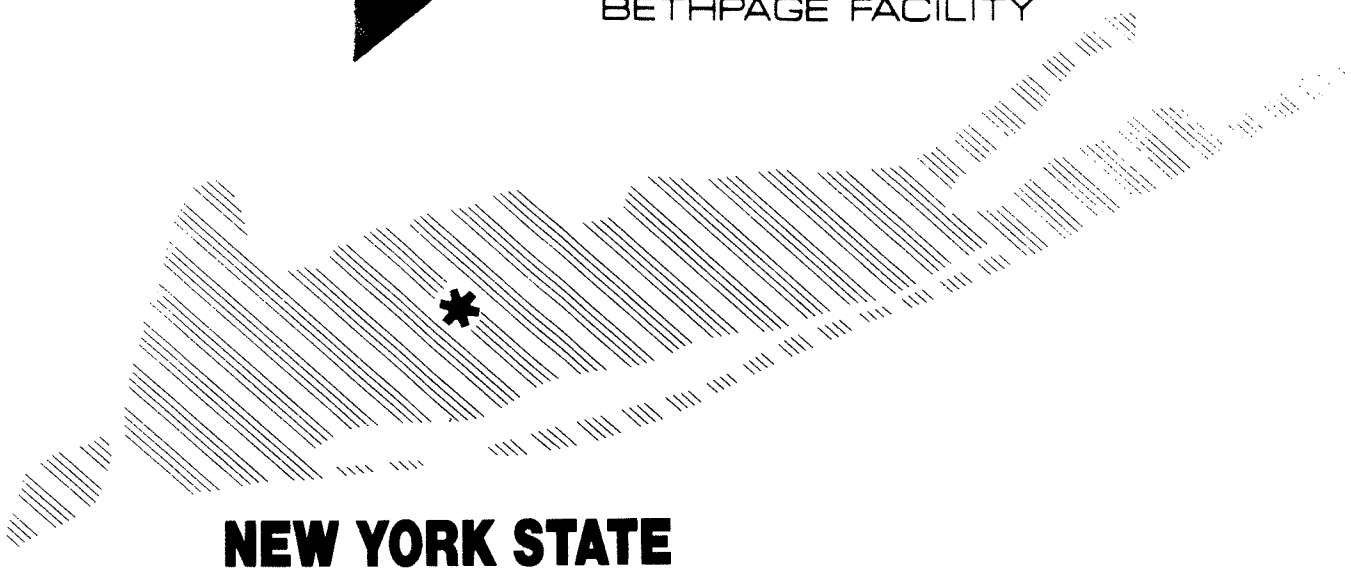
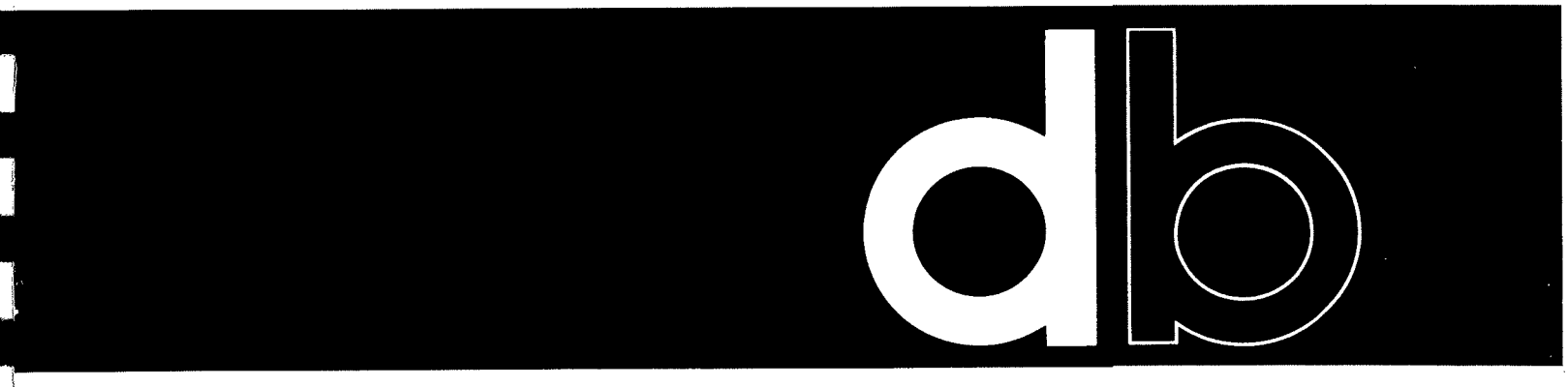
GRUMMAN AEROSPACE CORPORATION
BETHPAGE FACILITY



NEW YORK STATE SITE REGISTRY DELISTING PETITION HEADQUARTERS COMPLEX BETHPAGE, NEW YORK

GRUMMAN AEROSPACE CORPORATION
BETHPAGE, NEW YORK



Dvirka and Bartilucci
Consulting Engineers

MARCH 1995

Dvirka and Bartilucci

Consulting Engineers

Grumman Aerospace Corporation
Bethpage, New York 11714-3582

March 13, 1995

Langdon Marsh, Commissioner
New York State Department of
Environmental Conservation
50 Wolf Road
Albany, NY 12233-7010

Re: New York State Site Registry Delisting Petition
Headquarters Complex, Bethpage, New York

Dear Mr. Marsh:

I am pleased to submit for your review three copies of the enclosed document, entitled "New York State Site Registry Delisting Petition, Headquarters Complex, Bethpage, New York," for the Grumman Aerospace Corporation property located off Stewart Avenue in Bethpage, New York.

The report, prepared by our consultants, Dvirka and Bartilucci Consulting Engineers, documents the past and present use of the site based on a review of available records, along with a narrative review of chronological aerial photographs of the area from 1950 through 1988. In addition, a presentation of groundwater sampling results is provided with a comparison to appropriate standards.

The information presented in this report will assist the New York State Department of Environmental Conservation (NYSDEC) in determining the nature of the use of the site over the past 40 years and to evaluate the merits of the delisting petition. Based on the review of available information and the environmental data, we believe that the property is eligible for removal from the NYSDEC Site Registry of Inactive Hazardous Waste Disposal Sites, and as such, an appropriate modification to the boundaries of Site 1-30-003A is warranted.

If you have any comments and/or questions regarding this matter, do not hesitate to contact me at (516) 575-2385.

Very truly yours,

J. Ohlmann

John Ohlmann, P.E.
Director, Corporate Environmental Protection

JO/ss
Enclosure
cc: w/encl.: Robert Marino (NYSDEC)
♠1167/JO03135.dec

GRUMMAN AEROSPACE CORPORATION

NEW YORK STATE
SITE REGISTRY DELISTING PETITION
HEADQUARTERS COMPLEX
BETHPAGE, NEW YORK

PREPARED BY

DVIRKA AND BARTILUCCI CONSULTING ENGINEERS

SYOSSET, NEW YORK

MARCH 1995

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GRUMMAN AEROSPACE CORPORATION

NEW YORK STATE
SITE REGISTRY DELISTING PETITION
HEADQUARTERS COMPLEX
BETHPAGE, NEW YORK

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Section 1

1.0 INTRODUCTION

Grumman Aerospace Corporation has directed the preparation of this report as part of an effort to satisfy the requirements for delisting the Headquarters Complex, hereafter referred to as "the site," from the New York State Site Registry of Inactive Hazardous Waste Disposal Sites (Site Code 1-30-003A). The site is located southeast of the intersection of South Oyster Bay Road and Stewart Avenue in Bethpage, New York. Information presented in this report has been compiled based upon site inspections completed on July 13, 1994 and July 14, 1994; an evaluation of available aerial photographs (1950-1988); various files and records obtained from the Grumman Aerospace Corporation, Paumanock Development Corporation, the Nassau County Department of Health (NCDOH) and the Town of Oyster Bay; along with interviews of various Grumman personnel. The purpose of this report is to determine and document the historical use of the site and the surrounding areas.

Section 2 of this document presents an evaluation of the history, present use and existing conditions at the site, and the likelihood of potential adverse impacts from the federal Superfund site known as Hooker Chemical/Ruco Polymer. Section 3 presents an evaluation of analytical sampling data to characterize groundwater quality in the vicinity of the site. The findings and conclusions of the site assessment are presented in Section 4.

A location map is included in Appendix A, a current "Site Plan" is included in Appendix B, and aerial photographs of the site from 1950 through 1988 have been included in Appendix C. In addition, relevant documentation obtained through file searches at Grumman Aerospace Corporation, the NCDOH and the Town of Oyster Bay is included in Appendix D.

Correspondence from the New York State Department of Environmental Conservation (NYSDEC) to Grumman Aerospace Corporation provided a list of the "Delisting Petition Information" required for the Grumman properties. In order to facilitate the review of this document, the 14 items requested in the NYSDEC correspondence are listed on Table 1-1 with an appropriate response, or a cross reference to the location of such response in this document. The information supplied in this document is of sufficient detail to enable the NYSDEC to determine the nature of the site's past and present operations, and assess the potential for any on-site contamination.

Table 1-1

DELISTING PETITION INFORMATION

	Requirement	Response
1.	Site Name	Grumman, Bethpage
	Owner	Grumman Aerospace Corporation
2.	Site Number	1-30-003A
3.	Site Location	Southeast of South Oyster Bay Road and Stewart Avenue Intersection Bethpage, Nassau County, NY 11714
4.	Size	Approximately 70 Acres
5.	Boundaries	See Appendices A, B and C
6.	Nature of Operation	See Sections 2.1 and 2.2
	Hazardous Waste Disposal	See Section 4
7.	History of Site	See Section 2.1
8.	History of Site Investigations	See Section 2.1
9.	Waste	See Section 2.2
10.	Affected Resources	See Sections 2.2, 3 and 4
11.	Demographic Information	See Section 2.2
12.	Geographic Information	See Section 2.2
13.	Cleanup Actions	See Section 4
14.	Basis for Delisting	See Section 4

Section 2

2.0 SITE EVALUATION

Location: Southeast of South Oyster Bay Road and Stewart Avenue Intersection, Bethpage, New York 11714

Section:	46	Land Use(s):	Administration/Office/Test and R&D Labs/Flight Simulation Areas
Block:	G	Plot Size:	Approx. 70 acres
Lots:	29, 47, 49, 54, 59	Grumman-Owned Bldgs.:	14, 26, 31 and 111
Zoning:	Industrial H	Approx. Bldg. Area:	Plant 14: 165,000 square feet Plant 26: 61,000 square feet Plant 31: 60,000 square feet Plant 111: 142,000 square feet Total: 428,000 square feet

2.1 Site History

As indicated by a review of the earliest available aerial photograph of the site taken in 1950 (see Appendix C), the site appeared to be occupied by active agricultural land in the northwestern corner of the site while wooded areas occupied the remainder of the site. By 1955 the agricultural-related activities at the site appear to have been phased out. The remainder of the site remained wooded. In 1957 most of the site was still occupied by open fields and wooded areas except for the southwestern corner adjacent to South Oyster Bay Road which was apparently being cleared for construction of a new road. Between 1957 and 1962, Plant 14 was built in the southwestern corner of the site adjacent to South Oyster Bay Road. Parking areas were located to the south of Plant 14. The remainder of the site consisted of open fields and wooded areas.

Between 1962 and 1969, Plant 14 was extended to the east with additional paved parking spaces both east and west of the building. Plants 26 and 31 were constructed in the southeastern corner of the site with paved parking areas and roadways for vehicular traffic. Recharge basins were also constructed to the south of Plants 26 and 31 in the southeastern corner of the site. The remaining northern portion of the site was still composed of open fields.

Between 1969 and 1972, Plant 111 was built in the northeastern corner of the site along Stewart Avenue. Paved parking areas were constructed to the east, west and south of Plant 111 along with access roadways. The northwestern corner of the site, along Stewart Avenue adjacent to the athletic fields along South Oyster Bay Road, was the only open field section remaining on the site. No other changes were evident on the aerial photographs reviewed during this period. Between 1971 and 1988 Plant 111 was expanded to the south and west. Although this construction replaced existing parking areas, additional parking areas were constructed to the west of Plant 111. During this period, Plants 14, 26 and 31 were all expanded with additional parking areas included. In addition, the recharge basins in the southeastern corner of the site were filled in and covered by additional paved parking areas and a realigned roadway. Based on a review of Grumman files and interviews with Grumman representatives, these flows were re-routed to recharge basins located further to the south adjacent to Plant 3.

Based upon a review of available information, dates of Grumman occupancy for the plants are as follows:

- Plant 14 (early 1960's)
- Plant 26 (1963)
- Plant 31 (1965)
- Plant 111 (1970)

According to Nassau County property record cards, it appears that Grumman ownership of the lots occupied by Plants 14, 26, 31 and 111 dates back to the 1940s.

Based upon a review of available information and interviews with Grumman personnel, Plant 14 was originally built in the early 1960's, with additions constructed in 1981 ("Prom building"), and the mid-1980's (E2/C and ESP building additions). Plant 14 comprises approximately 165,000 square feet and currently houses offices, computer areas, flight simulation areas, radar development labs, hydraulics labs, test rooms, and prototype metal fabrication areas. Additional information on the current use of Plant 14 is presented in Section 2.2.

Based upon a review of available information, Plant 26 was constructed in 1963. It has historically been utilized as the Corporate Research Center Laboratories and comprises approximately 61,000 square feet. The plant currently contains offices, computer rooms, photo processing labs, electronic test equipment, mechanical testing areas, and areas for metallographic

polishing, thermal analysis, x-ray diffraction, nuclear studies, assembly and fabrication, semiconductor preparation, high temperature processing, chemical physics and scanning microscopy. Additional information on the present use of Plant 26 is presented in Section 2.2.

Based upon a review of available information, Plant 31 was constructed in 1965 and comprises approximately 60,000 square feet. The plant currently contains: hanger-type areas, machine shops, equipment rooms, thermal chambers, various test rooms, and a stock room. Additional information on the present use of Plant 31 is presented in Section 2.2.

Based upon a review of available information and interviews with Grumman personnel, Plant 111 was constructed in 1970 with new additions constructed in 1986. Historically, Plant 111 has been utilized predominantly for office space. The building comprises approximately 142,000 square feet and contains office areas, computer rooms, a training center, classrooms, vending areas, storage rooms, and a facility shop. Additional information on the present use of Plant 111 is presented in Section 2.2.

Several on-site independent sanitary disposal systems were utilized prior to connection to the Nassau County sewer system. A review of Grumman utility maps and construction drawings indicated the following:

- Plant 14
  - 15 "filled" leaching pools to the north of Plant 14
  - 2 leaching pools to the north of trailer
- Plant 26
  - 1 distribution box and 2 leaching pools to the west of Plant 26 (noted as disconnected)
- Plant 31
  - 1 septic tank, 1 distribution box and 6 leaching pools to the south of Plant 31
- Plant 111
  - Sanitary waste previously discharged to a Grumman owned and operated activated sludge sanitary treatment facility ("Sewage Treatment Plant D") to the south of Plant 111

A 1982 application for a RCRA Part B permit (Vol. 1) prepared by Dvirka and Bartilucci Consulting Engineers for Grumman Aerospace Corporation detailed how hazardous waste

generated from plant operations was collected and stored on-site prior to its disposal. In general, collection stations were established in close proximity to the points of waste generation. Collection drums were identified with a label indicating the type of waste to be placed in each. Once filled, the drums were closed, labeled and dated, and moved to either a mini marshaling area, or to the Main Marshaling area for storage prior to disposal. A map prepared and submitted with the permit indicated that both Plants 14 and 26 had a waste collection station located outside the building. Plants 31 and 111 did not have collection stations, and mini-marshaling stations were not identified within the Headquarters complex area. The Main Marshaling area was located south of the Headquarters Complex. The permit indicates that Plant 14's collection station allowed for the temporary accumulation of waste halogenated solvents, while Plant 26 accumulated waste halogenated and non-halogenated solvents.

Based upon a review of a Remedial Investigation (RI) Report prepared by Geraghty & Miller in 1994, soil-gas sampling was conducted in 1991 and 1992 with a portable gas chromatograph at various locations throughout the Bethpage facility to identify areas that might require further soil and/or groundwater investigation. One soil-gas sampling point was located in the vicinity of Plant 14 (SG-9). Volatile organic compounds were not detected in soil gas sample SG-9. Soil-gas sampling was not performed in the vicinity of Plants 26, 31 or 111.

2.2 General Site Description

The headquarters complex is composed of Plants 14, 26, 31 and 111. According to Town of Oyster Bay tax records, Plant 111 is currently owned by the Paumanock Development Corporation while the other plants are owned by Grumman Aerospace Corporation. All of the plants have oil heat, public water and are connected to the Nassau County sewer system. The entire site is zoned Industrial H and comprises approximately 70 acres. The site is bound on the north by high density residential development and by industrial development to the east, south and west.

Plant 14 is a three story building with a basement, and is composed of four main areas (original section, "Prom" building, E2/C and ESP sections). The original section of Plant 14 is a one story structure which was built, according to Grumman personnel, in the 1960's and includes the following areas:

- Outside Hydraulic Fluid Pump Room (controls "motion base" inside building for flight simulation)
  - hydraulic pumps
  - 55 gallon drum of waste oil
  - 55 gallon drum of hydraulic oil
  - cooling tower

- Anechoic Chamber
  - sound proof area (coned walls/floors/ceiling)

- Antenna and Radar Development Lab
  - computer areas (electronics testing)

- Fixed Base Simulator Room
  - flight dome simulator (not in use)

- Low Frequency Radar Lab
  - computer areas (electronics testing)
  - tabletop touch-up soldering areas
  - antifreeze for a transmitter cooling system

- Shipping and Receiving Area (loading dock)

- Integrated Logics System (ILS) CASS Lab
  - avionics equipment integration
  - Test Cell #1 contains:
    - Test stand drives
    - nitrogen use to simulate atmospheric pressure on aircraft
    - electronics testing

- Office Areas/Conference Rooms

- ILS Prototype Lab
  - benchtop electronic testing areas, circuit board manufacture and repair
  - small drill presses, vices

- Flammable chemical storage cabinets (small quantities of: soldering flux, thinner, epoxy, paint, loctite, adhesive, varsol, isopropanol, primer, freon, toluene, ferric-chloride, developer, acetone and hydrochloric acid)

- Vending Area

- Thermodynamics Lab
  - nitrogen cylinders (gas pressure tests, liquid coolant)
  - helium
  - ammonia (working fluid in heat pipes)
  - argon for welder
  - benchtop computer areas
  - manufacture of thermal control devices (working fluid: 2 methyl-pentane, methyl alcohol, freon)
  - loading bay
  - drill press
  - ethylene glycol (coolant)
  - slop sinks
  - chemical cabinet (small quantities of: methanol, isopropanol, acetone, ammonia, 1,1,1-trichloroethane, silicone spray, ethyl alcohol, benzene and mineral oil)

- Loading Bays with catch basin

- Electromechanical Test Area
  - F14 flight control simulator (hydraulically controlled)
  - grounded drum storage area (mineral spirits, waste oil, cutting oil, varsol and hydraulic fluid)
  - "oily waste cans" for rags

- Hydraulics Lab

- Small Mechanical Shop Area
  - lathes
  - drill press
  - ultrasonic cleaner (drains to 55 gallon drum)

- Pump Room (hydraulic fluid)
  - side walls trenched with alarms for hydraulic oil

- Compound Repair Room
  - benchtop work stations
  - chemical cabinet (small quantities of: jet engine oil, paints, rag can)

- Compound Test Room
  - flow test benches

- Mechanical Test Room
  - flow test benches
  - small paint spray area with hood

- Stock Room
  - miscellaneous parts storage, paints, cleaners, solder flux, glue, oils and dichlorodifluoromethane

- Prototype Metal Fabrication Room
  - machine shop
  - drill presses
  - band saws
  - lathes
  - vices
  - chemical storage cabinet (small quantities of: paint removers, alodine, methylene chloride, isoproplyene, adhesives, thinners, paints and oils)

- 8,000 psi Simulator Room
  - miscellaneous parts storage
  - chemical storage cabinet (small quantities of: machine oil, adhesive, varsol and paint)
  - pump test room

- Outside 90 Day Drum Storage Area
  - waste storage (Type 1)
  - waste storage (Type 4)
  - metal scrap bins
  - liquid nitrogen tank (Tank # 38)
  - inert gas cylinder storage
    - nitrogen
    - argon
    - helium
    - CO_2
    - fuel gas cylinders
    - hydrogen
    - acetylene
    - liquid petroleum
    - ammonia

- Miscellaneous Parts Storage Shed (copper tubing)

Another main area of Plant 14 is the "Prom" building, an addition completed in April 1981, according to Town of Oyster Bay records. The proposed use of the "Prom" building was for a computer lab and office space. A copy of the building permit shows that permission was granted for installation of one dry well, one distribution box and one septic tank. The plumbing included two floor drains. Grumman personnel indicated that the "Prom" building is comprised solely of offices on the east side and labs on the west side.

The three story E2/C and ESP portions of Plant 14 were constructed in the mid 1980's. In the E2/C building, they develop E2/C software (printed circuit board repair/cleaning, benchtop soldering). The building contains computer rooms, slop sinks and a loading bay area with chemical storage cabinets (paint, alcohol and lubricating oil). Other portions of the E2/C building include the following:

- Maintenance Department
- Boiler Room
  - grinder, band saw
  - loading bay
  - condensate floor drain

According to interviews with Grumman personnel and a review of floor plans, the ESP building portion of Plant 14 has labs, restricted areas, flight simulators, SSDL computer labs (no chemical usage), offices, computer areas and an equipment room.

It should be noted that two existing, inactive, double walled underground storage tanks are located at Plant 14 (14-03 and 14-04) for the storage of photo chemicals, however, no past or present photo processing areas were identified on-site. It should also be noted that an approved 1993 application for the installation of a 300 gallon aboveground tank was noted on file at NCDOH for the storage of wastewater containing trace amounts of acetone and ferric chlorides, however, the existence of this tank was not identified.

