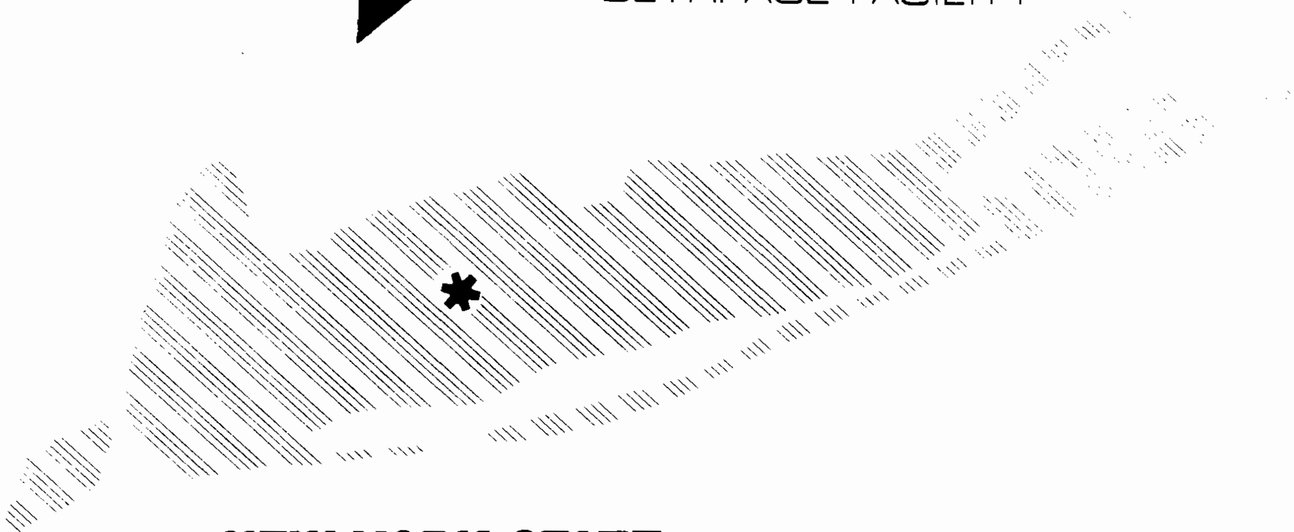
SEQ. 12

GRUMMAN AEROSPACE CORPORATION
BETHPAGE FACILITY



NEW YORK STATE SITE REGISTRY DELISTING PETITION BUILDING 24 BETHPAGE, NEW YORK

GRUMMAN AEROSPACE CORPORATION
BETHPAGE, NEW YORK

Dvirka and Bartilucci

Consulting Engineers

OCTOBER 1995

Grumman Aerospace Corporation
Bethpage, New York 11714-3582

October 31, 1995

Michael D. Zagata, Commissioner
New York State Department of
Environmental Conservation
50 Wolf Road
Albany, NY 12233-7010

Re: New York State Site Registry Delisting Petition
Building 24
Bethpage, New York

Dear Commissioner Zagata:

I am pleased to submit for your review three copies of the enclosed document, entitled "New York State Site Registry Delisting Petition, Building 24, 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, and a narrative review of chronological aerial photographs of the area from 1950 through 1988. In addition, a presentation of soil and groundwater sampling results is provided along 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 45 years and to evaluate the merits of the delisting petition. Based on the review of available information and the environmental data, we believe that the property is eligible for removal from the NYSDEC Site Registry of Inactive Hazardous Waste Disposal Sites, and as such, an appropriate modification to the boundaries of Site 1-30-003A is warranted.

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

Very truly yours,

J. Ohlmann

John Ohlmann, P.E
Consultant for Northrop

JO/ss
Enclosure
cc w/encl.: Robert Marino (NYSDEC)
♠1167\JO09205.MDZ

GRUMMAN AEROSPACE CORPORATION

NEW YORK STATE
SITE REGISTRY DELISTING PETITION
BUILDING 24
BETHPAGE, NEW YORK

PREPARED BY
DVIRKA AND BARTILUCCI CONSULTING ENGINEERS
SYOSSET, NEW YORK

OCTOBER 1995

GRUMMAN AEROSPACE CORPORATION

NEW YORK STATE
SITE REGISTRY DELISTING PETITION
BUILDING 24
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 Building 24, 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 to the west of Stewart Avenue in Bethpage, New York. Information presented in this report has been compiled based upon a site inspection; an evaluation of available aerial photographs (1950-1988); various files and records obtained from the Grumman Aerospace Corporation, Paumanock Development Corporation, 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 site's history, present use and existing conditions, and the likelihood of potential adverse impacts from the Federal Superfund Site known as Hooker Chemical/Ruco Polymer. The procedures followed throughout the course of the field program are described in Section 3. It should be noted that during the preparation of this delisting petition, an on-site underground waste hydraulic oil storage tank was found to be leaking and was removed. Field activities undertaken subsequent to the removal of the storage tank are also described in Section 3. The soil and groundwater sampling results, and the findings and conclusions of the site assessment, are presented in Section 4.

A location map is included in Appendix A, a "Site Plan" is included in Appendix B, and aerial photographs of the site from 1950 through 1988 have been included in Appendix C. The report presents boring logs and the results of laboratory analyses of soil and groundwater samples in Appendices D and E, respectively. In addition, relevant documentation obtained through file searches at Grumman Aerospace Corporation, NCDOH and the Town of Oyster Bay is included in Appendix F.

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

Table 1-1

DELISTING PETITION INFORMATION

	Requirement	Response
1.	Site Name	Grumman, Bethpage
	Owner	Grumman Aerospace Corporation
2.	Site Number	1-30-003A
3.	Site Location	West of Stewart Avenue Bethpage, Nassau County, NY 11801
4.	Size	Approx. 10 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 and 3
9.	Waste	See Section 2.2
10.	Affected Resources	See Sections 2.2 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:	West of Stewart Avenue Bethpage, New York 11801		
Section:	46	Land Use(s):	Offices
Block:	G	Plot Size:	Approx. 10 acres
Lot:	Part of Lot 49	Grumman Building:	Building 24
Zoning:	Industrial H	Building Area:	Approx. 40,000 square feet

2.1 Site History

As indicated by a review of available aerial photographs (see Appendix C), the site was undeveloped, with excavation activity apparent to the east, from 1950 through 1962. Building 24 first becomes apparent on a 1969 aerial. Aerial photographs dated 1969 through 1988 appear to show the site in its current configuration, and the February 1, 1994 site inspection revealed no apparent on-site changes since the date of the March 8, 1988 aerial. Based upon interviews with representatives of Grumman Aerospace Corporation, the site has historically, and continues to be, utilized as a general receiving area and inspection facility.

2.2 General Site Description

The site is currently owned by Grumman Aerospace Corporation and is utilized as a general receiving area and inspection facility. Based upon interviews with representatives of Grumman, predominately all incoming deliveries of equipment to the Bethpage facility are processed through Building 24, exclusive of chemical and petroleum products. The entire site is zoned Industrial H and comprises approximately 10 acres. The site is bordered by commercial development to the north, recharge basins and commercial development to the west, areas of medium to high density residential development to the south, and a Town of Oyster Bay Park to the east. A Site Plan is presented in Appendix B.

Building 24 comprises approximately 40,000 square feet. The plant has oil heat and currently utilizes a 10,000 gallon No. 4 fuel oil underground storage tank (Tank #24-01-1), located near the northeast corner of the building. It should also be noted that the facility previously utilized a 1,000 gallon underground waste hydraulic oil storage tank (Tank #24-01-2) located to the west of the building for waste hydraulic oil. Hydraulic oil was utilized to test new system components associated with the receiving area to ensure proper hydraulic operation. Based upon interviews with representatives of Grumman, waste oils generated at the Building 24 site are currently drummed for proper off-site treatment/disposal. Based upon interviews with representatives of Grumman, Tank # 24-01-2 was taken out of service and removed on May 13, 1994.

The removal of Tank # 24-01-2 was monitored by a representative of the NYSDEC. Removal of the tank revealed soil contamination and approximately 5 cubic yards of waste oil/hydraulic oil contaminated soil was excavated, stockpiled and subsequently transported off-site for disposal. The site was listed on the NYSDEC's active petroleum spill site list as Spill No. 93-02825. Additional investigation activities undertaken at the site as a result of this spill are described in Section 3.

The February 1, 1994 site inspection revealed that the interior of Building 24 is comprised predominately of the following areas:

- Shipping Area
  - Loading docks
  - Material staging areas (warehouse)
- General Inspection Area
  - Benchtop inspection area
  - Magnification apparatus
- Machined Parts Inspection Area
  - Dimensional testing
  - Hardness testing
- Office Areas
- File Room
  - Blueprint storage

- Generator Room
  - Generators
  - Floor drains

- Air Conditioning Room
  - Compressor
  - Slop sink

- Hydraulic Lab
  - Sinks
  - Wash stations/tubs
  - Desiccant storage (for dehumidification)
  - Floor drains

- Boiler Room
  - Compressor
  - 55-gallon drums (strippers and emulsifiers)
  - Floor drain

- Restrooms
  - Floor drains

The February 1, 1994 site inspection revealed that the exterior areas of the site are comprised predominately of the following:

- Parking Areas

- Grumman Park Area
  - Picnic areas
  - Shuffleboard
  - Miniature golf
  - Athletic field
  - Volleyball
  - Storage sheds (inaccessible)
  - Irrigation system

The site is generally level with good drainage. The Soil Conservation Service classifies the site as Urban Land. Urban Land is defined as an area with at least 85 percent asphalt, concrete, or other impervious building material, with most of the remaining small areas of soil being well drained Riverhead, Hempstead, or Enfield soils, or excessively drained Udipsaments. Udipsaments (nearly

level) are defined as manmade fills or borrow areas, most of which are grassed with 0 to 3 percent slopes, which consist of very deep soils that are excessively drained to well-drained. Based on measurements obtained during the installation of groundwater monitoring wells at the site as part of this project, the depth from ground surface to the upper glacial aquifer is approximately 58 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 at this site. 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 the 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 on a Proposed Remedial Action Plan was signed on January 28, 1994. Based upon recent communications 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 potential off-site impacts.

Operable Unit 2 pertains to a relatively small area of soil contaminated by PCBs resulting from releases 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 nearest area of the Building 24 site proposed for delisting is located approximately 3,500 feet to the east of the Hooker Chemical/Ruco Polymer site and is likely removed from any significant adverse conditions which may be present.

Section 3

3.0 FIELD PROGRAM

The following is a description of the field activities undertaken at the site in support of the delisting petition. Daily Field Activity Reports, which are available in the project file, provide documentation of the field program undertaken in support of the delisting petition which included air monitoring, installation of one soil boring and installation of three monitoring wells. Field activities undertaken as part of the spill investigation are also described in this section.

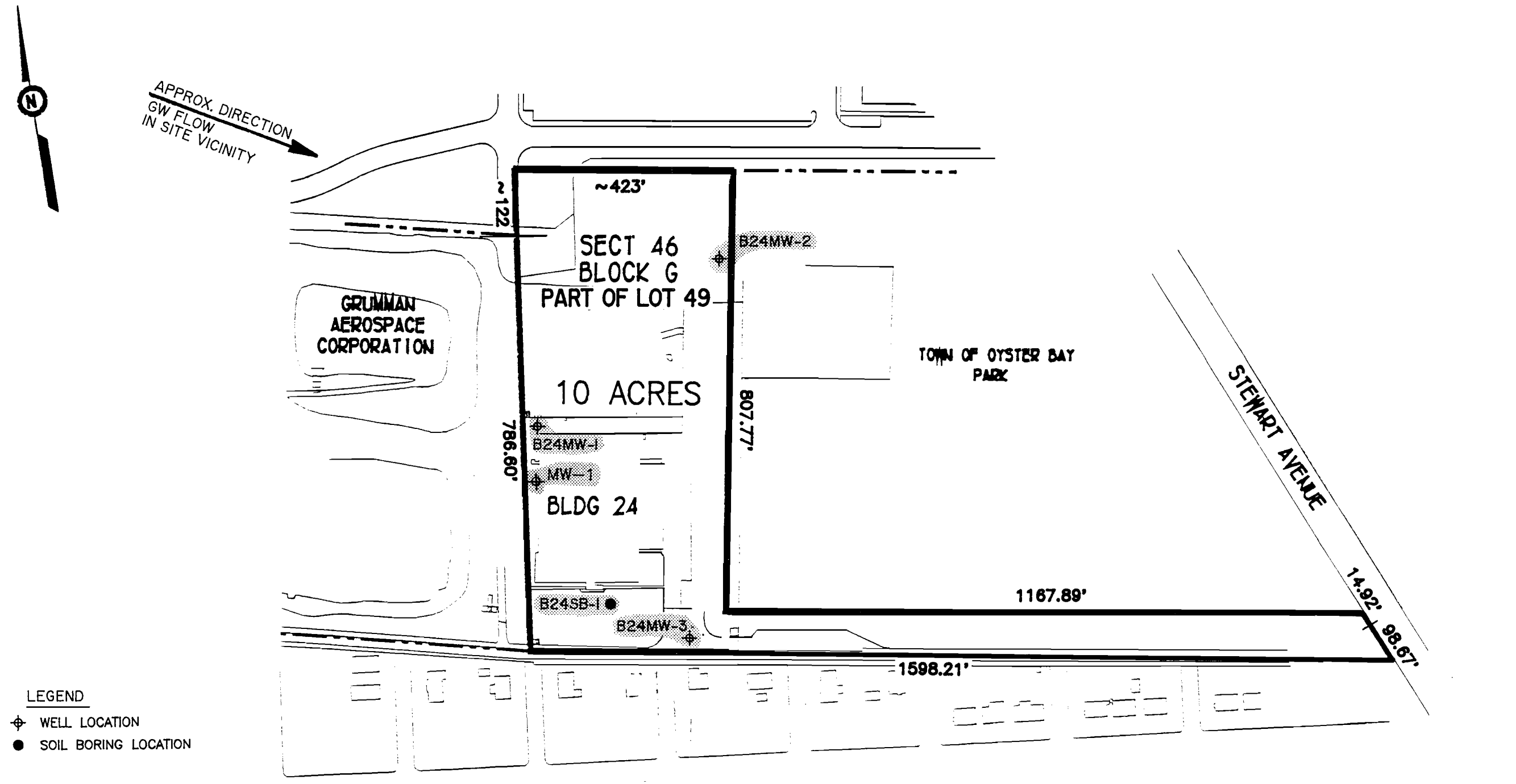
3.1 Volatile Organics Monitoring

During the drilling of the monitoring wells and soil boring, volatile organic vapors were monitored in the workers' breathing zone. The air monitoring results were documented on daily Air Monitoring Forms which are available in the project file. Prior to use, the organic vapor analyzer (OVA-128), which is a flame ionization detector, was calibrated with 95 percent methane gas/zero air. The Equipment Calibration Logs are also available in the project file. As described previously, the split spoon samples were also monitored for volatile organics utilizing the OVA-128, and no significant levels of volatile organics were detected.

