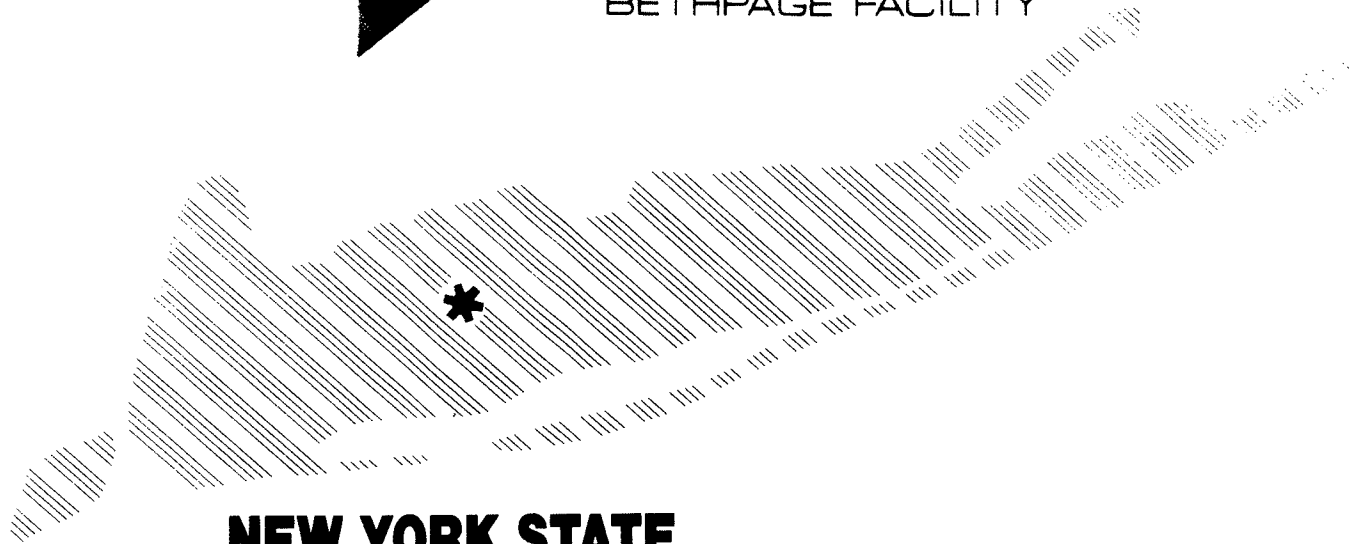


GRUMMAN



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

NGINS000121988



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:

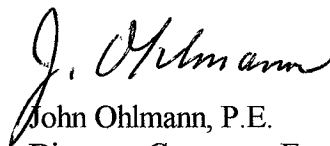
I am pleased to submit for your review three copies of the enclosed document, entitled "New York State Site Registry Delisting Petition, Headquarters Complex, Bethpage, New York," for the Grumman Aerospace Corporation property located off Stewart Avenue in Bethpage, New York.

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,



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

JO/ss

Enclosure

cc: w/encl.: Robert Marino (NYSDEC)

▲1167/JO03135.dec

NGINS000121990

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

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

<u>Requirement</u>	<u>Response</u>
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: <u>142,000 square feet</u>
	Total: <u>428,000 square feet</u>

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, isopropylene, 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
 - CO₂
 - 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 ammonium 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, dichlorodifluoromethane
- 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/CO₂)
- storage room
 - CO₂ 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:

<u>Tank Number</u>	<u>Type/Use</u>	<u>Tank Size</u>	<u>Tank Contents</u>	<u>Tightness Testing</u>	<u>Status</u>	<u>Remarks</u>
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 naphtha
- 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.

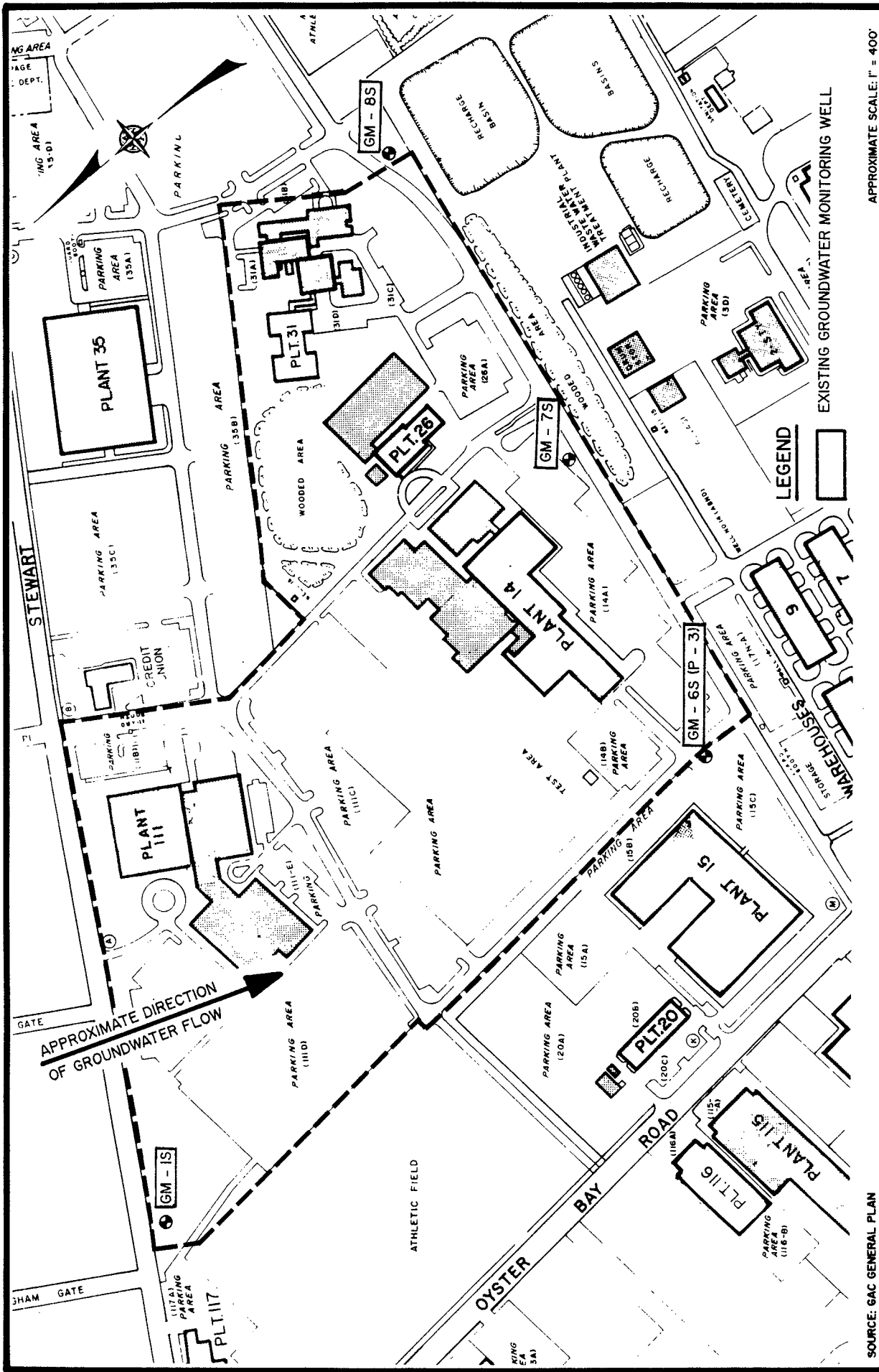
Until such time as the EPA finalizes its review of all investigation findings and releases all details concerning Operable Unit 1, it is not possible to fully characterize the extent of any potential off-site impacts. However, the Headquarters Complex is located approximately 900 feet lateral (to groundwater 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.



APPROXIMATE SCALE: 1" = 400'

GRUMMAN AEROSPACE CORPORATION
 BETHPAGE FACILITY
 HEADQUARTERS COMPLEX
WELL LOCATION MAP

FIGURE 3-1

SOURCE: SAC GENERAL PLAN

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

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

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

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.

Section 5



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.

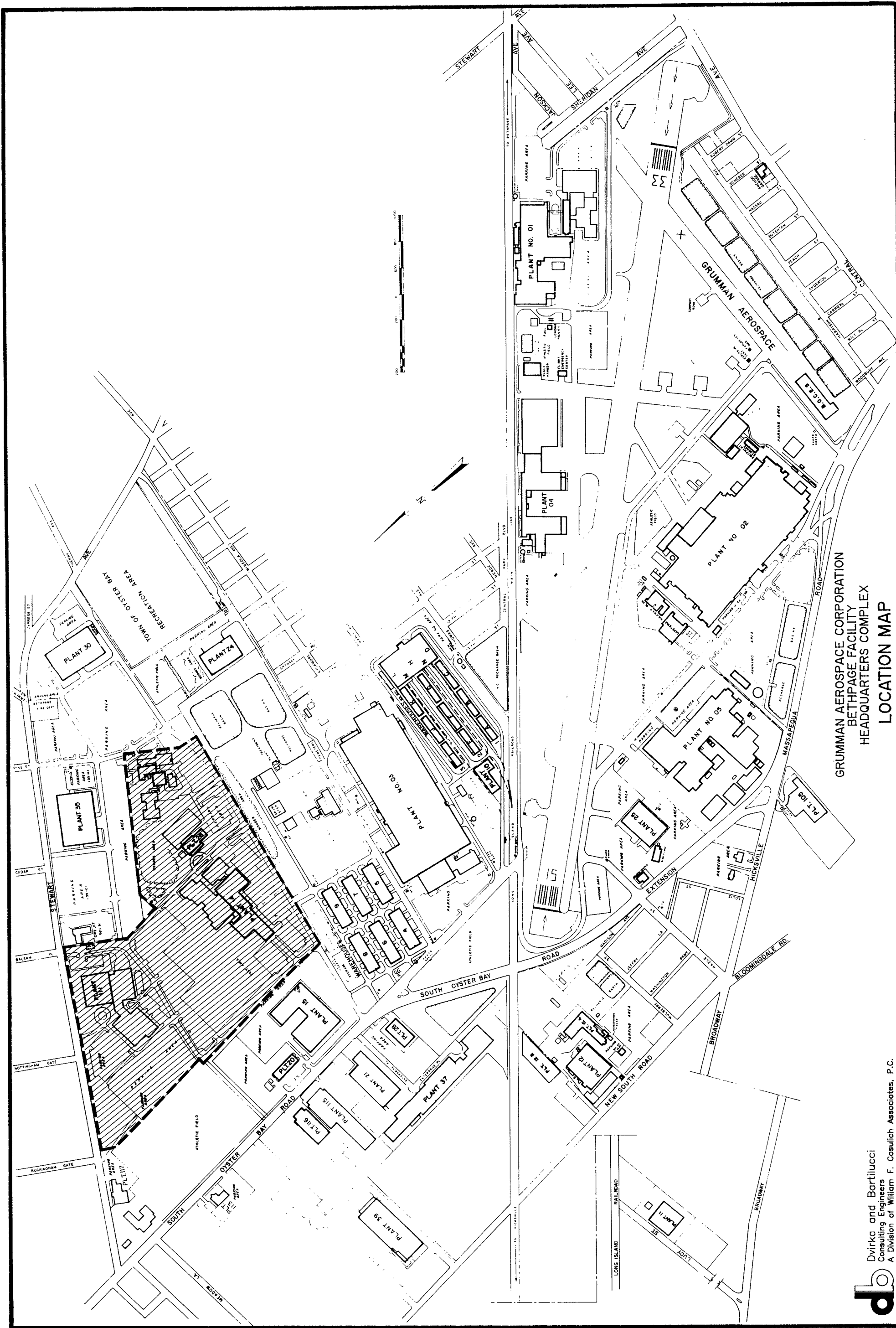
USEPA - Region 2, Proposed Plan Superfund Update Hooker Chemical/Ruco Polymer Site, Hicksville, New York, July 1990.