According to Grumman personnel, Plant 26 has housed the Corporate Research Center Laboratories since its construction in 1963. Plant 26 includes the following areas:

- Administrative Offices

- Lab Area
  - lab hoods
  - room previously used as a dark room (1987-1992)
  - current use involves utilization of "sol-gels" (silicone based chemical), titanium dioxide, and ammodium hydroxides

- Vacant Labs

- Electronic Test Equipment
  - nitrogen cylinders
  - cleaning solvents (acetone, methyl alcohol)

- Computer Room

- Photoprocessing Labs
  - dark room (small quantities of: methanol, propylene, ethylene glycol, fixer, nalgene)
  - slop sink
  - computer work station

- Service Chase
  - condensate floor drain

- High Temperature Processing

- Chemical Physics

- Materials/Crystal Growth

- Semiconductor Preparation
  - high speed saw
  - slop sink
  - lab hood
  - chemical storage cabinet (small quantities of: trichloroethene, methanol, methylene chloride, bromine)

- Mechanical Testing

- Secured Areas

- Boiler Room
  - 3 boilers (#2 oil)
  - floor drains (condensate)
  - drummed oil
  - oil/water separator (overflow to floor drain)

- Materials Room
  - varsol, DTE oil, acetone
  - slop sink

- Nuclear Research Area
- Metallographic polishing (sewer discharge)
- Heat Treatment
- Scanning Microscopy
- X-ray Diffraction
- Thermal Analysis
- Dark Room (fixers and developers)
- 90 day Storage Building (with secondary containment)
  - containment area (concrete bottom)
  - chemical product storage (isopropyl alcohol, methanol, acetone, freon, cutting fluid)
  - waste storage (Types 1, 2 and 4)

- Vending Area
- Equipment Storage Room
- Assembly and Fabrication Shop
  - machine shop (drill presses, band saws, lathes, etc.)
  - stockroom (miscellaneous parts, paints and adhesives)
  - receiving area (temporary storage)
    - floor drain
    - primer, thinning oil, freon, Afta cleaning fluid, ammonia, paints, dichlorodifluromethane

- Shop Area
  - chemical storage cabinet (small quantities of: paints, brake fluid, methylene chloride, machine oil, alcohol, trichloroethane, utility fluid, paint thinner, DTE oil, paint spray booth hood and slop sinks)

- Magnetic/Optical Characterization

- Electro Optical Devices

- Thin Film Device Fabrication

- Lab Area
  - hood with slop sink
  - spray adhesive
  - small quantities of: trichloroethane, methanol and acetone

- Semiconductor Characterization
- Computer Rooms

Plant 31 was constructed in 1965 and comprises approximately 60,000 square feet. Plant 31 includes the following areas:

- Hanger Area
  - small machine shop
- Machine Shop
- Calibrated Equipment Room
  - slop sink
  - benchtop work area
  - tool storage
- Outside 90 Day Storage Area
  - waste storage (Type 1)
  - waste storage (Type 2)
- Outside New Product Staging Area
  - drummed freon
  - coolinol (fire retardant oil)
- Bleed Air Compressor Room with Gas Burner
  - used to simulate engine bleed air aircraft
- Vacuum Pump Room
- Environmental Test Lab (ESC) Hangar Area
  - component testing
  - vibration tables
- Thermal Chambers (hot, cold, vacuum, vibration)
  - presses
  - lathes
  - slop sinks
- Flame Test Room (Space Simulation)
  - gas burner
  - hood

- Special Test Ammonia Room
  - hydraulic pump (uses DTE oil)
  - miscellaneous storage
  - capped floor drain
  - 55 gallon drum of lube oil

- Bell Jar Room
  - vacuum systems

- Stock Room
  - miscellaneous storage (fittings, valves, etc.)

- Shop Area
  - lathe, drill press, band saw, vices
  - salt machine
  - slop sink
  - floor drain
  - 4 flammable chemical storage cabinets for entire building (small quantities of: jet fuel, antifreeze, ISO foam, freon, MEK, refrigeration oil, stripper, methanol, transmission fluid, loctite, adhesive, acetone, Z-propanol, paint and floor sealer)

- Boiler Room
  - burner
  - condensate floor drains

- Machine Shop
  - drill press, lathe, band saw, vices
  - welding equipment
  - cutoff wheel

- Gas Heaters (outside) for new bleed air system

- New Bleed Air System
  - 2 test cells (with floor drains)
  - control room
  - equipment room compressors, oil pump, 3 "DTE 25" oil drums (for bearing lubrication/cooling)
  - floor drains

- Mezzanine
  - power panel
  - AC system

- compressor
- ductwork for test cells
- miscellaneous storage
- floor drain

Plant 111 was originally built-in in 1970, with new wings constructed in 1986 and has been utilized predominately as office space. Plant 111 consists of four floors, including a basement, and includes the following areas:

- Basement (Original Section)
  - cafeteria
  - mechanical equipment room
  - chillers
  - slop sink
  - 55 gallon drums (condensate from air compressor)
  - floor drains (chiller condensate with oil/water separator)
  - 55 gallon drums (heat transfer fluid)
  - 30 gallon drums (refrigerants-trichloromonofluoromethane)
  - chiller oil
  - 5 gallon centrifugal refrigerant waste oil bucket (Johnson Controls responsible for removal and recycling)
  - transformer (non-PCB)
  - 2 LPG tanks
  - hot water heaters
  - oil burners (3 units)
  - computer room
  - generator
  - fuel tank
  - loading bay
  - sanitary lift station
  - drum storage (outside bay)
    - 30W motor oil
    - "extra heavy DTE" oil
    - gasoline storage (5 gallon can)
  - storage room
    - 2 air handler units
    - floor drains
    - 30 gallon drums (asphalt/blacktop sealer)
  - cafeteria
    - kitchen
    - floor drains
    - hoods

- fire suppression (Halon/CO_2)
- storage room
  - CO_2 cylinder storage (connected to fire suppression system)
  - air compressor
  - electrical cable storage
  - miscellaneous parts storage
- facility shop
  - small bench-top repair area
  - miscellaneous parts storage
- telephone rooms

- First Floor (Original Section)
  - computer rooms
  - toner storage (1,1 Dichchlorol-Fluoroethane)
  - waste toner
  - janitorial closet
    - slop sink

- Second and Third Floors (Original Section)
  - office/computer areas
  - vending areas
  - janitor closets
    - slop sinks
    - disinfectants
    - cleaners

- "Penthouse" (Original Section)
  - HVAC units
    - chillers in basement
    - cooling towers
  - air compressor
  - chemicals for cooling tower (water treatment/conditioner)
  - sodium hydroxide (10%)
  - "oxidizing mircrobicide" (Deacide 735)
  - floor drains (condensate)
  - storage of air filters and belts

- First Floor (New Wing)
  - atrium
  - vending area
  - Quality Institute and Training Center (classrooms)
  - office areas

- Second Floor (New Wing)
  - Corporate Technology & Environmental Complex
  - office areas
  - utility closet
  - slop sink

According to interviews with Grumman personnel and a review of Grumman and various agency records, the following storage tanks have been identified:

Tank Number	Type/Use	Tank Size	Tank Contents	Tightness Testing	Status	Remarks
14-01-1	UST/Boiler	10,000	No. 6	N/A-No. 6	Active	--
14-01-2	UST/Boiler	10,000	No. 6	N/A-No. 6	Active	--
14-01-3	UST/Generator	275	Diesel	Passed-1993	Active	--
14-01-4	UST/Generator	550	Diesel	Passed-2/5/90	Active	--
14-03	UST/Photo Chemicals	2,500	Empty	N/A-Double Walled	Inactive	Permanent Closure Not Scheduled
14-04	UST/Photo Chemicals	3,000	Empty	N/A-Double Walled	Inactive	Permanent Closure Not Scheduled
26-01-1	UST/Boiler	20,000	No. 2	N/A-Double Walled	Active	--
26-01-2	UST/Generator	550	Diesel	Passed-5/31/90	Active	--
31-01-1	UST/Boiler	12,000	No. 2	N/A-Double Walled	Active	--
111-01-1	UST/Boiler	4,000	No. 2	Passed-5/31/90	Active	6NYCRR Part 613.5 Requires Test in 1995
111-01-2	UST/Boiler	4,000	No. 2	Passed 6/1/90	Active	6NYCRR Part 613.5 Requires Test in 1995
111-01-3	UST/Generator	1,000	Diesel	Passed-6/17/93	Active	--
111-01-4	AST/Generator	275	Diesel	N/A-AST	Active	--

It should be noted that NCDOH records indicate that one of the Plant 111 underground fuel oil tanks (111-01-1) failed a Petrotite test in May, 1990 (Spill #90-01711). It was retested 2 weeks later and passed.

A review of NCDOH Article XI Bulk and Container Storage Registration Sheets for Plant 14 indicated the following materials were permitted to be stored outdoors:

- Lubricating oil
- Pyrocat (hydrocarbons)
- Waste oil
- Mineral spirits
- Hydraulic oil
- Petroleum naptha
- Isopropanol
- Halogenated solvents

The Registration Sheet for Plant 31 also listed an 11,000 gallon capacity aboveground storage tank (Tank No. G45) utilized for liquid nitrogen.

Registration Sheets dated 1988 indicate that Plant 111 stored freon and lubrication oil at one indoor location, and floor wax, stripper and liquid cleanser at another indoor location. Lubricating oil was stored outside.

The July 13, 1994 and July 14, 1994 site inspections revealed that the site is generally level with good drainage and catch basins located throughout. No indications of any stressed vegetation were noted during the site inspections. The Soil Conservation Service classifies the majority of the site as Urban Land with a portion of site as Hempstead Silt Loam. Urban Land is defined as an area with a 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 Enfiled soils, or excessively drained Udipsaments. Hempstead Silt Loam is

defined as very deep, well drained solid with slopes of 0 to 3 percent found mostly on plains or along the edges of broad terraces and generally conforming to land-use boundaries. Based on a review of available information, the depth from ground surface to the upper glacial aquifer is approximately 68 feet.

2.3 Hooker Chemical Site

An element related to the delisting of the site is the proximity of the property to the Hooker Chemical/Ruco Polymer NPL site. This site has been on the Federal Superfund list since 1984, and remains active. The site has been the subject of monitoring and investigations intended to identify the extent of contamination and hazard resulting from previous waste disposal practices. A Remedial Investigation and Feasibility Study (RI/FS) has been conducted, with the associated field work completed in February 1990. The RI/FS identified two operable units at the Hooker Chemical site requiring remedial action.

Operable Unit 1 has necessitated the remediation of soil and groundwater contaminated by volatile organic compounds (VOCs) used in various manufacturing processes employed by the facilities on-site. Based upon communication with the EPA, the RI report was approved on December 7, 1992. The associated Feasibility Study was subsequently completed and a Record of Decision and a Proposed Remedial Action Plan was signed on January 28, 1994. Based upon recent communication with the EPA, a unilateral administrative order has been issued and a draft Work Plan is currently being reviewed by the EPA. Until the EPA releases all details concerning Operable Unit 1, it is not possible to fully characterize the extent of off-site impacts.

Operable Unit 2 pertains to a relatively small area of soil contaminated by PCBs resulting from a release of the heat transfer fluid Therminol. The migration of PCBs resulted from on-site runoff and on-site truck traffic. However, the extent of contaminated soil was contained entirely on the Hooker Chemical/Ruco Polymer site. No off-site contamination was identified from Operable Unit 2. Remedial action involving Operable Unit 2 has been completed.

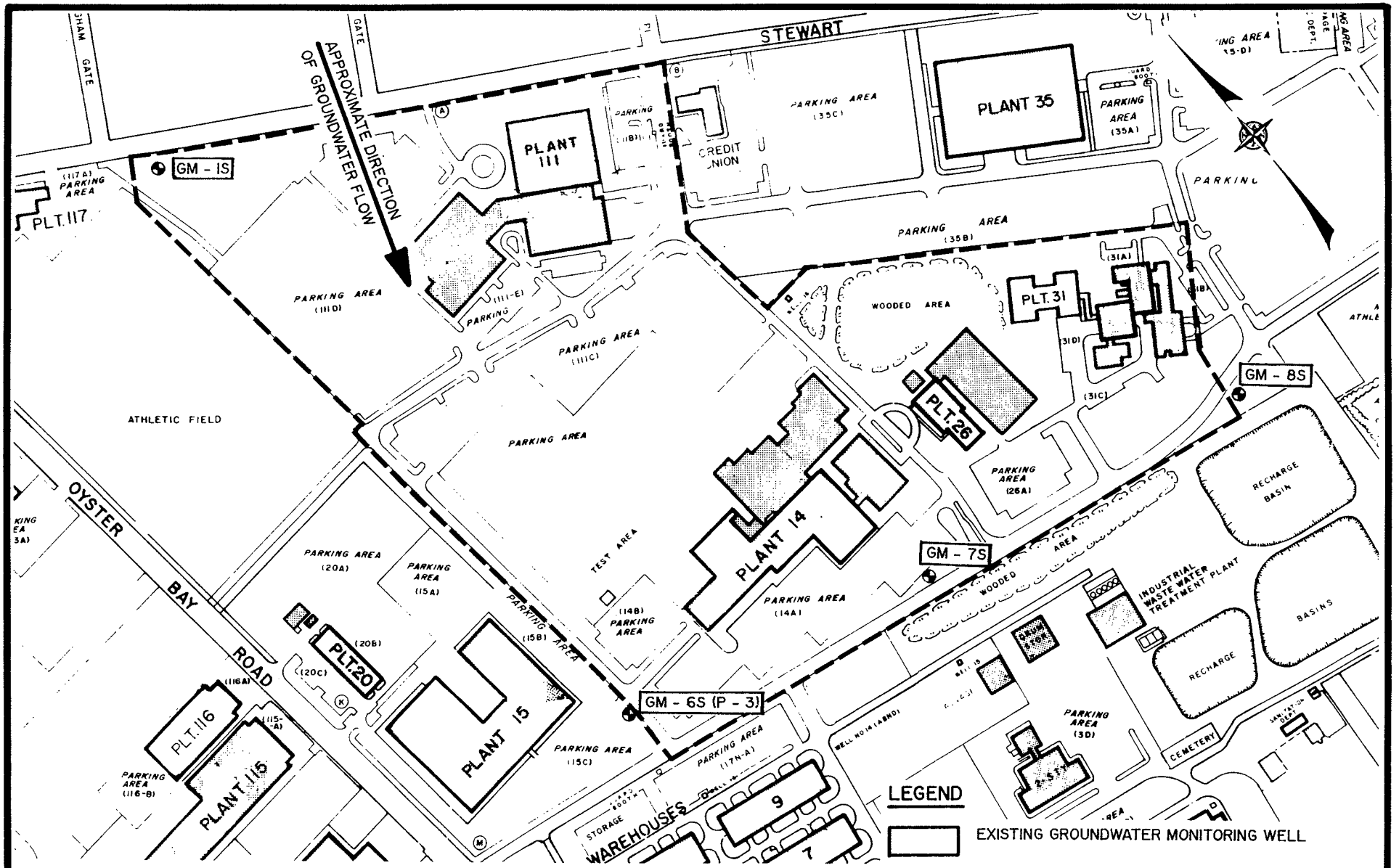
Until such time as the EPA finalizes its review of all investigation findings and releases all details concerning Operable Unit 1, it is not possible to fully characterize the extent of any potential off-site impacts. However, the Headquarters Complex is located approximately 900 feet lateral (to groundwater flow) of the Hooker Chemical/Ruco Polymer site and is likely removed from any significant adverse conditions which may be present.

Section 3

3.0 GROUNDWATER SAMPLING DATA

Based upon a review of available monitoring well location maps, one upgradient groundwater monitoring well (GM-1S) and three downgradient groundwater monitoring wells (GM-6S, GM-7S and GM-8S) were identified. Existing analytical sampling data from these wells were utilized to characterize groundwater quality in the vicinity of the site. Figure 3-1 presents the locations of these monitoring wells. The results of the volatile organic and priority pollutant metal analyses are compared to the New York State Department of Health (NYSDOH) drinking water standards on Tables 3-1 and 3-2, respectively.

As indicated on Table 3-1, volatile organics were not detected above the method detection limits. As indicated on Table 3-2, several priority pollutant metals were detected in the groundwater samples obtained from the monitoring wells associated with the site. The only priority pollutant metal detected above the NYSDOH drinking water standard was chromium in sample GM-6S. However, it should be noted that this sample could not be obtained at a turbidity of less than 50 NTUs. As a result, an additional filtered groundwater sample was collected from this location in an effort to remove soil particles prior to laboratory analysis. As indicated in Table 3-2, chromium was not detected above the method detection limit in the filtered samples from GM-6S.



SOURCE: GAC GENERAL PLAN

APPROXIMATE SCALE: 1" = 400'

GRUMMAN AEROSPACE CORPORATION
BETHPAGE FACILITY
HEADQUARTERS COMPLEX

WELL LOCATION MAP

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

FIGURE 3 - 1

TABLE 3-1
GRUMMAN AEROSPACE CORPORATION
HEADQUARTERS COMPLEX
GROUNDWATER SAMPLING
VOLATILE ORGANICS

SAMPLE ID	GM-1S	GM-6S	GM-7S	GM-8S	NYSDOH
DATE COLLECTED	8/25/93	8/25/93	8/25/93	8/25/93	DRINKING WATER
DILUTION FACTOR	1	1	1	1	STANDARDS
Units	(ug/l)	(ug/l)	(ug/l)	(ug/l)	
PARAMETER					
Chloromethane	U	U	U	U	5
Bromomethane	U	U	U	U	5
Vinyl chloride	U	U	U	U	2
Chloroethane	U	U	U	U	5
Methylene chloride	U	U	U	U	5
1,1-Dichloroethene	U	U	U	U	5
1,1-Dichloroethane	U	U	U	U	5
1,2-Dichloroethene (total)	U	U	U	U	5
Chloroform	U	U	U	U	---
1,2-Dichloroethane	U	U	U	U	5
2-Butanone	U	U	U	U	---
1,1,1-Trichloroethane	U	U	U	U	5
Carbon tetrachloride	U	U	U	U	5
Bromodichloromethane	U	U	U	U	5
1,2-Dichloropropane	U	U	U	U	5
cis-1,3-Dichloropropene	U	U	U	U	5
Trichloroethene	U	U	U	U	5
Dibromochloromethane	U	U	U	U	100**
1,1,2-Trichloroethane	U	U	U	U	5
Benzene	U	U	U	U	5
trans-1,3-Dichloropropene	U	U	U	U	5
Bromoform	U	U	U	U	100**
4-Methyl-2-Pentanone	U	U	U	U	---
2-Hexanone	U	U	U	U	---
Tetrachloroethene	U	U	U	2 J	5
1,1,2,2-Tetrachloroethane	U	U	U	U	5
Toluene	U	U	U	U	5
Chlorobenzene	U	U	U	U	5
Ethylbenzene	U	U	U	U	5
Styrene	U	U	U	U	5
Xylenes (total)	U	U	U	U	5

QUALIFIERS:
U: Analyzed for but not detected
J: Compound found below detection limit

NOTES:
**: Applies to the sum of trihalomethanes
---: Not established

TABLE 3-2
GRUMMAN AEROSPACE CORPORATION
HEADQUARTERS COMPLEX
GROUNDWATER SAMPLING
PRIORITY POLLUTANT METALS

SAMPLE ID	GM-1S Total	GM-1S Dissolved	GM-6S Total	GM-6S Dissolved	GM-7S Total	GM-7S Dissolved	GM-8S Total	GM-8S Dissolved	NYSDOH DRINKING WATER STANDARDS
DATE COLLECTED	08/25/93	08/25/93	08/25/93	08/25/93	08/25/93	08/25/93	08/25/93	08/25/93	
UNITS	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)
PARAMETER									
Antimony	U	U	U	U	U	U	U	U	----
Arsenic	25.6	U	U	U	2.2 B	U	1.8 B	U	50
Beryllium	U	U	U	U	2.8 B	U	U	U	----
Cadmium	U	U	U	U	2.4 B	2.1 B	3.2 B	U	10
Chromium	25.7	U	166	U	72.2	U	17.8	U	100
Copper	63.1	U	27.9	U	71.9	U	39.3	U	1000
Lead	32.8	3.3	4.3	1 B	42.7	U	6.5	1.6 B	----
Mercury	0.24	U	U	U	0.5	U	U	U	2
Nickel	U	U	U	U	8.6 B	U	U	U	----
Selenium	3.9 BJ	U	U	U	U	U	U	U	10
Silver	U	U	U	U	U	U	U	U	50
Thallium	U	U	U	U	U	U	U	U	----
Zinc	57.7	U	31.2	U	71.3	U	46	U	5000

QUALIFIERS:
J: Estimated value
U: Analyzed for but not detected
B: Value less than contract required detection limits but greater than instrument detection limits.

NOTES:

----: Not established
[redacted]: Value exceeds Drinking Water Standards

Section 4

4.0 CONCLUSIONS

Based on the July 13, 1994 and July 14, 1994 site inspections and review of local agency and Grumman files, it does not appear that on-site operations have resulted in any chemical and/or fuel spills on-site. Furthermore, an evaluation of groundwater sampling results from both upgradient and downgradient monitoring wells revealed that volatile organics and priority pollutant metals were not detected above the referenced NYSDOH drinking water standards, other than chromium in sample GM-6S which was shown to be attributable to elevated trubidity.

As a result, based upon the above referenced findings, we believe that the information presented in this document is sufficient to support the delisting of the site under New York State regulations and, as such, an appropriate modification to the boundaries of Site 1-30-003A is warranted.

5.0 REFERENCES

Dvirka and Bartilucci Consulting Engineers; "Application for an RCRA Part B Permit, Grumman Aerospace Corporation - Vol. 1"; August 1982.

Dvirka and Bartilucci Consulting Engineers; "Sterling Center - Draft Generic Environmental Impact Statement - Volume 1A"; June 1990.

EBASCO, Final Work Plan RI/FS Hooker Chemical/Ruco Polymer Superfund Site, EPA Contract 68-01-7250, Work Assignment No. 186-2443, September 1988.

Geraghty & Miller; "Remedial Investigation Report, Grumman Aerospace Corporation, Bethpage, New York - Volume 1"; May 1994.

Legette, Brashear & Graham, Final Field Operations Plan, August 1989.

Legette, Brashear & Graham, Focused Feasibility Study for Remediation of Soils Containing Arochlor 1248 for Occidental Chemical Corp., June 1990.

LKB Aerial Photographs: April 11, 1950; January 20, 1955; January 24, 1957; March 23, 1962; April 11, 1969; April 18, 1972; March 8, 1988.

United States Department of Agriculture, Soil Conservation Service, Soil Survey of Nassau County, New York, February 1987.

USEPA, Declaration for Record of Decision, Hooker Chemical/Ruco Polymer Site, Hicksville, Nassau County, New York, September 1990.