3.2 Monitoring Well Installation

One monitoring well (B24MW-1) was installed along the western boundary of the site and utilized as an upgradient well. In addition, monitoring wells B24MW-2 and B24MW-3 were installed in the northeastern and southeastern portions of the site, respectively, and utilized as downgradient wells.

Figure 3-1 presents the locations of these wells, and Figures 3-2, 3-3 and 3-4 present the construction logs for the installed monitoring wells. The wells were installed in borings advanced using the hollow stem auger method of drilling. Well construction consisted of 2-inch I.D. PVC screen and casing with threaded joints. The bottom of the 0.010 inch slot screen was sealed with a threaded PVC plug. The bottom of the screen for B24MW-1 was set at a depth of 70 feet



GRUMMAN AEROSPACE CORPORATION
BETHPAGE FACILITY
BUILDING 24

WELL LOCATIONS

Dvirka and Bartilucci CONSULTING ENGINEERS

FIGURE 3–1

Dvirka and Bartilucci CONSULTING ENGINEERS

WELL CONSTRUCTION LOG

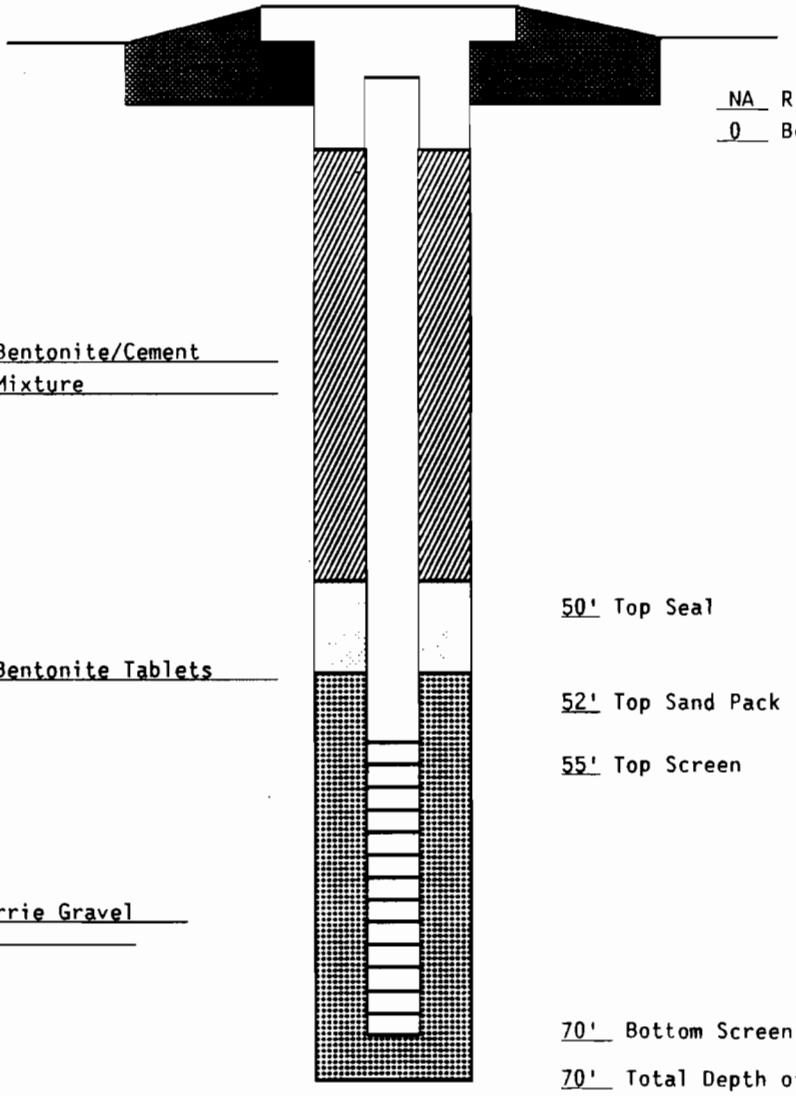
SITE Grumman JOB NO. 1167-M WELL NO. B24MW-1

TOTAL DEPTH 70' SURFACE ELEV. N/A TOP RISER ELEV. N/A

WATER LEVELS (DEPTH, DATE, TIME) 58.0', 2/18/94 DATE INSTALLED 2/18/94

RISER DIA 2" MATERIAL PVC LENGTH 55'
SCREEN DIA 2" MATERIAL PVC LENGTH 15' SLOT SIZE 0.010"

SCHEMATIC



Ground Surface

Surface Seal Type
Portland Cement

NA Riser Elevation
0 Bottom Surface Seal

Grout Type Bentonite/Cement Mixture

Seal Type Bentonite Tablets

50' Top Seal

52' Top Sand Pack

55' Top Screen

Sand Pack Type Morrie Gravel
Size Number One

70' Bottom Screen

70' Total Depth of Boring

5175G/3

Dvirka and Bartilucci
CONSULTING ENGINEERS

WELL CONSTRUCTION LOG

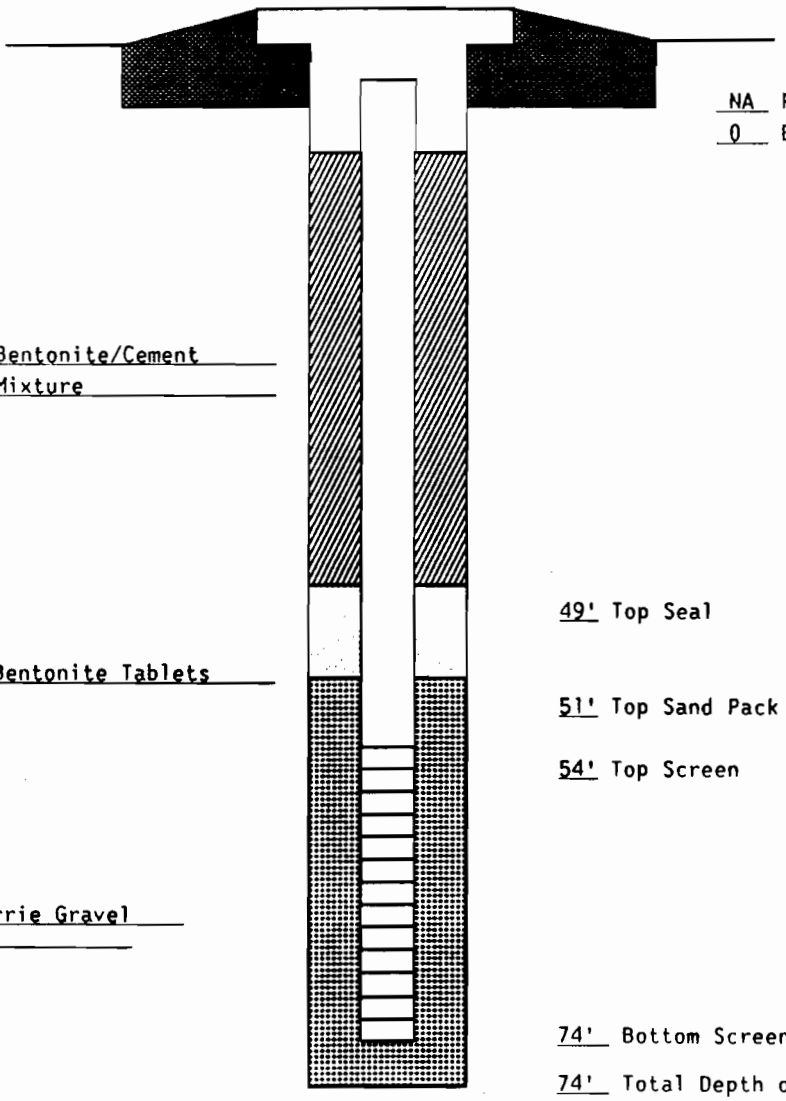
SITE Grumman JOB NO. 1167-M WELL NO. B24MW-2

TOTAL DEPTH 74' SURFACE ELEV. N/A TOP RISER ELEV. N/A

WATER LEVELS (DEPTH, DATE, TIME) 56.5', 3/16/94 DATE INSTALLED 3/7/94

RISER DIA 2" MATERIAL PVC LENGTH 54'
SCREEN DIA 2" MATERIAL PVC LENGTH 20' SLOT SIZE 0.010"

SCHEMATIC



Ground Surface

Surface Seal Type
Portland Cement

NA Riser Elevation
0 Bottom Surface Seal

Grout Type Bentonite/Cement Mixture

49' Top Seal

Seal Type Bentonite Tablets

51' Top Sand Pack

54' Top Screen

Sand Pack Type Morrie Gravel
Size Number One

74' Bottom Screen

74' Total Depth of Boring

Dvirka and Bartilucci CONSULTING ENGINEERS

WELL CONSTRUCTION LOG

SITE Grumman JOB NO. 1167-M WELL NO. B24MW-3

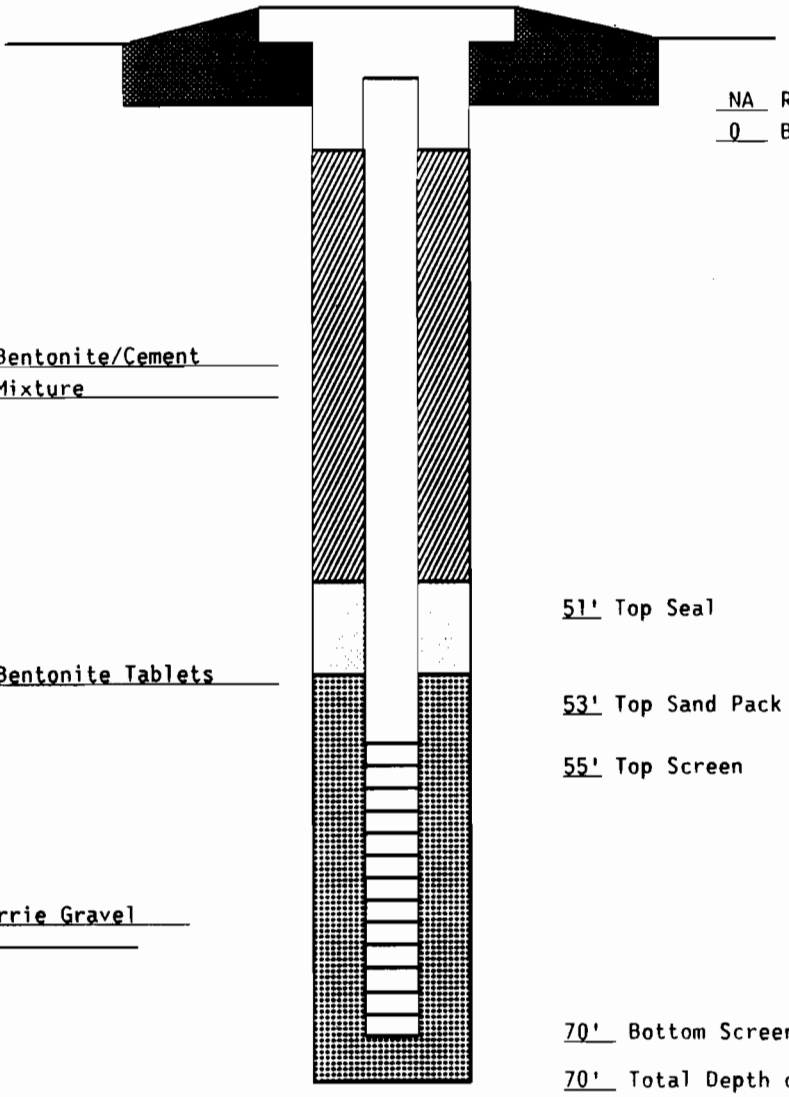
TOTAL DEPTH 70' SURFACE ELEV. N/A TOP RISER ELEV. N/A

WATER LEVELS (DEPTH, DATE, TIME) 60.0', 2/14/94 DATE INSTALLED 2/24/94

RISER DIA 2" MATERIAL PVC LENGTH 55'

SCREEN DIA 2" MATERIAL PVC LENGTH 15' SLOT SIZE 0.010"

SCHEMATIC



Ground Surface

Surface Seal Type
Portland Cement

NA Riser Elevation

0 Bottom Surface Seal

Grout Type Bentonite/Cement Mixture

51' Top Seal

Seal Type Bentonite Tablets

53' Top Sand Pack

55' Top Screen

Sand Pack Type Morrie Gravel
Size Number One

70' Bottom Screen

70' Total Depth of Boring

5175G/4

below ground surface, and the water table was encountered at a depth of 58 feet. For B24MW-2, the bottom of the screen was set at a depth of 74 feet, and the water table was measured at a depth of 56.5 feet. The bottom of the screen for B24MW-3 was set at a depth of 70 feet below ground surface, and the water table was encountered at a depth of 60 feet.

A sandpack was installed around each screen using a tremie pipe. Above the sandpack, a minimum 2-foot thick bentonite seal was installed followed by grouting with a cement/bentonite grout for the remainder of the annulus to ground surface also using a tremie pipe. The wells were protected with a locking PVC cap and a steel flush mount vault with a bolted cover. Upon completion of well construction, the wells were developed using a submersible pump and/or bailed. The wells were considered developed after they were pumped for a minimum of two hours or when the discharge water measured 50 nephelometric turbidity units (NTUs) or less, whichever occurred first.

3.3 Monitoring Well Borehole Soil Sampling

During construction of the monitoring well boreholes, split spoon samples were collected continuously for the first 10 feet and every 5 feet from that point on to the well completion depth. Appendix D includes the boring logs for the monitoring well boreholes installed as part of this project.

Fifteen split spoon samples were obtained from the B24MW-1 borehole. The split spoon samples indicated that the soil in the area of B24MW-1 was mostly brown/orange medium to coarse sand with some gravel to a depth of 25 feet, light tan/brown medium to fine sand with trace gravel to a depth of 52 feet and brown/light orange fine sand with little silty clay lenses to a depth of 62 feet. Eighteen split spoon samples were obtained from the B24MW-2 borehole. The samples indicated that the soil in the area of B24MW-2 was mostly brown/gray silty sand with little to trace gravel to a depth of 15 feet, brown coarse to medium sand with little to some gravel to a depth of 51 feet, gray/black clay to a depth of 65 feet and black/brown silty sand to a depth of 76 feet with a pink/tan clay layer at 70-72 feet. Fifteen split spoon samples were obtained from the B24MW-3

borehole. The split spoon samples indicated that the soil in the area of B24MW-3 was mostly brown/tan/orange medium to coarse sand with little to some fine to coarse gravel and trace cobbles to a depth of 45 feet and brown/gray fine sand with some to little silt and trace clay to a depth of 62 feet.