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



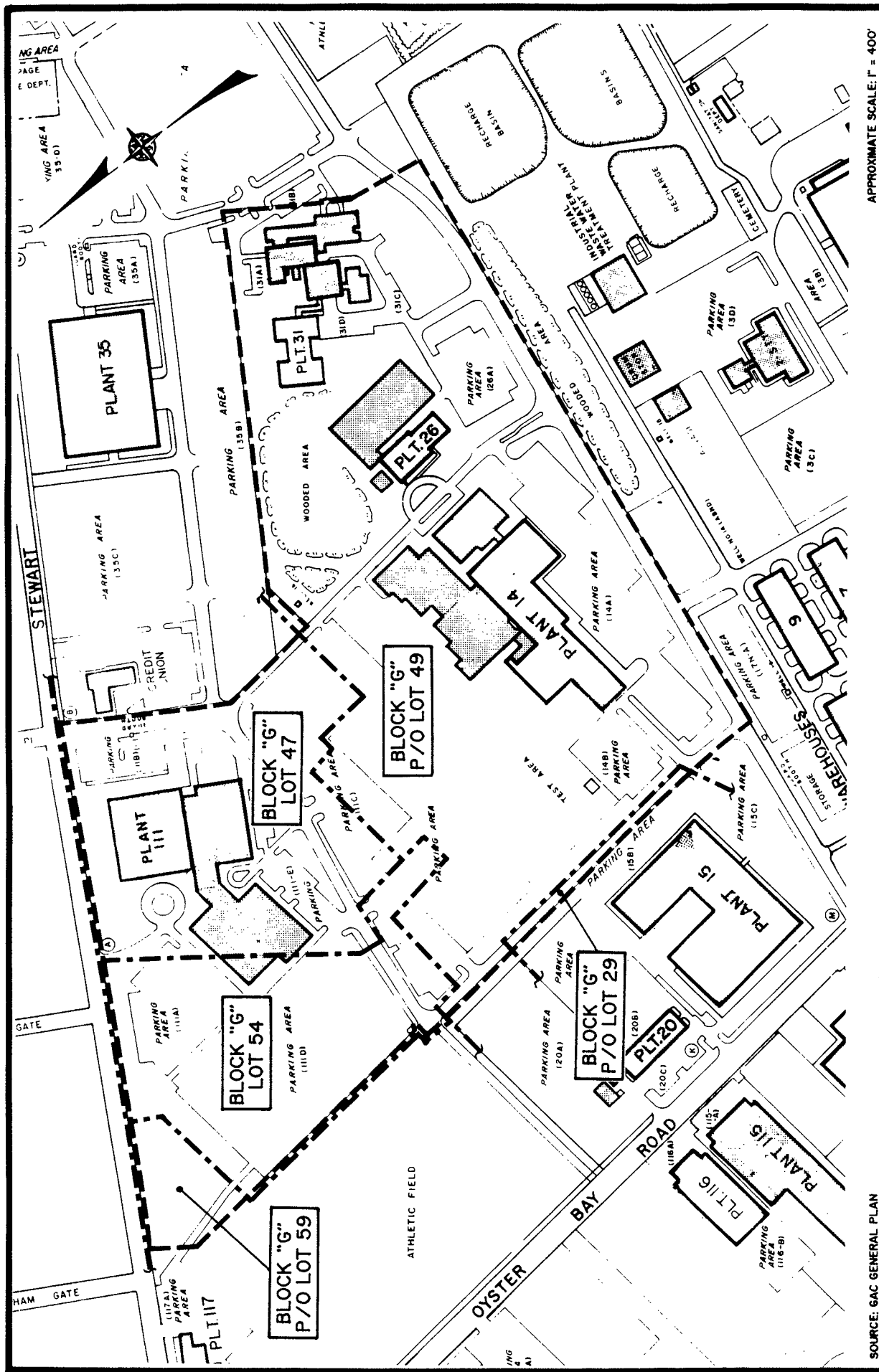
GRUMMAN AEROSPACE CORPORATION
 BETHPAGE FACILITY
 HEADQUARTERS COMPLEX
 LOCATION MAP

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

Appendix B

APPENDIX B

SITE PLAN



APPROXIMATE SCALE: 1" = 400'

GRUMMAN AEROSPACE CORPORATION
 BETHPAGE FACILITY
 HEADQUARTERS COMPLEX

SITE PLAN

SOURCE: SAC GENERAL PLAN



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

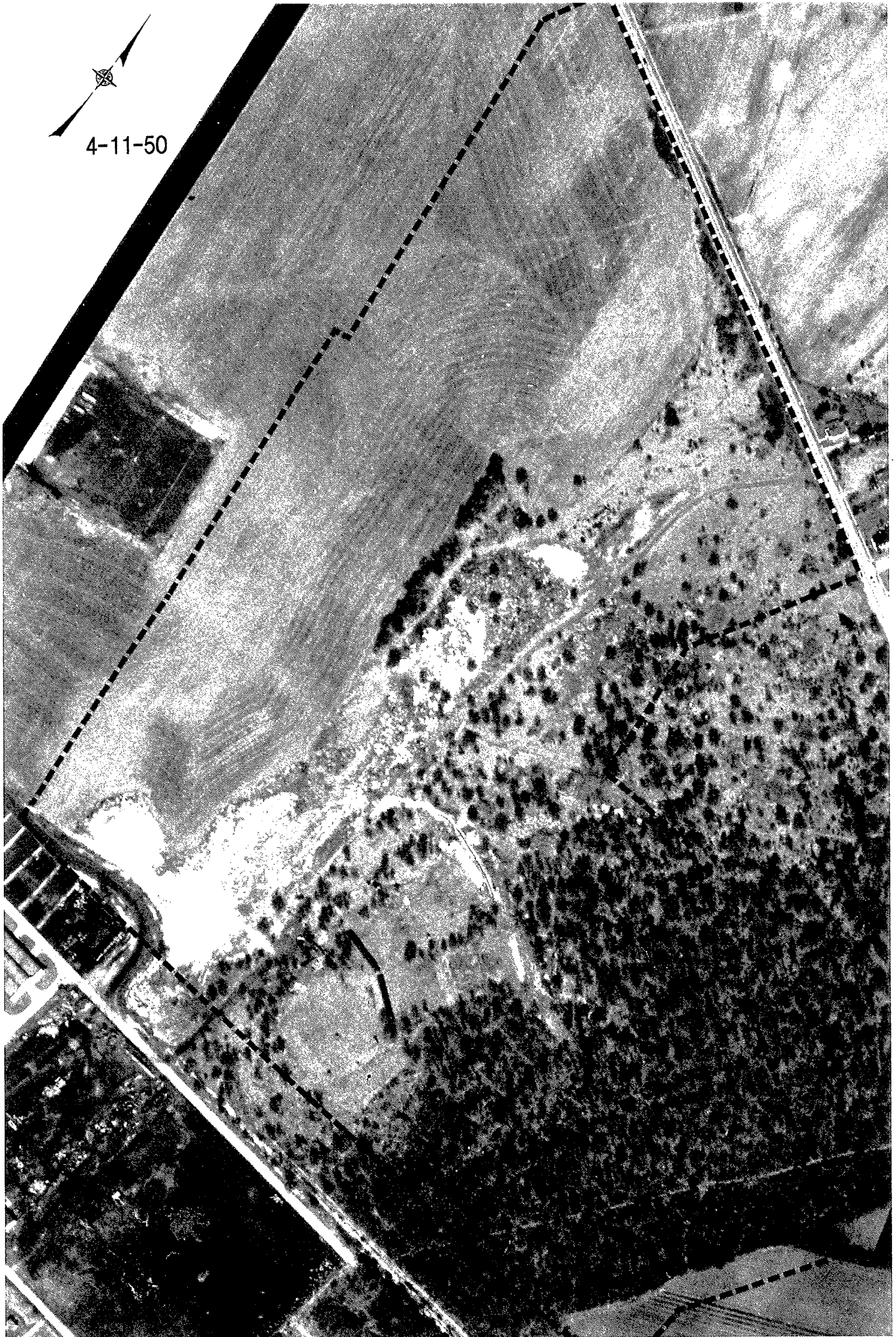
Appendix C



APPENDIX C

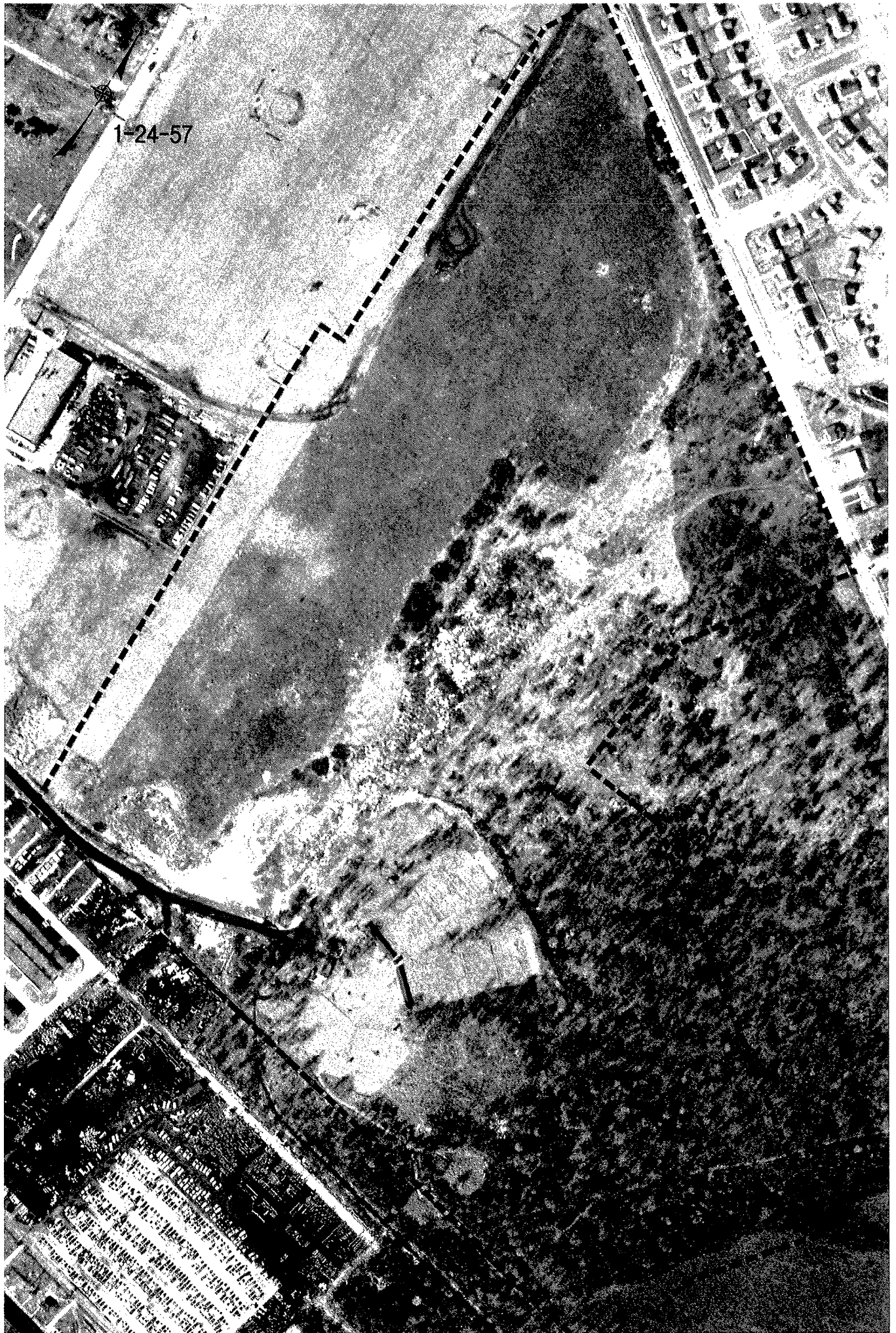
AERIAL PHOTOGRAPHS (1950-1988)