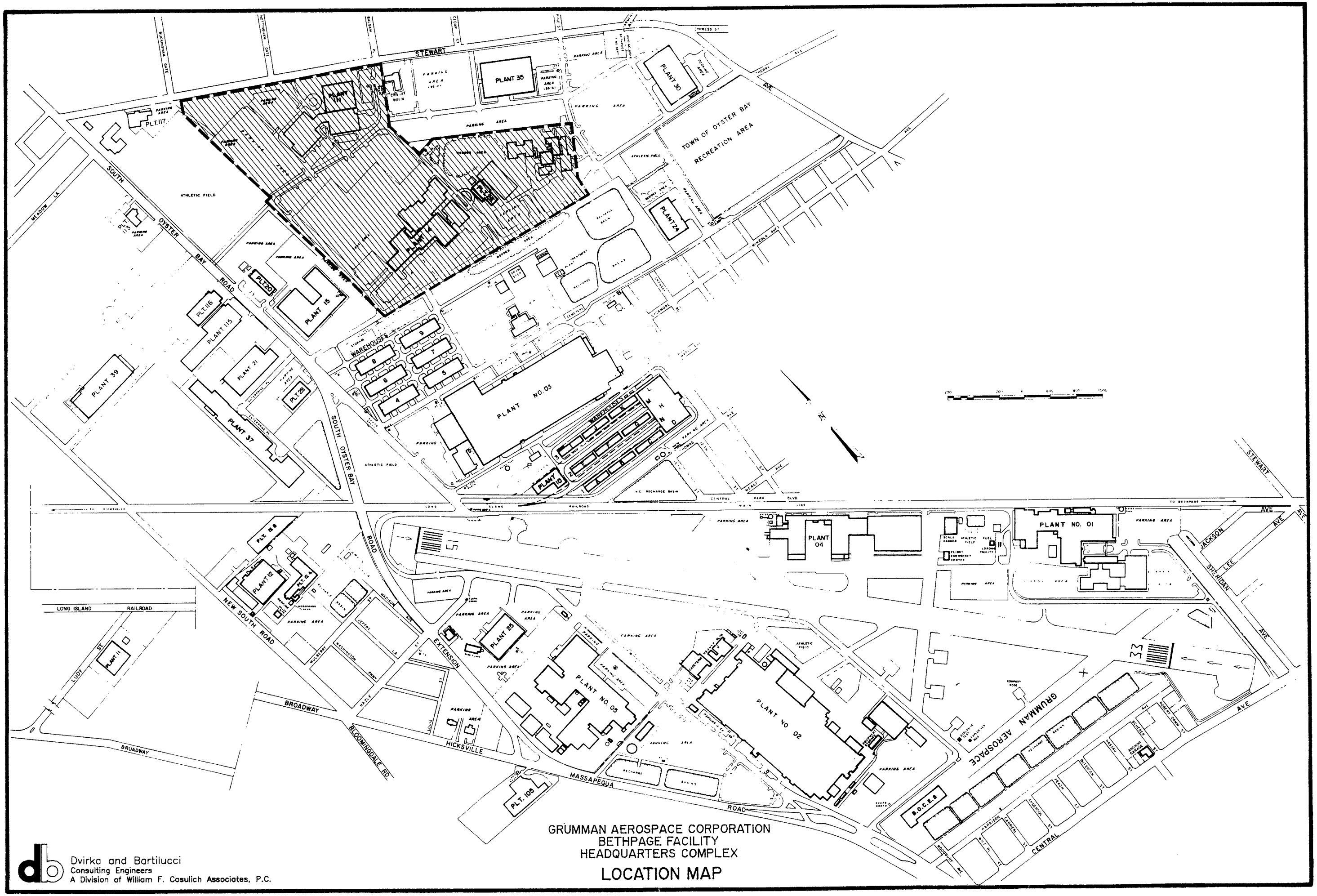
USEPA - Region 2, Proposed Plan Superfund Update Hooker Chemical/Ruco Polymer Site, Hicksville, New York, July 1990.

USEPA - Region II, Record of Decision (Operable Unit 1), Hooker Chemical/Ruco Polymer Site, Town of Oyster Bay, Nassau County, New York, January 1994.

Appendix A

APPENDIX A

LOCATION MAP



GRUMMAN AEROSPACE CORPORATION
BETHPAGE FACILITY
HEADQUARTERS COMPLEX

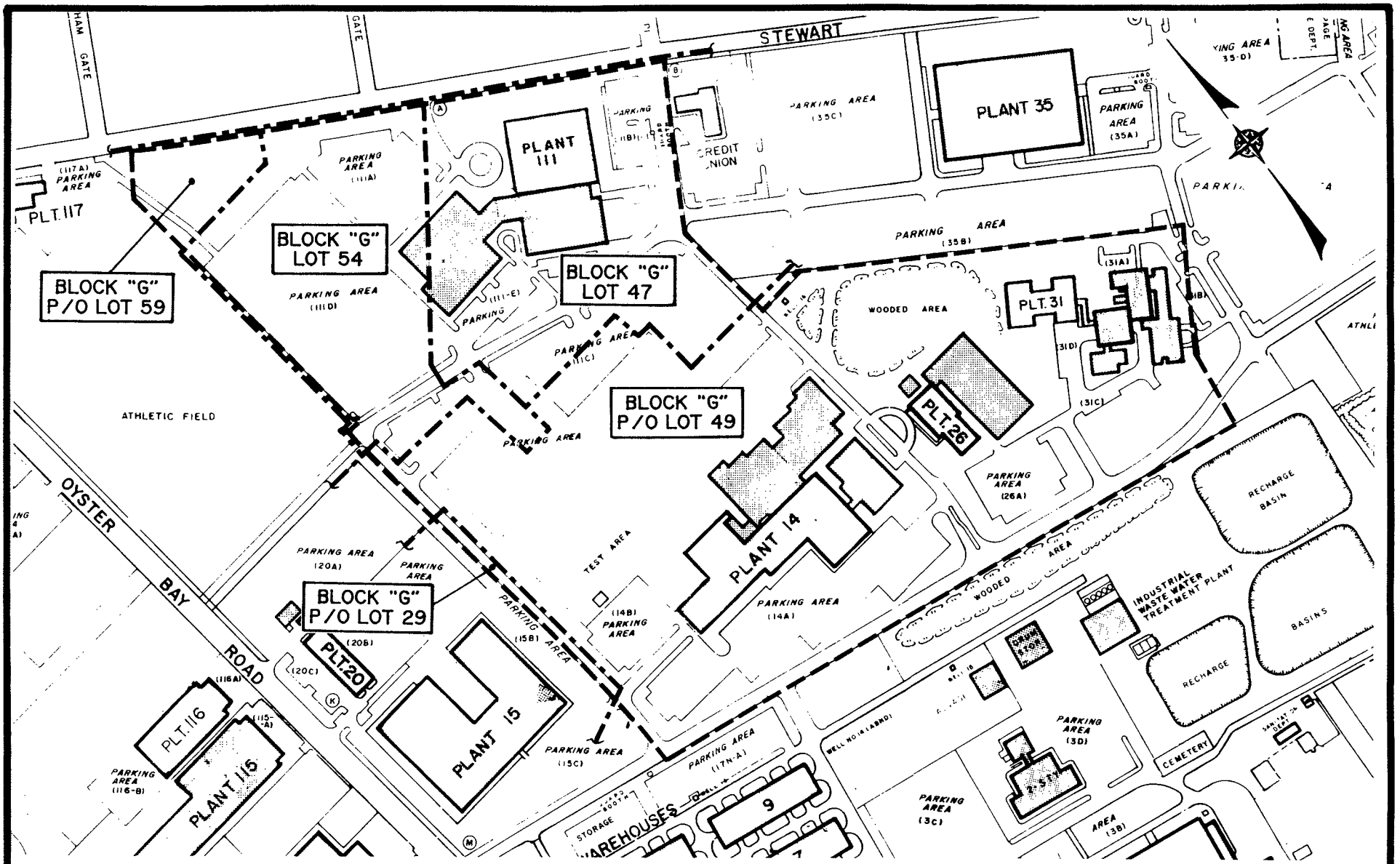
LOCATION MAP

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

Appendix B

APPENDIX B

SITE PLAN



SOURCE: GAC GENERAL PLAN

APPROXIMATE SCALE: 1" = 400'

GRUMMAN AEROSPACE CORPORATION
BETHPAGE FACILITY
HEADQUARTERS COMPLEX

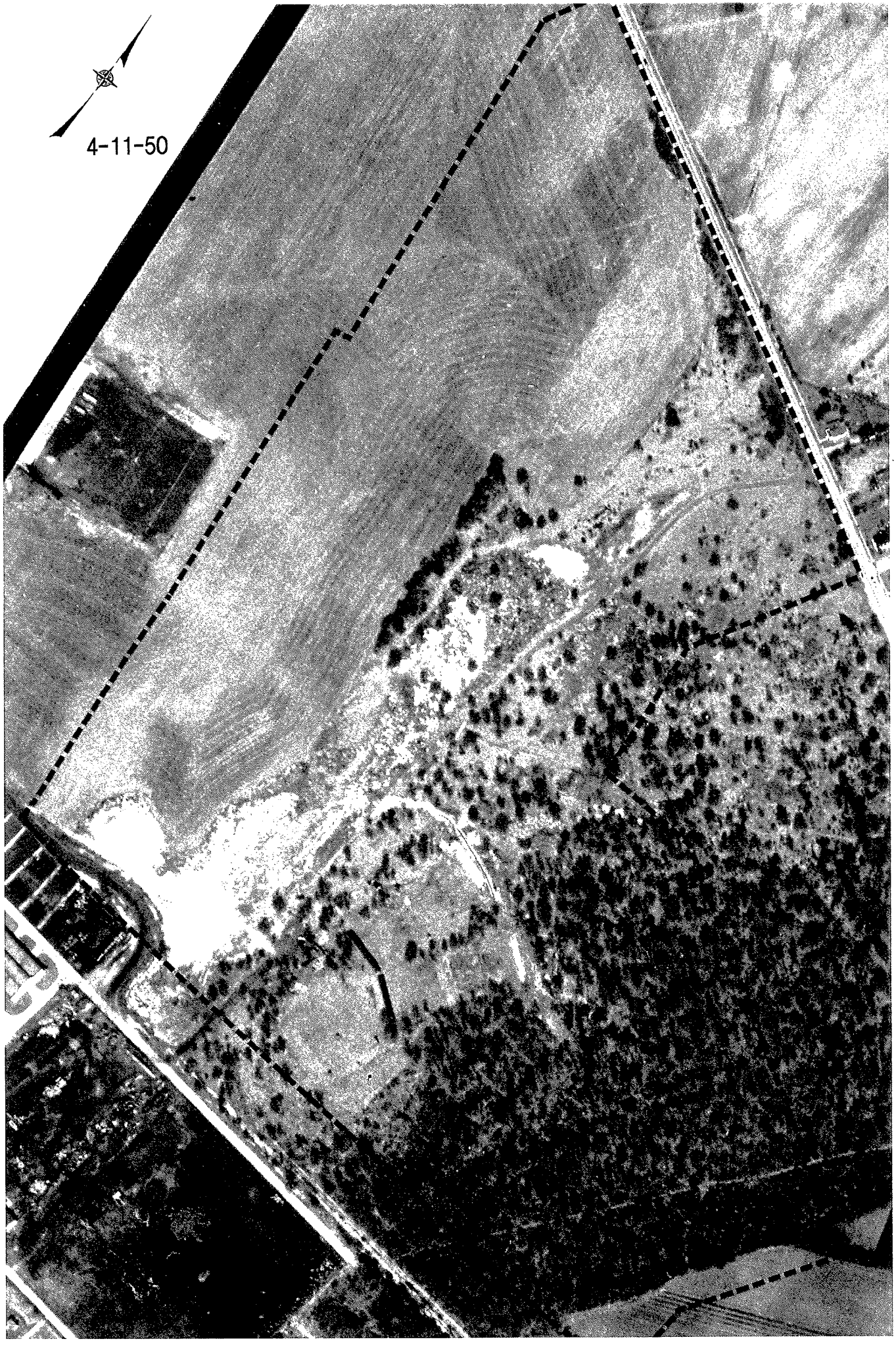
SITE PLAN

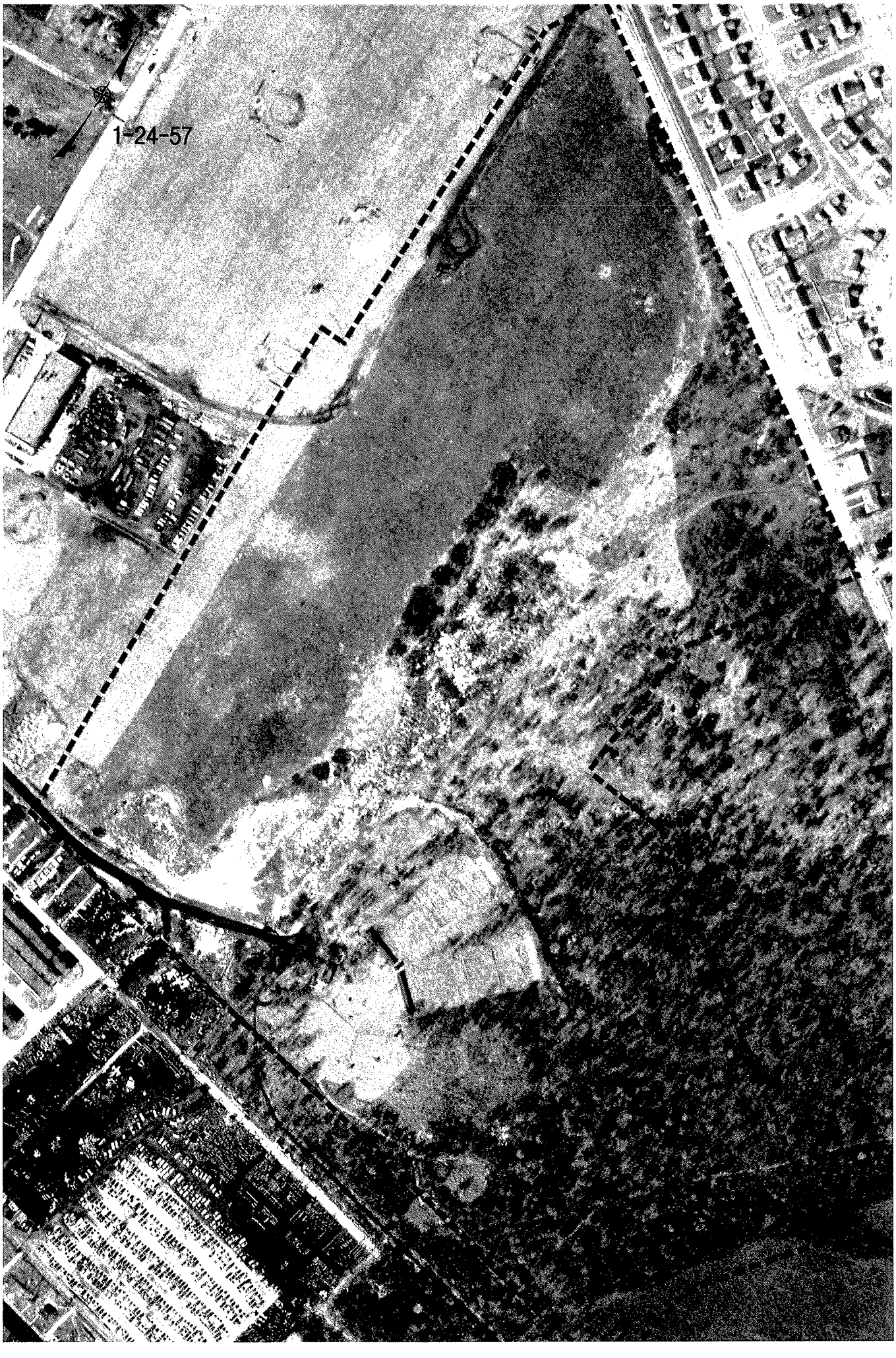
Dvirka and Bartilucci
Consulting Engineers
A Division of William F. Cosulich Associates, P.C.

Appendix C

APPENDIX C

AERIAL PHOTOGRAPHS (1950-1988)





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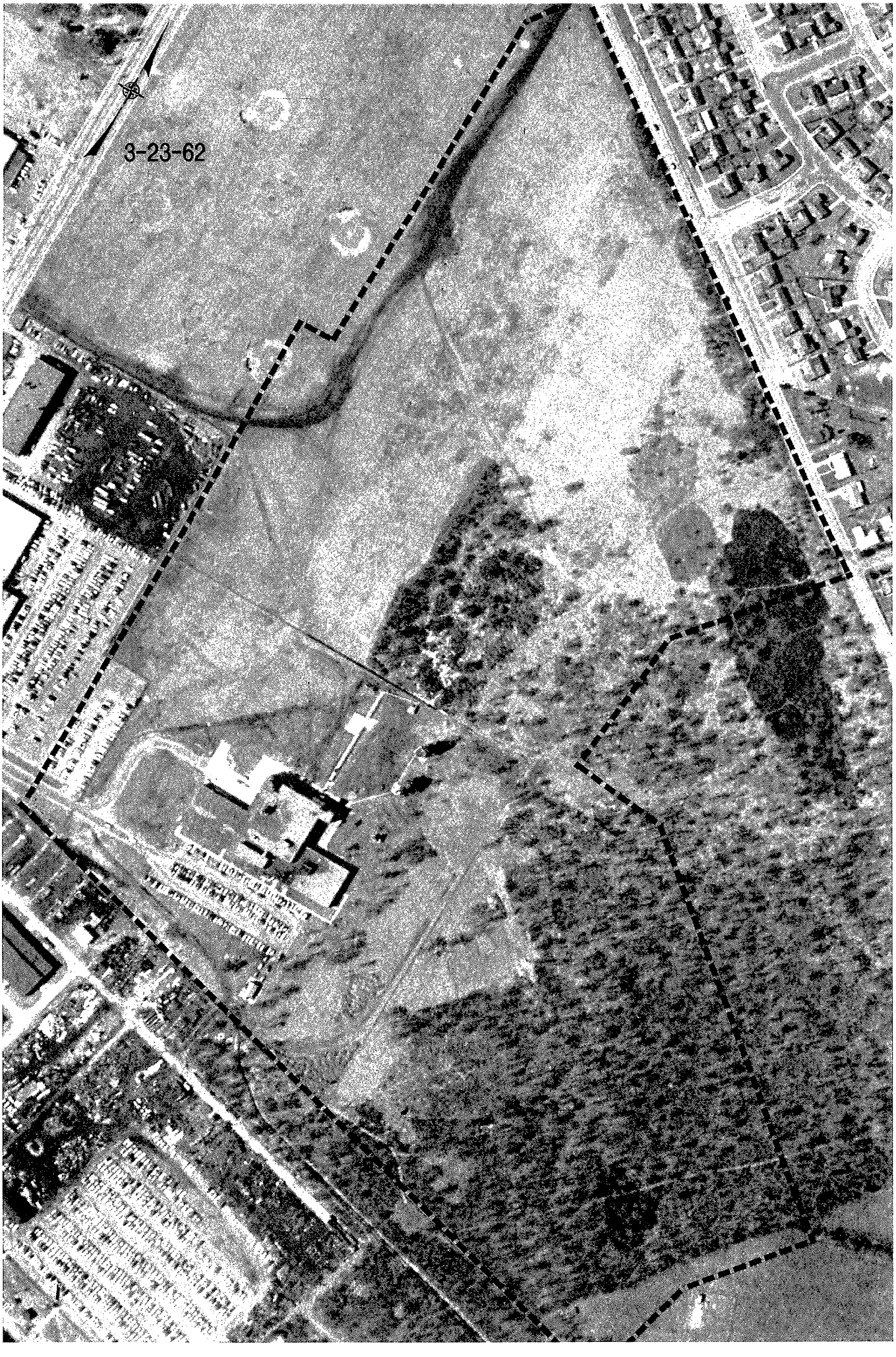
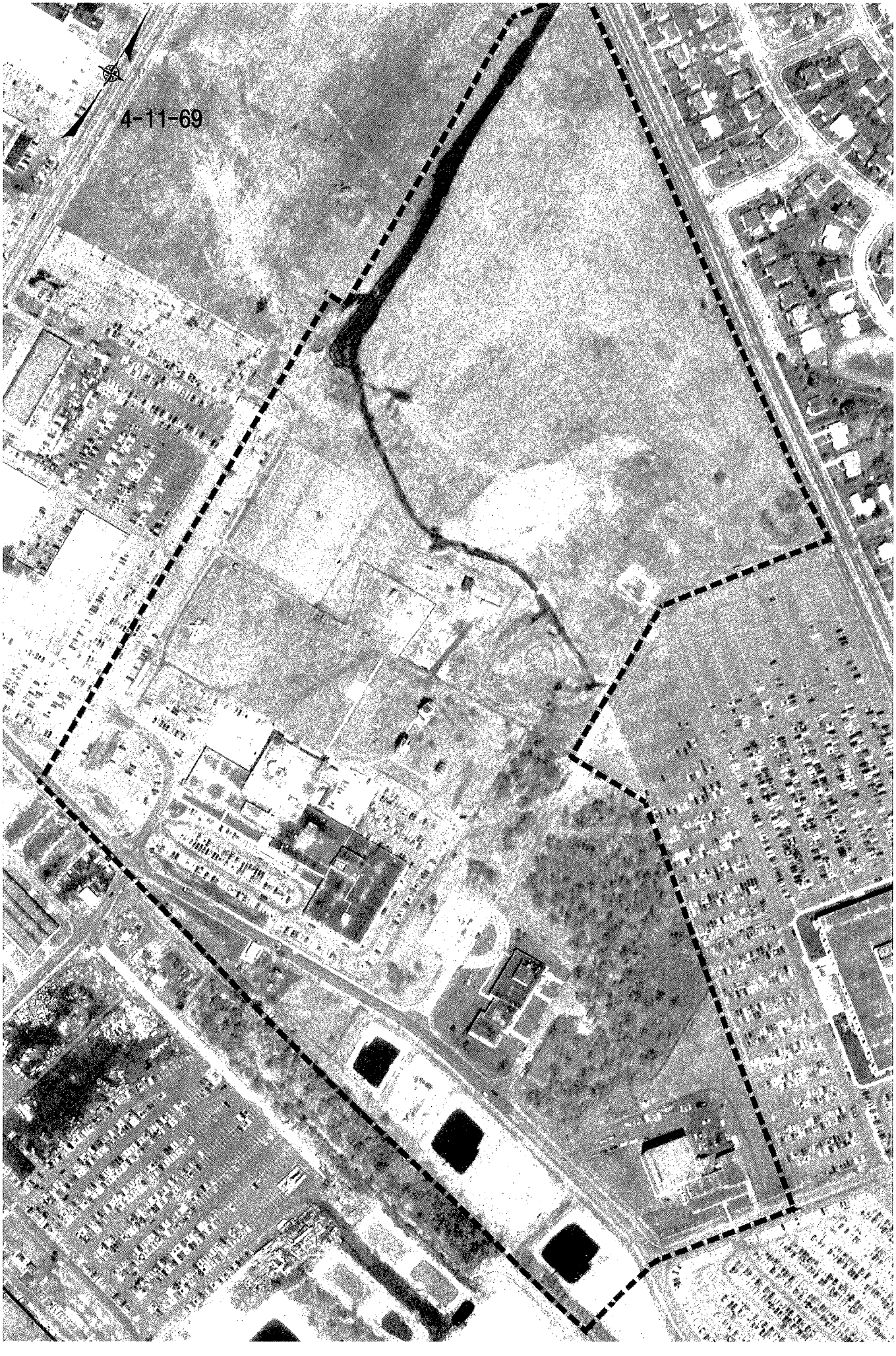
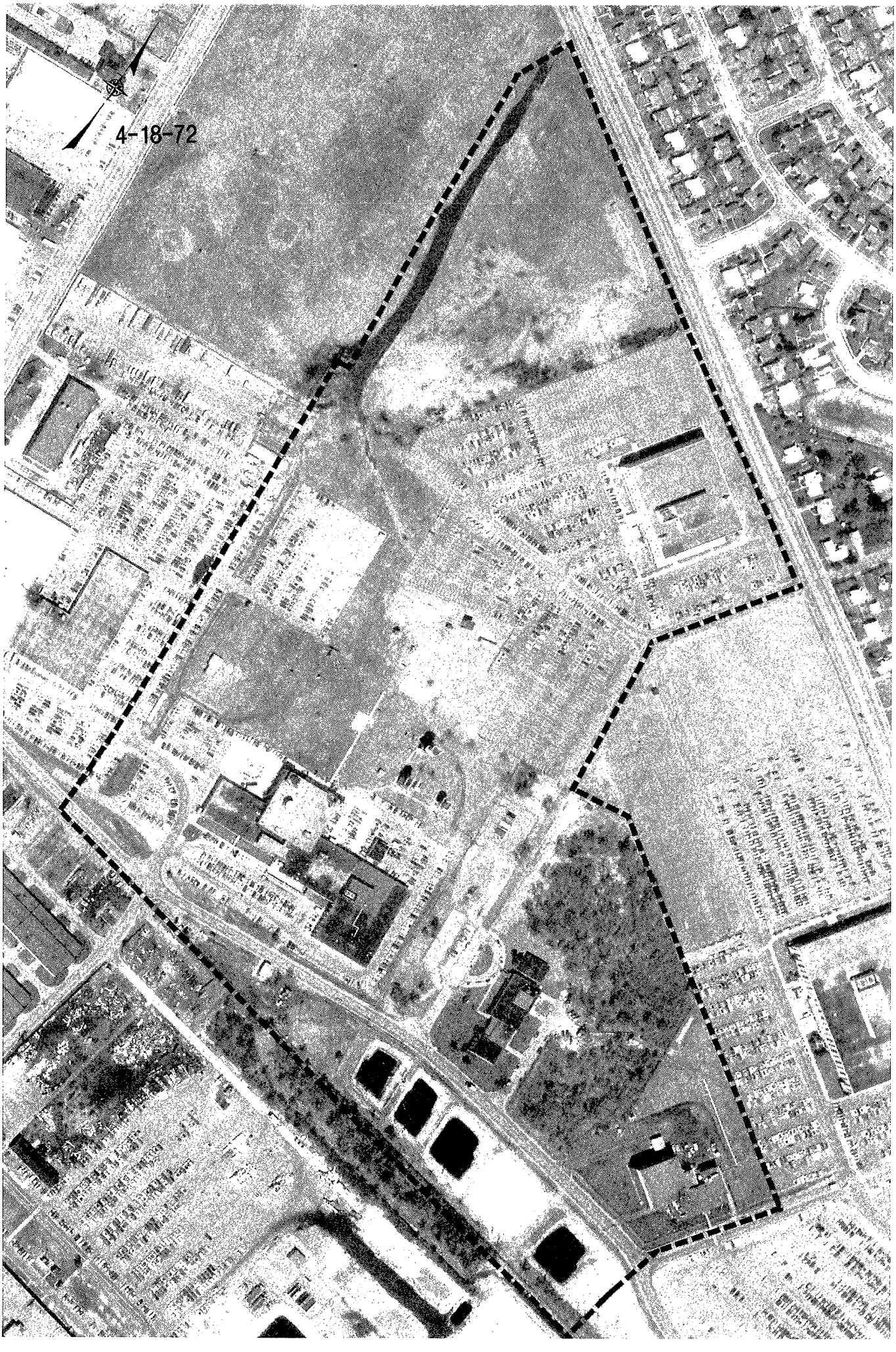

