-8		B-9			
SAMPLE IDENTIFICATION	B-7 (0-2')	B-7 (2'-4')	B-8 (0-2')	B-8 (2'-4')	B-9 (0-2')	B-9 (2'-4')	INSTRUMENT DETECTION LIMITS	EASTERN USA BACKGROUND LEVELS
SAMPLE DEPTH	0' - 2'	2' - 4'	0' - 2'	2' - 4'	0' - 2'	2' - 4'		
DATE OF COLLECTION	02/11/98	02/11/98	02/11/98	02/11/98	02/11/98	02/11/98		
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Antimony	U	U	U	U	U	U	0.310	----
Arsenic	3.1	1.5	2.9	1.4	2.9	5.2	0.380	3 - 12*
Beryllium	0.22 B	0.11 B	0.16 B	0.11 B	0.20 B	0.32 B	0.030	0 - 1.75
Cadmium	1.6	0.19 B	1.4	0.16 B	1.4	0.36 B	0.060	0.1 - 1, (10***)
Chromium	12.0	5.1	7.2	4.3	7.8	11.8	0.160	1.5 - 40*, (50***)
Copper	15.4	4.8 B	16.3	3.6 B	7.2	9.2	0.270	1 - 50
Lead	17.1	4.3	18.2	6.3	5.4	7.4	0.240	200 - 500**
Mercury	0.11	0.02 B	0.11	U	U	0.02 B	0.017	0.001 - 0.2
Nickel	8.2 B	3.0 B	6.0 B	2.0 B	4.8 B	7.0 B	0.190	0.5 - 25
Selenium	U	U	U	U	U	U	0.490	0.1 - 3.9
Silver	U	U	U	U	U	U	0.120	----
Thallium	U	U	U	U	U	U	0.440	----
Zinc	44.8	11.1	34.9	7.6	37.6	25.6	0.390	9 - 50
Cyanide	NA	NA	NA	NA	NA	NA	0.5	----

Qualifiers:
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B: Constituent found in the method blank as well as the sample.

Notes:
---- : Not established.
NA : Constituent not analyzed for
* : New York State Background.
** : Background for metropolitan or suburban areas.
*** : Proposed revised criteria for cadmium and chromium in TAGM 4046 Appendix A.

TABLE C-6 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
PRIORITY POLLUTANT METALS AND CYANIDE

PROBE/BORING IDENTIFICATION	B-10							
SAMPLE IDENTIFICATION	B-10 (0-2')	B-10 (2'-4')	B-10N (0-2')	B-10N (2'-4')	B-10S (0-2')	B-10S (2'-4')	INSTRUMENT DETECTION LIMITS	EASTERN USA BACKGROUND LEVELS
SAMPLE DEPTH	0' - 2'	2' - 4'	0 - 2'	2' - 4'	0 - 2'	2' - 4'		
DATE OF COLLECTION	02/11/98	02/11/98	3/12/98	3/12/98	3/12/98	3/12/98		
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Antimony	U	U	NA	NA	NA	NA	0.310	----
Arsenic	4.7	4.0	NA	NA	NA	NA	0.380	3 - 12*
Beryllium	0.31 B	0.29 B	NA	NA	NA	NA	0.030	0 - 1.75
Cadmium	0.51 B	0.81 B	NA	NA	NA	NA	0.060	0.1 - 1, (10***)
Chromium	**64.9**	17.6	7.8	5.1	6.1	6.5	0.160	1.5 - 40*, (50***)
Copper	14.5	12.1	NA	NA	NA	NA	0.270	1 - 50
Lead	13.7	22.3	NA	NA	NA	NA	0.240	200 - 500**
Mercury	0.08	0.05	NA	NA	NA	NA	0.017	0.001 - 0.2
Nickel	7.7 B	10.8	NA	NA	NA	NA	0.190	0.5 - 25
Selenium	U	U	NA	NA	NA	NA	0.490	0.1 - 3.9
Silver	U	U	NA	NA	NA	NA	0.120	----
Thallium	U	U	NA	NA	NA	NA	0.440	----
Zinc	27.0	35.9	NA	NA	NA	NA	0.390	9 - 50
Cyanide	NA	NA	NA	NA	NA	NA	0.5	----

Qualifiers:
U: Constituent analyzed for but not detected.
B: Constituent found in the method blank as well as the sample.