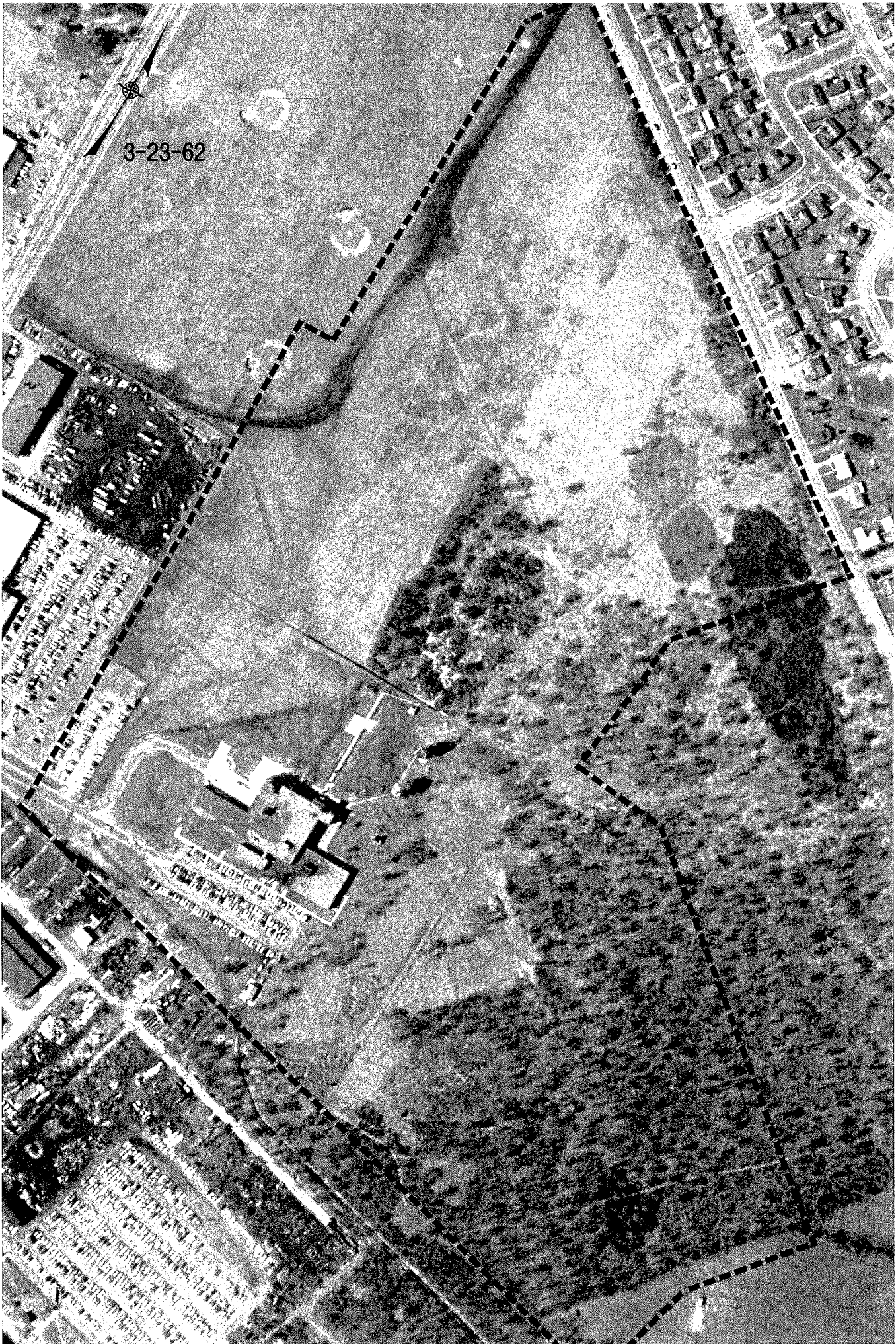
4-11-50



NGINS000122033

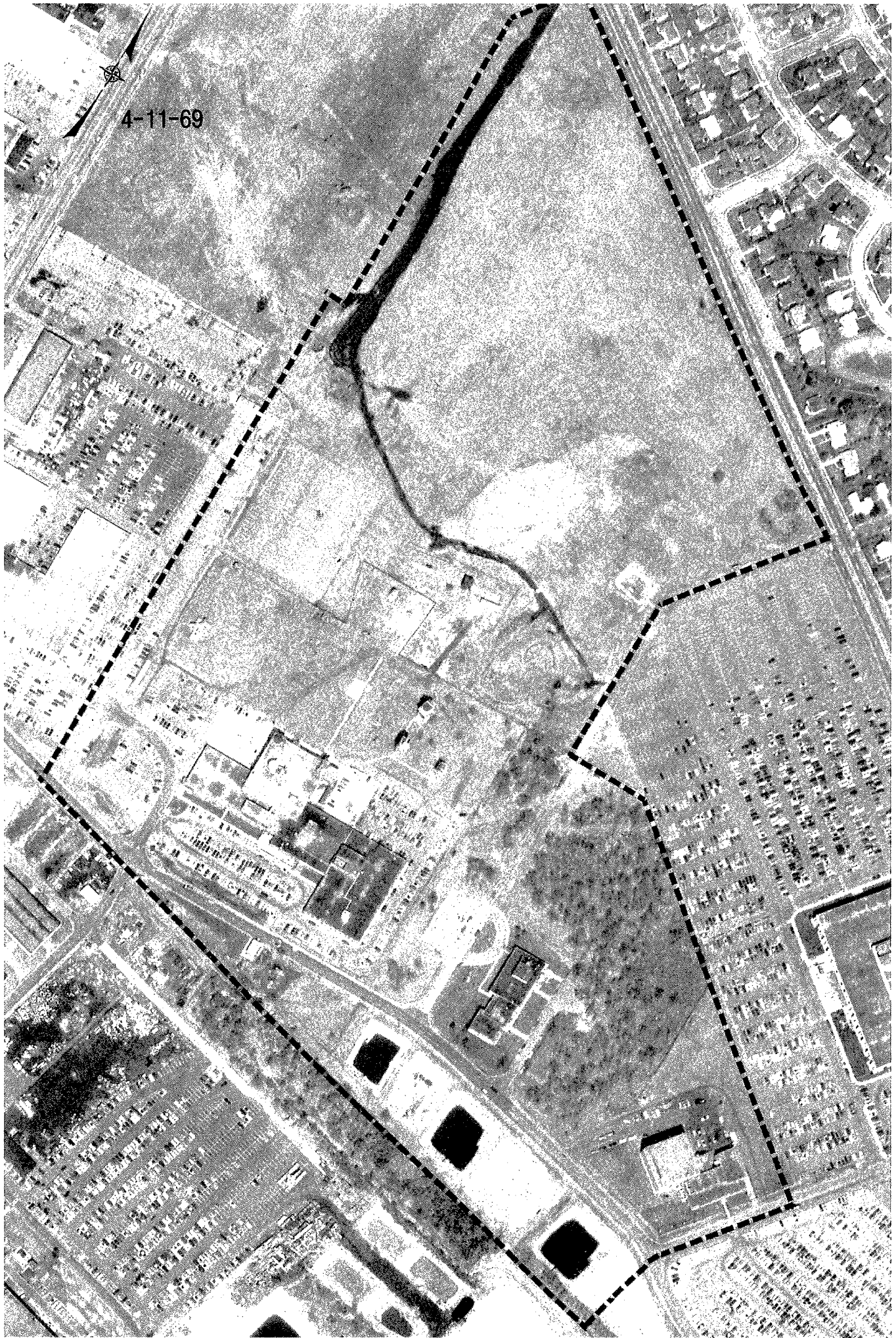
1-24-57

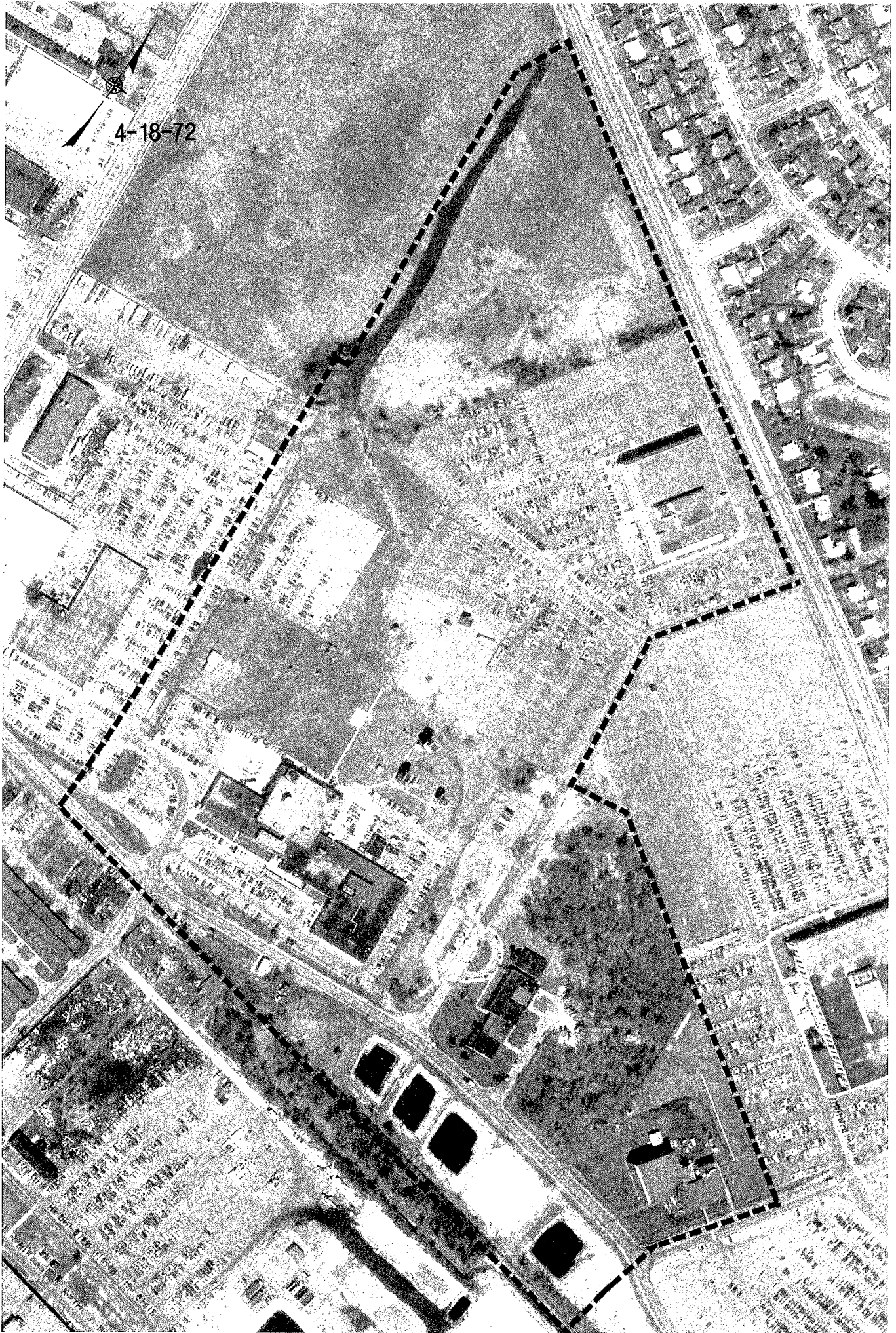




3-23-62

4-11-69





3-8-88



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	Still - 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	Boiler	No. 2	3000	--	FRP	12-31-58
15-01-1	Generator	No. 2	10000	--	Steel	12-31-78
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

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

Facility Name GRUMMAN CORPORATION - PLANT 14

Facility Address BETHPAGE NY 11714

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

Tank Number	Location	Design Capacity (Gallons)	Material of Construction	Internal Protection	External Protection	Piping	Material Currently or Last Stored		Status	Tank Installation Date (Month/yr)	Leak Detection Sys.	Secondary Containment	Product Gauge	Dispenser Method	Fill	Additional Information for Abandoned Tanks	
							NCMH Number	Name								Date Last Used (Month/yr)	Cond-tion
1401		10,000	1	2	2	3	1	64761	NO. 6 FUEL OIL	1960	5	5	1	2	2		
1402		10,000	1	2	2	3	1	64761	NO. 6 FUEL OIL	1960	5	5	1	2	2		
1403		3,000	2	2	4	2	2		PHOTO CATH.	01/85	5	5	1	2	1		
1404		25,000	2	2	4	2	2		PHOTO CATH	01/85	5	5	1	2	1		

THOMAS S. GULOTTA
COUNTY EXECUTIVE



Buildings 14
new tank
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 DO8-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.

NGINS000122046

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

JO/JGS:tla

TLA-1179

NGINS000122047

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)

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

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:

Facility I.D. _____ Date Rec'd. _____

For Office Use Only

Facility Exempt Fac. Yes No Permit Months: _____

Facility Name Grumman Aerospace Corporation	Street Address Mail Stop: D08-GHQ	Post Office Bethpage	State N.Y.	Zip 11714-3580	Phone 516-575-2385
Facility Mailing Address (If different from above)	Facility Contact Person (Name & Title) John Ohlmann, P.E., Director Corp. Env. Tech. & Compliance				
Facility Owner same	Street Address	Post Office	State	Zip	Phone
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 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 Director, Corporate Environmental Technology and Compliance Date

John Ohlmann, P.E. *J. Ohlmann* 3/2/93

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. Disapproved

Approved

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	Material Currently or Last Stored			Status	Tank Installation Date (Month/yr)	Leak Detection Sys.	Secondary Containment	Product Gauge	Dispenser Method	Fill	Additional Information for Abandoned Tanks	Date last Used (Month/yr)	Condition		
								Type	NCMI Number	Name												
2	1405	3	300	1	1	2	8	2	2	2	P	1	8	1	2	1						

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

JO:tla
TLA-289
Enclosure

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

NGINS000122050

•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. No. of Months

Approved Disapproved

Action	Tank Number	Location	Design Capacity (Gallons)	Material of Construction	Internal Protection	External Protection	Piping	Material Currently or Last Stored		Status	Tank Installation Date (Month/yr)	Leak Detection Sys.	Secondary Containment	Product Gauge	Dispenser Method	Fill	Additional Information for Abandoned Tanks	
								NC/DII Number	Name								Date Last Used (Month/yr)	Condi- tion
	1403		3000	2	2	3	8	2		1	12/89	8	3	1	2	2		
	1404		2500	2	2	3	8	2		1	12/89	8	3	1	2	2		

Facility Name GRUMMAN AEROSPACE CORPORATION

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

NGINS000122051

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

NOVEMBER 11, 1992

NASSAU COUNTY FIRE MARSHAL
899 JERUSALEM AVENUE
UNIONDALE, NY 11553

Gentleman:

Enclosed please find a copy of the Tank System Tightness Report 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

PLEASE PRINT

1. OWNER

Property Tenet

Common Aerospace Corp.
Name Address Representative To

2. OPERATOR

Common Parties Bethpage, NY
Name Address Representative To

3. REASON FOR TEST
(Explain Fully)

Part of Contract

4. WHO REQUESTED TEST AND WHEN

Part of Contract
Name Title Company or Affiliation To

5. TANK INVOLVED

Use additional lines for multiple tanks

Model by Description	Capacity	Brand/Supplier	Grade	Approx Age	Status
Tank 14-03	275	—	Diesel	—	Stk

6. INSTALLATION DATA

Location	Cover	Size	Depth	Separator	Purpose
—	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 used 8:00 to 11:30-92 Date Arranged by Tyree Bros.
Extra product to "top off" and run tank longer. How and who to provide? Consider NO Lead
Terminal or other contact to school or industry Company Name Title

9. CONTRACTOR MECHANICS, any other contractor involved

TYREE BROS.
ENVIRONMENTAL SERVICES, INC.
208 ROUTE 109

10. OTHER INFORMATION OR REMARKS

FARMINGDALE, N.Y. 11735
(516) 249-3150
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.