3-23-62





Appendix D

APPENDIX D

SUPPLEMENTAL INFORMATION

PLANT 14

Table A - 1

GRUMMAN AEROSPACE CORPORATION
BETHPAGE COMPLEX
EXISTING FLAMMABLE AND COMBUSTIBLE STORAGE TANKS

June 1994

Grumman Tank No.	Location / Use	Contents	Gallons Buried	Gallons Above Ground	Material Of Construction	Date Installed
04-04-1	Fire Pump House	Diesel	–	275	Steel	12-31-86
04-04-2	Fire Pump House	Gasoline	275	–	Steel	12-31-43
04-04-3	Fire Pump House	Gasoline	275	–	Steel	12-31-43
05-01-1	Generator	Diesel	1000	–	Steel	12-31-44
05-05-1	Fire Pump House	Diesel	–	275	Steel	12-31-86
05-17-1	Stil - Generator	Diesel	550	–	FRP	03-02-89
12-02-1	Facilities Fueling	Diesel	–	275	Steel	12-31-80
12-03-1	Boiler House	No. 4	15000	–	Steel	12-31-66
12-03-2	Boiler House	No. 4	15000	–	Steel	12-31-66
12-03-3	Generator	Diesel	–	275	Steel	12-31-45
12-03-4	Generator	Diesel	–	275	Steel	12-31-45
12-05-1	Paint Shop - Boiler	No. 2	1000	–	Steel	12-31-68
14-01-1	ESC - Boiler	No. 6	10000	–	Steel	12-31-60
14-01-2	ESC - Boiler	No. 6	10000	–	Steel	12-31-60
14-01-3	ESC - Generator	Diesel	275	–	Steel	12-31-60
14-01-4	ESC - Generator	Diesel	550	–	FRP	12-31-84
1403	OUT - OF - SERVICE	EMPTY	2500	=	FRP	1985
1404			3000	=	FRP	
15-01-1	Boiler	No. 2	10000	–	Steel	12-31-58
15-01-4	Generator	Diesel	–	275	Steel	12-31-78
35-04-1	Boiler	No. 2	3000	–	Steel	12-31-74
17-20-2	Dravo - Boiler	No. 2	10000	–	Steel	03-21-94
17-22-3	Generator	Diesel	–	275	Steel	12-31-87
20-01-1	Fuel Depot - Fueling	Diesel	6000	–	FRP	12-31-77
20-01-2	Fuel Depot - Fueling	Gasoline	4000	–	FRP	12-31-77
20-01-3	Fuel Depot - Fueling	Gasoline	6000	–	FRP	12-31-77
20-01-6	Steam Jenny	No. 2	–	275	Steel	12-31-43
20-01-8	Fuel Depot - Oil	Motor Oil	–	275	Steel	12-31-68

SSAU COUNTY DEPARTMENT OF HEALTH
PLICATION FOR A TOXIC OR HAZARDOUS MATERIALS STORAGE FACILITY PERMIT
M 2 - TANK REGISTRATION
INSTRUCTION SHEETS

For office Use

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

ility Name GRUMMAN CORPORATION - PLANT 14

ility Address BETHPAGE, NY 11714

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	Fill	Additional Information for Abandoned Tanks: Date Last Used (Month/yr)	Additional Information for Abandoned Tanks: Condition
1401	R	10,000	1	2	2	3	1	64761	NO. 6 FUEL OIL	R	1960	5	5	1	2	2		
1402	R	10,000	1	2	2	3	1	64761	NO. 6 FUEL OIL	R	1960	5	5	1	2	2		
1403	R	3,000	2	2	4	2	2		PHOTO CHEM.	1	01/85	5	5	1	2	1		
1404	R	25000	2	2	4	2	2		PHOTO CHEM	1	01/85	5	5	1	2	1		

Date Submitted 6/88

Page 28 of 40

☐ D.P.

EH 858 4/86

APPLICATION FOR A TOXIC OR HAZARDOUS MATERIALS STORAGE FACILITY
FORM 3 - BULK AND CONTAINER STORAGE REGISTRATION
SEE INSTRUCTION SHEETS

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

Facility Name: GRUMMAN CORPORATION-PLANT 14

Facility Address: BETHPAGE, NY 11714

Action: ☒ Register Existing Area ☐ Add Area ☐ Remove Area ☐ Modify Area — Area No. 5141

Location: ☐ Indoors ☒ Outdoors | Bulk Storage Max.Quantity Stored: | Container Storage Max.No. 10 Max.Vol. 500 gal/s.

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	.06381	LUBRICATING OIL	1	200	1	4	1
1	09021	PYROCAT (HYDROCARBONS)	1	100	1	2	1
2	09671	WASTE OIL	1	200	1	4	1
1	5911	MINERAL SPIRITS (VARSOL)	1	55	1	1	1
1	6461	HYDRAULIC OIL	1	110	1	2	1
1	5911	PETROLEUM NAPHTHA	1	55	1	1	1

NCDH 459 4/86 — Date Submitted 6/88 — Page 72 of 84 — ☐ D.P.

SECTION 5 NOTICES

APPLICATION FOR A TOXIC 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 14

Facility Address: BETHPAGE, NY 11714

Action: ☒ Register Existing Area ☐ Add Area ☐ Remove Area ☐ Modify Area — Area No. S142 ✓

Location: ☐ Indoors ☒ Outdoors — Bulk Storage Max. Quantity Stored: — Container Storage Max. No. 10 Max. Vol. 500 GALS

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	Units	Storage Method: Average Number	Type
	09671	WASTE OIL	1	100	1	2	1
	06381	LUBRICATING OIL	1	300	1	6	1
	04771	ISOPROPANOL	1	50	1	1	1
	~~08340~~ [illegible]	HALOGENATED SOLVENTS	1	50	1	1	1

EH 859 4/86 Date Submitted 6/88 Page 73 of 84 ☐ D.P.

SECTION 5

NGINS000122045

Building 14
new tank

THOMAS S. GULOTTA
COUNTY EXECUTIVE

ABBY J. GREENBERG, M.D.
ACTING COMMISSIONER

COUNTY OF NASSAU
DEPARTMENT OF HEALTH
240 OLD COUNTRY ROAD
MINEOLA, N.Y. 11501-4250

July 23, 1993

Mr. J. Ohlman
Director Corporate Environmental Technology
and Compliance
Mail Stop D08-GHQ
Grumman Corporation
Bethpage, New York 11714-3580

Re: Article XI Plan for 280 Gallon
Waste Chemical Tank
at Grumman Corporation, Bethpage
NCDH Facility ID. NO. 00069

Dear Mr. Ohlmann:

Your plans for the installation, prints Laboratory Facility for SNTP Tank Installation dated January 11, 1993 have been reviewed and approved by this Department under Article XI of the Nassau County Public Health Ordinance. A set of plans which have been stamped and approved under Article XI is being returned to you with this letter. A Permit to Construct is being issued, under separate cover, to the above referenced facility for the proposed installation. Be advised that the following conditions must be met:

- All stormwater drainage for any outdoor storage area must meet the provision of Section 7.2 of the Article XI Regulations and comply with any pertinent NYSDEC Regulations.

- This Department requires that it be notified by the Engineer five days prior to installation so that an inspector from this Department may be present.

- After the installation has been completed, the tank and piping must be tested for tightness using a method approved by this Department. The Department must be notified a minimum of two days prior to the scheduled tank test.

- The Department must receive a certification certifying that the storage facility was installed in compliance with the approved plans, prior to the issuance of a Permit to Operate. The storage facility is in direct violation of Section 9.b.2)c) of Article XI if it is placed in service without acceptable certification on file with the Department. Any construction deviation or non-conformance to Article XI must be approved in writing by the Department prior to construction.

If you have any questions, please contact us at 571-3838.

Very truly yours,

John Oeckler, P.E.
Public Health Engineer
Bureau of Environmental Engineering

JO:rc
Enc.

Grumman Corporation
Bethpage, New York 11714-3580

March 3, 1993
CETC93-159

Nassau County Department of Health
240 Old Country Road
Mineola, N.Y. 11501

Attention: John Oeckler

Subject: **STORAGE FACILITY PERMIT APPLICATION FOR "LABORATORY FACILITY FOR SNTP", GRUMMAN BUILDING 14**

Enclosures:
1) Drawings 014-0299-92-G1, G2, E1 (4 copies)
2) NCDH Form 1 - General Information
3) NCDH Form 2 - Tank Registration

Dear Mr. Oeckler:

Please find the above enclosures necessary for the subject application. This application is being submitted due to the proposed installation of a 300 gallon aboveground tank for the storage of wastewater containing traces of ferric chloride and acetone.

Should you have any questions, please contact me at (516) 575-2385 or J. Selva at (516) 575-8176.

Very truly yours,

GRUMMAN CORPORATION

J. Ohlmann

J. Ohlmann, P.E., Director
Corporate Environmental Technology
and Compliance
Mail Stop: D08-GHQ

JO/JGS:tla

TLA-1179

Nassau County Department of Health
NASSAU COUNTY PUBLIC HEALTH ORDINANCE - ARTICLE XI
APPLICATION FOR A TOXIC OR HAZARDOUS MATERIALS STORAGE FACILITY PERMIT

FORM I-GENERAL INFORMATION (SEE INSTRUCTION SHEET)

If applicable, check the following:
☐ Municipality
☐ Public School
☐ Other tax-supported institutions

If tax exempt facility, enter N.Y. State Exempt Organization Certificate No. and enclose a copy:

For Office Use Only

Facility I.D.	Date Rec'd.
Fee Exempt Fac. ☐ Yes ☐ No	Permit Months:

Check all that apply to your facility: ☒ Tank Storage ☐ Container Storage ☐ Bulk Storage ☐ Storage of Road De-icing Materials

Reason for submitting application: ☒ New ☐ Renewal ☐ Change ☐ Construction

Facility Name	Street Address	Post Office	State	Zip	Phone
Grumman Aerospace Corporation	Mail Stop: D08-GHQ	Bethpage	N.Y.	11714-3580	516-575-2385

Facility Mailing Address (If different from above)	Facility Contact Person (Name & Title)	Phone
----------	John Ohlmann, P.E., Director Corp. Env..Tech. & Compliance	516-575-2385

Facility Owner	Street Address	Post Office	State	Zip	Phone
same					

Property Owner (If not Facility Owner)	Street Address	Post Office	State	Zip	Phone
----------					

Tank Owner (If not Facility Owner)	Street Address	Post Office	State	Zip	Phone
----------					

Name that should appear on Permit (Permittee) (If different from Facility Owner) Same

Permittee's Street Address	Post Office	State	Zip	Phone
Same				

Permittee's Relationship to Facility Owner: ☒ Same ☐ Operator of Facility ☐ Other (Specify):

Principal Property Tax Code:	School District No.	Section	Block	Lot

Forms Attached (Check all that apply) ☒ Form 2 - Tank Registration ☐ Form 3 - Bulk & Container Storage Registration ☐ Form 4 - Storage of Road De-icing Materials

I hereby affirm under penalty of perjury that 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
John Ohlmann, P.E.	J. Ohlmann	Director, Corporate Environmental Technology and Compliance	3/2/93

EH 857 4/87
DH - 2512. 11/86 Rev. 12/87

☐ D.P.

NGINS000122048

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

Facility Name Grumman Aerospace Corporation - Building 14

Facility Address Mail Stop: D08-GHQ, Bethpage, N.Y. 11714

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	Fill	Additional Information for Abandoned Tanks: Date Last Used (Month/yr)	Additional Information for Abandoned Tanks: Condition
2	1405	3	300	1	1	2	8	2		Waste water 1% or less of Ferric chloride and Acetone.	P	--------	1	8	1	2	1		

EH 858 4/86
DH-2513 11/86

Date Submitted 2/23/93

☐ D.P.

Grumman Corporation
Bethpage, New York 11714-3580

March 28, 1991
FDP - 126

Nassau County Department of Health
240 Old Country Road
Mineola, N.Y. 11501-4250

Attention: Tom Norris

Subject: UPDATED TANK INFORMATION FOR TANKS 1403 AND 1404
FACILITY I.D. 000001

Reference: NCDH Notification of required test for tanks 1403 and 1404, dated 03/13/91

Enclosure: Form 2

Dear Mr. Norris:

It has come to our attention by the referenced letter that your Department may not have the correct information for the subject tanks. We have enclosed an updated copy of Form 2 indicating that each tank is of double wall fiberglass construction, therefore not requiring a tightness test.

Should you have any questions concerning this subject, please call me at (516) 575-2385 or John Selva at (516) 575-8176.

Very truly yours,

GRUMMAN CORPORATION

J. Ohlmann

J. Ohlmann, P.E., Director
Corporate Environmental Protection
Mail Stop: B08-30

JO:tla
TLA-289
Enclosure

cc: Mike Sekreta (Nassau County Dept. of Health)

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

Facility Name: GRUMMAN AEROSPACE CORPORATION

Facility Address: MAIL STOP - B08-30, BETHPAGE, N.Y. 11714

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	Fill	Additional Information for Abandoned Tanks: Date Last Used (Month/yr)	Additional Information for Abandoned Tanks: Condition
	1403	4	3000	2	2	3	8	2		PHOTO CHEMICALS	1	12/89	8	3	1	2	2		
	1404	4	2500	2	2	3	8	2		PHOTO CHEMICALS	1	12/89	8	3	1	2	2		

EH 858 4/86
DH-2513 11/86

Date Submitted 3/28/91

Page 1 of 1

☐ D.P.

Tyree Brothers Environmental Services, Inc.
208 Route 109, Farmingdale, NY 11735 • Fax: 516-249-3281 • Phone: 516-249-3130

NOVEMBER 11, 1992

NASSAU COUNTY FIRE MARSHAL
899 JERUSALEM AVENUE
UNIONDALE, NY 11553

Gentleman:

Enclosed please find a copy of the Tank System Tightness Re for:

GRUMMAN PLANT 14
STEWART AVE
BETHPAGE, NY

CONFIRMATION #	30791690
TESTING TECN.	ARMAND KULPA
LICENSE #	295
DATE OF TEST	11-2-92
FACILITY ID #	
DISTRICT	
LOT #	
BLOCK #	
SECTION #	
SPILL #	

**cc: NYSDEC

Sincerely,

Regina Bendetti

Regina Bendetti
Petro-tite Coordinator

Member Tyree Environmental

PLEASE PRINT

1. OWNER Property ☐ Tank ☒ — Grumman Aerospace Corp. (Name / Address / Representative)

2. OPERATOR — Grumman Plant 14 Bethpage, NY (Name / Address / Representative)

3. REASON FOR TEST (Explain Fully) — Part of Contract

4. WHO REQUESTED TEST AND WHEN — Name: Part of Contract — Company or Affiliation — Address

5. TANK INVOLVED (Use additional lines for manifolded tanks)

Identify by Direction	Capacity	Brand/Supplier	Grade	Approx. Age	Steel/F…
Tank 14-d3	275	—	Diesel	—	St…

6. INSTALLATION DATA

Location (North inside driveway, Rear of station, etc.)	Cover (Concrete, Black Top, Earth, etc.)	Fill (Size, Drop tube, Remote Fill)	Vents (Size, Manifolded)	Siphones (Which tanks?)	Pumps (Suction, Make)
—	Concrete	4"	2"	—	—

7. UNDERGROUND WATER — Depth to the Water table: Below. Is the water over the tank? ☐ Yes ☒ No

8. FILL-UP ARRANGEMENTS — Tanks to be filled 8:00 for 11-2-92 Date. Arranged by Tyree Bros. (Name / Tel.)
Extra product to "top off" and run tank tester. How and who to provide? Consider NO Lead.
Terminal or other contact for advice or industry ______ Company ______ Name ______ Tel.

9. CONTRACTOR MECHANICS (any other contractor involved)

TYREE BROS.
ENVIRONMENTAL SERVICES, INC.
208 ROUTE 109
FARMINGDALE, N.Y. 11735
(516) 249-3150

10. OTHER INFORMATION OR REMARKS

Additional information on any items above. Officials or others to be advised when testing is in progress or completed. Variant or abnormal present during test.

11. TEST RESULTS

Tests were made on the above tank systems in accordance with test procedure prescribed for as detailed on attached test charts with results as follows:

Tank Identification	Tight	Leakage Indicated	Date Tested
Tank 14-013	yes	-.010 GPH	11-2-92
Line Test	yes	-.003, -.001	11-2-92

12. SENSOR CERTIFICATION — 11-2-92 (Date) — Serial No. of Thermal Sensor ______

13. This is to certify that these tank systems were tested on the date(s) shown. Those indicated as "Tight" meet the criteria established by National Fire Protection Association Pamphlet 329.

Technicians: Armand Kulpa — Certification # 295
______ Certification # ______

TYREE BROS. ENVIRONMENTAL SERVICES, INC. — Testing Contractor or Company — By: Signature [signature]
208 ROUTE 109
FARMINGDALE, N.Y. 11735
(516) 249-3150
Address

NGINS000122053

DATA CHART
For Use With
petro-tite

1 LOCATION: Plaza #14 (Street No. and/or Corner) Bellgr... (City) NJ (State) (Telephone No.)

2 OWNER: Name ... Address ... Representative ... Position ... Telephone No.

3 OPERATOR: Name ... Dealer, Mgr. or Other ... Address (If different than Location) ... Telephone No.

4 REASON FOR TEST:

5 TEST REQUESTED BY: Name ... Position ... Order No. ... Billing Address

6 SPECIAL INSTRUCTIONS:

7 CONTRACTOR OR COMPANY MAKING TEST MECHANIC(S) NAME:

8 IS A TANK TEST TO BE MADE WITH THIS LINE TEST? ☐ YES ☐ NO

9 MAKE AND TYPE OF PUMP OR DISPENSERS:

10 WEATHER: ____ TEMPERATURE IN TANKS ____ °F ____ °C COVER OVER LINES (Concrete, Black Top, etc.) ____ APPROXIMATE BURIAL DEPTH ____

OWNER: Name · LOCATION: State · City · State · DATE OF TEST: Year · Mo. · Day

11 IDENTIFY EACH LINE AS TESTED	12 TIME (MILITARY)	13 LOG OF TEST PROCEDURES, AMBIENT TEMPERATURE, WEATHER, ETC.	14 PRESSURE psi OR kPa BEFORE	14 PRESSURE AFTER	15 VOLUME READING BEFORE	15 VOLUME READING AFTER	NET CHANGE	16 TEST RESULTS CONCLUSIONS, REPAIRS AND COMMENTS
Paton	815	Start test	—	15	—	—	—	
Line	830	Cont "	13	15	072	070	-002	
	845	" "	14	15	069	068	-001	.003 6 1/2 (psi?)
	900	" "	15	15	067	067	+000	
	915	" "	15	15	066	066	+000	
	0?	Bleed Back	—	—	065	071	+006	OK
Sub Line	815	Start test	—	15	—	—	—	
	830	Cont "	14	15	070	069	-001	
	845	" "	14	15	068	067	-001	.001 6 (psi?)
	900	" "	14	15	067	066	-001	
	915	" "	14	15	066	065	-001	
		Bleed Back	—	—	071	080	+009	✓

NGINS000122054

Data Chart for Tank System Tightness Test

PLEASE PRINT

1 OWNER
2 OPERATOR
3 REASON FOR TEST
4 WHO REQUESTED TEST AND WHEN
5 TANK INVOLVED
6 INSTALLATION DATA
7 UNDERGROUND WATER
8 FILL-UP ARRANGEMENTS
9 CONTRACTOR, MECHANICS
10 OTHER INFORMATION OR REMARKS
11 TEST RESULTS
12 SENSOR CERTIFICATION 6-52 541
13 This is to certify that these tank systems were tested on the date(s) shown. Those indicated as "Tight" meet the criteria established by the National Fire Protection Association Pamphlet 329.

14 Glomanie Plant 414 Bethpage NY 11-2-92
Name of Supplier, Owner or Dealer / Address, No. and Street / City / State / Date of Test

15 TANK TO TEST
N-W-3
Identify by position
Diesel
Brand and Grade

15a BRIEF DIAGRAM OF TANK FIELD
Cover Crane

16 CAPACITY
Nominal Capacity 275 Gallons
By most accurate capacity chart available 275 Gallons
From: Station Chart / [X] Tank Manufacturer's Chart / Company Engineering Data / Charts supplied with / Other

17 FILL-UP FOR TEST
Stick Water Bottom before Fill-up — in. — Gallons 24 Tank Diameter
Steel tank
Inventory 44 — 275
Top off 20
Water 0
295
Transfer total to Line 25a

18 SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK
[ ] Water in tank [ ] Line(s) being tested with LVLLT [ ] High water table in tank excavation

Is ground water level required? Yes [ ] No [ ]
Height to 12" inch from bottom of tank 136
Pressure at bottom of tank 426
Pressure at top of tank 2,852
Depth of burial 48
Tank dia. 44
Water table —
NOTES

The above calculations are to be used for dry soil conditions to establish a positive pressure advantage or when using the four pound rule to compensate for the presence of subsurface water in the tank area.