3.4 Soil Boring Sampling

Soil samples were obtained from a soil boring (B24SB-1) located directly adjacent to and downgradient of the leaching pool that was utilized on-site prior to connection to the Nassau County sewer system. The boring log is presented in Appendix D. The hollow stem auger method of drilling was utilized for the soil boring. The boring was advanced to a depth of 30 feet with continuous split spoon sampling from the 20 to 30-foot interval. A sample was collected from the 24 to 26-foot interval for laboratory analysis of volatile organics (Method 8010/8020), priority pollutant metals (Method 6010), total petroleum hydrocarbons (Method 418.1), fuel-related constituents (Method 310-13) and PCBs (Method 8080). The analytical results from the soil boring sample are presented in Section 4.

3.5 Groundwater Sampling

Prior to well sampling, a minimum of three times the volume of standing water in the casing and sandpack from each well (B24MW-1, B24MW-2 and B24MW-3) was removed with a bailer. One sample was collected from each well for laboratory analysis. The water samples were analyzed for volatile organics (Method 624), fuel-related constituents (Method 310-14), and priority pollutant metals (Method 6010). The analytical results from the groundwater samples are presented in Section 4.

3.6 Spill Investigation

Under the direction of representatives of the NYSDEC, the investigation undertaken in association with Spill No. 93-02825 included the removal of approximately 5 cubic yards of

petroleum-contaminated soil, the installation of one groundwater monitoring well (MW-1) in the vicinity of the release, and the collection and laboratory analysis of monitoring well borehole soil samples (14 to 16-foot and 50 to 52-foot intervals) and groundwater samples. Soil samples were analyzed for volatile organic compounds (VOCs) (Method 8260), semivolatile organic polycyclic aromatic hydrocarbons (PAHs) (Method 8270), eight RCRA metals and "diesel range" organics (by Modified Method 8015). Groundwater samples were analyzed for BTEX (Method 602), acid and base neutral extractable SVOCs (Method 625), eight RCRA metals and "diesel range" organics (by Modified Method 8015). Correspondence documenting the spill investigation findings and the associated analytical results are presented in Appendix F. A summary of the analytical results from the preceding investigation are presented in Section 4.

Section 4

4.0 FINDINGS AND CONCLUSIONS

The volatile organic analytical results from the groundwater samples are compared to the New York State Department of Health (NYSDOH) Drinking Water Standards. Soil sample results are compared to cleanup objectives as identified in the New York State Department of Environmental Conservation (NYSDEC) Technical and Administrative Guidance Memorandum (TAGM 4046). The results are discussed in detail by matrix in the following sections. The results of soil and groundwater sampling performed as part of the spill investigation are also presented in this section.

4.1 Monitoring Well Borehole Soil Sampling

One soil sample was collected from each of the monitoring well boreholes and analyzed for volatile organics, total petroleum hydrocarbons (TPHCs), fuel-related constituents and PCBs. The results of these analyses are presented on Tables 4-1, 4-3 and 4-4, respectively.

As indicated on Table 4-1, volatile organics were not detected above the method detection limit.

As indicated on Table 4-3, total petroleum hydrocarbons were detected in B24MW-1, B24MW-2 and B24MW-3 at concentrations of 101 mg/kg, 138 mg/kg and 118 mg/kg, respectively. As is mentioned above, there is no evidence of any prior fuel spills or releases, nor was there any evidence of either discoloration or petroleum odors associated with the geologic or laboratory samples collected. To determine if the TPHCs detected were attributable to fuel-related compounds the sample was also analyzed for fuel-related constituents (Method 310-13) and PCBs (Method 8080). As indicated on Table 4-3, the fuel-related constituents such as gasoline, lubricating oil, kerosene, fuel oil and jet fuel were not detected above the method detection limit. As indicated on Table 4-4, PCBs were also not detected above the method detection limit. Therefore, it appears that the TPHCs detected in the environmental samples are not associated with any fuel-related spills.

TABLE 4-1
GRUMMAN AEROSPACE CORPORATION
BUILDING 24
SOIL SAMPLING
VOLATILE ORGANICS

SAMPLE ID	B24SB-1	B24MW-1	B24MW-2	B24MW-3	NYSDEC RECOMMENDED SOIL CLEANUP OBJECTIVE (ug/kg)
SAMPLE DEPTH	24-26 FT	6-8 FT	8-10 FT	4-6 FT	
DATE COLLECTED	2/17/94	2/18/94	3/2/94	2/23/94	
DILUTION FACTOR	1	1	1	1	
% MOISTURE	4	9	12	3	
VOLATILE ORGANICS (ug/kg)					
Chloromethane	U	U	U	U	—
Bromomethane	U	U	U	U	—
Vinyl chloride	U	U	U	U	200
Chloroethane	U	U	U	U	1900
Methylene chloride	U	U	U	U	100
1,1-Dichloroethene	U	U	U	U	400
1,1-Dichloroethane	U	U	U	U	200
1,2-Dichloroethene (trans)	U	U	U	U	300
Chloroform	U	U	U	U	300
1,2-Dichloroethane	U	U	U	U	100
1,1,1-Trichloroethane	U	U	U	U	800
Carbon tetrachloride	U	U	U	U	600
Bromodichloromethane	U	U	U	U	—
1,2-Dichloropropane	U	U	U	U	---
cis-1,3-Dichloropropene	U	U	U	U	—
Trichloroethene	U	U	U	U	700
Dibromochloromethane	U	U	U	U	---
1,1,2-Trichloroethane	U	U	U	U	---
Benzene	U	U	U	U	60
trans-1,3-Dichloropropene	U	U	U	U	—
Tetrachloroethene	U	U	U	U	1400
1,1,2,2-Tetrachloroethane	U	U	U	U	600
Toluene	U	U	U	U	1500
Chlorobenzene	U	U	U	U	1700
Ethylbenzene	U	U	U	U	5500
Xylene (total)	U	U	U	U	1200
2-Chloroethylvinylether	U	U	U	U	---
Dichlorodifluoromethane	U	U	U	U	---
Trichlorofluoromethane	U	U	U	U	---
1,2-Dichlorobenzene	U	U	U	U	7900
1,3-Dichlorobenzene	U	U	U	U	1600
1,4-Dichlorobenzene	U	U	U	U	8500
Bromoform	U	U	U	U	---

QUALIFIERS:
U: Analyzed for but not detected

NOTE:
---: Not established

TABLE 4-2
GRUMMAN AEROSPACE CORPORATION
BUILDING 24
SOIL SAMPLING
INORGANIC CONSTITUENTS

SAMPLE ID	B24SB-1	NYSDEC RECOMMENDED SOIL CLEANUP OBJECTIVES (mg/kg)
SAMPLE DEPTH	24-26 FT	
DATE COLLECTED	2/17/94	
UNITS	(mg/kg)	
PARAMETER		
Antimony	U	SB
Arsenic	1.4 B	7.5 or SB
Beryllium	U	1.0 or SB
Cadmium	U	1.0 or SB
Chromium	5.4	10 or SB
Copper	U	25 or SB
Lead	1.1	30 or SB
Mercury	U	0.1
Nickel	U	13 or SB
Selenium	U	2 or SB
Silver	U	SB
Thallium	U	SB
Zinc	6	20 or SB

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

NOTES:
SB: Site Background

TABLE 4-3
GRUMMAN AEROSPACE CORPORATION
BUILDING 24
SOIL SAMPLING
TOTAL PETROLEUM HYDROCARBONS AND FUEL RELATED CONSTITUENTS

SAMPLE ID	B24SB-1	B24MW-1	B24MW-2	B24MW-3
SAMPLE DEPTH	24-26 FT	6-8 FT	8-10 FT	4-6 FT
DATE COLLECTED	2/17/94	2/18/94	3/2/94	2/23/94
TOTAL PETROLEUM HYDROCARBONS (mg/kg)	125	101	138	118
Gasoline	U	U	U	U
TPH (as Gasoline)	U	U	U	U
Kerosene	U	U	U	U
TPH (as Kerosene)	U	U	U	U
#2 Fuel Oil	U	U	U	U
TPH (as #2 Fuel Oil)	U	U	U	U
#6 Fuel Oil	U	U	U	U
TPH (as #6 Fuel Oil)	U	U	U	U
Lubricating Oil	U	U	U	U
TPH (as Lubricating Oil)	U	U	U	U
Jet Fuel	U	U	U	U
TPH (as Jet Fuel)	U	U	U	U

QUALIFIERS:
U: Analyzed for but not detected

TABLE 4-4
GRUMMAN AEROSPACE CORPORATION
BUILDING 24
SOIL SAMPLING
PCB ORGANICS

SAMPLE ID	B24SB-1	B24MW-1	B24MW-2	B24MW-3	NYSDEC RECOMMENDED SOIL CLEANUP OBJECTIVE
SAMPLE DEPTH	24-26 FT.	6-8 FT.	8-10 FT.	4-6 FT.	
DATE COLLECTED	2/17/94	2/18/94	3/2/94	2/23/94	
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
PARAMETER					
Aroclor-1016	U	U	U	U	10,000*
Aroclor-1221	U	U	U	U	10,000*
Aroclor-1232	U	U	U	U	10,000*
Aroclor-1242	U	U	U	U	10,000*
Aroclor-1248	U	U	U	U	10,000*
Aroclor-1254	U	U	U	U	10,000*
Aroclor-1260	U	U	U	U	10,000*

QUALIFIERS:
U: Analyzed for but not detected

NOTE:
*: Value for total PCBs

Although hydraulic oil was not specifically reported in the fingerprint analyses for soil samples B24MW-1, B24MW-2 and B24MW-3, it should be noted that the presence of hydraulic oil, or any other petroleum-related product, would be indicated by the presence of peaks in the associated chromatogram. Based upon a review of the fingerprint analyses, no peaks were present in the chromatograms for each of the above referenced samples. As a result, it can be concluded that hydraulic oil, and any other petroleum-related products, were not detected above the method detection limits in the above referenced samples.

4.2 Soil Boring Sampling

In addition to presenting the analytical results obtained from the soil samples collected from the monitoring well boreholes, Table 4-1 through 4-4 also present the analytical results from the soil sample collected from the 24 to 26-foot interval of the installed soil boring (B24SB-1).

As indicated on Table 4-1, volatile organics were not detected above the method detection limit. As indicated on Table 4-2, priority pollutant metals were not detected above the NYSDEC recommended soil cleanup objectives.

As indicated on Table 4-3, total petroleum hydrocarbons were detected in sample B24SB-1 at a concentration of 125 mg/kg. Additional analyses on the preceding sample utilizing Method 310-13 indicated that the fuel-related constituents such as gasoline, lubricating oil, kerosene, fuel oil and jet fuel were not detected above the method detection limit. As indicated on Table 4-4, additional analyses on the preceding sample utilizing Method 8080 indicated that PCBs were also not detected above the method detection limit. Therefore, it appears that the TPHCs detected in this environmental sample are not associated with any fuel-related spills and may be attributable to asphalt since B24SB-1 was located in a paved parking lot.

Although hydraulic oil was not specifically reported in the fingerprint analysis for soil sample B24SB-1, it should be noted that the presence of hydraulic oil, or any other petroleum-related product, would be indicated by the presence of peaks in the associated chromatogram. Based

upon a review of the fingerprint analysis, no peaks were present in the chromatogram for the above referenced sample. As a result, it can be concluded that hydraulic oil, and any other petroleum-related products, were not detected above the method detection limits in the sample.

4.3 Groundwater Sampling

One groundwater sample was collected from each monitoring well and analyzed for volatile organics and priority pollutant metals.

As indicated on Table 4-5, volatile organics were not detected above the method detection limit. As indicated on Table 4-6, chromium and lead were detected above drinking water standards in B24MW-2. However, it should be noted that this sample, as well as the other groundwater samples from B24MW-1 and B24MW-3, could not be obtained at a turbidity of less than 50 NTUs. As a result, additional groundwater samples from these locations were filtered to remove soil particles prior to laboratory analysis. As indicated on Table 4-6, inorganic constituents were not detected above drinking water standards in the filtered samples.

4.4 Spill Investigation

As indicated in correspondence from Grumman Aerospace Corporation to NYSDEC dated October 19, 1994, analytical results obtained from the monitoring well borehole soil sample obtained from the 14 to 16-foot interval exhibited concentrations of volatile organics ranging from non-detect to 31 ug/kg. SVOC PAHs were not detected above method detection limits. RCRA metals were detected at concentrations ranging from non-detect to 18 mg/kg. Hydraulic fluid was detected at a concentration of 13,000 mg/kg by Modified Method 8015. Analytical results obtained from the monitoring well borehole soil sample obtained from the 50 to 52-foot interval did not exhibit any volatile organics or PAHs above method detection limits. RCRA metals were detected at concentrations ranging from non-detect to 2.7 mg/kg. Hydraulic fluid was detected at a concentration of 0.200 mg/kg.

TABLE 4- 5
GRUMMAN AEROSPACE CORPORATION
BUILDING 24
GROUNDWATER SAMPLING
VOLATILE ORGANICS

SAMPLE ID	B24MW-1	B24MW-2	B24MW-3	NYSDOH
DATE COLLECTED	3/29/94	3/29/94	3/29/94	DRINKING WATER
DILUTION FACTOR	1	1	1	STANDARD
VOLATILE ORGANICS (ug/l)				
Chloromethane	U	U	U	5
Bromomethane	U	U	U	5
Vinyl Chloride	U	U	U	2
Chloroethane	U	U	U	5
Methylene Chloride	3 J	2 J	4 JB	5
1,1-Dichloroethene	U	U	U	5
1,1-Dichloroethane	U	U	U	5
Trans-1,2-Dichloroethene	U	U	U	5
Chloroform	U	U	U	100**
1,2-Dichloroethane	U	U	U	5
1,1,1-Trichloroethane	U	U	U	5
Carbon Tetrachloride	U	U	U	5
Bromodichloromethane	U	U	U	5
1,2-Dichloropropane	U	U	U	5
cis-1,3-Dichloropropene	U	U	U	5
Trichloroethene	U	U	U	5
Dibromochloromethane	U	U	U	100**
1,1,2-Trichloroethane	U	U	U	5
Benzene	U	U	U	5
Trans-1,3-Dichloropropene	U	U	U	5
Bromoform	U	U	U	100**
Tetrachloroethene	U	U	U	5
1,1,2,2-Tetrachloroethane	U	U	U	5
Toluene	U	U	U	5
Chlorobenzene	U	U	U	5
Ethylbenzene	U	U	U	5
Acrolein	U	U	U	5
Acrylonitrile	U	U	U	5
2-Chloroethylvinylether	U	U	U	5
Trichlorofluoromethane	U	U	U	5
Dichlorobenzene (total)	U	U	U	5

QUALIFIERS:
U: Analyzed for but not detected
J: Compound found below detection limit
B: Compound found in the blank as well as the sample

NOTES:
**: Applies to the sum of trihalomethanes

TABLE 4 -6
GRUMMAN AEROSPACE CORPORATION
BUILDING 24
GROUNDWATER SAMPLING
INORGANIC CONSTITUENTS

SAMPLE ID	B24MW-1 (tot)	B24MW-1 (diss)	B24MW-2 (tot)	B24MW-2 (diss)	B24MW-3 (tot)	B24MW-3 (diss)	NYSDOH DRINKING WATER STANDARDS
DATE COLLECTED	3/29/94	3/29/94	3/29/94	3/29/94	3/29/94	3/29/94	
UNITS	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)
PARAMETER							
Antimony	U	U	30.9 B	U	U	U	----
Arsenic	U	U	29.6	U	U	U	50
Beryllium	U	U	27.8	U	U	U	----
Cadmium	U	U	U	U	U	U	5
Chromium	14.2	U	953	U	26.4	U	100
Copper	8.1 B	U	603	7.9 B	14.7 B	U	1000
Lead	6.1	U	431	U	5.3	U	50
Mercury	1.8	U	U	U	U	U	2
Nickel	U	24.3 B	742	24.3 B	U	U	----
Selenium	U	U	U	U	U	U	10
Silver	U	U	16.8	U	U	U	50
Thallium	U	U	U	U	U	U	----
Zinc	57.5	7.3 B	1020	31.1	98.6	29.6	5000

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

NOTES
tot: Total metal results
diss: Dissolved metal results
----: Not established
:Value exceeds standard

As indicated in correspondence from Grumman Aerospace Corporation to NYSDEC dated April 5, 1995, groundwater sampling results from the initial round of groundwater samples collected on December 20, 1994 and January 27, 1995 from monitoring well MW-1 show that acid extractables, diesel range organics and the eight RCRA metals were not detected above method detection limits. Base neutral extractables were also not detected at concentrations above method detection limits with the exception of di-n-butyl phthalate (2 ug/l), bis(2-ethyl hexyl)phthalate (6 ug/l) and naphthalene (1 ug/l) which were found at concentrations above detection limits but below New York State drinking water standards.