Notes:
---- : Not established.
NA : Constituent not analyzed for
* : New York State Background.
** : Background for metropolitan or suburban areas.
*** : Proposed revised criteria for cadmium and chromium in TAGM 4046 Appendix A.
☐ : Value exceeds TAGM 4046 Appendix A Criteria and Eastern USA Background Level.

TABLE C-6 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
PRIORITY POLLUTANT METALS AND CYANIDE

PROBE/BORING IDENTIFICATION	B-10		B-11		B-12			
SAMPLE IDENTIFICATION	B-10E (0-2')	B-10E (2' - 4')	B-11 (5'-7')	B-11 (7'-9')	B-12 (4'-6')	B-12 (6'-8')	INSTRUMENT DETECTION LIMITS	EASTERN USA BACKGROUND LEVELS
SAMPLE DEPTH	0 - 2'	2' - 4'	5' - 7'	7' - 9'	4' - 6'	6' - 8'		
DATE OF COLLECTION	3/12/98	3/12/98	02/11/98	02/11/98	02/11/98	02/11/98		
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Antimony	NA	NA	U	U	U	U	0.310	----
Arsenic	NA	NA	1.9	U	U	1.1	0.380	3 - 12*
Beryllium	NA	NA	0.14 B	0.05 B	0.08 B	0.16 B	0.030	0 - 1.75
Cadmium	NA	NA	1.6	0.18 B	1.2	0.82 B	0.060	0.1 - 1, (10***)
Chromium	10.9	1.6 B	6.8	2.6	14.5	9.1	0.160	1.5 - 40*, (50***)
Copper	NA	NA	10.4	4.0 B	7.9	5.8	0.270	1 - 50
Lead	NA	NA	7.5	1.0	38.0	17.0	0.240	200 - 500**
Mercury	NA	NA	0.02 B	U	0.11	0.05	0.017	0.001 - 0.2
Nickel	NA	NA	5.2 B	1.4 B	2.9 B	3.3 B	0.190	0.5 - 25
Selenium	NA	NA	U	U	U	U	0.490	0.1 - 3.9
Silver	NA	NA	U	U	U	U	0.120	----
Thallium	NA	NA	U	U	U	U	0.440	----
Zinc	NA	NA	**163**	7.3	**103**	**111**	0.390	9 - 50
Cyanide	NA	NA	NA	NA	NA	NA	0.5	----

Qualifiers:
U: Constituent analyzed for but not detected.
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Notes:
---- : Not established.
NA : Constituent not analyzed for
* : New York State Background
** : Background for metropolitan or suburban areas.
*** : Proposed revised criteria for cadmium and chromium in TAGM 4046 Appendix A.
□ : Value exceeds TAGM 4046 Appendix A Criteria and Eastern USA Background Level.