Refer to N.F.P.A. 30 Sections 2-3.7.1 and 2-7.2 and the tank manufacturer regarding allowable system test pressures.

19 TANK MEASUREMENTS FOR TSTT ASSEMBLY
Bottom of tank to grade 92
Add 30" for 7' probe assy 30
Total tubing to assemble — approximate

20 EXTENSION HOSE SETTING
Tank top to grade 48
Extend hose on suction tube 6" or more below tank top —
If fill pipe extends above grade, use top of fill

22 Thermal Sensor reading after circulation: N/A
23 Digits per °F in range of expected change

COEFFICIENT OF EXPANSION (Complete after circulation)
24a Corrected A.P.I. Gravity
Observed A.P.I. Gravity
Hydrometer employed
Observed Sample Temperature N/A
Corrected A.P.I. Gravity @ 60°F From Table A
Coefficient of Expansion for Involved Product From Table B
Transfer COE to Line 25b

21 VAPOR RECOVERY SYSTEM [ ] Stage I [ ] Stage II

24b COEFFICIENT OF EXPANSION RECIPROCAL METHOD
Type of Product: Diesel
Hydrometer Employed: 3
Temperature in Tank After Circulation: 68
Temperature of Sample: 60
Difference: -8
Observed A.P.I. Gravity: 32.4
Reciprocal 2158 Factor 36
295 Total quantity in full tank (16 or 17) / 2158 Reciprocal / .0134 21252 Volume change in this tank per °F
Transfer to Line 25b

24c FOR TESTING WITH WATER
Water Temperature after Circulation Table C
Coefficient of Water Table D — N/A
Added Surfactant? [ ] Yes [ ] No Transfer COE to Line 25b

25 (a) Total quantity in full tank (16 or 17) (b) Coefficient of expansion for involved product (c) Volume change in this tank per °F — gallons
26. (a) .0134 21252 Volume change per °F (25 or 24b) / 1000 Digits per °F to test / 0.000134212 Volume change per digit (.0001)

NGINS000122055

Sensor Calibration ______

LOG OF TEST PROCEDURES

28 Date / Time	Record details of setting up and running test (Use full length of line if needed)	29 Reading No.	Standpipe Level in Inches: Beginning of Reading	Standpipe Level in Inches: Level to which Restored	32 Product in Graduate: Before Reading	32 Product in Graduate: After Reading	33 Product Replaced: Product Recovered	35 Thermal Sensor Reading	36 Change Higher + Lower −	37 Expansion + Contraction −	Temperature Adjustment Volume	Cumulative
	Pump tripping ... (0001)											
	Took API Sample											
	/ / /											
[illegible]	Start Hi Level	—	—	—	—	—	—	6787	—	—	—	
[illegible]	Start " "	1		42	810	790	−020	68008	+135	+014	−034	
[illegible]	/ / /	2		42	790	775	−015	138	+130	+013	−028	
[illegible]	/ / /	3		42	775	765	−010	269	+131	+013	−023	
[illegible]	/ / /	4		42	765	755	−010	394	+125	+013	−023	
	Drop to low level	—	—	—	—	—	—	~	—	—	—	
[illegible]	Start " "	5		12	—	—	—	514	+120	—	—	
[illegible]	Start "	6.		12	220	230	+010	635	+121	+012	−002	
1105	/ / /	1		12	230.	230	+000	655	+120	+002	−002	
1110	/ / /	2		12	230	235	+005	673	+118	+002	+003	+001
1115	/ / /	3		12	235	235	+000	688	+115	+002	−002	−001
1120	/ / /	4		12	235	235	+000	707	+119	+002	−002	−003
1125	/ / /	5		12	235	235	+000	727	+120	+002	−002	−005
1130	/ / /	6		12	235	235	+000	747	+120	+002	−002	−007.
1135	/ / /	7		12	235	240	+005	769	+122.	+002	+003	−004.
1140	/ / /	8		12	240	240	+000	785	+116.	+002	−002	−006
1145	/ / /	9		12	240	245	+005	810	+125	+003	+002	−004.
1150	/ / /	10		12	245	245	+000	834	+124	+002	−002	−006
1155	/ / /	11		12	245	245	+000	859.	+125	+003	−003	−009
1200	/ / /	12		12	250	250	+005	879	+120	+002	+003	−006
1205	/ / /	13		12	250	250	+000	901.	+122	+002	−002	−008
1210	/ / /	14		12	250	250	+000	925	+124	+002	−002	−010
1215	/ / /	15		12	250	250	+000	942	+117	+002	−002	−012
1220	/ / /	16		12	250	255	+005	959.	+117	+002	+003	−009.
1225	/ / /	17		12	255	255	+000	974	+115	+002	−002	−011.
1230	" / "	18		12	255	255	+000	989	+115	+002	−002	−013.
1235	/ / /	19		12	255	255	+000	69005	+116	+002	−002	−015
1240	/ / /	20		12	255	255	+000	020	+115	+002	−002	−017.
1245	/ / /	21		12	255	260	+005	037	+117	+002	+003	−014.
1250	/ / /	22		12	260	260	+000	059	+122	+002	−002	−016.
1255	/ / /	23		12	260	260	+000	083	+124	+002	−002	−018
1300	/ / /	24		12	260	260	+000	103	+120	+002	−002	−020

−020
÷2
−010 (6 gph ...)

P-T Tank Test Data Chart
Additional Info

Net Volume Change at Conclusion of Precision Test −010 gph

Signature of Tester [signature]

Date 11-12-92.

X Statement
Tank and product handling system has been tested tight according to the Precision Test Criteria as established by N.F.P.A. publication 329. This is not intended to indicate permission of a leak.

OR

Tank and product handling system has failed the tank tightness test according to the Precision Test Criteria as established by N.F.P.A. publication 329.

It is the responsibility of the owner and or operator of this system to immediately advise state and local authorities of any implied hazard and the possibility of any reportable pollution to the environment as a result of the indicated failure of this system. Heath Consultants Incorporated does not assume any responsibility or liability for any loss of product to the environment.

Tank Owner/Operator ______

Date ______

ENVIRONMENTAL SERVICES, INC.

208 ROUTE 109 • FARMINGDALE, NEW YORK 11735

TK 14-01-4

Nassau County Fire Commission
Office of the Fire Marshal
899 Jerusalem Ave.
Uniondale, NY

February 5, 1990

GENTLEMAN:
Enclosed please find a copy of a Tank System Tightness Report for:

Grumman
Plant #14
Bethpage, NY

Sincerely,

Laurie Jodice

Laurie Jodice

Testing Technician: Armand Kulpa
License #: GCF-236
Date of Test: 2/5/90
NCFM I.D #: 369099
TANK #: 14-01-04

cc: NYSDEC

Data Chart for Tank System Tightness Test

PLEASE PRINT

1. OWNER Property [X] Tank(s) [X]
Name: Grumman Aerospace Address: PO Box 396 Bellrose, NY 11714 Representative: John Selva Telephone: 575-8176
Name: Address: Representative: Telephone:

2. OPERATOR
Name: Grumman Plant 14 Address: Bellrose NY Telephone:

3. REASON FOR TEST (Explain Fully)
OWNER REQUEST

4. WHO REQUESTED TEST AND WHEN
Name: SAME AS ABOVE Title: Company or Affiliation: Date:
Address: Telephone:

5. TANK INVOLVED Use additional lines for manifolded tanks

Identity by Direction	Capacity	Brand/Supplier	Grade	Approx. Age	Steel/Fiberglass
FRONT OF BUILDING	550	—	DIESEL	—	F/G

6. INSTALLATION DATA

Location	Cover	Fills	Vents	Siphones	Pumps
FRONT OF BUILDING	Concrete	2"	1 1/4"	—	—
North inside driveway, Rear of station, etc.	Concrete, Black Top, Earth, etc.	Size, Thrift make, Drop tubes, Remote Fills	Size, Manifolded	Which tanks?	Suction, Remote, Make if known

7. UNDERGROUND WATER
Depth to the water table: BASIN
Is the water over the tank? ☐ Yes ☒ No

8. FILL-UP ARRANGEMENTS
Tanks to be filled 8:00 hr. 2/5/90 Date Arranged by JOHN SELVA Name 575-8176 Telephone
Extra product to "top off" and run tank tester. How and who to provide? Consider NO Lead.
Terminal or other contact for notice or inquiry: Company: Name: Telephone:

9. CONTRACTOR. MECHANICS. any other contractor involved
TYREE BROS.
ENVIRONMENTAL SERVICES, INC.
208 ROUTE 109
FARMINGDALE, N.Y. 11735
(516) 249-3150

10. OTHER INFORMATION OR REMARKS
Additional information on any items above. Officials or others to be advised when testing is in progress or completed. Visitors or observers present during test, etc.

11. TEST RESULTS
Tests were made on the above tank systems in accordance with test procedures prescribed for as detailed on attached test charts with results as follows:

Tank Identification	Tight	Leakage Indicated	Date Tested
#14-01-04 550 DIES. Line tests	YES	.003 gph	2/5/90
	YES	-001, -002 gph	2/5/90

12. SENSOR CERTIFICATION
2/5/90 Date
761 Serial No. of Thermal Sensor

13. This is to certify that these tank systems were tested on the date(s) shown. Those indicated as "Tight" meet the criteria established by the National Fire Protection Association Pamphlet 329.

Technicians
1. Armando Hulpa Certification # GCF-295
2. Certification #

TYREE BROS. Testing Contractor or Company By: Signature: Laurie Jodice
ENVIRONMENTAL SERVICES, INC.
~~208 ROUTE 109~~ Address
FARMINGDALE, N.Y. 11735
(516) 249-3150

HN6827

15. TANK TO TEST

Building #14
Identify by position

Diesel FOR Generator
Brand and Grade

15a. BRIEF DIAGRAM OF TANK FIELD

16. CAPACITY

Nominal Capacity 550 Gallons

By most accurate capacity chart available 550 Gallons

From
- [X] Station Chart
- [ ] Tank Manufacturer's Chart
- [ ] Company Engineering Data
- [ ] Charts supplied with
- [ ] Other

17. FILL-UP FOR TEST

Stick Water Bottom before Fill-up 0" in to "0" | 0 Gallons | 48" in Tank Diameter

		Gallons	Total Gallons as Reading
Inventory	Tank	48"	550
	Top off		+10
	water		-0
	Total		560

Transfer total to line 25a

18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK

[ ] Water in tank [X] Line(s) being tested with LVLLT [ ] High water table in tank excavation

See manual sections applicable Check below and record procedure in log (27)

Use maximum allowable test pressure for all tests
Four pound rule does not apply to double-walled tanks

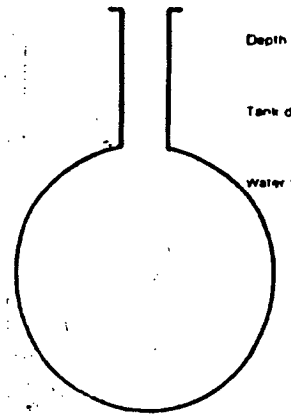
Complete section below

1 Is four pound rule required? Yes [ ] No [X]

2 Height to 12" mark from bottom of tank 135" in

3 Pressure at bottom of tank 41.185 PSI

4 Pressure at top of tank 2.697 PSI



Depth of burial 39" in

Tank dia 48" in

Water table 0" in

NOTES

The above calculations are to be used for dry soil conditions to establish a positive pressure advantage, or when using the four pound rule to compensate for the presence of subsurface water in the tank area

Refer to N F P A 30, Sections 2-3 2.4 and 2-7 2 and the tank manufacturer regarding allowable system test pressures

19. TANK MEASUREMENTS FOR TSTT ASSEMBLY

Bottom of tank to grade* 84" in
Add 30" for "T" probe assy 30 in
Total tubing to assemble – approximate 120" in

20. EXTENSION HOSE SETTING

Tank top to grade* 39" in
Extend hose on suction tube 6" or more below tank top — in

*If Fill pipe extends above grade, use top of fill

22. Thermal-Sensor reading after circulation 08935 digits
48-49 Between °F

23. Digits per °F in range of expected change 301 digits

COEFFICIENT OF EXPANSION (Complete after circulation)

24a. Corrected A P I Gravity

Observed A P I Gravity

Hydrometer employed H

Observed Sample Temperature °F

Corrected A P I Gravity @ 60°F. From Table A

Coefficient of Expansion for Involved Product From Table B N/A

Transfer COE to Line 25b

21. VAPOR RECOVERY SYSTEM [ ] Stage I [ ] Stage II

24b. COEFFICIENT OF EXPANSION RECIPROCAL METHOD

Type of Product Diesel

Hydrometer Employed 4 H

Temperature in Tank After Circulation 08935 48.6 °F

Temperature of Sample 48.0 °F

Difference (+/-) -1 °F

Observed A P I Gravity 33.0

Reciprocal 2197 Page # 37

560 (Total quantity in full tank (16 or 17)) · 2197 (Reciprocal) · .25489303 5 (Volume change in this tank per °F)

Transfer to Line 26a

24c. FOR TESTING WITH WATER see Table C & D

Water Temperature after Circulation Table C °F

Coefficient of Water Table D N/A

Added Surfactant? [ ] Yes [ ] No Transfer COE to Line 25b

25. (a) — (Total quantity in full tank (16 or 17)) × (b) — (Coefficient of expansion for involved product) = (c) — (Volume change in this tank per °F) gallons

26. (a) .25489303 (Volume change per °F (25 or 24b)) · 301 (Digits per °F in test) = .00084682 (Volume change per digit) This is less .0008

21 Sensor Calibration ____ / ____			30 HYDROSTATIC PRESSURE CONTROL		31 VOLUME MEASUREMENTS (V) RECORD TO 001 CAL			34 TEMPERATURE COMPENSATION USE FACTOR (a)			38 NET VOLUME CHANGING EACH READING	39 ACCUMULATED CHANGE	
LOG OF TEST PROCEDURES													
28 DATE / TIME (24 hr.)	Record details of setting up and running test (Use full length of line if needed.)	29 Reading No.	Standpipe Level in Inches: Beginning of Reading	Level to which Restored	32 Product in Graduate: Before Reading	After Reading	33 Product Replaced (+): Product Recovered (-)	35 Thermal Sensor Reading	36 Change Higher + Lower - (C)	37 Computation (C) × (a) × Expansion + Contraction -	Temperature Adjustment: Volume Minus Expansion (+) or Contraction (-) #33(V) − #37(T)	At Low Level compute Change per Hour (NFPA criteria)	
	ARRived on Location												
	set up - TOP off							698			.0006		
	start circulation - Took API												
								78					
10:30	FIRST Thermal sensor	1	—	42	—	—	—	935	—	—	—		
10:45	start High Level	2	41.6	42	.500	480	-.020	917	-18	-.014	-.006		
11:00	continue High Level	3	41.6	42	.480	.460	-.020	898	-19	-.015	-.005		
11:15		4	41.7	42	460	.445	-.015	880	-18	-.014	-.001		
	DROP TO Low Level	—	—	12	—	—	—	—	—	—	—		
11:30	FIRST Thermal sensor	5	—	12	—	—	—	867	-13	—	—		
11:45	start Low Level	6	12.2	12	.300	310	+.010	858	-9	-.007	+.014		
11:50	continue Low Level	7	12.0	12	.310	.310	+.000	852	-6	-.005	+.005		
11:55		8	11.9	12	310	.305	-.005	845	-7	-.006	+.001	+.006	
12:00		9	12.0	12	.305	.305	+.000	842	-3	-.002	+.002	+.008	
12:05		10	11.9	12	305	300	-.005	838	-4	-.003	-.002	+.006	
12:10		11	11.9	12	300	.295	-.005	835	-3	-.002	-.003	+.003	
12:15		12	12.0	12	.295	.295	+.000	832	-3	-.002	+.002	+.005	
12:20		13	11.9	12	.295	290	-.005	829	-3	-.002	-.003	+.002	
12:25		14	12.0	12	.290	290	+.000	825	-4	-.003	+.003	+.005	
12:30		15	12.0	12	290	.290	+.000	822	-3	-.002	+.002	+.004	
12:35		16	12.0	12	.290	.285	-.005	819	-3	-.002	-.003	+.004	
12:40		17	11.9	12	.285	280	-.005	815	-4	-.003	-.002	+.002	
12:45		18	12.0	12	280	280	+.000	813	-2	-.002	+.002	+.004	
12:50		19	11.9	12	280	275	-.005	810	-3	-.002	-.003	+.002	+.001
12:55		20	12.0	12	275	.275	+.000	807	-3	-.002	+.002	+.004	+.003
13:00		21	11.9	12	.275	270	-.005	804	-3	-.002	-.003	+.001	+.000
13:05		22	12.0	12	270	270	+.000	800	-4	-.003	+.003	+.004	+.003
13:10		23	12.0	12	270	270	+.000	796	-4	-.003	+.003	+.004	+.006

18	13:15		24	11.9	12	270	.265	-.005	794	-2	-.002	-.003	+.004	t003
19	13:20		25	12.0	12	.265	.265	+.000	791	-3	-.002	+002	+.006	t005
20	13:25		26	12.0	12	.265	.265	+.000	788	-3	-002	+.002	+.008	t007
21	13:30		27	11.9	12	.265	260	+.005	785	-3	-.002	-.003	+.005	t004
22	13:35		28	11.9	12	.260	.255	-.005	782	-3	-002	-.003	+.002	t001
23	13:40		29	12.0	12	.255	.255	+.000	778	-4	-003	+003	+.005	t004
24	13:45		30	12.0	12	.255	.255	+.000	775	-3	-.002	+002	+.007	t006
											+007	÷2=	+.004	
											+006	÷2=	+.003	

P-T Tank Test Data Chart
Additional Info

1 - Net Volume Change at Conclusion of Precision Test +.004 gph

Signature of Tester _____

Date _____

2 Statement

[ ] Tank and product handling system has been tested tight according to the Precision Test Criteria as established by N F P A publication 329 This is not intended to indicate permission of a leak

OR

[ ] Tank and product handling system has failed the tank tightness test according to the Precision Test Criteria as established by N F P A publication 329

It is the responsibility of the owner and/or operator of this system to immediately advise state and local authorities of any implied hazard and the possibility of any reportable pollution to the environment as a result of the indicated failure of this system Heath Consultants Incorporated does not assume any responsibility or liability for any loss of product to the environment

Tank Owner/Operator _____

Date _____

THERMAL CROSSOVER
NUMBER DEG F
0 0
0
560 NAME & ADDRESS
2197 GRUMMAN PLANT #14, BETHPAGE, NY
0.254893036 TANK NUMBER
0 #14-01-04 550 DIES. 2/5/90
ERR

EPL	34 TEMP COMP USE (0.0008			38 VOL CHNG	39 ACCUM	
	35	36	37	TEMP ADJ		
C	THERM SEN RE 8858	CHANGE +/- (c)	COMPUTATION (c)*(a FACT)=	NET VOL CHNG PER READING		
==	==========	==========	==========	==========	=========	
0	8852	-6	-0.005	0.005		
05	8845	-7	-0.006	0.001		
0	8842	-3	-0.002	0.002		
3	8838	-4	-0.003	-0.002		
03	8835	-3	-0.002	-0.003		
0	8832	-3	-0.002	0.002		
1	8829	-3	-0.002	-0.003		
0	8825	-4	-0.003	0.003		
0	8822	-3	-0.002	0.002		
3	8819	-3	-0.002	-0.003		
1	8815	-4	-0.003	-0.002		
0	8813	-2	-0.002	0.002		
05	8810	-3	-0.002	-0.003		
0	8807	-3	-0.002	0.002		
3	8804	-3	-0.002	-0.003		
0	8800	-4	-0.003	0.003		
	8796	-4	-0.003	0.003		
	8794	-2	-0.002	-0.003		
0	8791	-3	-0.002	0.002		
	8788	-3	-0.002	0.002		
	8785	-3	-0.002	-0.003		
05	8782	-3	-0.002	-0.003		
0	8778	-4	-0.003	0.003		
*	8775 *	-3 *	-0.002 *	0.002 *	0.003 *	<--2 Hour

06-Feb-90

PETRO-TITE CALCULATION PROGRAM

** PROTOCOL "A" **	NUMBER	DE
THERMAL READING AFTER CIRC. -->	8935	48
DIGITS PER DEG F ---------->	301	
TOTAL QUANTITY IN FULL TANK -->	560	
RECIPROCAL ---------->	2197	
VOLUME CHANGE PER DEG F ------>	0.254893036	
DIGITS PER DEG F ---------->	301	
VOLUME CHANGE / DIGIT (a) FAC >	0.0008	

30 HYDRO P/C		31 VOLUME MEAS. (V)		
STANDPIPE LEVELS		32 PROD IN GRADUATE		PR
RESCTRED	BEGINING	BEFORE	AFTER	PF
12	12	0.31	0.31	
12	11.9	0.31	0.305	
12	12	0.305	0.305	
12	11.9	0.305	0.3	
12	11.9	0.3	0.295	
12	12	0.295	0.295	
12	11.9	0.295	0.29	
12	12	0.29	0.29	
12	12	0.29	0.29	
12	12	0.29	0.285	
12	11.9	0.285	0.28	
12	12	0.28	0.28	
12	11.9	0.28	0.275	
12	12	0.275	0.275	
12	11.9	0.275	0.27	
12	12	0.27	0.27	
12	12	0.27	0.27	
12	11.9	0.27	0.265	
12	12	0.265	0.265	
12	12	0.265	0.265	
12	11.9	0.265	0.26	-
12	11.9	0.26	0.255	-
12	12	0.255	0.255	
12 *	12 *	0.255 *	0.255 *	

For Use With
Petro Tite

1 LOCATION: Grumman Plant #14 NY
Street No. and/or Corner — City — State

2 OWNER: Bethpage — 2-5-50
Name — Address — Representative — Position — Telephone No.

3 OPERATOR:
Name — Dealer, Mgr. or Other — Address (if different than Location) — Telephone No.

4 REASON FOR TEST

5 TEST REQUESTED BY:
Name — Position — Order No. — Billing Address

6 SPECIAL INSTRUCTIONS:

7 CONTRACTOR OR COMPANY MAKING TEST MECHANIC(S) NAME

8 IS A TANK TEST TO BE MADE WITH THIS LINE TEST? ☐ YES ☐ NO

9 MAKE AND TYPE OF PUMP OR DISPENSERS

10 WEATHER — TEMPERATURE IN TANKS ____ °F ____ °C — COVER OVER LINES (Concrete, Black Top, etc.) — APPROXIMATE BURIAL DEPTH

Year	Mo.	Day	DATE OF TEST

Name	OWNER

State	City	State	LOCATION

11 IDENTIFY EACH LINE AS TESTED	12 TIME (MILITARY)	13 LOG OF TEST PROCEDURES, AMBIENT TEMPERATURE, WEATHER, ETC.	14 PRESSURE psi OR kPa BEFORE	14 PRESSURE psi OR kPa AFTER	15 VOLUME READING BEFORE	15 VOLUME READING AFTER	15 VOLUME NET CHANGE	16 TEST RESULTS CONCLUSIONS, REPAIRS AND COMMENTS
Desu	0900	Start Test		15				
	915	Cont "	14	15	060	059	-001	
	930		14	15	058	057	-001	-002 GPH PASS
	945		15	15	057	057	+000	
	1000		15	15	055	055	+000	
		Bleed Back			055	060	+005	OK
	900	Start test		15				
	915	Cont "	14	15	059	058	-001	
	[illegible]	[illegible]	15	15	[illegible]	[illegible]	[illegible]	-001 / 60 PASS
	945	" "	15	15	055	055	+000	
	1000	" "	15	15	055	055	+000	
		Bleed Back			060	063	+003	OK