The BTEX analysis detected benzene, ethylene benzene and m and p-xylene at levels equal to or below their New York State maximum drinking water standards. Toluene was detected at 7 ug/l which is only slightly above the drinking water standard of 5 ug/l. O-xylene was detected at 9 ug/l which exceeds the drinking water standard of 5 ug/l for the single isomer, however the concentration of total xylenes detected (14 ug/l) was below the total xylene standard of 15 ug/l.

Monitoring of this area is continuing in accordance with NYSDEC correspondence dated August 30, 1995 (see Appendix F) which requires continued groundwater sampling for hydraulic oil (by Modified EPA Method 8015), volatile organics (Method 602) and RCRA metals.

4.5 Conclusions

As indicated in the discussion presented above, soil and groundwater sampling undertaken in support of the delisting petition indicated that no compounds were detected above the referenced standards/guidelines other than those groundwater samples which was shown to be attributable to elevated turbidity. With regard to the spill investigation, contaminated soil has been removed, a groundwater monitoring well has been installed and an initial round of groundwater samples has been collected. Monitoring of this area is continuing under the direction of the NYSDEC. However, as previously mentioned, the initial round of groundwater sampling did not indicate the presence of any targeted constituents in concentrations above referenced drinking water standards other than toluene and o-xylene which were detected slightly above their drinking water standards of 5 ug/l.

Active spill sites that have been remediated through the excavation of petroleum contaminated soil and only exhibit slight exceedances of drinking water standards do not typically warrant Superfund status. As a result, based on 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; "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.

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.

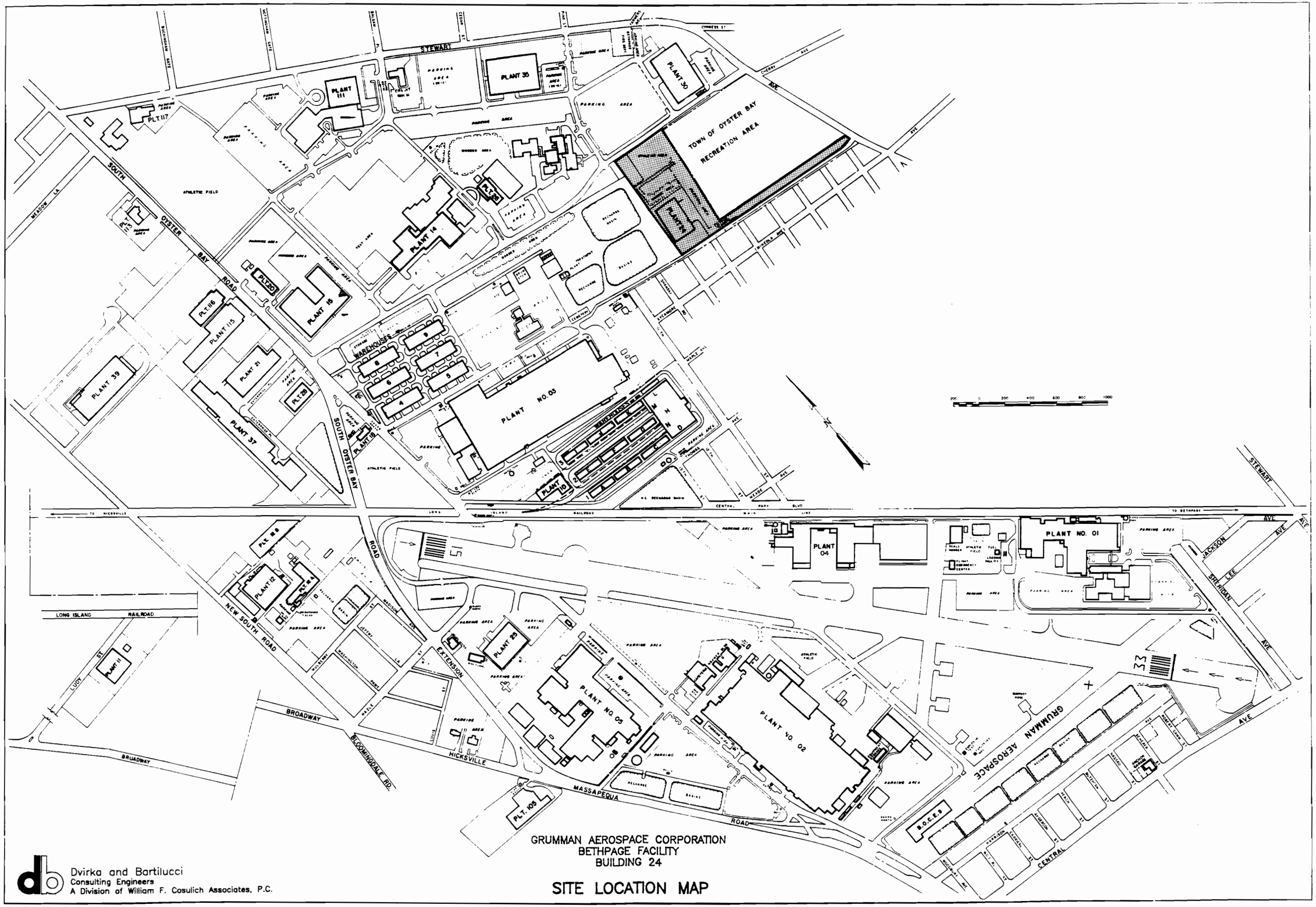
USEPA - Region 2, Proposed Plan Superfund Update Hooker Chemical/Ruco Polymer Site, Hicksville, New York, July 1990.

USGS, Report 88-4135, "Geohydrology of the Bethpage-Hicksville-Levittown Area, Long Island, New York."

Appendix A

APPENDIX A

LOCATION MAP



GRUMMAN AEROSPACE CORPORATION
BETHPAGE FACILITY
BUILDING 24

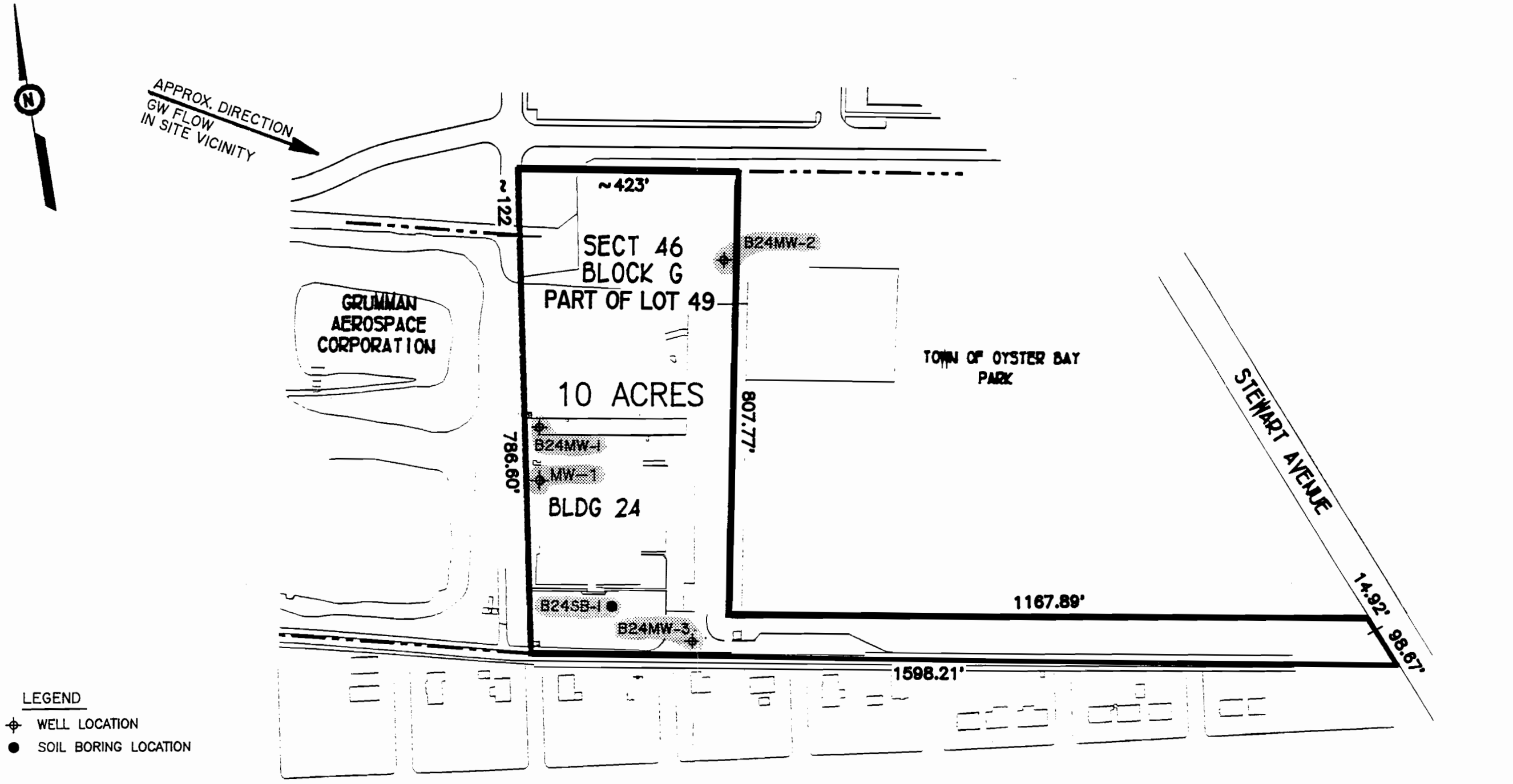
SITE LOCATION MAP

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

Appendix B

APPENDIX B

SITE PLAN



GRUMMAN AEROSPACE CORPORATION
BETHPAGE FACILITY
BUILDING 24

SITE PLAN

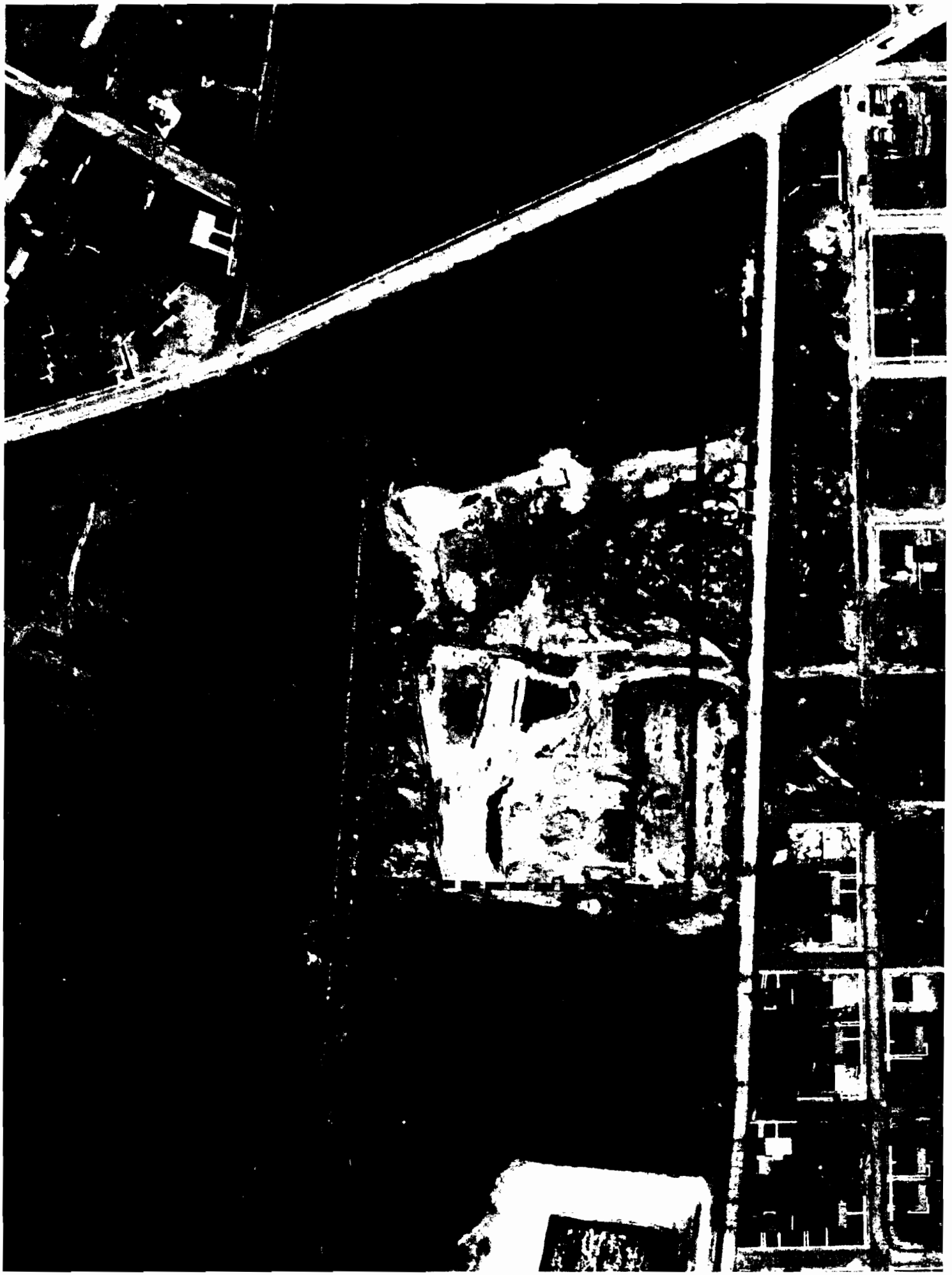
Dvirka and Bartilucci
CONSULTING ENGINEERS