TABLE C-6 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
PRIORITY POLLUTANT METALS AND CYANIDE

PROBE/BORING IDENTIFICATION	B-13			B-14		B-15		
SAMPLE IDENTIFICATION	B-13 (4'-6')	B-13 (6'-8')	B-13 (8'-10')	B-14 (0-2')	B-14 (2'-4')	B-15 (6'-7')	INSTRUMENT DETECTION LIMITS	EASTERN USA BACKGROUND LEVELS
SAMPLE DEPTH	4' - 6'	6' - 8'	8' - 10'	0' - 2'	2' - 4'	6' - 7'		
DATE OF COLLECTION	02/12/98	02/12/98	3/13/98	02/12/98	02/12/98	02/13/98		
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Antimony	U	U	NA	U	U	U	0.310	----
Arsenic	U	2.4	NA	4.7	2.4	1.9	0.380	3 - 12*
Beryllium	U	U	NA	0.37 B	0.22 B	0.14 B	0.030	0 - 1.75
Cadmium	2.9	5.7	NA	U	U	U	0.060	0.1 - 1, (10***)
Chromium	8.5	20.1	NA	15.0	11.4	4.7	0.160	1.5 - 40*, (50***)
Copper	18.5	**66.0**	NA	10.9	6.1	3.8 B	0.270	1 - 50
Lead	15.2	57.0	NA	8.7	7.5	2.8	0.240	200 - 500**
Mercury	**0.21**	**0.23**	U	0.03 B	0.02 B	U	0.017	0.001 - 0.2
Nickel	8.7	18.4	NA	8.7 B	5.7 B	2.6 B	0.190	0.5 - 25
Selenium	U	U	NA	U	U	U	0.490	0.1 - 3.9
Silver	U	U	NA	U	U	U	0.120	----
Thallium	U	U	NA	U	U	U	0.440	----
Zinc	43.9	**70.8**	NA	36.2	18.7	10.1	0.390	9 - 50
Cyanide	NA	NA	NA	NA	NA	NA	0.5	----

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Notes:
---- : Not established.
NA : Constituent not analyzed for
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** : Background for metropolitan or suburban areas.
*** : Proposed revised criteria for cadmium and chromium in TAGM 4046 Appendix A.
Bold : Value exceeds TAGM 4046 Appendix A Criteria and Eastern USA Background Level.

TABLE C-6 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
PRIORITY POLLUTANT METALS AND CYANIDE

PROBE/BORING IDENTIFICATION	B-16		B-17		B-18			
SAMPLE IDENTIFICATION	B-16 (7'-9')	B-16 (9'-11')	B-17 (0-2')	B-17 (2'-4')	B-18 (0-2')	B-18 (2'-4')	INSTRUMENT DETECTION LIMITS	EASTERN USA BACKGROUND LEVELS
SAMPLE DEPTH	7' - 9'	9' - 11'	0' - 2'	2' - 4'	0' - 2'	2' - 4'		
DATE OF COLLECTION	02/12/98	02/12/98	02/12/98	02/12/98	02/13/98	02/13/98		
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Antimony	0.77 B	U	U	U	U	U	0.310	----
Arsenic	U	U	2.9	2.6	0.84 B	0.80 B	0.380	3 - 12*
Beryllium	U	U	0.21 B	0.40 B	U	U	0.030	0 - 1.75
Cadmium	7.3	U	U	U	U	U	0.060	0.1 - 1, (10***)
Chromium	38.0	3.3	18.3	15.8	4.0	4.3	0.160	1.5 - 40*, (50***)
Copper	**105**	2.9 B	4.6 B	5.8	3.0 B	2.9 B	0.270	1 - 50
Lead	129	2.0	5.3	5.4	14.8	8.2	0.240	200 - 500**
Mercury	**0.35**	U	U	U	U	U	0.017	0.001 - 0.2
Nickel	22.2	1.3 B	4.6 B	5.7 B	2.1 B	2.1 B	0.190	0.5 - 25
Selenium	U	U	U	U	U	U	0.490	0.1 - 3.9
Silver	1.2 B	U	0.38 B	0.29 B	0.26 B	0.43 B	0.120	----
Thallium	U	U	U	U	U	U	0.440	----
Zinc	**319**	7.3	12.7	18.1	8.2	6.3	0.390	9 - 50
Cyanide	NA	NA	U	U	NA	NA	0.5	----

Qualifiers:
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Notes:
---- : Not established.
NA : Constituent not analyzed for
* : New York State Background.
** : Background for metropolitan or suburban areas.
*** : Proposed revised criteria for cadmium and chromium in TAGM 4046 Appendix A.
bold : Value exceeds TAGM 4046 Appendix A Criteria and Eastern USA Background Level.