PLANT 26

Table A - 1

GRUMMAN AEROSPACE CORPORATION
BETHPAGE COMPLEX
EXISTING FLAMMABLE AND COMBUSTIBLE STORAGE TANKS

June 1994

Grumman Tank No.	Location / Use	Contents	Gallons Buried	Gallons Above Ground	Material Of Construction	Date Installed
20-01-10a	Generator	Diesel	–	550	Steel	09-17-92
20-01-11	Fuel Depot - Fueling	Gasoline	20000	–	FRP	12-31-79
20-01-12	Fuel Depot - Fueling	Gasoline	20000	–	FRP	12-31-79
20-01-13	Fuel Depot - Fueling	Diesel	10000	–	FRP	12-31-79
20-01-14	Fuel Depot - Boiler	No. 2	6000	–	FRP	12-31-79
20-01-15	Fuel Depot	No. 2	1000	–	FRP	12-31-85
20-01-19	Waste Oil	Waste Oil	550	–	FRP	12-31-82
20-01-20	Fuel Depot	Motor Oil	–	275	Steel	12-31-68
20-01-21	Fuel Depot	Motor Oil	–	275	Steel	12-31-68
20-03-22	Tire Shop	Waste Oil	–	500	Steel	02-28-92
20-03-23	Tire Shop	Motor Oil	–	500	Steel	02-28-92
24-01-1	Recieving - Boiler	No. 4	10000	–	Steel	12-31-66
25-01-1	Boiler	No. 6	10000	–	Steel	12-31-86
25-01-2	Boiler	No. 6	10000	–	Steel	12-31-86
25-01-3	Generator	Diesel	550	–	Steel	12-31-86
25-03-1	Guard House - Boiler	No. 2	–	275	Steel	12-31-45
25-05-2	Well No. - Pump	Diesel	550	–	Steel	09-30-90
25-08-1	Record Ctr - Boiler	No. 2	2000	–	FRP	12-31-82
26-01-1	Boiler	No. 2	20000	–	FRP	12-31-84
26-01-2	Generator	Diesel	550	–	FRP	12-31-85
28-01-1	Boiler	No. 2	4000	–	Steel	12-31-64
30-01-1	Boiler	No. 6	15000	–	Steel	12-31-64
30-01-2	Boiler	No. 6	15000	–	Steel	12-31-64
30-01-3	Generator	Diesel	550	–	Steel	12-31-64
31-01-1	Boiler	No. 2	12000	–	FRP	12-31-85
35-01-1	Boiler	No. 6	15000	–	Steel	12-31-66
35-01-2	Boiler	No. 6	15000	–	Steel	12-31-66
35-01-3	Generator	Diesel	550	–	Steel	12-31-66

Larry E. Tyree Company, Inc.
208 Route 109, Farmingdale, NY 11735 · Fax: 516-249-3281 · Phone: 516-249-3150

JULY 3, 1991

NASSAU COUNTY FIRE MARSHAL
899 JERUSALEM AVE
UNIONDALE, NY

GENTLEMEN:

ENCLOSED PLEASE FIND A COPY OF A TANK SYSTEM TIGHTNESS REPORT FOR:

GRUMMAN
PLANT #26
BETHPAGE, NY

CONFIRMATION#: 1789290

TESTING TEC: ARMAND KULPA

LICENSE#: 295

DATE OF TEST: 6-27-91

FACILITY ID#:

DISTRICT:

LOT#:

BLOCK#:

SECTION#:

SPILL#:

cc: NYSDEC

SINCERLEY,

Regina Costantini

REGINA COSTANTINI
PETRO-TITE COORDINATOR

Member
Tyree Environmental Technologies

Data Chart for Tank System Tightness Test

PLEASE PRINT

1. OWNER Property ☐ Tank(s) ☒
Name: Grumman Aerospace — Address: — Representative: — Telephone: —
Name: — Address: — Representative: — Telephone: —

2. OPERATOR
Name: Grumman Plant #26 — Address: Bethpage, NY — Telephone: —

3. REASON FOR TEST (Explain Fully)
Periodic Testing

4. WHO REQUESTED TEST AND WHEN
Name: Nassau County Fire Marshal — Title: — Company or Affiliation: — Date: —
Address: — Telephone: —

5. TANK INVOLVED Use additional lines for manifolded tanks

Identify by Direction	Capacity	Brand/Supplier	Grade	Approx. Age	Steel/Fiberglass
Tank #2602	550	—	Diesel	—	FG

6. INSTALLATION DATA

Location	Cover	Fills	Vents	Siphons	Pumps
—	Concrete	4"	2"	—	—
North inside driveway, Rear of station, etc.	Concrete, Block Top, Earth, etc.	Size, Theft make, Drop tubes, Remote Fills	Size, Manifolded	Which tanks?	Suction, Remote, Make if known

7. UNDERGROUND WATER
Depth to the water table: Below
Is the water over the tank? ☐ Yes ☒ No

8. FILL-UP ARRANGEMENTS
Tanks to be filled: 8:00 hr. 6-27-91 Date — Arranged by: Clyde Bros. Name — Telephone
Extra product to "top off" and run tank tester. How and who to provide? Consider NO Lead.

Terminal or other contact for notice or inquiry — Company — Name — Telephone

9. CONTRACTOR. MECHANICS. any other contractor involved

TYREE BROS.
ENVIRONMENTAL SERVICES, INC.
208 ROUTE 109
FARMINGDALE, N.Y. 11735
(516) 249-3150

10. OTHER INFORMATION OR REMARKS
Additional information on any items above. Officials or others to be advised when testing is in progress or completed. Visitors or observers present during test, etc.

11. TEST RESULTS
Tests were made on the above tank systems in accordance with test procedures prescribed for as detailed on attached test charts with results as follows:

Tank Identification	Tight	Leakage Indicated	Date Tested
Tank #2602-2	Yes	-.018 GPH	6-27-91
Line Test		-.003 GPH	6-27-91

12. SENSOR CERTIFICATION
6-27-91 Date
757 Serial No. of Thermal Sensor

13. This is to certify that these tank systems were tested on the date(s) shown. Those indicated as "Tight" meet the criteria established by National Fire Protection Association Pamphlet 329.

1. Technicians: Armand Vulpa — Certification # 295
2. — Certification # —

TYREE BROS. ENVIRONMENTAL SERVICES, INC. — Testing Contractor or Company. By: Signature: Regina Costantino
208 ROUTE 109 — Address
FARMINGDALE, N.Y. 11735
(516) 249-3150

Ph

DATA CHART for use with PETRO TITE

1. LOCATION: Beth page Plant 26
Street No. and/or Corner | City | State | Telephone N

2. OWNER: Grumman.
Name | Address | Representative | Position | Telephone N

3. OPERATOR:
Name | Dealer, Mgr. or Other | Address (if different than location) | Telephone N

4. REASON FOR TEST

5. TEST REQUESTED BY:
Name | Position | Order No. | Billing Address

6. SPECIAL INSTRUCTIONS:

7. CONTRACTOR OR COMPANY MAKING TEST
MECHANIC(S) NAME:

8. IS A TANK TEST TO BE MADE WITH THIS LINE TEST? ____ Yes ____ No

9. MAKE AND TYPE OF PUMP OR DISPENSER:

10. WEATHER

TEMP. IN TANKS ____ F ____ C

COVER OVER LINES ____ Concrete, Black Top, etc

APPROXIMATE BURIAL DEPTH:

IDENTIFY EACH LINE AS TESTED	12 TIME (MILITARY)	13 LOG OF TEST PROCEDURES, AMBIENT TEMPERATURE, WEATHER, ETC.	14 PRESSURE psi OF kPa BEFORE	AFTER	15 VOLUME READING BEFORE	AFTER	NET CHANGE	16 TEST RESULTS CONCLUSIONS, REPAIRS AND COMMENTS
	0800	Start test	—	15	—	—	—	
	815	Cont	14	15	060	059	-001	-0036 ?? (PASS)
	830	" "	14	15	058	057	-001	
	845	" "	14	15	056	055	-001	
	900	" "	15	15	055	055	+000	
		Bleed Back	—	—	055	061	+006	ok
	800	Start "	—	15	—	—	—	
	815	" "	13	15	059	057	-002	-002 ?? (PASS)
	830	" "	15	15	057	056	+000	
	845	" "	15	15	056	055	+000	
	900	" "	15	15	055	055	+000	
		Bleed line	—	—	061	065	+004	ok

NGINS000122069

Data Chart for Tank System Tightness Test

PLEASE PRINT

1. OWNER — Property / Tank(s)
2. OPERATOR
3. REASON FOR TEST
4. WHO REQUESTED TEST AND WHEN
5. TANK INVOLVED
6. INSTALLATION DATA
7. UNDERGROUND WATER
8. FILL-UP ARRANGEMENTS
9. CONTRACTOR, MECHANICS, any other operator involved
10. OTHER INFORMATION OR REMARKS
11. TEST RESULTS
12. SENSOR CERTIFICATION
13. This is to certify that these tank systems were tested on the date(s) shown. Those indicated as "Tight" meet the criteria established by the National Fire Protection Association Pamphlet 329.

14. Grumman Plant #26 Bethpage NY 6-27-91
Name of Supplier, Owner or Dealer — Address — City — State — Date of Test

15. TANK TO TEST
Identify by position: Diesel
Brand and Grade

15a. BRIEF DIAGRAM OF TANK FIELD
Only tank.

16. CAPACITY
Nominal Capacity 550 Gallons
By most accurate capacity chart available 550 Gallons
From: ☐ Station Chart ☒ Tank Manufacturer's Chart ☐ Company Engineering Data ☐ Charts supplied with ☐ Other

17. FILL-UP FOR TEST

Stick Water Bottom before Fill-up	Gallons	Tank Diameter	Inventory	Gallons	Total Gallons on Reading
— in	—	42	42		550
			Top off		10
			Water		0.
					560

Transfer total to line 25a

18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK ☐ Water in tank ☐ Lines being tested with LVLLT ☐ High water table in tank excavation

See manual sections applicable. Check below and record procedure in log (27)

Use maximum allowable test pressure for all tests. Four pound rule does not apply to doubled-walled tanks.

Complete section below

1. Is four pound rule required? Yes ☐ No ☐
2. Height to 12" more from bottom of tank 134.
3. Pressure at bottom of tank 4.154 PSI
4. Pressure at top of tank 2.82 PSI

Depth of burial 46.
Tank dia 42.
Water table 0.

NOTES

The above calculations are to be used for dry soil conditions to establish a positive pressure advantage, or when using the four pound rule to compensate for the presence of subsurface water in the tank area.

Refer to NFPA 30, Sections 2-3.2.4 and 2-7.2 and the tank manufacturer regarding allowable system test pressures.

19. TANK MEASUREMENTS FOR TSTT ASSEMBLY
Bottom of tank to grade* 88 in
Add 30" for "T" probe assy 30 in
Total tubing to assemble — approximate ___ in

20. EXTENSION HOSE SETTING
Tank top to grade* 46 in
Extend hose on suction tube 6" or more below tank top ___ in
*If fill pipe extends above grade, use top of fill

22. Thermal-Sensor reading after circulation ___ digits ___ °F Between ___ digits

23. Digits per °F in range of expected change ___ digits

COEFFICIENT OF EXPANSION (Complete after circulation)
24a. Corrected A.P.I. Gravity
Observed A.P.I. Gravity ___
Hydrometer employed ___ H
Observed Sample Temperature ___ °F
Corrected A.P.I. Gravity @ 60°F. From Table A ___
Coefficient of Expansion for Involved Product From Table B ___
Transfer COE to Line 25b
N/A

21. VAPOR RECOVERY SYSTEM ☐ Stage I ☐ Stage II

24b. COEFFICIENT OF EXPANSION RECIPROCAL METHOD
Type of Product #6
Hydrometer Employed 3 H
Temperature in Tank After Circulation 62. °F
Temperature of Sample 62. °F
Difference (+/-) ±.5 °F
Observed A.P.I. Gravity 32.0
Reciprocal 2222 Page # 36
560 ÷ 2222 = .0252025202
Total quantity in full tank (16 or 17) — Reciprocal — Volume change in this tank per °F
Transfer to Line 25a

24c. FOR TESTING WITH WATER see Table C & D
Water Temperature after Circulation Table C N/A °F
Coefficient of Water Table D ___
Added Surfactant? ☐ Yes ☐ No Transfer COE to Line 25b

25. (a) ___ × (b) ___ = (c) ___ gallons
Total quantity in full tank (16 or 17) — Coefficient of expansion for involved product — Volume change in this tank per °F

26. (c) .0252025202 ÷ 1000 = .0000252025 This is test (.0003
Volume change per °F (25) or (24b) — Digits per °F in test — Volume change per digit

27 Sensor Calibration ____ / ____		30 Hydrostatic Pressure Control		31. Volume Measurements (+) Record to .001 Gal			34 Temperature Compensation Use Factor (a)			38 Net Volume Changing Each Reading	39 Accumulated Change
LOG OF TEST PROCEDURES												
28 Date / Time (24 hr)	Record details of setting up and running test (Use full length of line if needed)	29 Reading No	Standpipe Level in Inches: Beginning of Reading	Level to which Restored	32. Product in Graduate: Before Reading	After Reading	33 Product Replaced (-) / Product Recovered (+)	35 Thermal Sensor Reading	36 Change Higher + Lower - (c)	37 Computation (c) × (a) = Expansion + Contraction -	Temperature Adjustment: Volume Minus Expansion (+) or Contraction (-) (33)(f) − (37)(T)	At Low Level compute Change per Hour (NFPA criteria)
	Pump + pump [illegible] Blind all [illegible] Starter									(.0003)		
	tool [illegible] Sample											
	" " "											
1045	Start [illegible]	1		42	—	—	—	10.025	—	—	—	
11	[illegible] " "	2		42	620	580	-040	070	+45	+014	-054	
1115	" " "	3		42	580	550	-030	113	+43	+013	-043	
1130	" " "	4		42	550	540	-010	155	+44	+013	-023	
	Drop to low level	—	—	—	—	—	—	—	—	—	—	
1145	Test " "	5	—	12	—	—	—	204	+45	—	—	
1200	Start " "	6		12	120	130	+010	247	+43	+013	-003	
1205	" " "	7		12	130	135	+005	261	+44	+004	+001	
1210	" " "	8		12	135	135	+000	274	+43	+004	-004	-003
1215	" " "	9		12	135	135	+000	286	+42	+004	-004	-007
1220	" " "	10		12	135	140	+005	290	[illegible]	+004	+001	-003
1225	" " "	11		12	140	145	+005	303	+43	+004	+001	-005
1230	" " "	12		12	145	145	+000	317	+44	+004	-004	-009
1235	" " "	13		12	145	145	+000	329	+42	+004	-004	-013
1240	" " "	14		12	145	145	+000	343	+44	+004	-004	-017
1245	" " "	15		12	145	150	+005	358	+45	+005	+000	-017
1250	" " "	16		12	150	150	+000	372	+44	+004	-004	-021
1255	" " "	17		12	150	150	+000	385	+43	+004	-004	-025
1300	" " "	18		12	150	155	+005	399	+44	+004	+001	-024
1305	" " "	19		12	155	155	+000	413	+44	+004	-004	-028
1310	" " "	20		12	155	155	+000	426	+43	+004	-004	-032
1315	" " "	21		12	155	160	+005	441	+45	+005	+000	-032
1320	" " "	22		12	160	165	+005	455	+44	+004	+001	-031
1325	" " "	23		12	165	170	+005	468	+43	+004	+001	-030
1330	" " "	24		12	170	170	+000	482	+44	+004	-004	-034

1335		25		12	170	175	+005	497	+45	+005	+000	-034
1340		26		12	175	180	+005	[illegible]	+44	+004	+001	-033
1345		27		12	180	180	+000	[illegible]	+43	+004	-004	-037
1350		28		12	180	185	+005	[illegible]	+44	+004	+001	-036
1355		29		12	185	190	+005	[illegible]	+44	+004	+001	-035
1400		30		12	190	190	+000	565	+43	+004	-004	-039

.036
÷2
.018 GPH
Pass

~~-037~~
~~-020 GPH~~
Pass

P-T Tank Test Data Chart
Additional Info

1 - Net Volume Change at Conclusion of Precision Test -.020 gph

Signature of Tester [signature]

Date 6-26-91

2 Statement

[ ] Tank and product handling system has been tested tight according to the Precision Test Criteria as established by N.F.P.A. publication 329. This is not intended to indicate permission of a leak.

OR

[ ] Tank and product handling system has failed the tank tightness test according to the Precision Test Criteria as established by N.F.P.A. publication 329.

It is the responsibility of the owner and/or operator of this system to immediately advise state and local authorities of any implied hazard and the possibility of any reportable pollution to the environment as a result of the indicated failure of this system. Health Consultants Incorporated does not assume any responsibility or liability for any loss of product to the environment.

Tank Owner/Operator ____________

Date ____________

NGINS000122071

PLANT 31

Table A - 1

GRUMMAN AEROSPACE CORPORATION
BETHPAGE COMPLEX
EXISTING FLAMMABLE AND COMBUSTIBLE STORAGE TANKS

June 1994

Grumman Tank No.	Location / Use	Contents	Gallons Buried	Gallons Above Ground	Material Of Construction	Date Installed
20-01-10a	Generator	Diesel	–	550	Steel	09-17-92
20-01-11	Fuel Depot - Fueling	Gasoline	20000	–	FRP	12-31-79
20-01-12	Fuel Depot - Fueling	Gasoline	20000	–	FRP	12-31-79
20-01-13	Fuel Depot - Fueling	Diesel	10000	–	FRP	12-31-79
20-01-14	Fuel Depot - Boiler	No. 2	6000	–	FRP	12-31-79
20-01-15	Fuel Depot	No. 2	1000	–	FRP	12-31-85
20-01-19	Waste Oil	Waste Oil	550	–	FRP	12-31-82
20-01-20	Fuel Depot	Motor Oil	–	275	Steel	12-31-68
20-01-21	Fuel Depot	Motor Oil	–	275	Steel	12-31-68
20-03-22	Tire Shop	Waste Oil	–	500	Steel	02-28-92
20-03-23	Tire Shop	Motor Oil	–	500	Steel	02-28-92
24-01-1	Recieving - Boiler	No. 4	10000	–	Steel	12-31-66
25-01-1	Boiler	No. 6	10000	–	Steel	12-31-86
25-01-2	Boiler	No. 6	10000	–	Steel	12-31-86
25-01-3	Generator	Diesel	550	–	Steel	12-31-86
25-03-1	Guard House - Boiler	No. 2	–	275	Steel	12-31-45
25-05-2	Well No. - Pump	Diesel	550	–	Steel	09-30-90
25-08-1	Record Ctr - Boiler	No. 2	2000	–	FRP	12-31-82
26-01-1	Boiler	No. 2	20000	–	FRP	12-31-84
26-01-2	Generator	Diesel	550	–	FRP	12-31-85
28-01-1	Boiler	No. 2	4000	–	Steel	12-31-64
30-01-1	Boiler	No. 6	15000	–	Steel	12-31-64
30-01-2	Boiler	No. 6	15000	–	Steel	12-31-64
30-01-3	Generator	Diesel	550	–	Steel	12-31-64
31-01-1	Boiler	No. 2	12000	–	FRP	12-31-85
35-01-1	Boiler	No. 6	15000	–	Steel	12-31-66
35-01-2	Boiler	No. 6	15000	–	Steel	12-31-66
35-01-3	Generator	Diesel	550	–	Steel	12-31-66

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

Facility Name GRUMMAN CORPORATION - PLANT 31

Facility Address BETHPAGE, NY 11714

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	Fill	Additional Information for Abandoned Tanks: Date Last Used (Month/yr)	Additional Information for Abandoned Tanks: Condition
1	3101	4	12,000	2	2	4	3	1	64721	NO.2 FUEL OIL	R	1985	1	3	1	2	2		
1	G45	3	11,000	1	2	4	8	1	06213	LIQUID NITROGEN	E	1984	5	5	1	2	1		

EH 858 4/86

Date Submitted 6/88

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☐ D.P.

PLANT 111

Table A - 1

GRUMMAN AEROSPACE CORPORATION
BETHPAGE COMPLEX
EXISTING FLAMMABLE AND COMBUSTIBLE STORAGE TANKS

June 1994

Grumman Tank No.	Location / Use	Contents	Gallons Buried	Gallons Above Ground	Material Of Construction	Date Installed
111-01-1	Boiler	No. 2	4000	--	Steel	12-31-70
111-01-2	Boiler	No. 2	4000	--	Steel	12-31-70
111-01-3	Generator	Diesel	1000	--	Steel	12-31-70
111-01-4	Generator	Diesel	--	275	Steel	12-31-84

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

Facility Name GRUMMAN CORPORATION - PLANT 111

Facility Address BETHPAGE, NY 11714

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 Sys. Containment	Product Gauge	Dispenser Method	Fill	Additional Information for Abandoned Tanks: Date Last Used (Month/yr)	Additional Information for Abandoned Tanks: Condition
	113	4	4,000	1	2	2	3	1	64721	NO.2 FUEL OIL	R	1970	5	5	1	2	2		
	114	4	4,000	1	2	2	3	1	64721	NO.2 FUEL OIL	R	1970	5	5	1	2	2		

EH 858 4/86

Date Submitted 6/88

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☐ D.P.

THOMAS S. GULOTTA
COUNTY EXECUTIVE

JOHN J. DOWLING, M.D., M.P.H.
COMMISSIONER

STANLEY JUCZAK, P.E., M.C.E.
DIRECTOR
CENTER FOR ENVIRONMENTAL PROTECTION

NASSAU COUNTY STATE OF NEW YORK

NASSAU COUNTY
DEPARTMENT OF HEALTH
240 OLD COUNTRY ROAD, MINEOLA, N.Y. 11501

February 2, 1989

Grumman Aerospace Corporation
Stewart Avenue
Mail Stop: B08-30
Bethpage, New York 11714

Attn: Mr. John Selva

Dear Mr. Selva:

As per our conversation on February 2, 1989 please be advised of the following changes to the storage areas listed on Grumman's Article XI Permit Application:

Plant #	Area Listed on Application	Changed To
111	S011	911
	S012	912
2	S013	913
	S020	920
	S021	921
	S022	922
	S023	923
3	S024	924
Mini-Marshaling	S030	930
	S031	931
	S032	932
Whse 34	S033	933
	S034	934

As you can see, the Prefix "SO" has been changed to the Number "9". This change was made strictly to facilitate entry of the permit information into our computer system. The designations for the listed area can be changed at any time to accommodate any designations that may be required by Grumman.

If you have any questions regarding the above please contact me at 535-2284.