Appendix C

APPENDIX C

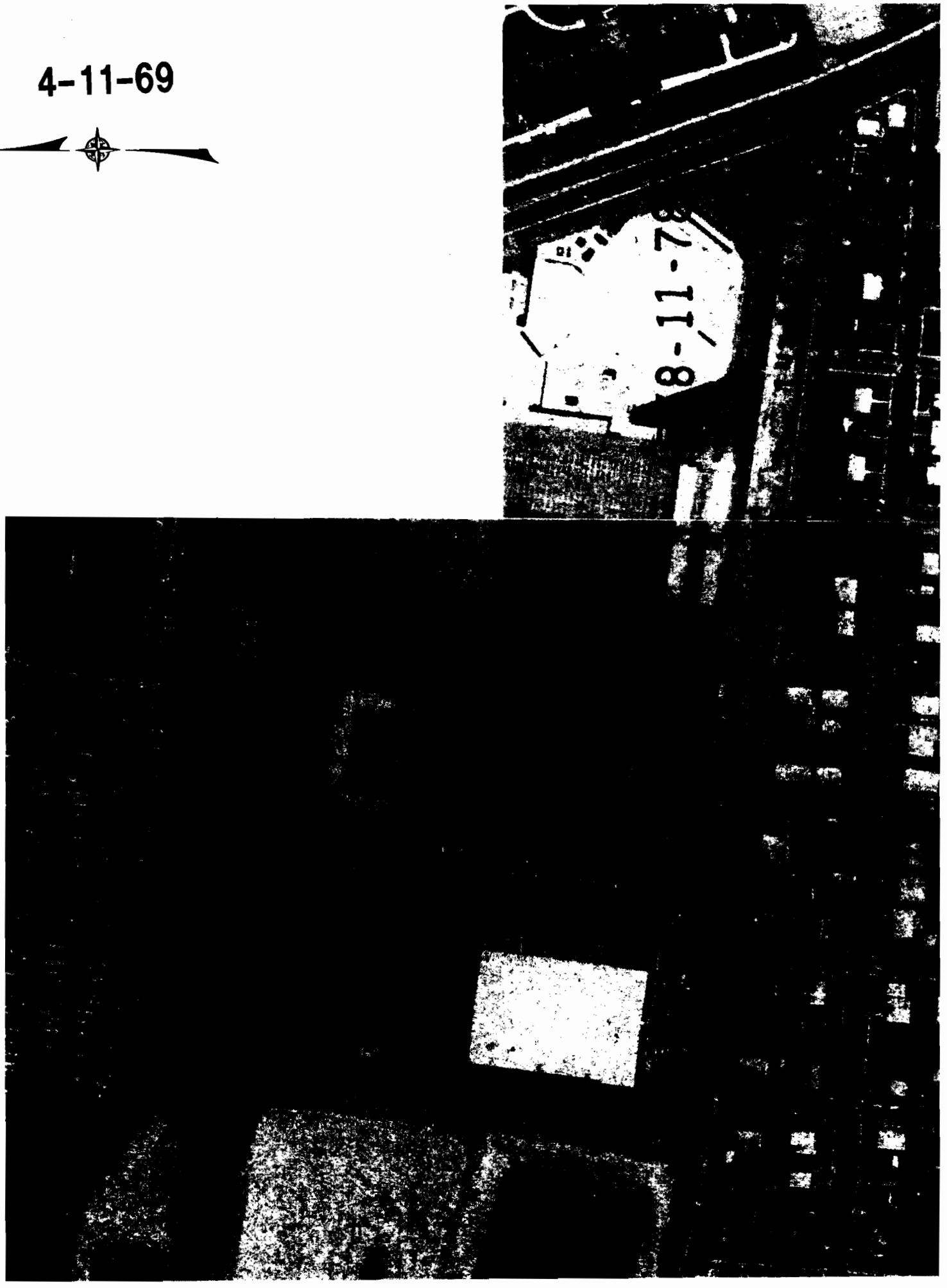
AERIAL PHOTOGRAPHS (1950-1988)

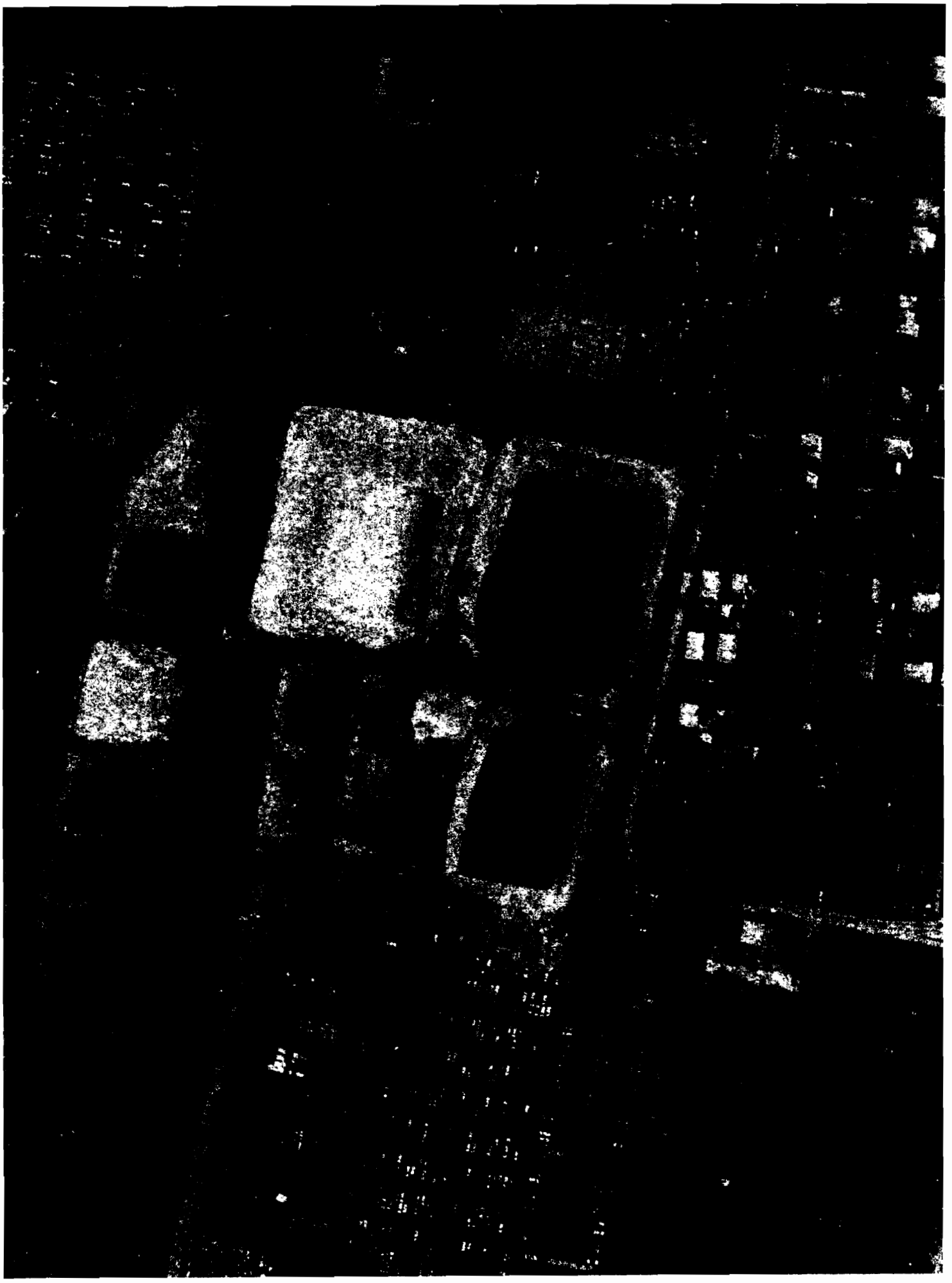

I-30

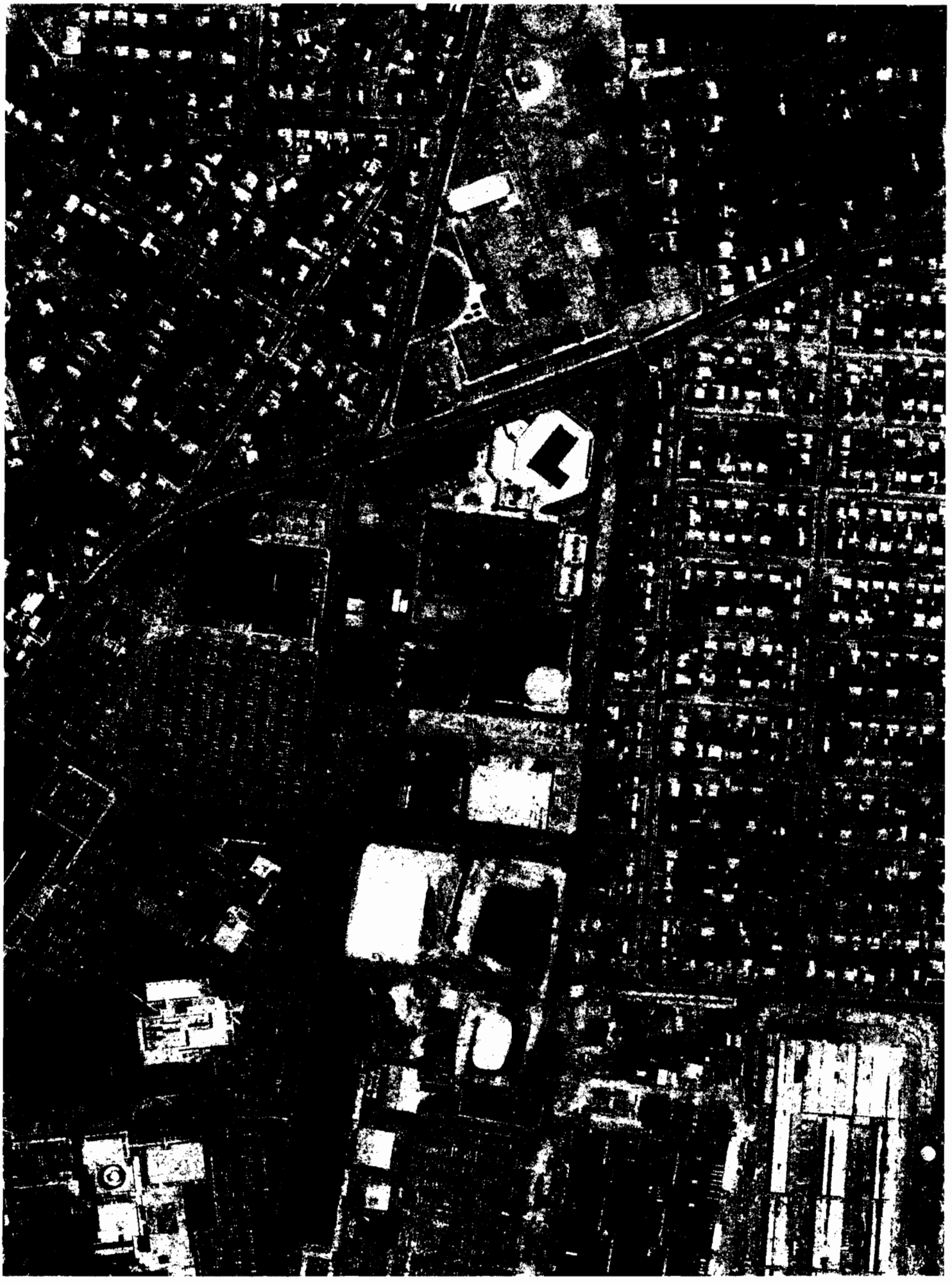


3-23-62

4-11-69







Appendix D

APPENDIX D

BORING LOGS

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1167-M
Project Name: GRUMMAN

Well/Boring No.: Building 24 SB-1
Sheet 1 of 1
By: KSR Date: 2/17/94
Chk'd: _____ Date: _____

Drilling Contractor: John Errington
Driller: Scot
Drill Rig: CME 75
Sample Spoon I.D.: 2 inch
Date Started: 2/17/94
Geologist: Keith Robins
Drilling Method: Hollow Stem Auger
Drive Hammer Wt.: 140 lbs.
Date Completed: 2/17/94

Borehole Completion Depth: 30'
Borehole Diameter: 7 Inch
Ground Surface El.: NA

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
-0-					DUA	
		—	—	—	0.	(0-20') Brown Coarse Qtz Sand, some subangular gravel, trace silt (Moist-damp)
-10						
-20	1	20-22	18"	6,8, 9,12	0	(20'-22') LT Brown-Tan coarse Sand, little fine subangular gravel (damp)
~~22~~						
	2	22-24	18"	5,10 9,13	0	(22'-24') LT Brown medium-coarse Qtz Sand, some qtz angular gravel, trace silt
~~24~~						
~~26~~	3	24-26	18"	9,13 9,4	4	(24'-26') LT Brown-Tan, medium-coarse Sand, trace iron, silt, some angular gravel (damp)
~~28~~	4	26-28	18"	4,6, 11,12	2	(26'-28') LT Brown medium-coarse Sand lenses of fine sand, little gravel, trace silt (damp)
~~30~~	5	28-30	24"	4,9, 10,9	0	(28'-30') LT Brown coarse-medium-fine Sand, little angular gravel, trace silt. (damp)
~~-8-~~						
~~-9-~~						END OF BORING AT 30 FT
~~-10~~						

Remarks: No split spoon samples collected from (0-20') FT below grade
Soil sample collected at (24-26), for laboratory sample.