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	Type	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 the National Fire Protection Association Paragraph 22B.

Technician Arnold Kulp
Certification # 295

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

DATA CHART
For Use With

8010-101
10/17/78

1 LOCATION: Plant #14 Bellevue WA

2 OWNER: Chumma

3 OPERATOR: _____

4 REASON FOR TEST: _____

5 TEST REQUESTED BY: _____

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: _____ APPROXIMATE BURIAL DEPTH: _____

11 IDENTIFY EACH LINE AS TESTED	12 TIME (MILITARY)	13 LOG OF TEST PROCEDURES, AMBIENT TEMPERATURE, WEATHER, ETC.	14 PRESSURE		15 VOLUME		16 TEST RESULTS	
			PSI OR KPa		READING			NET CHANGE
			BEFORE	AFTER	BEFORE	AFTER		
<u>Raton</u>	<u>815</u>	<u>Sp. & test</u>	-	15	-	-		
<u>Lia</u>	<u>830</u>	<u>Ch</u>	13	15	072	070	-002	
	<u>845</u>		14	15	069	068	-001	
	<u>900</u>		15	15	067	067	000	
	<u>915</u>		15	15	066	066	000	
	<u>02</u>	<u>Blud Bone</u>	-	-	065	071	006	
<u>Subj</u>	<u>815</u>	<u>Sp. & test</u>	-	15	-	-		
<u>Lia</u>	<u>830</u>	<u>Ch</u>	14	15	070	069	-001	
	<u>845</u>		14	15	068	067	-001	
	<u>900</u>		14	15	067	066	-001	
	<u>915</u>		14	15	066	065	-001	
		<u>Blud Bone</u>	-	-	071	080	009	

-003 6" (max)

04

-004 6" (max)

Data Chart for Tank System Tightness Test

PLEASE PRINT

1 OWNER Property Rental

2 OPERATOR

3 REASON FOR TEST (Reason Fully)

4 WHO REQUESTED TEST AND WHEN

5 TANK INVOLVED
Use additional lines for multiple tanks

6 INSTALLATION DATA

7 UNDERGROUND WATER

8 FILL-UP ARRANGEMENTS

9 CONTRACTOR, MECHANICS, AND OTHER CONTRIBUTOR

10 OTHER INFORMATION OR REMARKS

11 TEST RESULTS

12 SENSOR CERTIFICATION
G-52
537
Serial No. of Probe

13 This is to certify that these tank systems were tested on the date(s) shown. These included as "tight" meet the criteria established by the National Fire Protection Association Paragraph 325.

14 Gloria Plant #14 Butte MT 11-2-92
Name of System, Owner or User Location, City or Town Date of Test

15 TANK TO TEST 4-3
Dies
Name of Tank

15a BRIEF DIAGRAM OF TANK FIELD
Cover
Clean

16 CAPACITY
Nominal Capacity 275 Gallons
By most accurate capacity chart available 275 Gallons

From Station Chart Tank Manufacturer's Chart Capacity Engineering Data Chart supplied with tank Other

17 FILL-UP FOR TEST

Time when System before fill-up _____

Time when System after fill-up 24 _____

Volume of Water Added 44 _____

Volume of Water Remaining 275 _____

Volume of Water Evaporated 20 _____

Volume of Water Lost 0 _____

Total Volume of Water 295 _____

18 SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK Water in tank Lines being tested with water High water table in tank location

See manual sections 325-328. Check items and record procedure in log (27)

Use minimum air-water test pressure for all tests. Four ground line dies not used at double end tanks.

Transfer water to line 25a

19 TANK MEASUREMENTS FOR TSTT ASSEMBLY

Bottom of tank to grade 92

Add up for 1 probe die 30

Total tubing in assembly - approximate _____

20 EXTENSION HOSE SETTING

Tank top to grade 48

Extend hose on suction tube 8' or more above tank top _____

22 Thermal sensor reading after circulation 62.1

23 Pressure 15 min range of expanded charge 25.5

COEFFICIENT OF EXPANSION (Complete after circulation)

24a Pressure at P1 (psia) _____

Observed at P1 (psia) _____

Hydrogen employed _____

Observed Sample Temperature 44

Corrected at P1 (psia) _____

Observed at P1 (psia) _____

Coefficient of Expansion for Invented Product From Table B _____

Transfer COE to Line 25b

21 VAPOR RECOVERY SYSTEM Stage 1 Stage 2

24b COEFFICIENT OF EXPANSION RECIPROCAL METHOD

Type of Product Dies

Hydrogen Employed 30

Temperature in Tank After Circulation 68

Temperature of Sample 60

Difference in T -8

Observed at P1 (psia) 25.5

Corrected at P1 (psia) 21.98

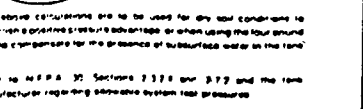
Transfer to Line 25a

24c FOR TESTING WITH WATER - Table C 8 D

Water Temperature after Circulation Table C _____

Coefficient of water Table D _____

Added Surfactant? Yes No Transfer COE to Line 25b



25 (a) Total quantity in test tank (110 or 115) _____

(b) Coefficient of expansion for Invented product 1000

(c) Volume change in the tank per 1° 0.000134212

26 (a) 2421252 (b) 1000 (c) 0.000134212

LOG OF TEST PROCEDURES		28	29	30	31	32	33	34	35	36	37	38	39	40	
DATE	RECORD DETAILS OF SETTING UP AND RUNNING TEST (USE FULL LENGTH OF LINE IF NEEDED)	TIME	SOUNDING	STARTING		STOPPING		PRODUCT	TEMPERATURE	PRESSURE	RELATIVE HUMIDITY	WIND	REMARKS	TESTER	
				READING	UNIT	READING	UNIT								
	Pump + API S Amp														
	Spand High Lead								67873						
1000	Lead		1	42	110	790	-020	68008	-35	1014			-034		
1005	"		2	42	790	775	-015	138	420	1013			-029		
1010	"		3	42	775	765	-010	267	431	1013			-023		
1015	"		4	42	765	755	-010	374	425	1013			-023		
	Spand High Lead														
	Lead		5	12					514	1120					
1020	Lead		6	12	220	230	+010	635	421	1012			-002		
1105	"		1	12	230	230	+000	653	420	1002			-002		
1110	"		2	12	230	235	+005	678	418	1002			+003	+001	
1115	"		3	12	235	235	+000	688	415	1002			-002	-001	
1120	"		4	12	235	235	+000	707	419	1002			-002	-003	
1125	"		5	12	235	235	+000	727	420	1002			-002	-005	
1130	"		6	12	235	235	+000	747	420	1002			-002	-007	
1135	"		7	12	235	240	+005	769	422	1002			+002	-004	
1140	"		8	12	240	240	+000	783	416	1002			-002	-016	
1145	"		9	12	240	245	+005	810	425	1003			+002	-004	
1150	"		10	12	245	245	+000	834	424	1002			-002	-006	
1155	"		11	12	245	245	+000	859	425	1003			-003	-009	
1200	"		12	12	250	250	+000	879	420	1002			+003	-006	
1205	"		13	12	250	250	+000	901	422	1002			-002	-008	
1210	"		14	12	250	250	+000	925	424	1002			-002	-010	
1215	"		15	12	250	250	+000	942	417	1002			-002	-012	
1220	"		16	12	250	255	+005	959	417	1002			+003	-009	
1225	"		17	12	255	255	+000	974	415	1002			-002	-011	

1230	"		18	12	255	255	+000	989	415	1002			-002	-013	
1235	"		19	12	255	255	+000	9905	416	1002			-002	-015	
1240	"		20	12	255	255	+000	020	415	1002			-002	-017	
1245	"		21	12	255	260	+005	037	417	1002			+003	-014	
1250	"		22	12	260	260	+000	059	422	1002			-002	-016	
1255	"		23	12	260	260	+000	083	424	1002			-002	-018	
1300	"		24	12	260	260	+000	103	420	1002			-002	-020	

020
22
-010
6/14
8/15

P-T Tank Test Data Chart
Additional Info

Test Volume Change at Conclusion of Precision Test: 0.0
Signature of Tester: *[Signature]*
Date: 11-2-52

Statement
Tank and product handling system has been tested tight according to the Precision Test Criteria as established by NFPA publication 329. This is not intended to indicate permission of a test.

OR

Tank and product handling system has failed the tightness test according to the Precision Test Criteria as established by NFPA 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 pollutant in 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: _____

ENVIRONMENTAL SERVICES, INC.

208 ROUTE 109 • FARMINGDALE, NEW YORK 11735

TR 14-01-04


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

Testing Technician: Armand Kuipa
License #: GCF-235
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 <input checked="" type="checkbox"/> Tanks <input checked="" type="checkbox"/>	Grumman Aerospace PO Box 396 Bellmore, NY 11714 Name: _____ Address: _____ Telephone: _____ Representative: John Sewa 575-8176					
2. OPERATOR	Grumman Plant 14 Bellmore, NY					
3. REASON FOR TEST (Explain Fully)	OWNER REQUEST					
4. WHO REQUESTED TEST AND WHEN	Name: Sam Adams ABOVE Company or Affiliation: _____ Date: _____ Address: _____ Telephone: _____					
5. TANK INVOLVED <small>Use additional lines for manifolded tanks</small>	Identify by Direction FRONT OF BUILDING	Capacity 550	Brand/Supplier —	Grade DIESEL	Approx. Age —	Steel/Fiberglass F/G
6. INSTALLATION DATA	Location FRONT OF BUILDING <small>North inside driveway, Rear of station, etc.</small>	Cover CONCRETE <small>Concrete, Black Top, Earth, etc.</small>	Flts 2" <small>Size, Thread make, Drop tubes, Remote Flts</small>	Vents 1 1/4" <small>Size, Manifolded</small>	Siphons — <small>Which tanks?</small>	Pumps — <small>Suction, Remote, Make if known</small>
7. UNDERGROUND WATER	Depth to the Water table: BROAD Is the water over the tanks? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
8. FILL-UP ARRANGEMENTS	Tanks to be filled: 8:00 AM Date: 2/5/90 Arranged by: JOHN SEWA 575-8176 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 procedure prescribed for as detailed on attached test charts with results as follows:					
		Tank Identification	Tight	Leakage Indicated	Date Tested	
		#14-01-04 550 DIES. LAL TENTS	YES	+0.03 gph	2/5/90	
			YES	-0.01, -0.02 gph	2/5/90	
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 328.					
Date: 2/5/90 Serial No. of Thermal Sensor: 761	Technicians: 1. Armand Kulpa Certification #: GPF-295		TYREE BROS. ENVIRONMENTAL SERVICES, INC. 208 ROUTE 109 FARMINGDALE, N.Y. 11735 (516) 249-3150 Signature: Laurie Jodice			

15. TANK TO TEST:
 Building # 14
 Diesel for Generator
 Brand and Grade

15a. BRIEF DIAGRAM OF TANK FIELD
 Tank Diameter 48"
 Gallons

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
 Slick Water Bottom before fill-up 0" to 0"
 Tank Diameter 48"
 Inventory 550 Gallons
 Total Gallons as Reading 550

Tank 48"
 Top off +10
 Water -0
 Total 560
 Transfer total to line 25a

18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK
 Water in tank (Units) being tested with LEVELL
 High water table in tank excavation

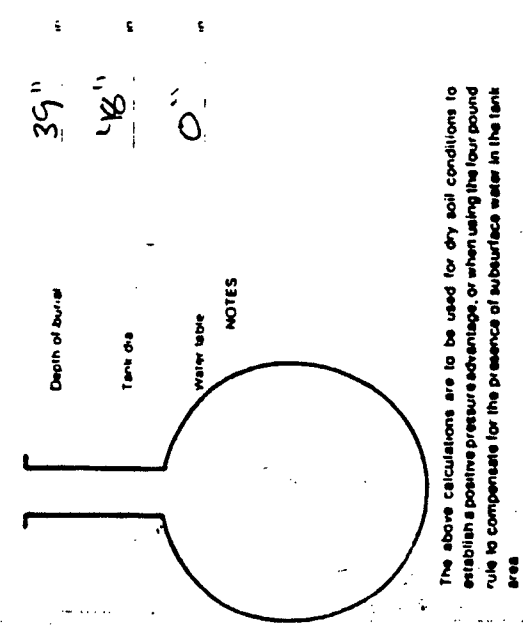
- See manual sections applicable. Check below and record procedure in log (27)
 Use maximum allowable test pressure for all tests
 Four pound rule does not apply to double-walled tanks
 Complete section below
- Is four pound rule required? Yes No
 - Height to 12" mark from bottom of tank 135"
 - Pressure at bottom of tank 4.185 PSI
 - Pressure at top of tank 2.697 PSI