Very truly yours,

Michael Sekreta
P.H. Sanitarian II
Bureau of Land Resources Management

MS:sb

ASSAU CO[illegible]TY DE
PLICATION FOR
RM 3 - BULK AN
E INSTRUCTION
cility Name
cility Address
tion: ☒ Re
ation: ☒ I
☐ Outdoors | Max.Quantity Stored.
ity I.D.
Reviewed
Months
911
OGALS

ondary tainment: ☐ Impervious Berm/Dike ☒ Impervious Floor/Pad ☒ Roof ☒ Walls ☐ Floor Drain & Storage Tank ☐ None ☐ (Specify):

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

NCDH Number	Material Name	Physical State	Amount Stored: Average Quantity	Amount Stored: Units	Storage Method: Average Number	Storage Method: Type
04062	FREON 11, 12, 22 (GAS)	1	360	1	12	2
06381	LUBRICATION OIL	1	50	1	1	1

11-21-88

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

For Office Use Only

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

Facility Name: GRUMMAN CORPORATION PLT 111

Facility Address: BETHPAGE NY 11714

Action: ☒ Register Existing Area ☐ Add Area ☐ Remove Area ☐ Modify Area — Area No. 5012 (91)

Location: ☐ Indoors ☒ Outdoors | Bulk Storage Max.Quantity Stored: | Container Storage Max.No. 10 Max.Vol. 500 gal

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: T
1	06381	LUBRICATING OIL	1	500	1	10	
1		OIL	1	50	1	1	
		11-21					

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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 SHEETS

For Office Use Only
Date Application Received
Facility
Reviewed By
Date Revi
Action: ☐ Not Req'd. ☐ Approved ☐ Disapproved
No.of Mont

Facility Name: GRUMMAN CORPORATION - PLANT 111
Facility Address: BETHPAGE, NY 11714

Action: ☒ Register Existing Area ☐ Add Area ☐ Remove Area ☐ Modify Area
Area No. 5013 (913)

Location: ☒ Indoors ☐ Outdoors
Bulk Storage Max.Quantity Stored:
Container Storage Max.No. 7 Max.Vol. 350

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		Storage Method	
				Average Quantity	Units	Average Number	T
1	09681	FLOOR WAX	1	150	1	3	
1	09013	FLOOR STRIPPER	1	100	1	2	
1	09013 04430	LIQUID CLEANSER	1	100	1	2	

4/86

Date Submitted 6/88

☐ D

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

For Office Use Or

Date Application Received | Facility

Reviewed By | Date Revi

Action: ☐ Not Req'd. ☐ Approved ☐ Disapproved | No.of Mon

Facility Name: GRUMMAN CORPORATION. PLT 111

Facility Address: BETHPAGE, NY 11714

Action: ☒ Register Existing Area ☐ Add Area ☐ Remove Area ☐ Modify Area | Area No. 5011 (9)

Location: ☒ Indoors ☐ Outdoors | Bulk Storage Max.Quantity Stored: | Container Storage Max.No. 13 Max.Vol. 410 GAL

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
1	04062	FREON 11, 12, (GAJ) 22	1	360	1	12
1	06381	LUBRICATION OIL	1	50	1	1

11.21.88

FH 859 4/86

Date Submitted 6/88

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☐ D.

New York State Department of Environmental Conservation
Building 40—SUNY, Stony Brook, New York 11794
516-751-7900

#2 Fuel
6K
TT Failure

Thomas C. Jorling
Commissioner

May 17, 1990

CERTIFIED LETTER-RETURN RECEIPT REQUESTED

Mr. John Selva
Gruman Aerospace Corp.
BLDG. 111
Bethpage, NY 11714

Re: Spill #90-01711

Dear Mr. Selva:

This office has been informed by Tyree Brothers that one 6,000 gallon underground #2 fuel oil tank failed a Petrotite systems test. In accordance with Article 12 of the New York State Navigation law, I must determine if there has been any harm to the groundwaters of the State. In order for me to make this determination, you have three options:

1. Prove that it was not a leaking tank by removing all the piping from the tank and separately Petrotite test the tank. If the tank passes the Petrotiite test, it is a piping leak. The tank may then be abandoned or the piping can be repaired, attached to the tank, and the system Petrotite tested.

2. Excavate and remove the tank in the presence of a representative from this office so that an inspection of the tank and the soil can be made. If the tank is sound, and there is no evidence of product loss, nothing further need be done. If there is a problem, proceed as in 3 below.

3. Abandon the tank in-place and install several four(4) inch diameter PVC site wells extending ten(10) feet into the groundwater with a screen length of twenty(20) feet, with slot size of .020 inches. The exact location and number of wells will be determined by a representative from this office. These wells must be checked by you or your contractor, with the monitoring data submitted to this office. If no floating/dissolved product appears in the wells for twelve consecutive months, then this office will review the case for possible removal from our active list. If floating/dissolved product appears, recovery must begin immediately.

Please be advised that the in-place abandonment of underground tanks may be prohibited in some areas. You should check with the appropriate local or county authority (health department , fire marshall, environmental control unit) regarding local laws governing the storage of petroleum products.

Please call our office at 516-751-7900 or 516-751-7725 to let me know which option you will select to resolve this problem. If no response is received from you by June 14, 1990, this office will proceed with the installation of observation wells and will seek reimbursement from you in accordance with Article 12 of the New York State Navigation Law.

Very truly yours,

Anthony Leung

Anthony Leung
Assistant Sanitary Engineer

AL:ej
cc: S. Silvers, NCHD
D. Bartow, NCFM

INITIAL REPORT OF PETROLEUM SPILL
Nassau County Department of Health

☑ Add ☐ Change ☐ Delete ☐ Key Change

I.D. No. 90-4190

Date of Spill 5/4/90

Time of Spill

Reinspection Date

Estab. Name GRUMMAN AEROSPACE

Tel. Area No. Ext. No.

Estab. Address BETHPAGE

Complainant Name

Compl. Tel.

Complainant Address

Type of Spill
☐ Surface - Land
☐ Surface - Water
☑ Underground

Source of Report
☐ NCDH ☐ Fire Marshal ☐ Contractor
☐ DEC ☐ DPW ☐ USCG
☐ DOT ☑ Spiller ☐ Complaint

Type of Product FO 2

Est. Amount of Spill 1 gal

Report Received By:

Date

Time

DEC No.

Date Open DEC

SPDES ☐ No ☐ Yes If yes, number

Spiller

Name GRUMMAN

Address

Village Zip

Telephone

Owner/Representive

Name

Address

Village Zip

Telephone

Emergency Contact

Name Title

Address

Village Zip

Telephone

Contractor

Name TYREE

Address

Village Zip

Telephone

Product Information

	Product	Code	% of Spill	Tank Type	Tank Size	Year Installed
1	FO2	B		1	CR	1113
2						
3						
4						
5						

Scavenger Name

Scavenger DEC No.

Brand of Product

Waste Tank Size

Number of Recovery Wells

Number of Other Wells

Recovery Type ☐ Drawdown ☐ Thieving ☐ Excavation ☐ Other

Census Tract

Section

Block

Lot(s)

Coordinates N

Nearest Intersection

Referred to: ☐ DEC ☐ Fire Marshal ☐ Other (Specify)

Further Action Required ☐ DEC ☐ Legal ☐ Follow-up

Reason Closed DEC ☐ Retested ☐ Excavation ☐ No Visible Product ☐ Other (Specify) Date

Reason Closed NCDH ☑ Retested ☐ Excavation ☐ No Visible Product ☐ Other (Specify) Date 5/31/90

Signature of Investigator

Emp. No. 167

Date of Investigation 5/4/90

Checked By

EH 749 11/85

Tyree Brothers Environmental Services, Inc.
208 Route 109, Farmingdale, NY 11735 · Fax: 516-249-3281 · Phone: 516-249-3150

MAY 31, 1990

NASSAU COUTY HEALTH DEPARTMENT
240 OLD COUNTRY ROAD
MINEOLA, N Y, 11501

Gentlemen

Enclosed please find a copy of a Tank System Tightness Report for:

GRUMMAN
111-01-1
BETHPAGE, NY

Sincerely,

Sheri Miranda

Sheri Miranda

Testing Tec	ARMAND KULPA
License No.	GCF-295
Date of Test:	5/31/90
NCHD#	15H90T10
FACILITY ID#	000001
TANK	1113

CC: NYSDEC

NYSDEC spill # 9001711 - from 5/14/90
RETEST 5/31/90

Member
Tyree Environmental Technologies

Data Chart for Tank System Tightness Test

PLEASE PRINT

1. OWNER Property [X] Tank(s) [X]
Name: Grumman, PO Box 54, Hicksville, N.Y. Address: Representative: John Zelna Telephone: 535 8176
Name: Address: Representative: Telephone:

2. OPERATOR
Name: Grumman 11-01-1, Bethpage, N.Y. Address: Telephone:

3. REASON FOR TEST (Explain Fully)
Periodic System Testing

4. WHO REQUESTED TEST AND WHEN
Name: Nassau County Health Depart. Title: Company or Affiliation: 240 Old Country Rd. Date:
Mineola, N.Y. Address: Telephone:

5. TANK INVOLVED
Use additional lines for manifolded tanks

Identify by Direction	Capacity	Brand/Supplier	Grade	Approx. Age	Steel/Fiberglass
Tank 1	4000	F-10	2	—	Steel

6. INSTALLATION DATA

Location	Cover	Fills	Vents	Siphones	Pumps
—	Concrete	4"	2"	yes	—
North inside driveway, Rear of station etc.	Concrete, Black Top, Earth, etc.	Size, Titefill make, Drop tubes, Remote Fills	Size, Manifolded	Which tanks?	Suction, Remote, Make if known

7. UNDERGROUND WATER
Depth to the Water table: Below
Is the water over the tank? ☐ Yes ☒ No

8. FILL-UP ARRANGEMENTS
Tanks to be filled 8:00 hr 5/31/90 Date Arranged by John Zelna Name 535 8176 Telephone
Extra product to "top off" and run tank tester. How and who to provide? Consider NO Lead.

Terminal or other contact for notice or inquiry ______ Company ______ Name ______ Telephone

9. CONTRACTOR, MECHANICS, any other contractor involved
TYREE BROS.
ENVIRONMENTAL SERVICES, INC.
208 ROUTE 109
FARMINGDALE, N.Y. 11735
(516) 249-3150

10. OTHER INFORMATION OR REMARKS
Additional information on any items above. Officials or others to be advised when testing is in progress or completed. Visitors or observers present during test, etc.

11. TEST RESULTS
Tests were made on the above tank systems in accordance with test procedures prescribed for as detailed on attached test charts with results as follows:

Tank Identification	Tight	Leakage Indicated	Date Tested
Tank 1	yes	-.013 gph	5/31/90

12. SENSOR CERTIFICATION
5/31/90 Date
761 Serial No. of Thermal Sensor

13. This is to certify that these tank systems were tested on the date(s) shown. Those indicated as "Tight" meet the criteria established by the National Fire Protection Association Pamphlet 329.

Technicians: Armand Kulpa
Certification #: 30F 295
2. ______
Certification # ______

TYREE BROS. ENVIRONMENTAL SERVICES, INC. — Testing Contractor or Company. By: Signature: Glen Miranda
208 ROUTE 109 Address
FARMINGDALE, N.Y. 11735
(516) 249-3150

PN68A27

NGINS000122086

31-May-90 XXXXXX

PETRO-TITE CALCULATION PROGRAM

** PROTOCOL "A" **	NUMBER	DEG F	THERMAL CROSSOVER NUMBER	DEG F
THERMAL READING AFTER CIRC. -->	12794	61/62	0	0
DIGITS PER DEG F ---------->	322		0	
TOTAL QUANTITY IN FULL TANK -->	4020		4020	NAME & ADDR
RECIPROCAL ---------->	2218		2218	GRUMMAN, 111-01-
VOLUME CHANGE PER DEG F ------>1.812443642			1.812443642	TANK NUMBER
DIGITS PER DEG F ---------->	322		0	TANK 1, 4000, F/C
VOLUME CHANGE / DIGIT (a) FAC >	0.0056		ERR	

30 HYDRO P/C	31 VOLUME MEAS. (V)				34 TEMP COMP USE (		
STANDPIPE LEVELS	32 PROD IN GRADUATE			PROD REPL	35	36	
RESOTRED	BEGINING	BEFORE	AFTER	PROD REC 12889	THERM SEN RE (c)	CHANGE (c)*(a FAC	
12	12.4	0.16	0.175	0.015	12893	4	0.02
12	12.4	0.175	0.19	0.015	12896	3	0.01
12	12.4	0.19	0.205	0.015	12899	3	0.01
12	12.5	0.205	0.225	0.02	12903	4	0.02
12	12.5	0.225	0.245	0.02	12905	2	0.01
12	12.5	0.245	0.265	0.02	12908	3	0.01
12	12.4	0.265	0.28	0.015	12911	3	0.01
12	12.4	0.28	0.295	0.015	12914	3	0.01
12	12.4	0.295	0.31	0.015	12916	2	0.01
12	12.5	0.31	0.33	0.02	12919	3	0.01
12	12.4	0.33	0.345	0.015	12922	3	0.01
12	12.4	0.345	0.36	0.015	12925	3	0.01
12	12.4	0.36	0.375	0.015	12927	2	0.01
12	12.4	0.375	0.39	0.015	12930	3	0.01
12	12.5	0.39	0.41	0.02	12933	3	0.01
12	12.5	0.41	0.43	0.02	12937	4	0.02
12	12.4	0.43	0.445	0.015	12941	4	0.02
12	12.5	0.445	0.465	0.02	12945	4	0.02
12	12.4	0.465	0.48	0.015	12949	4	0.02
12	12.4	0.48	0.495	0.015	12952	3	0.01
12	12.5	0.495	0.515	0.02	12957	5	0.02
12	12.4	0.515	0.53	0.015	12960	3	0.01
12	12.5	0.53	0.55	0.02	12964	4	0.02
12 *	12.5 *	0.55 *	0.57 *	0.02 *	12967 *	3 *	0.01

THPAGE,NY

/90

.0056	38 VOL CHNG	39 ACCUM
37	TEMP ADJ	
OMPUTATION	NET VOL CHNG	
PER READING		
=========	=========	
-0.007		
-0.002		
-0.002		
-0.002		
0.009		
0.003		
-0.002		
-0.002		
0.004		
0.003		
-0.002		
-0.002		
0.004		
-0.002		
0.003		
-0.002		
-0.007		
-0.002		
-0.007		
-0.002		
-0.008		
-0.002		
-0.002		
0.003 *	-0.013 *<--2 Hour	

15. TANK TO TEST Plant 111 TANK I

Identity by position: E/O #2.

Brand and Grade

15a. BRIEF DIAGRAM OF TANK FIELD

16. CAPACITY

Nominal Capacity: 4000 Gallons

By most accurate capacity chart available: 4000. Gallons

From:
- [ ] Station Chart
- [x] Tank Manufacturer's Chart
- [ ] Company Engineering Data
- [ ] Charts supplied with
- [ ] Other

17. FILL-UP FOR TEST

Stick Water Bottom before Fill-up: — in to 's; — Gallons; 64" in Tank Diameter

Inventory		Gallons	Total Gallons as Reading
	64"		4000
			20
		Transfer total to line 25a	4020

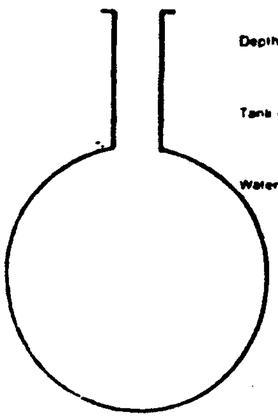
18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK [ ] Water in tank [ ] Line(s) being tested with LVLLT [ ] High water table in tank excavation

See manual sections applicable. Check below and record procedure in log (27)

Use maximum allowable test pressure for all tests
Four pound rule does not apply to doublewalled tanks

Complete section below

1. Is four pound rule required? Yes [ ] No [ ]
2. Height to 12" mark from bottom of tank: 132 in
3. Pressure at bottom of tank: 4092 PSI
4. Pressure at top of tank: 2108 PSI



Depth of burial: 48 in

Tank dia: 64 in

Water table: 0. in

NOTES

The above calculations are to be used for dry soil conditions to establish a positive pressure advantage, or when using the four pound rule to compensate for the presence of subsurface water in the tank area.

Refer to N.F.P.A. 30, Sections 2-3.2.4 and 2-7.2 and the tank manufacturer regarding allowable system test pressures.

19. TANK MEASUREMENTS FOR TSTT ASSEMBLY

Bottom of tank to grade*: 118. in
Add 30" for "T" probe assy: 30 in
Total tubing to assemble — approximate: 144 in

20. EXTENSION HOSE SETTING

Tank top to grade*: 48 in
Extend hose on suction tube 6" or more below tank top: — in

*If Fill pipe extends above grade, use top of fill

22. Thermal-Sensor reading after circulation: 12754. digits; 61/62. °F

23. Digits per °F in range of expected change: Between 222. digits

COEFFICIENT OF EXPANSION (Complete after circulation)

24a. Corrected A.P.I. Gravity

Observed A.P.I. Gravity

Hydrometer employed: H

Observed Sample Temperature: °F

Corrected A.P.I. Gravity @ 60°F. From Table A

Coefficient of Expansion for Involved Product From Table B

Transfer COE to Line 25b

N/A

21. VAPOR RECOVERY SYSTEM [ ] Stage I [ ] Stage II none

24b. COEFFICIENT OF EXPANSION RECIPROCAL METHOD

Type of Product: F/O.
Hydrometer Employed: 4 H
Temperature in Tank After Circulation: 61 °F
Temperature of Sample: 63. °F
Difference (+/-): +2 °F
Observed A.P.I. Gravity: 32.0

Reciprocal: 2218 Page #: 36

4020 (Total quantity in full tank (16 or 17)) ÷ 2218. (Reciprocal) = 1.812443642 (Volume change in this tank per °F)

Transfer to Line 26a

24c. FOR TESTING WITH WATER see Table C & D

Water Temperature after Circulation Table C: °F

Coefficient of Water Table D

N/A.

Added Surfactant? [ ] Yes [ ] No Transfer COE to Line 25b

25. (a) ______ Total quantity in full tank (16 or 17) × (b) ______ Coefficient of expansion for involved product = (c) ______ Volume change in this tank per °F gallons

26. (a) 1.812443642 Volume change per °F (25 or 24b) ÷ 222. Digits per °F in test = .008164 Volume change per digit This is test (.008)

NGINS000122089

Data Chart for Tank System Tightness Test

PLEASE PRINT

1. OWNER Property ☐ Tank(s) ☐

Name | Address | Representative | Telephone

Name | Address | Representative | Telephone

2. OPERATOR

Name | Address | Telephone

3. REASON FOR TEST (Explain Fully)

4. WHO REQUESTED TEST AND WHEN

Name | Title | Company or Affiliation | Date

Address | Telephone

5. TANK INVOLVED

Use additional lines for manifolded tanks

Identify by Direction	Capacity	Brand/Supplier	Grade	Approx Age	Steel/Fiberglass

6. INSTALLATION DATA

Location	Cover	Fills	Vents	Siphones	Pumps
North inside driveway, Rear of station, etc.	Concrete, Black Top, Earth, etc.	Size, Tiefill make, Drop tubes, Remote Fills	Size, Manifolded	Which tanks?	Suction, Remote, Make if known

7. UNDERGROUND WATER

Depth to the Water table _____

Is the water over the tank? ☐ Yes ☐ No

8. FILL-UP ARRANGEMENTS

Tanks to be filled _____ hr _____ Date Arranged by _____ Name Telephone

Extra product to "top off" and run tank tester How and who to provide? Consider NO Lead.

Terminal or other contact for notice or inquiry _____ Company Name Telephone

9. CONTRACTOR, MECHANICS, any other contractor involved

10. OTHER INFORMATION OR REMARKS

Additional information on any items above Officials or others to be advised when testing is in progress or completed Visitors or observers present during test, etc

11. TEST RESULTS

Tests were made on the above tank systems in accordance with test procedures prescribed for as detailed on attached test charts with results as follows:

Tank Identification	Tight	Leakage Indicated	Date Tested

12. SENSOR CERTIFICATION

Date

Serial No of Thermal Sensor

13. This is to certify that these tank systems were tested on the date(s) shown. Those indicated as "Tight" meet the criteria established by the National Fire Protection Association Pamphlet 329.

Technicians

1 _____ Certification # _____

2 _____ Certification # _____

Testing Contractor or Company By Signature

Address

27 Sensor Calibration ______ / ______			30 HYDROSTATIC PRESSURE CONTROL		31. VOLUME MEASUREMENTS (V) RECORD TO .001 GAL			34 TEMPERATURE COMPENSATION USE FACTOR (a)			38. NET VOLUME CHANGING EACH READING	39 ACCUMULATED CHANGE
28 DATE	LOG OF TEST PROCEDURES	29 Reading No	Standpipe Level in Inches		32. Product in Graduate		33 Product Replaced (-)	35	36	37	Temperature Adjustment	
TIME (24 hr)	Record details of setting up and running test (Use full length of line if needed)		Beginning of Reading	Level to which Restored	Before Reading	After Reading	Product Recovered (+)	Thermal Sensor Reading	Change Higher + Lower - (c)	Computation (c) × (a) = Expansion + Contraction -	Volume Minus Expansion (+) or Contraction (-) #33(V) - #37(T)	At Low Level compute Change per Hour (NFPA criteria)
	[illegible]		Bleed and		Lines		A Factor -				.0050	
	Book API Survey						Dig Chg		13004 -		324	
815	Start High Level	1	—	42	—	—	—	12994	—	—	—	
830	Cont	2	40.0	42	510	410	-100	808	+14	+078.	-178.	
845	"	3	40.1	42	410.	315	-095	820	+12	+067.	-162	
900	"	4	402	42	315	225	-090	835	+15	+084.	-174	
915	"	5	402	42	225	135	-090	849.	+14	+078	-168	
930	"	6	402	42	610.	520.	-090	861	+12	+067.	-157.	
	Drop To Low Level	—	—	—	—	—	—	—	—	—	—	
945	Start	7	—	12	—	—	—	876	+15	—	—	
1000	Cont	8	127	12	130	160	+030	889	+13	+073.	-043.	
1005	"	9	12.4	12	160	175	+015	893	+4	+022	-007.	
1010	"	10	124	12	175	190.	+015	896	+3	+017.	-002	-009
1015	"	11	124	12	150	205	+015	899	+3	+017	-002	-011
1020	"	12	125	12	205	225	+020	903	+4	+022	-002	-013
1025	"	13	125	12	225	245	+020	905	+2	+011	+009 [illegible]	-002
1030	"	14	125	12	245	265	+020	908	+3	+017	+003	+001
1035	"	15	124	12	265	280	+015	911	+3	+017	-002	-001
1040	"	16	124	12	280	295	+015	914	+3	+017	-002	-003
1045	"	17	124	12	295	310	+015	916	+2	+011	+004	+001
1050	"	18	125	12	310	330	+020	919	+3	+017	+003	+004
1055	"	19	124	12	330	345	+015	922	+3	+017	-002	+002
1100	"	20	124	12	345	360	+015	925	+3	+017	-002	+000
1105	"	21	124	12	360	375	+015	927	+2	+011	+004	+004
1110	"	22	124	12	375	390	+015	930	+3	+017	-002	+002
1115	"	23	125	12	390	410	+020	933	+3	+017	+003	+005
1120	"	24	125	12	410	430	+020	937	+4	[illegible]	[illegible]	[illegible]

1125		25	124	12	480	445	+015	941	+4	+022	-007	+001
1130		26	125	12	445	465	+020	945	+4	+022	-002	-001
1135		27	124	12	465	480	+015	949	+4	+022	-007	-008
1140		28	124	12	480	495	+015	952	+3	+017	-002	-010
1145		29	125	12	495	515	+020	957	+5	+028	-008	-018
1150		30	124	12	515	530	+015	960	+3	+017	-002	-020
1155		31	125	12	530	550	+020	964	+4	+022	-002	-022
1200		32	125	12	550	570	+020	967	+3	+017	+003	-019
												-019
												÷2
												-010 gph
												(PASS)

+026 ÷ 2 = +.013 gph

P-T Tank Test Data Chart
Additional Info

1 - Net Volume Change at Conclusion of Precision Test _____ gph

Signature of Tester _______________

Date _______________

2. Statement:

[ ] Tank and product handling system has been tested tight according to the Precision Test Criteria as established by N.F.P.A. publication 329. This is not intended to indicate permission of a leak.