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

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1167-M
Project Name: GRUMMAN

Well/Boring No.: B24MW-1
Sheet 1 of 4
By: KSR Date: 3/16/94
Chk'd: _____ Date: _____

Drilling Contractor: John Emington
Driller: Scot
Drill Rig: CME 75
Sample Spoon I.D.: 2 inch
Date Started: 2/18/94
Geologist: Keith Robins
Drilling Method: 4¼ Hollow Stem Auger
Drive Hammer Wt.: 140 lbs
Date Completed: 2/18/94

Borehole Completion Depth: 70 FT
Borehole Diameter: 7"
Ground Surface El.: NA

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
-0-					MICRO TIP	
-1-	1	0-2	18"	6,7, 4,4	0	(0-1') Brown silt, compacted (1'-2') Brown, medium sand, trace gravel, roots (Frozen)
-2-						
-3-	2	2-4	18"	6,6, 3,3	0	(2'-4') Brown-Orange, medium-coarse Qtz Sand, some angular gravel trace silt. (damp)
-4-	3	4-6	6"	6,3, 6,6	0	(4'-6') Brown-Orange, medium-coarse Sand, some gravel, trace silt (damp)
-5-						
-6-						
-7-	4	6-8	15"	6,12, 20,25	0	(6'-8') Brown-Orange coarse Qtz Sand, some angular gravel, trace silt (damp)
-8-						
-9-	5	8-10	15"	10,10, 17,20	0	(8'-10') Brown-Orange, medium-coarse Qtz Sand, trace rock fragments, tr gravel, trace iron. (damp)
-10						

Remarks: Soil sample collected at (6'-8') for laboratory analysis

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

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1167-M
Project Name: GRUMMAN

Well/Boring No. B24 MW-1
Sheet 2 of 4
By: KSR Date: 3/16/94
Chk'd: _____ Date: _____

Drilling Contractor: John Emington
Driller: Scot Geologist: Keith Robins
Drill Rig: CME-75 Drilling Method: 4¼" Hollow Stem Auger
Sample Spoon I.D.: 2 inch Drive Hammer Wt.: 140 lbs.
Date Started: 2/18/94 Date Completed: 2/18/94

Borehole Completion Depth: 70 FT
Borehole Diameter: 7"
Ground Surface El.: NA

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
1-0-					MicroTip	
12-						
14-	6	15-17	18"	8,21, 12,21	0	(15'-17') Brown-dK brown zone at (18"-20") of med-coarse Sand, some fine-coarse subangular gravel, trace muscovite, trace silt (damp)
16						
18						
20	7	20-22	16"	6,10, 10,20	0	(20'-22') LT Brown, medium-coarse(+) Qtz Sand, little-some f-c gravel, trace silt, tr. hornblende (damp-moist)
22						
24	8	25-27	15"	6,10, 18,15	0	(25'-27') LT Tan, medium-fine Qtz Sand, < ½" dark horizontal banning, little coarse angular gravel, trace silt. (damp)
26						
28						
30						

Remarks: Changed vertical scale to every 2 FT

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

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1167-M
Project Name: GRUMMAN

Well/Boring No. B24MW-1
Sheet 3 of 4
By: FSR Date: 3/16/94
Chk'd: _____ Date: _____

Drilling Contractor: John Emigator
Driller: Scot
Drill Rig: CME 75
Sample Spoon I.D.: 2inch
Date Started: 2/18/94
Geologist: Keith Robbins
Drilling Method: 4¼" Hollow Stem Augers
Drive Hammer Wt.: 140 lbs.
Date Completed: 2/18/94

Borehole Completion Depth: 70 FT
Borehole Diameter: 7"
Ground Surface El.: NA

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
30					MICTIP	
	9	30-32	18"	4,7, 9,9	0	(30'-32') Tan fine-medium(+)-coarse Qtz Sand, little fine gravel, trace silt, trace iron staining, trace muscovite, tr. orthoclase feldspar
32						
34						
	10	35-37	3"	10,12 15,20	0	(35'-37') Brown medium-coarse Sand, Qtz coarse gravel, broken angular fragments. (dry-damp)
36						
38						
40						
	11	40-42	18"	4,11, 25,25	0	(40'-42') LT Brown fine-medium(+)-coarse Sand, trace fine gravel, trace iron staining (damp)
42						
44						
	12	45-47	15"	6,15, 17,25	0	(45'-47') Brown-Tan, medium-fine Sand, trace-little medium-fine gravel, (subrounded) (damp)
46						
48						
50						

Remarks:

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

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1167-M
Project Name: GRUMMAN

Well/Boring No.: B24 MW-1
Sheet 4 of 4
By: KSP Date: 3/16/94
Chk'd: _____ Date: _____

Drilling Contractor: John Errington
Driller: Scot
Drill Rig: CME 75
Sample Spoon I.D.: 2 inch
Date Started: 2/18/94
Geologist: Keith Reeves
Drilling Method: 4 1/4" Hollow Stem Auger
Drive Hammer Wt.: 140 lbs
Date Completed: 2/18/94
Borehole Completion Depth: 70 FT
Borehole Diameter: 7"
Ground Surface El.: NA

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
50	13	50-52	15"	6,11, 18,28	0	(50'-52') LT Brown-Tan, medium to fine Sand (Moist)
52						
54	14	55-57	18"	6,6 11,20	0	(55'-57') Brown-LT Orange fine Sand, ½" white-gray clay lenses and brown silt. (very moist-wet)
56						▽ -- WATER TABLE @ 58'
58						
60	15	60-62	18"	6,7 6,8	0	(60'-62') Brown-Tan fine Sand, some silty clay (saturated)
62						
64						
66						
68						END OF BORING AT 70 FT
70						

Remarks:

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

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1167-NN
Project Name: GRUMMAN

Well/Boring No.: B24 MW-2
Sheet 1 of 4
By: KSR Date: 3/16/94
Chk'd: _____ Date: _____

Drilling Contractor: John Emmerford
Driller: Scot
Drill Rig: CME 75
Sample Spoon I.D.: 2inch
Date Started: 3/1/94
Geologist: Keith Robins
Drilling Method: 4¼ Hollow stem Augers
Drive Hammer Wt.: 140 lbs
Date Completed: 3/1/94

Borehole Completion Depth: 74 FT
Borehole Diameter: 7inch
Ground Surface El.: NA

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
-0-					OVA	
-1-	1	0-2	12"	6,6 6,6	0	(0'-2') DK Brown silty Sand, trace fine gravel and roots. (moist)
-2-						
-3-	2	2-4	15"	6,6 6,6	0	(2'-4') LT Brown coarse Sand, Some subrounded gravel, trace silt. (damp)
-4-						
-5-	3	4-6	15"	3,3 3,3	0	(4'-6') Gray clay, little fine gravel (moist)
-6-						
-7-	4	6-8	15"	6,6 6,6	0	(6'-8') Brown-LT Gray silt, trace fine gravel, horizontal Red-Brown banding
-8-						
-9-	5	8-10	12"	4,5 6,8	2	(8'-10') Gray silt, trace fine subrounded gravel (damp)
-10						

Remarks: Soil Sample collected at (8'-10') for laboratory analysis

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

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1167-M
Project Name: GRUMMAN

Well/Boring No.: B-24 MW-2
Sheet 1 of 4
By: KSR Date: 3/16/94
Chk'd: _____ Date: _____

Drilling Contractor: John Emington
Driller: Scot Geologist: Keith Robins
Drill Rig: CME 75 Drilling Method: 4¼ inch HSA
Sample Spoon I.D.: 2 inch Drive Hammer Wt.: 140 Lbs.
Date Started: 3/1/94 Date Completed: 3/1/94

Borehole Completion Depth: 74 FT
Borehole Diameter: 7 inch
Ground Surface El.: NA

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
1-0					EVA	
12						
14	6	15-17	12"	4,4, 6,6	(1-2 ppm)	(15'-17') Brown-LT Brown coarse Sand, some angular gravel, trace silt (damp)
16						
18						
20						(20'-22') Brown fine-medium-coarse Sand, little gravel, trace silt.
22	7	20-22	12"	7,7, 12,16	0	
24						
26	8	25-27	15"	5,19 13,14	0	(25'-27') Brown-LT Brown, coarse Sand, some sub rounded gravel, trace silt (dry-damp)
28						
30						

Remarks: Changed vertical scale to every 2 FT

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

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1167-M
Project Name: GRUMMAN

Well/Boring No.: B24MW-2
Sheet 3 of 4
By: K.S.R Date: 3/16/94
Chk'd: _____ Date: _____

Drilling Contractor: John Emington
Driller: Ucuf Geologist: Keith Robbins
Drill Rig: CME 75 Drilling Method: 4 1/4" Hollow stem Auger
Sample Spoon I.D.: 2inch Drive Hammer Wt.: 140 Lbs.
Date Started: 3/1/94 Date Completed: 3/1/94

Borehole Completion Depth: 74 FT
Borehole Diameter: 7inch
Ground Surface El.: NA

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM) OVA	SAMPLE DESCRIPTION
30	9	30-32	18"	4,6 15,14	0	(30'-32') Brown course Sand and gravel, trace silt (damp)
32						
34	10	35-37	18"	8,12 7,13	0	(35'-37') LT Brown course to medium Sand, some subrounded to subangular gravel, trace silt, trace iron staining (damp)
36						
38						
40	11	40-42	18"	4,5, 8, 10	0	(40'-42') LT Brown course to medium to fine Sand, little gravel, trace Qtz rock fragments (damp)
42						
44						
46	12	45-47	18"	NA	0	(45'-47') Brown course to medium Sand, some gravel, trace silt (saturated) (Encountered Perched water at 45 FT)
48						
50						

Remarks: Encountered Perched water at 45 FT

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

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1167-M
Project Name: GRUMMAN

Well/Boring No.: B-24 MW-2
Sheet 4 of 4
By: KSR Date: 3/10/94
Chk'd: _____ Date: _____

Drilling Contractor: John Emerton
Driller: Scot
Drill Rig: CME 75
Sample Spoon I.D.: 2 inch
Date Started: 3/1/94
Geologist: Keith Robins
Drilling Method: 4 1/4 inch Hollowstem Auger
Drive Hammer Wt.: 140 lbs.
Date Completed: 3/1/94

Borehole Completion Depth: 74 FT
Borehole Diameter: 7 inch
Ground Surface El.: NA

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
50	13	50-52	18"	4,8, 3,3	0	(50'-52') 0-12" Brown coarse Sand and gravel 12"-18" Tan-Gray Clay, solid very plastic (damp)
52						
54	14	55-57	6"	6,6, 7,10	—	(55'-57') Black clayey silt, solid, trace fine gravel (damp)
56						
58						
60	15	60-62	12"	8,8, 12,15	—	(60-62') Black clay solid (dry-damp)
62						
64	16	65-67	12"	NA	—	(65'-67') Black gray silt (damp-moist)
66						
68						
70	17	70-72	18"	NA	—	(70-72') Pink-TAN Clay, trace silt (plastic) (damp-moist)
74	18	74-76	18"	NA	—	(74'-76') Brown silty Sand trace muscovite (saturated) END OF BORING AT 76 FT

Remarks:

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

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1167-M
Project Name: GRUMMAN

Well/Boring No.: B24mw-3
Sheet 1 of 4
By: KSR Date: 3/16/94
Chk'd: _____ Date: _____

Drilling Contractor: John Emerton
Driller: Scot Geologist: Keith Robins
Drill Rig: CME75 Drilling Method: 4 1/4" Hollow stem Augers
Sample Spoon I.D.: 2 inch Drive Hammer Wt.: 140 lbs
Date Started: 2/23/94 Date Completed: 2/23/94

Borehole Completion Depth: 70 FT
Borehole Diameter: 7"
Ground Surface El.: NA

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
-0-					OVA	
-1-	1	0-2	12"	3,3, 3,3	0	(0'-2') Dark Brown, medium-coarse Sand little gravel. (Moist)
-2-						
-3-	2	2-4	15"	3,3, 3,3	0	(2'-4') LT Brown, medium-coarse Sand little-some gravel, trace silt (damp)
-4-						
-5-	3	4-6	15"	6,6, 15,18	0	(4'-6') Brown-LT Orange fmc Sand little fine gravel, trace silt, trace cobbles
-6-					Mini-TIP (ppm)	
-7-	4	6-8	12"	6,6, 12,18	0	(6'-8') Orange course Qtz Sand some fine-coarse gravel, trace silt, trace cobbles (damp)
-8-						
-9-	5	8-10	12"	6,6, 11,14	0	(8'-10') Brown-Dark Orange course Sand, some angular gravel trace silt.
-10						

Remarks: Soil sample collected at (4-6) for laboratory analysis

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

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1167-M
Project Name: GRUMMAN

Well/Boring No.: B24MW-3
Sheet 1 of 4
By: KSR Date: 3/16/94
Chk'd: _____ Date: _____

Drilling Contractor: John Emerson
Driller: Scott Geologist: Keith Robins
Drill Rig: CME 75 Drilling Method: 4 1/4" Hollowstem Augers
Sample Spoon I.D.: 2 inch Drive Hammer Wt.: 140 lbs.
Date Started: 2/23/94 Date Completed: 2/23/94

Borehole Completion Depth: 70 FT
Borehole Diameter: 7"
Ground Surface El.: NA

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
0					Microtip	
15	6	15-17	15"	3,3, 6,6	0	(15'-17') LT Brown-Tan medium-coarse sand, trace silt, little coarse gravel
20	7	20-22	12"	4,6, 7,6	0	(20'-22') LT Brown coarse sand, some fine-coarse gravel, trace silt. (damp)
25	8	25-27	18"	7,8, 7,10	OVA (ppm) 0	(25'-27') LT Brown coarse sand, some fine-coarse gravel, trace silt, muscovite; iron staining (damp)
30						

Remarks: Changed vertical scale to every 2 FT.

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

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1167-M
Project Name: GRUMMAN

Well/Boring No.: B24MW-3
Sheet 3 of 4
By: KSR Date: 3/16/94
Chk'd: _____ Date: _____

Drilling Contractor: John Emerton
Driller: Scot
Drill Rig: CME 75
Sample Spoon I.D.: 2 inch
Date Started: 2/23/94
Geologist: Keith Robins
Drilling Method: 4¼" Hollow Stem Auger
Drive Hammer Wt.: 140 lbs.
Date Completed: 2/23/94

Borehole Completion Depth: 70 FT
Borehole Diameter: 7 inch
Ground Surface El.: NA

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
30					OVA	
32	9	30-32	18"	4,4, 6,10	0	(30'-32') LT Brown course-medium-fine Sand, little-some gravel, trace silt, trace iron staining at horizontal (damp)
34						
36	10	35-37	14"	4,11, 8,6	0	(35'-37') LT Tan, medium-course Sand little-some gravel, trace trace iron (damp)
38						
40	11	40-42	18"	7,7, 14,30	0	(40'-42') Brown-Tan course Sand, some course angular gravel and pebbles, trace silt (damp)
43						
44	12	45-47	12"	10,10, 10,10	0	(45'-47') Brown fine Sand, with 3 inch layer at 45.5, gray silty sand, trace clay, trace muscovite (damp)
46						
48						
50						

Remarks:

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

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1167-M
Project Name: Grumman

Well/Boring No.: B24MW-3
Sheet 4 of 4
By: KSR Date: 3/16/94
Chk'd: _____ Date: _____

Drilling Contractor: John Emerson
Driller: Scot Geologist: Keith Robbins
Drill Rig: CME75 Drilling Method: 4¼ Hollow Stem Augers
Sample Spoon I.D.: 2 inch Drive Hammer Wt.: 140 lbs.
Date Started: 2/23/94 Date Completed: 2/23/94

Borehole Completion Depth: 70 FT
Borehole Diameter: 7 inch
Ground Surface El.: NA

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
50	13	50-52	15"	4,4, 4,4	O (OVA ppm)	(50'-52') Brown-Gray fine Sand Some-little silt (damp)
52						
54						
55	14	55-57	15"	6,6, 8,15	O	(55'-57') Brown LT Gray fine Sand (Compacted) (damp-moist)
58						
60	15	60-62	12"	6,6, 6,20	O	(60'-62') 0-6" Gray silty Sand 6"-12" Orange medium-fine Sand (SATURATED)
62						
64						
66						
68						
70						END OF BORING AT 70 FT

Remarks:

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

BL

Appendix E

APPENDIX E

LABORATORY DATA

1A-GC

NYTEST ENVIRONMENTAL INC.