19. TANK MEASUREMENTS FOR TSIT ASSEMBLY
 Bottom of tank to grade 87"
 Add 30" for T probe assembly
 Total tubing to assemble - approximate 120"

20. EXTENSION HOSE SETTING
 Tank top to grade 39"
 Extend hose on suction tube 6 or more below tank top

22. Thermal Sensor reading after circulation 08935 digits
48-49 Between digits
 23. Digits per °F in range of expected change 301 digits

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



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

21. VAPOR RECOVERY SYSTEM Stage I Stage II
 24b. COEFFICIENT OF EXPANSION RECIPROCAL METHOD
 Type of Product Diesel
 Hydrometer Employed 4
 Temperature in Tank After Circulation 08935
 Temperature of Sample 48.6 °F
 Difference -1 °F
 Observed API Gravity 33.0
 Reciprocal 2197 Page # 37
 Total quantity in full tank (16 or 17) 560
 Reciprocal 2197 Volume change in the tank per °F 254893035
 Transfer to Line 26a

24c. FOR TESTING WITH WATER see Table C & D
 Water Temperature after Circulation
 Table C
 Coefficient of Inlier Table D
 Added Surfactant? Yes No Transfer COE to Line 25b

25. (a) 301 x (b) 254893035 = (c) 0.0084682 gallons
 Total quantity in full tank (16 or 17)
 Coefficient of expansion for Invoiced product
 Volume change in this tank per °F
 This is total. 0.008

27 DATE TIME (24 hr)	28 Record details of setting up and running test (Use full length of time if needed)		30 HYDRASTATIC PRESSURE CONTROL		31 VOLUME MEASUREMENTS (V) RETURN TO GRADUATE		34 TEMPERATURE COMPENSATION USE FACTOR (F)				38 NET VOLUME CHANGING EACH READING	39 ACCUMULATED CHANGE	
			29 Reading No	32 Product in Graduate		33 Product Recovered (V)	35 Thermal Sense of Reading	36 Change Higher + Lower - (C)	37 Compensation (C) = (a) + Expansion (+) Contraction (-) 0.03V - 0.37(I)	Temperature Adjustment Volume Minus Expansion (+) or Contraction (-) 0.03V - 0.37(I)			
				Beginning of Reading	Level to which Reservoir Refilled (V)						Before Reading		After Reading
		ARRIVED ON location											
		setup-top off											
		start circulation-tack API											
10:30	1	FIRST Thermal sensor		42									
10:45	2	Start High Level	41.6	42	500	480	-0.20			-18	-0.014		-0.006
11:00	3	continue High Level	41.6	42	480	460	-0.20			-19	-0.015		-0.005
11:15	4		41.7	42	460	445	-0.15			-18	-0.014		-0.001
11:30	5	DROD To Low Level		12									
11:45	6	first Thermal sensor		12									
11:50	7	start Low Level	12.2	12	300	310	+0.10			-9	-0.007		+0.017
11:55	8	continue Low Level	12.0	12	310	310	+0.00			-6	-0.005		+0.005
12:00	9		11.9	12	310	305	-0.05			-7	-0.006		+0.006
12:05	10		12.0	12	305	305	+0.00			-3	-0.002		+0.002
12:10	11		11.9	12	300	295	-0.05			-4	-0.003		+0.006
12:15	12		12.0	12	295	295	+0.00			-3	-0.002		+0.003
12:20	13		11.9	12	295	290	-0.05			-3	-0.002		+0.005
12:25	14		12.0	12	290	290	+0.00			-4	-0.003		+0.002
12:30	15		12.0	12	290	296	+0.06			-3	-0.002		+0.005
12:35	16		12.0	12	290	285	-0.05			-3	-0.002		+0.004
12:40	17		11.9	12	285	280	-0.05			-4	-0.003		+0.002
12:45	18		12.0	12	280	280	+0.00			-2	-0.002		+0.004
12:50	19		11.9	12	280	275	-0.05			-3	-0.002		+0.002
12:55	20		12.0	12	275	275	+0.00			-3	-0.002		+0.004
13:00	21		11.9	12	275	270	-0.05			-3	-0.002		+0.001
13:05	22		12.0	12	270	270	+0.00			-4	-0.003		+0.004
13:10	23		12.0	12	270	270	+0.00			-4	-0.003		+0.007

18	13:15	24	11.9	12	270	265	-005	794	-2	-002	-003	+004	1003
19	13:20	25	12.0	12	265	265	+000	791	-3	-002	+002	+006	1005
20	13:25	26	12.0	12	265	265	+000	788	-3	-002	+002	+008	1007
21	13:30	27	11.9	12	265	260	-005	785	-3	-002	-003	+005	1004
22	13:35	28	11.9	12	260	255	-005	782	-3	-002	-003	+002	1001
23	13:40	29	12.0	12	255	255	+000	778	-4	-003	+003	+005	1004
24	13:45	30	12.0	12	255	255	+000	775	-3	-002	+002	+007	1006
										+007	+2=	+004	
										f006	+2=	+003	

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 the system. Health Consultants Incorporated does not assume any responsibility or liability for any loss of product to the environment.

Tank Owner/Operator _____

Date _____

2 Statement
 1 Tank and product handling system has been tested light 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
 2 Tank and product handling system has failed the tank lightness test according to the Precision Test Criteria as established by N F P A publication 329

P-T Tank Test Data Chart
Additional Info

1 - Net Volume Change at Conclusion of Precision Test: 1.004 gph
 Signature of Tester _____
 Date _____

XXXXXX

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

34		TEMP COMP USE (0.0008	38 VOL CHNG	39 ACCUM
EPL	35	36	37	TEMP ADJ		
	THERM SEN RE	CHANGE +/-	COMPUTATION	NET VOL CHNG		
	8858	(c)	(c)*(a FACT)=	PER READING		
	8852	-6	-0.005	0.005		
05	8845	-7	-0.006	0.001		
	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		
	8829	-3	-0.002	-0.003		
	8825	-4	-0.003	0.003		
0	8822	-3	-0.002	0.002		
3	8819	-3	-0.002	-0.003		
	8815	-4	-0.003	-0.002		
0	8813	-2	-0.002	0.002		
05	8810	-3	-0.002	-0.003		
	8807	-3	-0.002	0.002		
	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		
	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
RESOTRED	BEGINING	BEFORE	AFTER	PR
-----	-----	-----	-----	---
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

1 LOCATION: Greenway 214 NY
 2 OWNER: Beth Pys 2-5-50
 3 OPERATOR: _____
 4 REASON FOR TEST: _____

Telephone No. _____
 Telephone No. _____
 Telephone No. _____

City _____
 State _____
 Zip _____
 Address (if different than location) _____
 Billing Address _____

Name _____
 Title _____
 Order No. _____

Date, Mgr. or Other _____
 Name _____
 Title _____

5 TEST REQUESTED BY: _____
 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 _____

DATE OF TEST	LOCATION	OWNER
9:00	Greenway	Beth Pys
9:15	Greenway	Beth Pys
9:30	Greenway	Beth Pys
9:45	Greenway	Beth Pys
10:00	Greenway	Beth Pys
9:00	Greenway	Beth Pys
9:15	Greenway	Beth Pys
9:45	Greenway	Beth Pys
10:00	Greenway	Beth Pys

11 IDENTIFY EACH LINE AS TESTED	12 TIME (MILITARY)	13 LOG OF TEST PROCEDURES, AMBIENT TEMPERATURE, WEATHER, ETC.	14 PRESSURE		15 TEMPERATURE IN TANKS		16 PRESSURE		17 VOLUME		18 TEST RESULTS	CONCLUSIONS, REPAIRS AND COMMENTS
			BEFORE	AFTER	BEFORE	AFTER	BEFORE	AFTER	BEFORE	AFTER		
Dev	0900	Start Test		15								
	9:15	Cont.	14	15	060	059	058	057	001			-002 6 P 4 P 200 P 200
	9:30		14	15	058	057	055	054	001			
	9:45		15	15	057	057	055	054	000			
	10:00		15	15	055	055	055	055	005			
	9:00	Bleed Back		15	058	060	060	060	005			
	9:15	Start Test	14	15	055	058	058	058	001			
	9:20	Cont.	15	15	057	055	055	055	000			
	9:45		15	15	055	055	055	055	000			
	10:00		15	15	055	055	055	055	000			
		Bleed Back			060	063	063	063	003			

PLANT 26

Table A - 1

GRUMMAN AEROSPACE CORPORATION
BETHPAGE COMPLEX
EXISTING FLAMMABLE AND COMBUSTIBLE STORAGE TANKS

June 1984

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	Reclieving - 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

NGINS000122066

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
PETRO-TITE COORDINATOR

Member



Tyree
Environmental
Technologies

NGINS000122067

Data Chart for Tank System Tightness Test

PLEASE PRINT

1. OWNER Property <input type="checkbox"/> Tank(s) <input checked="" type="checkbox"/>	Gammman FEGOSPAR		Name	Address	Representative	Telephone
			Name	Address	Representative	Telephone
2. OPERATOR	Gammman Plant #26 Bethpage, NY		Name	Address	Representative	Telephone
3. REASON FOR TEST (Explain Fully)	Periodic Testing					
4. WHO REQUESTED TEST AND WHEN	Mason County Fire Marshal		Name	Address	Company or Affiliation	Date
5. TANK INVOLVED Use additional lines for manifolded tanks	Identify by Direction	Capacity	Brand/Supplier	Grade	Approx. Age	Steel/Fiberglass
	Tank # 26012	550	—	diesel	—	FG
6. INSTALLATION DATA	Location	Cover	Fills	Vents	Siphons	Pumps
	—	concrete	4"	2"	—	—
	North inside driveway, Rear of station, etc.	Concrete, Black Top, Earth, etc.	Size, Type, mate, 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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
8. FILL-UP ARRANGEMENTS	Tanks to be filled	Date	Arranged by		Name	Telephone
	8:00	6-27-91	Tyree Bros.			
	Extra product to "top off" and run tank tester. How and who to provide? Consider NO LIQUID.					
	Terminal or other contact for noise or injury	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 # 26012	Yes	-.018 GPH	6-27-91		
	Leak Test		-.003 GPH	6-27-91		
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 National Fire Protection Association Paragraph 228.					
6-27-91 751	Serial No. of Thermal Sensor	Technician		Testing Contractor or Company. By: Signature		
		Amend Kulp		TYREE BROS. Perina Costantini		
		Certification # 295		ENVIRONMENTAL SERVICES, INC.		
				208 ROUTE 109 Address		
				FARMINGDALE, N.Y. 11735		
				(516) 249-3150		

DATA CHART for use with PETRO TITE

1. LOCATION: Both Pipe Plant #26
Street No. and / or Corner City State Telephone No.

2. OWNER: Crummer
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 DISPENSER: _____

10. WEATHER _____ TEMP. IN TANKS _____
 F COVER C OVER LINES
 APPROXIMATE BURIAL DEPTH: _____ Concrete, Black Top, etc

IDENTIFY EACH LINE AS TESTED	12 TIME (MILITARY)	13 LOG OF TEST PROCEDURES, AMBIENT TEMPERATURE, WEATHER, ETC.	14 PRESSURE psi OF kPa		15 VOLUME READING		NET CHANGE	16 TEST RESULTS CONCLUSIONS, REPAIRS AND COMMENTS
			BEFORE	AFTER	BEFORE	AFTER		
	0800	Start test	-	15	-	-		
	815	Cont 1	14	15	050	055	-001	-003674 (PMS7)
	830	" "	14	15	058	057	-001	
	845	" "	14	15	056	055	-001	
	900	" "	15	15	055	055	+000	
		Blue Band	-	-	055	061	+006	06
	800	Stop "	-	15	-	-		
	815	" "	13	15	059	057	-002	-002674 (PMS5)
	830	" "	15	15	057	056	+000	
	845	" "	15	15	058	055	+000	
	900	" "	15	15	055	055	+000	
		Blue line	-	-	061	065	+004	06

Data Chart for Tank System Tightness Test

PLEASE PRINT

1. OWNER Property Tank

2. OPERATOR

3. REASON FOR TEST (Expansion Facility)

4. WHO REQUESTED TEST AND WHEN

5. TANK INVOLVED Use attachment table for identification

6. INSTALLATION DATA

7. UNDERGROUND WATER

8. FILL-UP ARRANGEMENTS

9. CONTRACTOR, MECHANICS, MECHANICAL SUPERVISOR

10. OTHER INFORMATION OR REMARKS

11. TEST RESULTS

12. SENSOR CERTIFICATION

Additional information on any other tanks checked or others in the absence when taking in or progress or completed. Volume of minimum amount during test. Test water results on the above tank problem in accordance with test procedures prescribed for as detailed on attached test sheets with results as follows:

Test Identification: _____ Type: _____ Leakage Indication: _____ Date Tested: _____

13. This is to certify that these tank systems were tested on the above dates. Those indicated as "tight" meet the criteria established by the National Fire Protection Association Paragraph 208.