TABLE C-6 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
PRIORITY POLLUTANT METALS AND CYANIDE

PROBE/BORING IDENTIFICATION		B-19		B-21		B-24		
SAMPLE IDENTIFICATION	B-19 (2'-4')	B-19 (4'-6')	B-19 (6'-8')	B-21 (0-2')	B-21 (2'-4')	B-24 (0-2')	INSTRUMENT DETECTION LIMITS	EASTERN USA BACKGROUND LEVELS
SAMPLE DEPTH	2' - 4'	4' - 6'	6' - 8'	0' - 2'	2' - 4'	0' - 2'		
DATE OF COLLECTION	02/13/98	3/12/98	3/12/98	02/13/98	02/13/98	02/17/98		
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Antimony	U	NA	NA	U	U	U	0.310	----
Arsenic	1.3	NA	NA	1.9	2.2	2.7	0.380	3 - 12*
Beryllium	0.22 B	NA	NA	0.22 B	0.31 B	0.30 B	0.030	0 - 1.75
Cadmium	U	NA	NA	U	U	U	0.060	0.1 - 1, (10***)
Chromium	7.3	NA	NA	8.3	16.2	11.3	0.160	1.5 - 40*, (50***)
Copper	4.4 B	NA	NA	3.7 B	5.4 B	6.1	0.270	1 - 50
Lead	16.4	NA	NA	4.6	8.3	5.4	0.240	200 - 500**
Mercury	**0.73**	**0.21**	0.12	U	U	0.02 B	0.017	0.001 - 0.2
Nickel	4.7 B	NA	NA	4.5 B	6.3 B	7.1 B	0.190	0.5 - 25
Selenium	U	NA	NA	U	U	U	0.490	0.1 - 3.9
Silver	U	NA	NA	U	U	U	0.120	----
Thallium	U	NA	NA	U	U	U	0.440	----
Zinc	12.5	NA	NA	11.5	17.7	40.6	0.390	9 - 50
Cyanide	NA	NA	NA	NA	NA	NA	0.5	----

Qualifiers:
U: Constituent analyzed for but not detected.
B: Constituent found in the method blank as well as the sample.

Notes:
---- : Not established.
-- : Not applicable
NA : Constituent not analyzed for
* : New York State Background.
** : Background for metropolitan or suburban areas.
*** : Proposed revised criteria for cadmium and chromium in TAGM 4046 Appendix A.
☐ : Value exceeds TAGM 4046 Appendix A Criteria and Eastern USA Background Level.

TABLE C-6 (continued)
NORTHROP GRUMMAN CORPORATION
STRUCTURAL TEST HANGARS/PLANT 5
PHASE I/II SITE ASSESSMENT
SOIL SAMPLING RESULTS
PRIORITY POLLUTANT METALS AND CYANIDE

SAMPLE IDENTIFICATION	FB-1	FB-2	INSTRUMENT DETECTION LIMITS	EASTERN USA BACKGROUND LEVELS
SAMPLE DEPTH	--	--		
DATE OF COLLECTION	02/11/98	02/13/98		
DILUTION FACTOR	1.0	1.0		
UNITS	(mg/l)	(mg/l)	(mg/kg)	(mg/kg)
Antimony	U	U	0.310	----
Arsenic	U	U	0.380	3 - 12*
Beryllium	U	U	0.030	0 - 1.75
Cadmium	U	U	0.060	0.1 - 1, (10***)
Chromium	U	U	0.160	1.5 - 40*, (50***)
Copper	U	U	0.270	1 - 50
Lead	U	U	0.240	200 - 500**
Mercury	U	U	0.017	0.001 - 0.2
Nickel	U	U	0.190	0.5 - 25
Selenium	U	U	0.490	0.1 - 3.9
Silver	U	1.4 B	0.120	----
Thallium	U	U	0.440	----
Zinc	U	U	0.390	9 - 50
Cyanide	U	U	0.5	----

Qualifiers:
U: Constituent analyzed for but not detected.
B: Constituent found in the method blank as well as the sample.

Notes:
---- : Not established.
-- : Not applicable
* : New York State Background.
** : Background for metropolitan or suburban areas.
*** : Proposed revised criteria for cadmium and chromium in TAGM 4046 Appendix A.

Appendix D

APPENDIX D

REFERENCES

REFERENCES

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