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
ANALYSIS DATE: 2/22/94

SAMPLE ID: B24SB1 24-26
LAB ID: 1983502
DIL FACTOR: 1.00
% MOISTURE: 4

CMPD #	CAS Number	VOLATILE COMPOUNDS	UG/KG (DRY BASIS)
1	74-87-3	Chloromethane	1.0 U.
2	74-83-9	Bromomethane	1.0 U.
3	75-01-4	Vinyl Chloride	1.0 U.
4	75-00-3	Chloroethane	1.0 U.
5	75-09-2	Methylene Chloride	1.0 U.
6	75-35-4	1,1-Dichloroethene	1.0 U.
7	75-34-3	1,1-Dichloroethane	1.0 U.
8	156-60-5	1,2-Dichloroethene (trans)	1.0 U.
9	67-66-3	Chloroform	1.0 U.
10	107-06-2	1,2-Dichloroethane	1.0 U.
11	71-55-6	1,1,1-Trichloroethane	1.0 U.
12	56-23-5	Carbon Tetrachloride	1.0 U.
13	75-27-4	Bromodichloromethane	1.0 U.
14	78-87-5	1,2-Dichloropropane	1.0 U.
15	10061-01-5	cis-1,3-Dichloropropene	1.0 U.
16	79-01-6	Trichloroethene	1.0 U.
17	124-48-1	Dibromochloromethane	1.0 U.
18	79-00-5	1,1,2-Trichloroethane	1.0 U.
19	71-43-2	Benzene	1.0 U.
20	10061-02-6	Trans-1,3-Dichloropropene	1.0 U.
21	127-18-4	Tetrachloroethene	1.0 U.
22	79-34-5	1,1,2,2-Tetrachloroethane	1.0 U.
23	108-88-3	Toluene	1.0 U.
24	108-90-7	Chlorobenzene	1.0 U.
25	100-41-4	Ethylbenzene	1.0 U.
26	1330-20-7	Xylene (total)	1.0 U.
27	110-75-8	2-Chloroethylvinylether	1.0 U.
28	75-71-8	Dichlorodifluoromethane	1.0 U.
29	75-69-4	Trichlorofluoromethane	1.0 U.
30	95-50-1	1,2-Dichlorobenzene	1.0 U.
31	541-73-1	1,3-Dichlorobenzene	1.0 U.
32	106-46-7	1,4-Dichlorobenzene	1.0 U.
33	75-25-2	Bromoform	1.0 U.

1A-GC

NYTEST ENVIRONMENTAL INC.

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
ANALYSIS DATE: 2/23/94

SAMPLE ID: MW-1 6-8
LAB ID: 1984101
DIL FACTOR: 1.00
% MOISTURE: 9

CMPD #	CAS Number	VOLATILE COMPOUNDS	UG/KG (DRY BASIS)
1	74-87-3	Chloromethane	1.1 U.
2	74-83-9	Bromomethane	1.1 U.
3	75-01-4	Vinyl Chloride	1.1 U.
4	75-00-3	Chloroethane	1.1 U.
5	75-09-2	Methylene Chloride	1.1 U.
6	75-35-4	1,1-Dichloroethene	1.1 U.
7	75-34-3	1,1-Dichloroethane	1.1 U.
8	156-60-5	1,2-Dichloroethene (trans)	1.1 U.
9	67-66-3	Chloroform	1.1 U.
10	107-06-2	1,2-Dichloroethane	1.1 U.
11	71-55-6	1,1,1-Trichloroethane	1.1 U.
12	56-23-5	Carbon Tetrachloride	1.1 U.
13	75-27-4	Bromodichloromethane	1.1 U.
14	78-87-5	1,2-Dichloropropane	1.1 U.
15	10061-01-5	cis-1,3-Dichloropropene	1.1 U.
16	79-01-6	Trichloroethene	1.1 U.
17	124-48-1	Dibromochloromethane	1.1 U.
18	79-00-5	1,1,2-Trichloroethane	1.1 U.
19	71-43-2	Benzene	1.1 U.
20	10061-02-6	Trans-1,3-Dichloropropene	1.1 U.
21	127-18-4	Tetrachloroethene	1.1 U.
22	79-34-5	1,1,2,2-Tetrachloroethane	1.1 U.
23	108-88-3	Toluene	1.1 U.
24	108-90-7	Chlorobenzene	1.1 U.
25	100-41-4	Ethylbenzene	1.1 U.
26	1330-20-7	Xylene (total)	1.1 U.
27	110-75-8	2-Chloroethylvinylether	1.1 U.
28	75-71-8	Dichlorodifluoromethane	1.1 U.
29	75-69-4	Trichlorofluoromethane	1.1 U.
30	95-50-1	1,2-Dichlorobenzene	1.1 U.
31	541-73-1	1,3-Dichlorobenzene	1.1 U.
32	106-46-7	1,4-Dichlorobenzene	1.1 U.
33	75-25-2	Bromoform	1.1 U.

1A-GC

NYTEST ENVIRONMENTAL INC.

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX:	SOIL	SAMPLE ID:	B24MW-2
CONC. LEVEL:	LOW	LAB ID:	1995901
ANALYSIS DATE:	3/05/94	DIL FACTOR:	1.00
		% MOISTURE:	12

CMPD #	CAS Number	VOLATILE COMPOUNDS	UG/KG (DRY BASIS)
1	74-87-3	Chloromethane	1.1 U.
2	74-83-9	Bromomethane	1.1 U.
3	75-01-4	Vinyl Chloride	1.1 U.
4	75-00-3	Chloroethane	1.1 U.
5	75-09-2	Methylene Chloride	1.1 U.
6	75-35-4	1,1-Dichloroethene	1.1 U.
7	75-34-3	1,1-Dichloroethane	1.1 U.
8	156-60-5	1,2-Dichloroethene (trans)	1.1 U.
9	67-66-3	Chloroform	1.1 U.
10	107-06-2	1,2-Dichloroethane	1.1 U.
11	71-55-6	1,1,1-Trichloroethane	1.1 U.
12	56-23-5	Carbon Tetrachloride	1.1 U.
13	75-27-4	Bromodichloromethane	1.1 U.
14	78-87-5	1,2-Dichloropropane	1.1 U.
15	10061-01-5	cis-1,3-Dichloropropene	1.1 U.
16	79-01-6	Trichloroethene	1.1 U.
17	124-48-1	Dibromochloromethane	1.1 U.
18	79-00-5	1,1,2-Trichloroethane	1.1 U.
19	71-43-2	Benzene	1.1 U.
20	10061-02-6	Trans-1,3-Dichloropropene	1.1 U.
21	127-18-4	Tetrachloroethene	1.1 U.
22	79-34-5	1,1,2,2-Tetrachloroethane	1.1 U.
23	108-88-3	Toluene	1.1 U.
24	108-90-7	Chlorobenzene	1.1 U.
25	100-41-4	Ethylbenzene	1.1 U.
26	1330-20-7	Xylene (total)	1.1 U.
27	110-75-8	2-Chloroethylvinylether	1.1 U.
28	75-71-8	Dichlorodifluoromethane	1.1 U.
29	75-69-4	Trichlorofluoromethane	1.1 U.
30	95-50-1	1,2-Dichlorobenzene	1.1 U.
31	541-73-1	1,3-Dichlorobenzene	1.1 U.
32	106-46-7	1,4-Dichlorobenzene	1.1 U.
33	75-25-2	Bromoform	1.1 U.

1A-GC

NYTEST ENVIRONMENTAL INC.

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
ANALYSIS DATE: 3/3/94

SAMPLE ID: MW-3 4-6
LAB ID: 1991201
DIL FACTOR: 1.00
% MOISTURE: 3

CMPD #	CAS Number	VOLATILE COMPOUNDS	UG/KG (DRY BASIS)
1	74-87-3	Chloromethane	1.0 U.
2	74-83-9	Bromomethane	1.0 U.
3	75-01-4	Vinyl Chloride	1.0 U.
4	75-00-3	Chloroethane	1.0 U.
5	75-09-2	Methylene Chloride	1.0 U.
6	75-35-4	1,1-Dichloroethene	1.0 U.
7	75-34-3	1,1-Dichloroethane	1.0 U.
8	156-60-5	1,2-Dichloroethene (trans)	1.0 U.
9	67-66-3	Chloroform	1.0 U.
10	107-06-2	1,2-Dichloroethane	1.0 U.
11	71-55-6	1,1,1-Trichloroethane	1.0 U.
12	56-23-5	Carbon Tetrachloride	1.0 U.
13	75-27-4	Bromodichloromethane	1.0 U.
14	78-87-5	1,2-Dichloropropane	1.0 U.
15	10061-01-5	cis-1,3-Dichloropropene	1.0 U.
16	79-01-6	Trichloroethene	1.0 U.
17	124-48-1	Dibromochloromethane	1.0 U.
18	79-00-5	1,1,2-Trichloroethane	1.0 U.
19	71-43-2	Benzene	1.0 U.
20	10061-02-6	Trans-1,3-Dichloropropene	1.0 U.
21	127-18-4	Tetrachloroethene	1.0 U.
22	79-34-5	1,1,2,2-Tetrachloroethane	1.0 U.
23	108-88-3	Toluene	1.0 U.
24	108-90-7	Chlorobenzene	1.0 U.
25	100-41-4	Ethylbenzene	1.0 U.
26	1330-20-7	Xylene (total)	1.0 U.
27	110-75-8	2-Chloroethylvinylether	1.0 U.
28	75-71-8	Dichlorodifluoromethane	1.0 U.
29	75-69-4	Trichlorofluoromethane	1.0 U.
30	95-50-1	1,2-Dichlorobenzene	1.0 U.
31	541-73-1	1,3-Dichlorobenzene	1.0 U.
32	106-46-7	1,4-Dichlorobenzene	1.0 U.
33	75-25-2	Bromoform	1.0 U.

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B24SB1

Lab Name: NYTEST_ENV_INC Contract: 9420800

Lab Code: NYTEST Case No.: 19835 SAS No.: SDG No.: 19835

Matrix (soil/water): SOIL Lab Sample ID: 983502

Level (low/med): LOW Date Received: 02/17/94

% Solids: 96.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony	11.1	U		P
7440-38-2	Arsenic	1.4	B		F
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.79	U		P
7440-47-3	Chromium	5.4		*	P
7440-50-8	Copper	2.4	U		P
7439-92-1	Lead	1.1			F
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	4.7	U		P
7782-49-2	Selenium	1.0	U	N	F
7440-22-4	Silver	1.2	U		P
7440-28-0	Thallium	1.0	U	W	F
7440-66-6	Zinc	6.0			P

Color Before: YELLOW Clarity Before: Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

ILMO2.1

REPORT OF ANALYSIS

Log In No.: 19835

We find as follows:

Results in ppm, mg/kg (Dry wt.): Matrix: SOIL

Parameter(s)	Sample Identification	
	CA-MW1 6-8 (1983501)	B24SB1 24-26 (1983502)
Gasoline	76 U	78 U
TPH (as Gasoline)	ND	ND
Kerosene	76 U	78 U
TPH (as Kerosene)	ND	ND
#2 Fuel Oil	76 U	78 U
TPH (as #2 Fuel Oil)	ND	ND
#6 Fuel Oil	76 U	78 U
TPH (as #6 Fuel Oil)	ND	ND
Lubricating Oil	76 U	78 U
TPH (as Lubricating Oil)	ND	ND

ND = Not Detected

* TPH (as...) = Total Volatile hydrocarbons quantitated as a particular hydrocarbon, however, peak pattern does not match that of the hydrocarbon reference standards.

NYTEST ENVIRONMENTAL, inc.

REPORT OF ANALYSIS

Log In No.: 19835

We find as follows:

Results in mg/kg (dry weight basis) :

Sample Identification		Parameter(s)
		Total Petroleum Hydrocarbons
Method Blank		<10.0
Method Detection Limit		10.0
1983501	CA-MW1 6-	127
1983502	B24SB1 24	125

REPORT OF ANALYSIS

Log In No.: 19841

find as follows:

ılts in ppm, mg/kg (Dry wt.): Matrix: SOIL

ımeter(s)	Sample Identification
	MW-1 6-8 (1984101)
line	82.0 U
(as Gasoline)	ND
sene	82.0 U
(as Kerosene)	ND
ıel Oil	82.0 U
as #2 Fuel Oil)	ND
el Oil	82.0 U
as #6 Fuel Oil)	ND
cating Oil	82.0 U
as Lubricating Oil)	ND

lot Detected

(as...) = Total Volatile hydrocarbons quantitated as a particular arbon, however, peak pattern does not match that of the hydrocarbon nce standards.

0000166

NYTEST ENVIRONMENTAL, inc.

REPORT OF ANALYSIS

Log In No.: 19841

We find as follows:

Results in mg/kg (dry weight basis) :

Sample Identification		Parameter(s)
		Total Petroleum Hydrocarbons
Method Blank		<10.0
Method Detection Limit		10.0
1984101	MW1 6-8	101

REPORT OF ANALYSIS

Log In No.: 19959

We find as follows:

Results in ppm, mg/kg (Dry wt.): Matrix: SOIL

Parameter(s)	Sample Identification B24MW-2 (1995901)
Gasoline	85 U
TPH (as Gasoline)	ND
Kerosene	85 U
TPH (as Kerosene)	ND
#2 Fuel Oil	85 U
TPH (as #2 Fuel Oil)	ND
#6 Fuel Oil	85 U
TPH (as #6 Fuel Oil)	ND
Lubricating Oil	85 U
TPH (as Lubricating Oil)	ND

NA = Not Applicable
ND = Not Detected

* TPH (as...) = Total Volatile hydrocarbons quantitated as a particular hydrocarbon, however, peak pattern does not match that of the hydrocarbon reference standards.

NYTEST ENVIRONMENTAL, inc.

REPORT OF ANALYSIS

Log In No.: 19959

We find as follows:

Results in mg/kg (dry weight basis) :

Sample Identification		Parameter(s)
		Total Petroleum Hydrocarbons
Method Blank		<10.0
Method Detection Limit		10.0
1995901	B24MW-2	138

REPORT OF ANALYSIS

Log In No.: 19912

We find as follows:

Results in ppm, mg/kg (Dry wt.): Matrix: SOIL

Parameter(s)	Sample Identification	
	FBLK28 (FBLK28)	MW-3 4-6 (1991201)
Gasoline	75 U	77 U
TPH (as Gasoline)	ND	ND
Kerosene	75 U	77 U
TPH (as Kerosene)	ND	ND
#2 Fuel Oil	75 U	77 U
TPH (as #2 Fuel Oil)	ND	ND
#6 Fuel Oil	75 U	77 U
TPH (as #6 Fuel Oil)	ND	ND
Lubricating Oil	75 U	77 U
TPH (as Lubricating Oil)	ND	ND

NA = Not Applicable
ND = Not Detected

* TPH (as...) = Total Volatile hydrocarbons quantitated as a particular hydrocarbon, however, peak pattern does not match that of the hydrocarbon reference standards.