Tester: _____

Company: _____

Address: _____

14. Gammaw Plant #26 Belhays N.Y. 6-27-91

Name of Supplier, Owner or Dealer: _____ Address: _____ State: _____ Date of Test: _____

15. TANK TO TEST Present

15a. BRIEF DIAGRAM OF TANK FIELD only low

16. CAPACITY Normal Capacity: 550 Gallons. By most accurate capacity chart available: 550 Gallons.

Free Station Chart Tank Manufacturer's Chart Company Engineering Data Charts supplied with Other _____

17. FILL-UP FOR TEST

Blank Water System before Fill-up: _____ to _____ Gallons. Tank Diameter: 42 inches. Volume: 42 Gallons. Total Gallons on Reading: 550

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

See manual sections appropriate. Check below and record procedure in tag (27)

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

Complete station notes:

1. Is four sound rule required? Yes No

2. Height to 12" mark from bottom of tank: 134

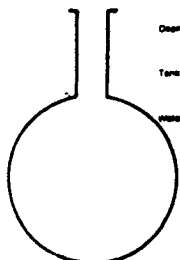
3. Pressure at bottom of tank: 415.5

4. Pressure at top of tank: 282

Depth of tank: 46

Tank dia: 42

Water level: 0



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

Refer to NFPA 20, Sections 3-3.2.4 and 3-7.2 and the test manufacturer regarding allowable system test pressure.

19. TANK MEASUREMENTS FOR TEST ASSEMBLY

Bottom of tank to grade: 58

Add 20" for "T" cross: 30

Total tubing to assemble - approximate: _____

20. EXTENSION HOSE SETTING

Tank top to grade: 42

Extend hose on suction tube 6" or more below tank top: _____

* If 6" pipe extends above grade, use top of 6"

22. Thermal-Sensor reading after circulation

Observed A #1 Gravity: _____

Hydrometer employed: _____

Observed Sample Temperature: _____

Corrected A #1 Gravity @ 60°F, From Table A: NA

Coefficient of Expansion for Involved Product From Table C: _____

24a. COEFFICIENT OF EXPANSION (Complete after circulation)

Observed A #1 Gravity: _____

Hydrometer employed: _____

Observed Sample Temperature: _____

Corrected A #1 Gravity @ 60°F, From Table A: _____

Coefficient of Expansion for Involved Product From Table C: _____

24b. COEFFICIENT OF EXPANSION RECIPROCAL METHOD

Type of Product: _____

Hydrometer Employed: 170/3

Temperature in Tank After Circulation: 62

Temperature of Sample: 67

Difference (T-t): 5

Observed A #1 Gravity: 320

Receivable: 2222 Page: 36

Total quantity in full tank (16 or 17): 560 Receivable: 0.25402590

Volume change in this tank per 1°F: _____

Transfer to Line 25a

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

Water Temperature after Circulation Table C: NA

Coefficient of Water Table D: _____

Added Surfactant? Yes No Transfer COE to Line 25b

23. Digits per 1" in range of expected change

Observed A #1 Gravity: _____

Hydrometer employed: _____

Observed Sample Temperature: _____

Corrected A #1 Gravity @ 60°F, From Table A: _____

Coefficient of Expansion for Involved Product From Table C: _____

25. (a) Total quantity in full tank (16 or 17): 560

(b) Coefficient of expansion for involved product: 0.000252025

(c) Volume change in this tank per 1°F: 0.000252025

Volume change per digit: 0.0003

27		28		29		30		31		32		33		34		35		36		37		38		39	
Sensor Calibration		LOG OF TEST PROCEDURES		Reading No.		Storage Level in inches		Product in Container		Product Recovered		Thermal Sensor Reading		Change Higher/Lower		Compensation		Temperature Adjustment		Volume Change		At Low Level		Change per Hour	
DATE	TIME (24 hr)	Record details of setting up and running test (Also full length of test if needed)	Beginning of Reading	Level to which Refill	Before Reading	After Reading	Product Recovered	Product Recovered	Product Recovered	Product Recovered	Product Recovered	Product Recovered	Product Recovered	Product Recovered	Product Recovered	Product Recovered	Product Recovered	Product Recovered	Product Recovered	Product Recovered	Product Recovered	Product Recovered	Product Recovered	Product Recovered	Product Recovered
		Prep + prep of tank Tool Kit Sample																							
104		Start of test	1	42																					
11			2	44	120	580	-040																		
11:15			3	44	580	550	-030																		
11:30			4	42	550	540	-010																		
		Prep to level tank																							
11:45		Start "	5	12																					
12:0		Start "	6	12	120	130	+010																		
12:05			7	12	130	135	+005																		
12:10			8	12	135	135	+000																		
12:15			9	12	135	135	+000																		
12:20			10	12	135	140	+005																		
12:25			11	12	140	145	+005																		
12:30			12	12	145	145	+000																		
12:35			13	12	145	145	+000																		
12:40			14	12	145	145	+000																		
12:45			15	12	145	150	+005																		
12:50			16	12	150	150	+000																		
12:55			17	12	150	150	+000																		
13:0			18	12	150	155	+005																		
13:05			19	12	155	155	+000																		
13:10			20	12	155	155	+000																		
13:15			21	12	155	160	+005																		
13:20			22	12	160	165	+005																		
13:25			23	12	165	170	+005																		
13:30			24	12	170	170	+000																		

DATE	TIME (24 hr)	Record details of setting up and running test (Also full length of test if needed)	Reading No.	Storage Level in inches	Product in Container	Product Recovered	Thermal Sensor Reading	Change Higher/Lower	Compensation	Temperature Adjustment	Volume Change	At Low Level	Change per Hour
13:35			25	12	170	175	+005						
13:40			26	12	175	180	+005						
13:45			27	12	180	180	+000						
13:50			28	12	180	185	+005						
13:55			29	12	185	190	+005						
14:00			30	12	190	190	+000						

497

1030
1018 GPH
MAD

0.020 GPH
MAD

P-T Tank Test Data Chart
Additional Info

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

Signature of Tester _____
Date _____

2 - Statement

1 - 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

2 - Tank and product handling system has tested 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 the system to immediately advise state and local authorities of any implied hazards and the possibility of any reportable pollution to the environment as a result of the indicated failure of the system. Health Consultants incorporated does not assume any responsibility or liability for any loss of product to the environment.

Tank Owner/Operator _____

Date _____

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	12-31-79
20-01-19	Waste Oil	Waste Oil	550	-	FRP	12-31-85
20-01-20	Fuel Depot	Motor Oil	-	275	FRP	12-31-82
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	Receiving - 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

NGINS000122073

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

Facility I.D.
 Date Application Received
 Date Reviewe

Facility Name
 Facility Address
 Action: Not Req'd.
 Approved Disapproved

No. of Months
 Date Reviewed By

Action	Tank Number	Location	Design Capacity (Gallons)	Material of Construction			Material Currently or Last Stored		Status	Tank Installation Date (Month/yr)	Leak Detection Sys	Secondary Containment	Product Gauge	Dispenser Method	Fill	Additional Information for Abandoned Tanks	
				Internal Protection	External Protection	Piping	Type	NCDH Number								Name	Date Last Used (Month/yr)
1	3101	A	12,000	2	2	4	3	1	64721	NO.2 FUEL OIL	R	1985	1	3	1	2	2
1	1645	B	11,000	1	2	4	8	1	06213	LIQUID NITROGEN	B	1984	5	5	1	2	1

NGINS000122074

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
 Date Reviewed By
 Facility I.D.
 Date Reviewed

Action: Not Req'd.
 Approved Disapproved
 No. of Months

Facility Name G RUMMAN CORPORATION - PLANT 111
 Facility Address BETHPAGE NY 11714

Action	Tank Number	Location	Design Capacity (Gallons)	Material of Construction	Internal Protection	External Protection	Piping	Material Currently or Last Stored		Status	Tank Installation Date (Month/yr)	Leak Detection Sys.	Secondary Containment	Product Gauge	Dispenser Method	Fill	Additional Information for Abandoned Tanks	Date Last Used (Month/yr)	Condi-tion	
								NCDH Number	Name											
	113		4,000		1 2 2 3	1	2 3 1	64721	NO. 2 FUEL OIL	R	1970	5	5	1	2	2				
	114		4,000		1 2 2 3	1	2 3 1	64721	NO. 2 FUEL OIL	R	1970	5	5	1	2	2				



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

February 2, 1989

Grumman Aerospace Corporation
Stewart Avenue
Mail Stop: 808-30
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
	S013	913
	S020	920
2	S021	921
	S022	922
	S023	923
	S024	924
3 Mini-Marshaling	S030	930
	S031	931
	S032	932
	S033	933
Whse 34	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
Michael Sekreta
P.H. Sanitarian II
Bureau of Land Resources Management

NASSAU COUNTY DEPARTMENT OF HEALTH
APPLICATION FOR PERMIT 3 - BULK AND LIQUID INSTRUCTION
Facility Name

Facility Address

MS:sb

Condition: Re

Location: 1

Storage: Outdoors Max. Quantity Stored.

Secondary Containment: Impermeable Berms/Dike Impermeable Floor/Pad Roof Walls Floor Drain & Storage Tank None (Specify):

Construction Material (Check all that apply): Concrete Steel Other (Specify): Security Yes No

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

City I.D.
Reviewed
Months
9/11
OGMS

Facility Name: GURMAN CORPORATION PLT III
 Facility Address: BETHPAGE NY 11774
 Action: Register Existing Area Add Area Remove Area Modify Area
 Location: Indoors Outdoors Bulk Storage Max. Quantity Stored:
 Secondary Impervious Floor/Pad Roof Walls Floor Drain & Storage Tank None Other (Specify):
 Containment: Berms/Dike Concrete Steel Other (Specify):
 Construction Material (Check all that Apply): Security Yes No

Area No. 5012 (9)
 Max. No. 10 Max. Vol. 500 gal

Type	NCDH Number	Material Name	Physical State	Amount Stored		Storage Method
				Average Quantity	Units	
1	06381	LUBRICATING OIL	1	500	1	10
2		OIL 1121	1	50	1	1

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

Facility Name: GRUMMAN CORPORATION - PLANT 111
 Facility Address: BETHPAGE, NY 11714
 Action: Register Existing Area Add Area Remove Area Modify Area
 Location: Indoors Outdoors Bulk Storage Max. No. 7 Max. Vol. 350
 Secondary Containment: Impervious Roof Walls Other (Specify)
 Construction Material (Check all that Apply): Concrete Steel Other (Specify)
 Security: Yes No

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

Type	NCDH Number	Material Name	Phys-ical State	Amount Stored		Storage Method
				Average Quantity	Units	
	09681	FLOOR WAX	1	150	1	3
	09013	FLOOR STRIPPER	1	100	1	2
	09013 6000	LIQUID CLEANSER	1	100	1	2

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

Facility Name

GRUMMAN CORPORATION

PLT III

Facility Address

BETHPAGE NY 11714

For Office Use Or

Date Application Received

Reviewed By

Action:

Approved Not Req'd. Disapproved

Area No. 5011 (9A)

Max. No. 13 Max. Vol. 410 GA

Action: Register Existing Area Add Area Remove Area Modify Area

Location: Indoors Outdoors

Secondary Containment: Impervious Berms/Dike

Construction Material (Check all that Apply): Impervious Floor/Pad Concrete Steel Other

Walls Storage Tank Floor Drain & Storage Tank

Security: Yes No

(Specify):

Phys- ical State

Material Name

NCDH Number

Amount Stored

Units

Storage Method

Average Quantity

Average Number

Yes No

1 04062 FREON 11, 12 (GAS)

1 06381 LUBRICATION OIL

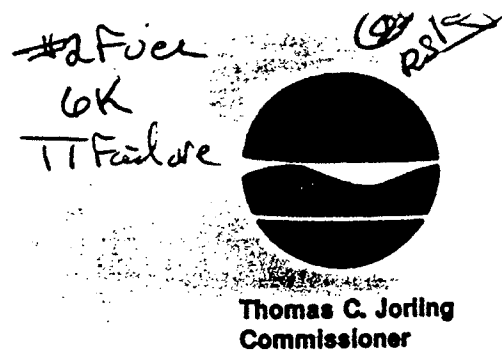
11-21-88

360 1 12

50 1 1

New York State Department of Environmental Conservation
Building 40—SUNY, Stony Brook, New York 11794

516-751-7900



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:

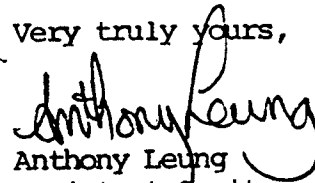
1. Prove that it was not a leaking tank by removing all the piping from the tank and separately Petrotite test the tank. If the tank passes the Petrotite test, it is a piping leak. The tank may then be abandoned or the piping can be repaired, attached to the tank, and the system Petrotite tested.
2. 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.