OR

[ ] Tank and product handling system has failed the tank tightness test according to the Precision Test Criteria as established by N.F.P.A. publication 329.

It is the responsibility of the owner and/or operator of this system to immediately advise state and local authorities of any implied hazard and the possibility of any reportable pollution to the environment as a result of the indicated failure of this system. Heath Consultants Incorporated does not assume any responsibility or liability for any loss of product to the environment.

Tank Owner/Operator _______________

Date _______________

NGINS000122092

Tyree Brothers Environmental Services, Inc.
208 Route 109, Farmingdale, NY 11735 • Fax: 516-249-3281 • Phone: 516-249-3150

JUNE 1, 1990

NASSAU COUNTY HEALTH DEPARTMENT
240 OLD COUNTRY ROAD
MINEOLA, NEW YORK, 11501

Gentlemen

Enclosed please find a copy of a Tank System Tightness Report for:

GRUMMAN
111-01-2
BETHPAGE, NY

Sincerely,

Sheri Miranda

Testing Tec	ARMAND KULPA
License No.	GCF-295
Date of Test:	6/1/90
NCHD#	152H90T09
FACILITY #	000001

CC: NYSDEC

Member
Tyree Environmental Technologies

C-TITE CALCULATION PROGRAM — THERMAL CROSSOVER

	NUMBER	DEG F	NUMBER	DEG F
CONTROL "A" **				
FINAL READING AFTER CIRC. -->	13730	64/65	0	0
TI PER DEG F ---------->	325		0	
L QUANTITY IN FULL TANK -->	4030		4030	NAME & ADDRESS
PRODL ---------->	2219		2219	GRUMMAN, 411-01-2, BETHPAGE, NY
ME CHANGE PER DEG F ------>	1.8161333333		1.8161333333	TANK NUMBER
TI PER DEG F ---------->	325		0	TANK 1114, 2F/C, 4000, 6/1/909
ME CHANGE / DIGIT (a) FAC :	0.0056		ERR	

HYDRO P/C	31 VOLUME MEAS. (V)			34 TEMP COMP USE (0.0056			38 VOL CHNG	39 ACCUM
TANDPIPE LEVELS	32 PROD IN GRADUATE		PROD REPL	35	36	37	TEMP ADJ	
.TFEC	BEGINING	BEFORE	AFTER	PROD REC	THERM SEN RE 13918	CHANGE +/- (c)	COMPUTATION (c)*(a FACT)=	NET VOL CHNG PER READING	
12	12.2	0.26	0.27	0.01	13820	2	0.011	-0.001	
12	12.4	0.27	0.285	0.015	13822	2	0.011	0.004	
12	12.4	0.285	0.3	0.015	13825	3	0.017	-0.002	
12	12.4	0.3	0.315	0.015	13828	3	0.017	-0.002	
12	12.2	0.315	0.325	0.01	13830	2	0.011	-0.001	
12	12.2	0.325	0.335	0.01	13833	3	0.017	-0.007	
12	12.4	0.335	0.35	0.015	13837	4	0.022	-0.007	
12	12.4	0.35	0.365	0.015	13841	4	0.022	-0.007	
12	12.5	0.365	0.385	0.02	13845	4	0.022	-0.002	
12	12.5	0.385	0.405	0.02	13848	3	0.017	0.003	
12	12.4	0.405	0.42	0.015	13851	3	0.017	-0.002	
12	12.4	0.42	0.435	0.015	13853	2	0.011	0.004	
12	12.5	0.435	0.455	0.02	13857	4	0.022	-0.002	
12	12.5	0.455	0.475	0.02	13860	3	0.017	0.003	
12	12.4	0.475	0.49	0.015	13863	3	0.017	-0.002	
12	12.6	0.49	0.515	0.025	13867	4	0.022	0.003	
12	12.4	0.515	0.53	0.015	13871	4	0.022	-0.007	
12	12.4	0.53	0.545	0.015	13874	3	0.017	-0.002	
12	12.4	0.545	0.56	0.015	13877	3	0.017	-0.002	
12	12.5	0.56	0.58	0.02	13880	3	0.017	0.003	
12	12.4	0.58	0.595	0.015	13884	4	0.022	-0.007	
12	12.4	0.595	0.61	0.015	13887	3	0.017	-0.002	
12	12.4	0.61	0.625	0.015	13891	4	0.022	-0.007	
12 *	12.4 *	0.625 *	0.64 *	0.015 *	13894 *	3 *	0.017 *	-0.002 *	-0.022 *<--2 Hour

Data Chart for Tank System Tightness Test

PLEASE PRINT

1. OWNER Property ☒ Tank(s) ☒
Name: Grumman Aerospace Corp. P.O. Box 54 Hicksville N.Y. 11801 — Address — Representative — Telephone
Name — Address — Representative: John Selva — Telephone: 575 8176

2. OPERATOR
Name: Grumman, 111-01-02, Bethpage, N.Y. — Address — Telephone

3. REASON FOR TEST (Explain Fully)
Periodic System Test

4. WHO REQUESTED TEST AND WHEN
Name: Nassau County Health Depart. 240 Old Country Rd, Mineola — Title — Company or Affiliation — Date
Address — Telephone

5. TANK INVOLVED
Use additional lines for manifolded tanks

Identify by Direction	Capacity	Brand/Supplier	Grade	Approx. Age	Steel/Fiberglass
Tank 1114	4000	2	F-10	—	Steel

6. INSTALLATION DATA

Location	Cover	Fills	Vents	Siphones	Pumps
Plant 1111	Concrete	4"	2"	yes	—
North inside driveway, Rear of station, etc.	Concrete, Black Top, Earth, etc.	Size, Tightfill make, Drop tubes, Remote Fills	Size, Manifolded	Which tanks?	Suction, Remote, Make if known

7. UNDERGROUND WATER
Depth to the Water table: Below
Is the water over the tank? ☐ Yes ☒ No

8. FILL-UP ARRANGEMENTS
Tanks to be filled 8:00 hr. 6/1/90 Date — Arranged by John Selva — Name — 575 8176 Telephone
Extra product to "top off" and run tank tester. How and who to provide? Consider NO Lead.

Terminal or other contact for notice or inquiry — Company — Name — Telephone

9. CONTRACTOR, MECHANICS, any other contractor involved
TYREE BROS.
ENVIRONMENTAL SERVICES, INC.
208 ROUTE 109
FARMINGDALE, N.Y. 11735
(516) 249-3150

10. OTHER INFORMATION OR REMARKS
Additional information on any items above. Officials or others to be advised when testing is in progress or completed. Visitors or observers present during test, etc.

11. TEST RESULTS
Tests were made on the above tank systems in accordance with test procedures prescribed for as detailed on attached test charts with results as follows:

Tank Identification	Tight	Leakage Indicated	Date Tested
Tank 1114	yes	-.022 gph	6/1/90

12. SENSOR CERTIFICATION
6/1/90
Date
1725
Serial No. of Thermal Sensor

13. This is to certify that these tank systems were tested on the date(s) shown. Those indicated as "Tight" meet the criteria established by the National Fire Protection Association Pamphlet 329.

Technician: [signature]
Certification # [signature]
2. ______
Certification # ______

TYREE BROS.
ENVIRONMENTAL SERVICES, INC.
208 ROUTE 109
FARMINGDALE, N.Y. 11735
(516) 249-3150
Testing Contractor or Company. By: Signature [signature]
Address

PN6827

NGINS000122095

Name of Supplier Owner or Dealer

15. TANK TO TEST

Plant 1111 #2
Identity by position

F/O 02..
Brand and Grade

HA2RM

15a BRIEF DIAGRAM OF TANK FIELD

16. CAPACITY

Nominal Capacity 4000 Gallons

By most accurate capacity chart available 4000 Gallons

From
- [ ] Station Chart
- [x] Tank Manufacturer's Chart
- [ ] Company Engineering Data
- [ ] Charts supplied with
- [ ] Other

17 FILL-UP FOR TEST

Stick Water Bottom before Fill-up — in to — Gallons 64 in Tank Diameter Steel Tank

	Inventory	Gallons	Total Gallons as Reading
	64"		4000
		2	20
			4030

Transfer total to line 25a

18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK

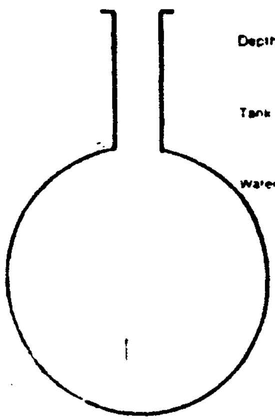
- [ ] Water in tank
- [ ] Line(s) being tested with LVLLT
- [ ] High water table in tank excavation

See manual sections applicable. Check below and record procedure in log (27)

Use maximum allowable test pressure for all tests
Four pound rule does not apply to doublewalled tanks

Complete section below

1. Is four pound rule required? Yes [ ] No [ ]
2. Height to 12" mark from bottom of tank 132 in
3. Pressure at bottom of tank 4.392 PSI
4. Pressure at top of tank 2.108 PSI



Depth of burial 48 in

Tank dia 64 in

Water table 0 in

NOTES

The above calculations are to be used for dry soil conditions to establish a positive pressure advantage, or when using the four pound rule to compensate for the presence of subsurface water in the tank area

Refer to N.F.P.A. 30, Sections 2-3.2.4 and 2-7.2 and the tank manufacturer regarding allowable system test pressures

19. TANK MEASUREMENTS FOR TSTT ASSEMBLY

Bottom of tank to grade* 112 in

Add 30" for "T" probe assy 30 in

Total tubing to assemble — approximate 144 in

20. EXTENSION HOSE SETTING

Tank top to grade* 48 in

Extend hose on suction tube 6" or more below tank top — in

*If Fill pipe extends above grade, use top of fill

22. Thermal-Sensor reading after circulation 13730 digits 64/65 °F

23. Digits per °F in range of expected change Between 325 digits

COEFFICIENT OF EXPANSION (Complete after circulation)

24a. Corrected A.P.I. Gravity

Observed A.P.I. Gravity

Hydrometer employed ____ H

Observed Sample Temperature ____ °F

Corrected A.P.I. Gravity @ 60°F. From Table A

Coefficient of Expansion for Involved Product From Table B

Transfer COE to Line 25b

N/A

21. VAPOR RECOVERY SYSTEM

- [ ] Stage I
- [ ] Stage II

none

24b. COEFFICIENT OF EXPANSION RECIPROCAL METHOD

Type of Product F/O

Hydrometer Employed 4 H

Temperature in Tank After Circulation 64 °F

Temperature of Sample 67 °F

Difference (+/-) +3 °F

Observed A.P.I. Gravity 32.0

Reciprocal 2219 Page # 36

4030 ÷ 2219 = 1.816133393

Total quantity in full tank (16 or 17) / Reciprocal / Volume change in this tank per °F

Transfer to Line 26a

24c. FOR TESTING WITH WATER

see Table C & D

Water Temperature after Circulation Table C ____ °F

Coefficient of Water Table D

N/A

Added Surfactant? [ ] Yes [ ] No Transfer COE to Line 25b

25. (a) ____ Total quantity in full tank (16 or 17) × (b) ____ Coefficient of expansion for involved product = (c) ____ gallons Volume change in this tank per °F

26. (a) 1.816133393 Volume change per °F (25 or 24b) ÷ 325 Digits per °F in test = 0.005588102 Volume change per digit This is test (.0056)

NGINS000122096

Data Chart for Tank System Tightness Test

PLEASE PRINT

1. OWNER Property ☐ Tank(s) ☐

Name | Address | Representative | Telephone

Name | Address | Representative | Telephone

2. OPERATOR

Name | Address | Telephone

3. REASON FOR TEST (Explain Fully)

4. WHO REQUESTED TEST AND WHEN

Name | Title | Company or Affiliation | Date

Address | Telephone

5. TANK INVOLVED

Use additional lines for manifolded tanks

Identify by Direction	Capacity	Brand/Supplier	Grade	Approx Age	Steel/Fiberglass

6. INSTALLATION DATA

Location	Cover	Fills	Vents	Siphones	Pumps
North inside driveway, Rear of station, etc.	Concrete, Black Top, Earth, etc.	Size, Tilehill make, Drop tubes, Remote Fills	Size, Manifolded	Which tanks?	Suction, Remote, Make if known

7. UNDERGROUND WATER

Depth to the Water table _____ Is the water over the tank? ☐ Yes ☐ No

8. FILL-UP ARRANGEMENTS

Tanks to be filled _____ hr. _____ Date Arranged by _____ Name Telephone

Extra product to "top off" and run tank tester. How and who to provide? Consider NO Lead.

Terminal or other contact for notice or inquiry _____ Company Name Telephone

9. CONTRACTOR, MECHANICS, any other contractor involved

10. OTHER INFORMATION OR REMARKS

Additional information on any items above. Officials or others to be advised when testing is in progress or completed. Visitors or observers present during test, etc.

11. TEST RESULTS

Tests were made on the above tank systems in accordance with test procedures prescribed for as detailed on attached test charts with results as follows:

Tank Identification	Tight	Leakage Indicated	Date Tested

12. SENSOR CERTIFICATION

Date

Serial No. of Thermal Sensor

13. This is to certify that these tank systems were tested on the date(s) shown. Those indicated as "Tight" meet the criteria established by the National Fire Protection Association Pamphlet 329.

Technicians

1. _____ Certification # _____

2. _____ Certification # _____

Testing Contractor or Company. By: Signature

Address

27 Sensor Calibration ____ / ____ LOG OF TEST PROCEDURES		30. HYDROSTATIC PRESSURE CONTROL		31. VOLUME MEASUREMENTS (V) RECORD TO .001 GAL			34 TEMPERATURE COMPENSATION USE FACTOR (a)			38. NET VOLUME CHANGING EACH READING	39 ACCUMULATED CHANGE
28. DATE / TIME (24 hr)	Record details of setting up and running test (Use full length of line if needed)	29. Reading No	Standpipe Level in Inches: Beginning of Reading	Level to which Restored	32. Product in Graduate: Before Reading	After Reading	33 Product Replaced (-) / Product Recovered (+)	35 Thermal Sensor Reading	36. Change Higher + Lower - (c)	37 Computation (c) × (a) = Expansion - Contraction -	Temperature Adjustment: Volume Minus Expansion (+) or Contraction (-) #33(V) — #37(T)	At Low Level compute Change per Hour (NFPA criteria)
	Temp + Prime [illegible]		Blend		and	[illegible]	H	factor		(.00056)		
	Took API Sample						D.	chg	—	.14027	- 326	
	" " "											
915	Start High Level	1	—	42	—	—	—	13730	—	—	—	
930	Cont " "	2	39.5	42	740	620	-120	13744	+14	+078	-198	
945	" " "	3	39.8	42	620	510	-110	13757	+13	+073	-183	
1000	" " "	4	39.8	42	510	400	-110	13771	+14	+078	-188	
1015	" " "	5	39.8	42	400	290	-110	13783	+12	+067	-177	
1030	" " "	6	40.5	42	290	220	-070	13795	+12	+067	-137	
	Drop to lower level.	—	—	—	—	—	—	—	—	—	—	
1045	Start " "	7	—	12	—	—	—	13808	+13	—	—	
1100	Cont " "	8	12.9	12	215	260	+045	13818	+10	+056	-011	
1105	" " "	9	12.2	12	260	270	+010	13820	+2	+011	-001	
1110	" " "	10	12.4	12	270	285	+015	13822	+2	+011	+004	+003
1115	" " "	11	12.4	12	285	300	+015	13825	+3	+017	-002	+001
1120	" " "	12	12.4	12	300	315	+015	13828	+3	+017	-002	-001
1125	" " "	13	12.2	12	315	325	+010	13830	+2	+011	-001	-002
1130	" " "	14	12.2	12	325	335	+010	13833	+3	+017	-007	-009
1135	" " "	15	12.4	12	335	350	+015	13837	+3	+022	-002	-011
1140	" " "	16	12.4	12	350	365	+015	13841	+4	+022	-007	-018
1145	" " "	17	12.5	12	365	385	+020	13845	+4	+022	-002	-020
1150	" " "	18	12.5	12	385	405	+020	13848	+3	+017	+003	-017
1155	" " "	19	12.4	12	405	420	+015	13851	+3	+017	-002	-015
1200	" " "	20	12.4	12	420	435	+015	13853	+2	+011	+004	-015
1205	" " "	21	12.5	12	435	455	+020	13857	+4	+022	-002	-017
1210	" " "	22	12.5	12	455	475	+020	13860	+3	+017	+003	-014
1215	" " "	23	12.4	12	475	450	+015	13863	+3	+017	-002	-016
12[illegible]	" " "	24	12.6	12	490	515	+025	13867	+4	+022	+003	-01[illegible]

NGINS000122098

1225	"	"	"	25	12.4	12	515	530	+015	13871	+4	+022	-007	-020
1230	"	"	"	26	12.4	12	530	545	+015	13874	+3	+017	-002	-022
1235	"	"	"	27	12.4	12	545	560	+015	13877	+3	+017	-002	-024
1240	"	"	"	28	12.5	12	560	580	+020	13880	+3	+017	+003	-021
1245	"	"	"	29	12.4	12	580	595	+015	13884	+4	+022	-007	-028
1250	"	"	"	30	12.4	12	555	610	+015	13887	+3	+017	-002	-030
1255	"	"	"	31	12.4	12	610	625	+015	13891	+4	+022	-007	-037
1300	"	"	"	32	12.4	12	625	640	+015	13894	+3	+017	-002	-035

-039
+2

-.044 ÷ 2 = -.022 gph

-.020 gph
(loss)

P-T Tank Test Data Chart
Additional Info

1 - Net Volume Change at Conclusion of Precision Test _____ gph

Signature of Tester ____________________

Date ____________________

2. Statement

[ ] Tank and product handling system has been tested tight according to the Precision Test Criteria as established by N.F.P.A. publication 329. This is not intended to indicate permission of a leak.

OR

[ ] Tank and product handling system has failed the tank tightness test according to the Precision Test Criteria as established by N.F.P.A. publication 329.

It is the responsibility of the owner and/or operator of this system to immediately advise state and local authorities of any implied hazard and the possibility of any reportable pollution to the environment as a result of the indicated failure of this system. Heath Consultants Incorporated does not assume any responsibility or liability for any loss of product to the environment.

Tank Owner/Operator ____________________

Date ____________________

Fenley & Nicol Environmental

"SOLUTIONS AT WORK"™

445 Brook Avenue, Deer Park, New York 11729 (516) 586-4900 • NYC (718) 204-4993 FAX (516) 586-4920

TR# 93109
JOB# 91219

June 18, 1993

Mr. Scott Engmann
Facilities Engineer
Grumman Corporate Operations
Mail Stop D08-GHQ
Bethpage, New York 11714-3586

loc.: Tank # 111-01-3
Plant # 111
Bethpage, New York

Dear Mr. Engmann:

The underground storage tank(s) listed below have been tested in accordance to the Precision Test Criteria established by N.F.P.A. publication 329. Following is an outline of events which occurred:

TANKAGE	TYPE OF TEST	RESULT	DATE
suction line	Petro Tite	pass @ +.001	06/11/93
return line	Petro Tite	pass @ +.002	06/11/93
1,000 gallon dsl. gen.	Petro initial system	pass @ -.015	06/17/93

As required by law, a copy of these reports have been forwarded to the following authorities with an "X" placed next to their name:

X Industrial Division CONF#: 16891690
Nassau County Fire Marshal
899 Jerusalem Avenue - P.O. Box 128
Uniondale, New York 11553

Nassau County Department of Health
240 Old Country Road ID#:
Mineola, NY 11501 CONF#:
ATTN.: B.L.R.M. - Room 500 FNCK#:

Ms. Cathy Gibbons
Oil Spills Dept. SPILL#:
N.Y.S.D.E.C.
SUNY @ Stony Brook - Bldg. 40
Stony Brook, NY 11790

We will contact you prior to 06/17/95, which is the next required test date.

Yours truly,

Scott Schuck
Tank Testing Manager

Fenley & Nicol Co. Inc.

OWNER Property ☒ Tank(s) ☒

Name: GRUMMAN Corporate Services, Operations, MAILSTOP D08-GHQ, Address: BETHPAGE, NY 11714-3586, Representative: Scott Engmann, Telephone:

2. OPERATOR

Name: GRUMMAN, Address: BETHPAGE, Representative: PLANT #111, Telephone:

3. REASON FOR TEST (Explain Fully)

N.C.F.M. CODE

4. WHO REQUESTED TEST AND WHEN

#1 Above

Name | Title | Company or Affiliation | Date

Address | Telephone

5. TANK INVOLVED

Use additional lines for manifolded tanks

Identify by Direction	Capacity	Brand/Supplier	Grade	Approx Age	Steel/Fiberglass
Plant #111	1000		Diesel	± 20 YRS	Steel

6. INSTALLATION DATA

Location	Cover	Fills	Vents	Siphones	Pumps
South of plant #111	Earth	1-2" Direct	1-2" Vent		Feed + Ret To Diesel Gen,
North inside driveway, Rear of station, etc	Concrete, Black Top, Earth, etc	Size, Tiltfill make, Drop tubes, Remote Fills	Size, Manifolded	Which tanks?	Suction, Remote, Make if known

7. UNDERGROUND WATER

Depth to the Water table: Below Bottom of Tank — Is the water over the tank? ☐ Yes ☒ No

8. FILL-UP ARRANGEMENTS

Tanks to be filled _____ hr. _____ Date — Arranged by _____ Name _____ Telephone

Extra product to "top off" and run tank tester. How and who to provide? Consider NO Lead

Terminal or other contact for notice or inquiry _____ Company _____ Name _____ Telephone

9. CONTRACTOR, MECHANICS, any other contractor involved

F+N
445 Brook Ave
Deer Park NY 11729
Scott Matzen

10. OTHER INFORMATION OR REMARKS

JOB# 91219
CONTR# 16891690
PR# 93109

Additional information on any items above. Officials or others to be advised when testing is in progress or completed. Visitors or observers present during test, etc.

11. TEST RESULTS

Tests were made on the above tank systems in accordance with test procedures prescribed for as detailed on attached test charts with results as follows:

Tank Identification	Tight	Leakage Indicated	Date Tested
Diesel Plant #111	-.015		6-17-93
1,000 Gal	G.P.H.		
Manh# 111-01-3			

12. SENSOR CERTIFICATION

Date _____

No. of Thermal Sensor _____

13. This is to certify that these tank systems were tested on the date(s) shown. Those indicated as "Tight" meet the criteria established by the National Fire Protection Association Pamphlet 329.

Technicians

1. Scott Matzen — Certification # _____

2. _____ — Certification # _____

Fenley & Nicol Co. Inc. — By: Signature _____

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