REC-1110

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
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. 904190
 Date of Spill 5/14/90
 Time of Spill
 Reinspection Date

Estab. Name GUMMAN KERO-SPACE
 Tel. No. Area No. Ext.

Estab. Address 1875 PAGE

Complainant Name
 Compl. Tel.

Complainant Address

Type of Spill
 Surface - Land
 Surface - Water
 Underground

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

Type of Product FO2
 Est. Amount of Spill und

Report Received By: _____ Date _____ Time _____

DEC No. _____ Date Open DEC _____ SPDES No Yes (if yes, number _____)

Spiller Name GUMMAN Owner/Representative

Name _____ Address _____

Village _____ Zip _____

Telephone _____

Emergency Contact Name _____ Title _____

Address _____

Village _____ Zip _____

Telephone _____

Contractor Name TYRE

Address _____

Village _____ Zip _____

Telephone _____

Product Information						Scavenger Name
Product	Code	% of Spill	Tank		Year Installed	Scavenger DEC No.
			Type	Size		
FO2	B		1	CR	1113	

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 [Signature] Emp. No. 167 Date of Investigation 5/14/90 Checked By [Signature]

Tyree Brothers Environmental Services, Inc.

208 Route 109, Farmingdale, NY 11735 • Fax: 516-249-3281 • Phone: 516-249-3150

MAY 31, 1990

NASSAU COUNTY 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
License No.
Date of Test:
NCHD#
FACILITY ID#
TANK
CC: NYSDEC

ARMAND KULPA
GCF-295
5/31/90
15H90T10
000001
1113

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

Member

 Tyree
Environmental
Technologies

NGINS000122085

Data Chart for Tank System Tightness Test

PLEASE PRINT

1. OWNER Property Tank(s) *Grumman, PO Box 54, Hicksville, N.Y.*
 Name: *John Selva* Address: *535 8176* Representative: *535 8176* Telephone: _____

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

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

4. WHO REQUESTED TEST AND WHEN *Warren County Health Dept., 340 Old Country Rd., Mineola, N.Y.*
 Name: _____ Title: _____ Company or Affiliation: _____ Date: _____
 Address: _____ Telephone: _____

5. TANK INVOLVED

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

Use additional lines for manifolded tanks

6. INSTALLATION DATA

Location	Cover	Fits	Vents	Siphons	Pumps
<i>—</i>	<i>Concrete</i>	<i>4"</i>	<i>2"</i>	<i>yes</i>	<i>—</i>
<small>North inside driveway, Rear of station, etc.</small>	<small>Concrete, Black Top, Earth, etc.</small>	<small>Size, Thread, make, Drop tubes, Remove Fits</small>	<small>Size, Manifolded</small>	<small>Which tanks?</small>	<small>Suction, Remote, Make if known</small>

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: *9:00* hr *5/31/90* Date Arranged by: *John Selva* Name *535 8176* Telephone
 Extra product to "top off" and run tank tester How and who to provide? Consider NO Lead.

9. CONTRACTOR, MECHANICS, any other contractor involved
TYREE BROS. ENVIRONMENTAL SERVICES, INC.

10. OTHER INFORMATION OR REMARKS
208 ROUTE 109 FARMINGDALE, N.Y. 11735 (516) 249-3150

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
<i>Tank 1</i>	<i>Y/N</i>	<i>-1.03 gpm</i>	<i>5/31/90</i>

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 328.

Technician: *Armond Kulpa*
 Certification # *295*

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

31-May-90

XXXXXX

PETRO-TITE CALCULATION PROGRAM

** PROTOCOL "A" **
 THERMAL READING AFTER CIRC. --> 12794 61/62
 DIGITS PER DEG F -----> 322
 TOTAL QUANTITY IN FULL TANK --> 4020
 RECIPROCAL -----> 2218
 VOLUME CHANGE PER DEG F -----> 1.812443642
 DIGITS PER DEG F -----> 322
 VOLUME CHANGE / DIGIT (a) FAC > 0.0056

THERMAL CROSSOVER
 NUMBER 0 0
 4020 NAME & ADDR.
 2218 GRUMMAN, 111-01-
 1.812443642 TANK NUMBER
 0 TANK 1, 4000, F/C
 ERR

30 HYDRO P/C		31 VOLUME MEAS. (V)			34		35 TEMP COMP USE (36
STANDPIPE LEVELS		32 PROD IN GRADUATE			PROD REPL				
RESOTRED	BEGINING	BEFORE	AFTER		PROD REC	THERM SEN. RE	RE	CHANGE	
					12889	(c)	(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		

HPAGE, NY

/90

-----+-----	
.0056 38 VOL CHNG 39 ACCUM	
37 TEMP ADJ	
-----+-----	
COMPUTATION 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	
-0.007	
-0.002	
-0.008	
-0.002	
-0.002	
0.003 * -0.013 * <--2 Hour	

15. TANK TO TEST
 Plant 111
 Identity by position
 ELO
 Brand and Grade

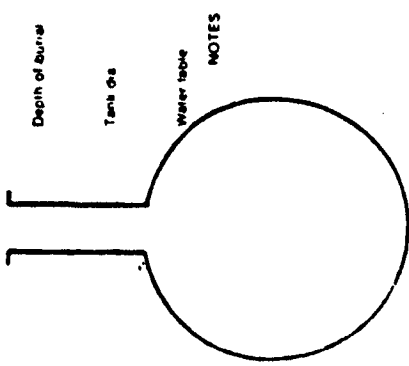
15a. BRIEF DIAGRAM OF TANK FIELD
 Gallons
 4000
 4000
 Inventory
 64" Tank Diameter

16. CAPACITY
 Nominal Capacity 4000 Gallons
 By most accurate capacity chart available 4000 Gallons

17. FILL-UP FOR TEST
 Suck Water Before Fill-up
 Total Gallons as Reading 4000
 Gallons 4000
 Transfer total to line 25a

18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK
 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
- 2. Height to 12" mark from bottom of tank 132 in
- 3. Pressure at bottom of tank 408 psig
- 4. Pressure at top of tank 2108 psig



19. TANK MEASUREMENTS FOR TSIT ASSEMBLY
 Bottom of tank to grade 118 in
 Add 30" for T probe assembly
 Total tubing to assemble - approximate 148 in

20. EXTENSION HOSE SETTING
 Tank top to grade 48 in
 Extend hose on suction tube 6 or more below tank top

22. Thermal Sensor reading after calculation 12754
 digits 6/621

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

24a. COEFFICIENT OF EXPANSION (Complete after circulation)
 Observed A P I Gravity
 Hydrometer employed
 Observed Sample Temperature
 Corrected A P I Gravity @ 50°F. From Table A.
 Coefficient of Expansion for Involved Product from Table B

25. (a) Total quantity in full tank (16 or 17) 3221
 (b) Coefficient of expansion for involved product 3221
 Volume change per °F in tank

26. Volume change per °F (25 or 26a) 187243642

21. VAPOR RECOVERY SYSTEM Stage I Stage II None

24b. COEFFICIENT OF EXPANSION RECIPROCAL METHOD
 Type of Product
 Hydrometer Employed 70
 Temperature in Tank After Circulation 4
 Temperature of Sample 61
 Difference 63
 Observed A P I Gravity 72
 Reciprocal 320
 Page 36
 Reciprocal 187243642

24c. FOR TESTING WITH WATER see Table C & D
 Water Temperature after Circulation Table C N/A
 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) 3221
 (b) Coefficient of expansion for involved product 3221
 Volume change per °F in tank

26. Volume change per °F (25 or 26a) 187243642

This is 206
 Volume change per digit
 000528206
 This is 0007

Data Chart for Tank System Tightness Test

PLEASE PRINT

1. OWNER Property <input type="checkbox"/> Tank(s) <input type="checkbox"/>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Name</td> <td style="width: 33%;">Address</td> <td style="width: 17%;">Representative</td> <td style="width: 17%;">Telephone</td> </tr> <tr> <td>Name</td> <td>Address</td> <td>Representative</td> <td>Telephone</td> </tr> </table>						Name	Address	Representative	Telephone	Name	Address	Representative	Telephone								
Name	Address	Representative	Telephone																			
Name	Address	Representative	Telephone																			
2. OPERATOR	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Name</td> <td style="width: 33%;">Address</td> <td style="width: 17%;">Telephone</td> </tr> <tr> <td>Name</td> <td>Address</td> <td>Telephone</td> </tr> </table>						Name	Address	Telephone	Name	Address	Telephone										
Name	Address	Telephone																				
Name	Address	Telephone																				
3. REASON FOR TEST (Explain Fully)	<hr/> <hr/> <hr/>																					
4. WHO REQUESTED TEST AND WHEN	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Name</td> <td style="width: 17%;">Title</td> <td style="width: 33%;">Company or Affiliation</td> <td style="width: 17%;">Date</td> </tr> <tr> <td colspan="3">Address</td> <td>Telephone</td> </tr> </table>						Name	Title	Company or Affiliation	Date	Address			Telephone								
Name	Title	Company or Affiliation	Date																			
Address			Telephone																			
5. TANK INVOLVED <small>Use additional lines for manifolded tanks</small>	Identify by Direction	Capacity	Brand/Supplier	Grade	Approx. Age	Steel/Fiberglass																
<hr/> <hr/> <hr/> <hr/>																						
6. INSTALLATION DATA	Location	Cover	Fills	Vents	Siphones	Pumps																
<small>North inside driveway, Rear of station, etc. Concrete, Black Top, Earth, etc. Size, Titefill mate, Drop tubes, Remote Fills Size, Manifolded Which tanks? Suction, Remote, Make if known</small>																						
7. UNDERGROUND WATER	Depth to the Water table _____ Is the water over the tank? <input type="checkbox"/> Yes <input type="checkbox"/> No																					
8. FILL-UP ARRANGEMENTS	Tanks to be filled _____ hr _____ Date Arranged by _____ Extra product to "top off" and run tank tester How and who to provide? Consider NO Lead. Name _____ Telephone _____ Terminal or other contact for notice or inquiry _____ Company _____ Name _____ Telephone _____																					
9. CONTRACTOR, MECHANICS, <small>any other contractor involved</small>	<hr/> <hr/> <hr/>																					
10. OTHER INFORMATION OR REMARKS	<hr/> <hr/> <hr/>																					
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: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">Tank Identification</th> <th style="width: 16.6%;">Tight</th> <th style="width: 33%;">Leakage Indicated</th> <th style="width: 16.6%;">Date Tested</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>						Tank Identification	Tight	Leakage Indicated	Date Tested												
Tank Identification	Tight	Leakage Indicated	Date Tested																			
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 32B. Technicians 1 _____ Certification # _____ 2 _____ Certification # _____ Testing Contractor or Company By: _____ Address _____																					

27	Sensor Calibration		LOG OF TEST PROCEDURES		30 HYDROSTATIC PRESSURE (LUNFHO)		31 VOLUME MEASUREMENTS (V)		34 TEMPERATURE COMPENSATION USE FACTOR (u)				38 NET VOLUME CHANGING EACH READING	39 ACCUMULATED CHANGE
	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	Product in Graduate	Product Replaced (-)	Thermal Sensor Reading	36 Change Higher - Lower - (L)	37 Computation (L) - (u) - Expansion - Contraction -	Temperature Adjustment - Volume Minus Expansion (+) or Contraction (-) (23 V) - (27 (L))	At Low Level Compute Change per Hour (MPPA Criteria)			
		Record details of setting up and running test (Use full length of line if needed)		Standpipe Level in Inches	Product in Graduate	Product Replaced (-)	Thermal Sensor Reading	36 Change Higher - Lower - (L)	37 Computation (L) - (u) - Expansion - Contraction -	Temperature Adjustment - Volume Minus Expansion (+) or Contraction (-) (23 V) - (27 (L))	At Low Level Compute Change per Hour (MPPA Criteria)			
		Record details of setting up and running test (Use full length of line if needed)		Standpipe Level in Inches	Product in Graduate	Product Replaced (-)	Thermal Sensor Reading	36 Change Higher - Lower - (L)	37 Computation (L) - (u) - Expansion - Contraction -	Temperature Adjustment - Volume Minus Expansion (+) or Contraction (-) (23 V) - (27 (L))	At Low Level Compute Change per Hour (MPPA Criteria)			
9:15	Stand H/L level		1	42										
9:30	Stand H/L level		2	42	410	-100	808	414	7078					
9:45	"		3	42	410	-095	820	412	7067					
9:00	"		4	42	315	-090	835	415	7084					
9:15	"		5	42	225	-090	849	414	7078					
9:30	"		6	42	610	-090	861	412	7067					
9:45	Stand H/L level		7											
10:00	Stand H/L level		8	12	130	-160	889	413	7073					
10:05	"		9	12	160	-175	893	414	7022					
10:10	"		10	12	175	-190	896	413	7017					
10:15	"		11	12	190	-205	899	413	7017					
10:20	"		12	12	205	-225	903	414	7022					
10:25	"		13	12	225	-245	905	412	7011					
10:30	"		14	12	245	-265	908	413	7017					
10:35	"		15	12	265	-280	911	413	7017					
10:40	"		16	12	280	-295	914	413	7017					
10:45	"		17	12	295	-310	916	412	7011					
10:50	"		18	12	310	-330	919	413	7017					
10:55	"		19	12	330	-345	922	413	7017					
11:00	"		20	12	345	-360	925	413	7017					
11:05	"		21	12	360	-375	927	412	7011					
11:10	"		22	12	375	-390	930	413	7017					
11:15	"		23	12	390	-410	933	413	7017					
11:20	"		24	12	410	-430	937	412	7008					

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
License No.
Date of Test:
NCHD#
FACILITY #

ARMAND KULPA
GCF-295
6/1/90
152H90T09
000001

CC: NYSDEC

Member

 Tyree
Environmental
Technologies

NGINS000122093

G-TITE CALCULATION PROGRAM

THERMAL CROSSOVER

ROUTING "A" **
 SERIAL READING AFTER CIRC. --> 13730
 TITR PER DEG F -----> 0.25
 Q QUANTITY IN FULL TANK --> 4030
 LPROCAL -----> 2119
 TIME CHANGE PER DEG F -----> 1.816130393
 TITR PER DEG F -----> 0.25
 TIME CHANGE / DIGIT (S) FACT 0.0056

NUMBER 64765
 DEG F 0 0
 NUMBER 0
 4000 NAME & ADDRESS
 2219 BRUNMAN, 511-01-2, BETHPAGE, NY
 1.816130393 TANK NUMBER
 TANK 1114, 2F/O, 4000, 6/1/90S
 ERR

HYDRO F/C		31	VOLUME MEAS. (V)		34	TEMP COMP USE (0.0056	38 VOL CHNG	39 ACCUM
TANGPIPE LEVELS		32	PROD IN GRADUATE	PROD REPL	35	36	37	TEMP ADJ		
OFFED	BEGINING	BEFORE	AFTER	PROD REC	TEMP SEN RE	CHANGE +/-	COMPUTATION	NET VOL CHNG		
					13818	(c)	(c)*(a FACT)=	REP 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

<p>1. OWNER <small>Property Tank(s)</small></p>	<p><i>Brumman Aerospace Corp., P.O. Box 57, Hartsdale, N.Y. 11801</i></p> <p>Name: <i>John Selva</i> Address: <i>John Selva</i> Representative: <i>John Selva</i> Telephone: <i>375 8176</i></p>																					
<p>2. OPERATOR</p>	<p><i>Brumman, 11-01-02, Bethpage, N.Y.</i></p> <p>Name: <i>Brumman</i> Address: <i>11-01-02</i> Telephone: <i>Bethpage, N.Y.</i></p>																					
<p>3. REASON FOR TEST <small>(Explain Fully)</small></p>	<p><i>Periodic System Test</i></p>																					
<p>4. WHO REQUESTED TEST AND WHEN</p>	<p><i>Hempstead County Health Dept. 240 Old Town Rd., Mineola</i></p> <p>Name: <i>Hempstead County Health Dept.</i> Title: <i>240 Old Town Rd.</i> Company or Affiliation: <i>Mineola</i> Date: <i>6/1/90</i></p>																					
<p>5. TANK INVOLVED <small>Use additional lines for manifolded tanks</small></p>	<p><small>Identify by Direction</small></p> <p><i>Tank 1114</i></p>	<p><small>Capacity</small></p> <p><i>4000</i></p>	<p><small>Brand/Supplier</small></p> <p><i>Z</i></p>	<p><small>Grade</small></p> <p><i>F10</i></p>	<p><small>Approx. Age</small></p> <p><i>—</i></p>	<p><small>Sheet/Fiberglass</small></p> <p><i>Steel</i></p>																
<p>6. INSTALLATION DATA</p>	<p><small>Location</small></p> <p><i>Plant 1111</i></p> <p><small>North inside driveway, Rear of station, etc.</small></p>	<p><small>Cover</small></p> <p><i>Concrete</i></p> <p><small>Concrete, Slack Top, Earth, etc.</small></p>	<p><small>Flts</small></p> <p><i>4"</i></p> <p><small>Slts, Thrift mals, Drop tubes, Remote Flts</small></p>	<p><small>Vents</small></p> <p><i>2"</i></p> <p><small>Slts, Manifolded</small></p>	<p><small>Sophons</small></p> <p><i>yes</i></p> <p><small>Which tanks?</small></p>	<p><small>Pumps</small></p> <p><i>—</i></p> <p><small>Suction, Remote, Make if known</small></p>																
<p>7. UNDERGROUND WATER</p>	<p><small>Depth to the Water table</small> <i>Below</i> <small>is the water over the tank?</small> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>																					
<p>8. FILL-UP ARRANGEMENTS</p>	<p><small>Tanks to be filled</small> <i>8:00</i> <small>to</small> <i>6/1/90</i> <small>Date</small> <small>Arranged by</small> <i>John Selva 375 8176</i></p> <p><small>Extra product to "top off" and run tank tester. How and who to provide? Consider NO Lead.</small></p> <p><small>Terminal or other contact for notice or inquiry</small></p> <p>Company: _____ Name: _____ Telephone: _____</p>																					
<p>9. CONTRACTOR, MECHANICS, any other contractor involved</p>	<p><i>TYREE BROS. ENVIRONMENTAL SERVICES, INC. 208 ROUTE 109 FARMINGDALE, N.Y. 11735 (516) 249-3150</i></p>																					
<p>10. OTHER INFORMATION OR REMARKS</p>	<p><small>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.</small></p>																					
<p>11. TEST RESULTS</p>	<p><small>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:</small></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Tank Identification</th> <th style="width: 15%;">Tight</th> <th style="width: 35%;">Leakage Indicated</th> <th style="width: 20%;">Date Tested</th> </tr> </thead> <tbody> <tr> <td><i>Tank 1114</i></td> <td><i>yes</i></td> <td><i>-.022 gph</i></td> <td><i>6/1/90</i></td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>						Tank Identification	Tight	Leakage Indicated	Date Tested	<i>Tank 1114</i>	<i>yes</i>	<i>-.022 gph</i>	<i>6/1/90</i>								
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<i>Tank 1114</i>	<i>yes</i>	<i>-.022 gph</i>	<i>6/1/90</i>																			
<p>12. SENSOR CERTIFICATION</p> <p><i>6/1/90</i> Date <i>1725</i></p> <p><small>Serial No. of Thermal Sensor</small></p>	<p>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 Paragraph 32B.</p> <p><small>Technician</small> <i>Bernard Gelpi</i></p> <p><small>Testing Contractor or Company, By: Signature</small> <i>John M. ...</i></p> <p>TYREE BROS. ENVIRONMENTAL SERVICES, INC. 208 ROUTE 109 FARMINGDALE, N.Y. 11735 (516) 249-3150</p> <p><small>Address</small></p>																					

15. TANK TO TEST
Plant 1111 #2
FLO
Brand and Grade

15a BRIEF DIAGRAM OF TANK FIELD

16. CAPACITY
Nominal Capacity: 4000 Gallons
By most accurate capacity chart available: 4000 Gallons

17 FILL-UP FOR TEST
Sixth Water Bottom before Fill-up: 64
Tank Diameter: 64
Inventory: 4000
Total Gallons on Reading: 4000

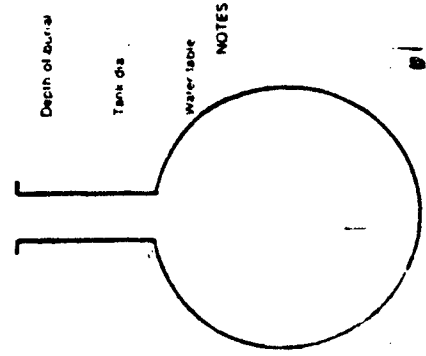
18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK
See manual sections applicable. Check below and record procedure in log (27).
Use maximum allowable test pressure for all tests. Four pound rule does not apply to doublewalled tanks.
Complete section below:
1. Is four pound rule required? Yes No
2. Weight to 12" mark from bottom of tank: 132 lb
3. Pressure at bottom of tank: 4.092 PSI
4. Pressure at top of tank: 2.108 PSI

19. TANK MEASUREMENTS FOR TSTT ASSEMBLY
Bottom of tank to grade: 112 in
Add 30" for T probe assembly
Total tubing to assemble - approximate: 142 in
20. EXTENSION HOSE SETTING
Tank top to grade: 48 in
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: 137.30 degs
64/65 degs
325 degs

21. VAPOR RECOVERY SYSTEM
Stage 1 Stage 2
24b. COEFFICIENT OF EXPANSION RECIPROCAL METHOD
Type of Product: FLO
Hydrometer Employed: 4
Temperature in Tank After Circulation: 64
Temperature of Sample: 67
Difference 100°F: 73
Observed A.P.I. Gravity: 32.0
Reciprocal: 22/19
Page #: 36
Total Quantity in Full Tank (116 or 171): 4030
Volume Change in this Tank per °F: 22/19
Reciprocal: 1.816/33393
Transfer to Line 25a

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

25. (a) Total quantity in Full Tank (116 or 171): 4030
Coefficient of Expansion for Involved Product From Table B: 325
Transfer COE to Line 25b
26. (b) Coefficient of Expansion for Involved Product: 325
Volume Change per °F (25 or 26): 1.816/33393
Volume Change per Digit: 0.00588102
This is test: (6052)



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.

Data Chart for Tank System Tightness Test

PLEASE PRINT

1. OWNER Property <input type="checkbox"/> Tank(s) <input type="checkbox"/>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Name</td> <td style="width: 30%;">Address</td> <td style="width: 20%;">Representative</td> <td style="width: 20%;">Telephone</td> </tr> <tr> <td>Name</td> <td>Address</td> <td>Representative</td> <td>Telephone</td> </tr> </table>						Name	Address	Representative	Telephone	Name	Address	Representative	Telephone																
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7. UNDERGROUND WATER	Depth to the Water table _____ Is the water over the tank? <input type="checkbox"/> Yes <input type="checkbox"/> No																													
8. FILL-UP ARRANGEMENTS	Tanks to be filled _____ hr. _____ Date Arranged by _____ Extra product to "top off" and run tank tester How and who to provide? Consider NO LEAD. Name _____ Telephone _____ Terminal or other contact for notice or inquiry _____ Company _____ Name _____ Telephone _____																													
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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 328. Technicians 1. _____ Certification # _____ 2. _____ Certification # _____ Testing Contractor or Company. By: Signature _____ Address _____																													

1105827



"SOLUTIONS AT WORK"

TR# 93109
JOB# 91219

445 Brook Avenue, Deer Park, New York 11729

(516) 586-4900 • NYC (718) 204-4993

FAX (516) 586-4920

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:

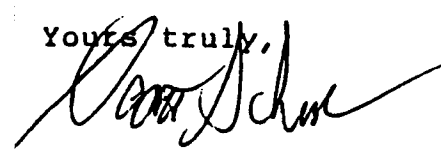
X Industrial Division CONF#: 16891690
Nassau County Fire Marshal
899 Jerusalem Avenue - P.O. Box 128
Uniondale, New York 11553

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

NGINS000122100



Fenley & Nicol Co. Inc.

OWNER Property
Tanks

GRUMMAN Corporate Services Operations, MAHLESTOP DOB-GHQ,
Name Address BETHPAGE, NY 11714-3586 Representative Scott Engman Telephone
Name Address BETHPAGE Representative Telephone

OPERATOR GRUMMAN BETHPAGE PLANT # 111
Name Address Telephone

3. REASON FOR TEST (Explain Fully) N.C.E.M. CODE

4. WHO REQUESTED TEST AND WHEN #1 Abs. 2
Name Title Company or Affiliation Date
Address Telephone

Identify by Direction	Capacity	Brand/Supplier	Grade	Approx Age	Telephone
Plant # 111	1000		DISET	± 20 yrs	Steel/Fiberglass steel

Location	Cover	Fills	Vents	Siphones	Pumps
South of Plant # 111 North inside driveway, Rear of station, etc	EARTH Concrete, Black Top, Earth, etc	1-2" Direct Size, Titefill make, Drop tubes, Remote Fills	1-2" vent Size, Manifolded		Feed + Return To Diesel Gen. Suction, Remote, Make if known

UNDERGROUND WATER Depth to the water table Below Bottom of Tank Is the water over the tank? Yes No

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

CONTRACTOR, MECHANICS, or any other contractor involved F & N 445 Brook Ave Deer Park NY 11729 Scott Matzen

OTHER INFORMATION OR REMARKS JDB# 91219 EARTH 16891690 TR# 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.

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
DISET Plant # 111	- .015		6-17-93
1,000 gal ga	4.P.H.		
Tank # 111-01-3			

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.
1. Scott Matzen Technicians
Certification # _____ By: Signature

Fenley & Nicol Co. Inc.

445 Brook Avenue, Deer Park, New York 11729 • (516) 586-4900