NYTEST ENVIRONMENTAL, inc.

REPORT OF ANALYSIS

Log In No.: 19912

We find as follows:

Results in mg/kg (dry weight basis) :

Sample Identification		Parameter(s)
		Total Petroleum Hydrocarbons
Method Blank		<10.0
Method Detection Limit		10.0
1991201	MW-3 4-6	118

1 D-T

NYTEST ENVIRONMENTAL INC.

TCL PESTICIDE/PCB ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/18/94
ANALYSIS DATE: 2/28/94

SAMPLE ID: B24SB1 24-26
LAB SAMPLE ID: 1983502
DIL FACTOR: 1.00
% MOISTURE: 4

CMPD #	CAS Number	PESTICIDE/PCB COMPOUND	UG/KG (DRY BASIS)
1	319-84-6	alpha-BHC	NA
2	319-85-7	beta-BHC	NA
3	319-86-8	delta-BHC	NA
4	58-89-9	gamma-BHC(Lindane)	NA
5	76-44-8	Heptachlor	NA
6	309-00-2	Aldrin	NA
7	1024-57-3	Heptachlor Epoxide	NA
8	959-98-8	Endosulfan I	NA
9	60-57-1	Dieldrin	NA
10	72-55-9	4,4'-DDE	NA
11	70-20-8	Endrin	NA
12	33213-65-9	Endosulfan II	NA
13	72-54-8	4,4-DDD	NA
14	1031-07-8	Endosulfan Sulfate	NA
15	50-29-3	4,4'-DDT	NA
16	72-43-5	Methoxychlor	NA
17	53494-70-5	Endrin Ketone	NA
18	7421-36-3	Endrin Aldehyde	NA
19	57-74-9	Chlordane	NA
20	8001-35-2	Toxaphene	NA
21	12674-11-2	Aroclor-1016	80.000 U.
22	11104-28-2	Aroclor-1221	80.000 U.
23	11141-16-5	Aroclor-1232	80.000 U.
24	53469-21-9	Aroclor-1242	80.000 U.
25	12672-29-6	Aroclor-1248	80.000 U.
26	11097-69-1	Aroclor-1254	80.000 U.
27	11096-82-5	Aroclor-1260	80.000 U.

1 D-T

NYTEST ENVIRONMENTAL INC.

TCL PESTICIDE/PCB ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX:	SOIL	SAMPLE ID:	MW1 6-8
CONC. LEVEL:	LOW	LAB SAMPLE ID:	1984101
EXTRACTION DATE:	2/22/94	DIL FACTOR:	1.00
ANALYSIS DATE:	2/28/94	% MOISTURE:	9

CMPD #	CAS Number	PESTICIDE/PCB COMPOUND	UG/KG (DRY BASIS)
1	319-84-6	alpha-BHC	NA
2	319-85-7	beta-BHC	NA
3	319-86-8	delta-BHC	NA
4	58-89-9	gamma-BHC(Lindane)	NA
5	76-44-8	Heptachlor	NA
6	309-00-2	Aldrin	NA
7	1024-57-3	Heptachlor Epoxide	NA
8	959-98-8	Endosulfan I	NA
9	60-57-1	Dieldrin	NA
10	72-55-9	4,4'-DDE	NA
11	70-20-8	Endrin	NA
12	33213-65-9	Endosulfan II	NA
13	72-54-8	4,4-DDD	NA
14	1031-07-8	Endosulfan Sulfate	NA
15	50-29-3	4,4'-DDT	NA
16	72-43-5	Methoxychlor	NA
17	53494-70-5	Endrin Ketone	NA
18	7421-36-3	Endrin Aldehyde	NA
19	57-74-9	Chlordane	NA
20	8001-35-2	Toxaphene	NA
21	12674-11-2	Aroclor-1016	90.000 U.
22	11104-28-2	Aroclor-1221	90.000 U.
23	11141-16-5	Aroclor-1232	90.000 U.
24	53469-21-9	Aroclor-1242	90.000 U.
25	12672-29-6	Aroclor-1248	90.000 U.
26	11097-69-1	Aroclor-1254	90.000 U.
27	11096-82-5	Aroclor-1260	90.000 U.

1 D-T

NYTEST ENVIRONMENTAL INC.

TCL PESTICIDE/PCB ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX:	SOIL	SAMPLE ID:	B24MW-2
CONC. LEVEL:	LOW	LAB SAMPLE ID:	1995901
EXTRACTION DATE:	3/4/94	DIL FACTOR:	1.00
ANALYSIS DATE:	3/14/94	% MOISTURE:	12

CMPD #	CAS Number	PESTICIDE/PCB COMPOUND	UG/KG (DRY BASIS)
1	319-84-6	alpha-BHC	NA
2	319-85-7	beta-BHC	NA
3	319-86-8	delta-BHC	NA
4	58-89-9	gamma-BHC(Lindane)	NA
5	76-44-8	Heptachlor	NA
6	309-00-2	Aldrin	NA
7	1024-57-3	Heptachlor Epoxide	NA
8	959-98-8	Endosulfan I	NA
9	60-57-1	Dieldrin	NA
10	72-55-9	4,4'-DDE	NA
11	70-20-8	Endrin	NA
12	33213-65-9	Endosulfan II	NA
13	72-54-8	4,4-DDD	NA
14	1031-07-8	Endosulfan Sulfate	NA
15	50-29-3	4,4'-DDT	NA
16	72-43-5	Methoxychlor	NA
17	53494-70-5	Endrin Ketone	NA
18	7421-36-3	Endrin Aldehyde	NA
19	57-74-9	Chlordane	NA
20	8001-35-2	Toxaphene	NA
21	12674-11-2	Aroclor-1016	90.000 U.
22	11104-28-2	Aroclor-1221	90.000 U.
23	11141-16-5	Aroclor-1232	90.000 U.
24	53469-21-9	Aroclor-1242	90.000 U.
25	12672-29-6	Aroclor-1248	90.000 U.
26	11097-69-1	Aroclor-1254	90.000 U.
27	11096-82-5	Aroclor-1260	90.000 U.

1 D-T

NYTEST ENVIRONMENTAL INC.

TCL PESTICIDE/PCB ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX:	SOIL	SAMPLE ID:	MW-3 4-6
CONC. LEVEL:	LOW	LAB SAMPLE ID:	1991201
EXTRACTION DATE:	3/1/94	DIL FACTOR:	1.00
ANALYSIS DATE:	3/14/94	% MOISTURE:	3

CMPD #	CAS Number	PESTICIDE/PCB COMPOUND	UG/KG (DRY BASIS)
1	319-84-6	alpha-BHC	NA
2	319-85-7	beta-BHC	NA
3	319-86-8	delta-BHC	NA
4	58-89-9	gamma-BHC(Lindane)	NA
5	76-44-8	Heptachlor	NA
6	309-00-2	Aldrin	NA
7	1024-57-3	Heptachlor Epoxide	NA
8	959-98-8	Endosulfan I	NA
9	60-57-1	Dieldrin	NA
10	72-55-9	4,4'-DDE	NA
11	70-20-8	Endrin	NA
12	33213-65-9	Endosulfan II	NA
13	72-54-8	4,4-DDD	NA
14	1031-07-8	Endosulfan Sulfate	NA
15	50-29-3	4,4'-DDT	NA
16	72-43-5	Methoxychlor	NA
17	53494-70-5	Endrin Ketone	NA
18	7421-36-3	Endrin Aldehyde	NA
19	57-74-9	Chlordane	NA
20	8001-35-2	Toxaphene	NA
21	12674-11-2	Aroclor-1016	82.000 U.
22	11104-28-2	Aroclor-1221	82.000 U.
23	11141-16-5	Aroclor-1232	82.000 U.
24	53469-21-9	Aroclor-1242	82.000 U.
25	12672-29-6	Aroclor-1248	82.000 U.
26	11097-69-1	Aroclor-1254	82.000 U.
27	11096-82-5	Aroclor-1260	82.000 U.

1AP 624

NYTEST ENVIRONMENTAL INC.

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: WATER
CONC. LEVEL: LOW
ANALYSIS DATE: 4/1/94

SAMPLE ID: B24MW-1
LAB ID: 2020403
DIL FACTOR: 1.00
% MOISTURE: NA

UG/L

CMPD #	CAS Number	VOLATILE COMPOUNDS	
1	74-87-3	Chloromethane	10.0 U.
2	74-83-9	Bromomethane	10.0 U.
3	75-01-4	Vinyl Chloride	10.0 U.
4	75-00-3	Chloroethane	10.0 U.
5	75-09-2	Methylene Chloride	3.0 J.
6	75-35-4	1,1-Dichloroethene	5.0 U.
7	75-34-3	1,1-Dichloroethane	5.0 U.
8	156-60-5	Trans-1,2-Dichloroethene	5.0 U.
9	67-66-3	Chloroform	5.0 U.
10	107-06-2	1,2-Dichloroethane	5.0 U.
11	71-55-6	1,1,1-Trichloroethane	5.0 U.
12	56-23-5	Carbon Tetrachloride	5.0 U.
13	75-27-4	Bromodichloromethane	5.0 U.
14	78-87-5	1,2-Dichloropropane	5.0 U.
15	10061-01-5	cis-1,3-Dichloropropene	5.0 U.
16	79-01-6	Trichloroethene	5.0 U.
17	124-48-1	Dibromochloromethane	5.0 U.
18	79-00-5	1,1,2-Trichloroethane	5.0 U.
19	71-43-2	Benzene	5.0 U.
20	10061-02-6	Trans-1,3-Dichloropropene	5.0 U.
21	75-25-2	Bromoform	5.0 U.
22	127-18-4	Tetrachloroethene	5.0 U.
23	79-34-5	1,1,2,2-Tetrachloroethane	5.0 U.
24	108-88-3	Toluene	5.0 U.
25	108-90-7	Chlorobenzene	5.0 U.
26	100-41-4	Ethylbenzene	5.0 U.
27	107-02-8	Acrolein	100.0 U.
28	107-13-1	Acrylonitrile	100.0 U.
29	110-75-8	2-Chloroethylvinylether	10.0 U.
30	75-69-4	Trichlorofluoromethane	10.0 U.
31		Dichlorobenzene (total)	30.0 U.

1AP 624

NYTEST ENVIRONMENTAL INC.

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: WATER
CONC. LEVEL: LOW
ANALYSIS DATE: 4/1/94

SAMPLE ID: B24MW-2
LAB ID: 2020402
DIL FACTOR: 1.00
% MOISTURE: NA

UG/L

CMPD #	CAS Number	VOLATILE COMPOUNDS	
1	74-87-3	Chloromethane	10.0 U.
2	74-83-9	Bromomethane	10.0 U.
3	75-01-4	Vinyl Chloride	10.0 U.
4	75-00-3	Chloroethane	10.0 U.
5	75-09-2	Methylene Chloride	2.0 J.
6	75-35-4	1,1-Dichloroethene	5.0 U.
7	75-34-3	1,1-Dichloroethane	5.0 U.
8	156-60-5	Trans-1,2-Dichloroethene	5.0 U.
9	67-66-3	Chloroform	5.0 U.
10	107-06-2	1,2-Dichloroethane	5.0 U.
11	71-55-6	1,1,1-Trichloroethane	5.0 U.
12	56-23-5	Carbon Tetrachloride	5.0 U.
13	75-27-4	Bromodichloromethane	5.0 U.
14	78-87-5	1,2-Dichloropropane	5.0 U.
15	10061-01-5	cis-1,3-Dichloropropene	5.0 U.
16	79-01-6	Trichloroethene	5.0 U.
17	124-48-1	Dibromochloromethane	5.0 U.
18	79-00-5	1,1,2-Trichloroethane	5.0 U.
19	71-43-2	Benzene	5.0 U.
20	10061-02-6	Trans-1,3-Dichloropropene	5.0 U.
21	75-25-2	Bromoform	5.0 U.
22	127-18-4	Tetrachloroethene	5.0 U.
23	79-34-5	1,1,2,2-Tetrachloroethane	5.0 U.
24	108-88-3	Toluene	5.0 U.
25	108-90-7	Chlorobenzene	5.0 U.
26	100-41-4	Ethylbenzene	5.0 U.
27	107-02-8	Acrolein	100.0 U.
28	107-13-1	Acrylonitrile	100.0 U.
29	110-75-8	2-Chloroethylvinylether	10.0 U.
30	75-69-4	Trichlorofluoromethane	10.0 U.
31		Dichlorobenzene (total)	30.0 U.

1AP 624

NYTEST ENVIRONMENTAL INC.

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: WATER
CONC. LEVEL: LOW
ANALYSIS DATE: 3/31/94

SAMPLE ID: B24MW-3
LAB ID: 2020401
DIL FACTOR: 1.00
% MOISTURE: NA

UG/L

CMPD #	CAS Number	VOLATILE COMPOUNDS	
1	74-87-3	Chloromethane	10.0 U.
2	74-83-9	Bromomethane	10.0 U.
3	75-01-4	Vinyl Chloride	10.0 U.
4	75-00-3	Chloroethane	10.0 U.
5	75-09-2	Methylene Chloride	4.0 JB
6	75-35-4	1,1-Dichloroethene	5.0 U.
7	75-34-3	1,1-Dichloroethane	5.0 U.
8	156-60-5	Trans-1,2-Dichloroethene	5.0 U.
9	67-66-3	Chloroform	5.0 U.
10	107-06-2	1,2-Dichloroethane	5.0 U.
11	71-55-6	1,1,1-Trichloroethane	5.0 U.
12	56-23-5	Carbon Tetrachloride	5.0 U.
13	75-27-4	Bromodichloromethane	5.0 U.
14	78-87-5	1,2-Dichloropropane	5.0 U.
15	10061-01-5	cis-1,3-Dichloropropene	5.0 U.
16	79-01-6	Trichloroethene	3.0 J.
17	124-48-1	Dibromochloromethane	5.0 U.
18	79-00-5	1,1,2-Trichloroethane	5.0 U.
19	71-43-2	Benzene	5.0 U.
20	10061-02-6	Trans-1,3-Dichloropropene	5.0 U.
21	75-25-2	Bromoform	5.0 U.
22	127-18-4	Tetrachloroethene	5.0 U.
23	79-34-5	1,1,2,2-Tetrachloroethane	5.0 U.
24	108-88-3	Toluene	5.0 U.
25	108-90-7	Chlorobenzene	5.0 U.
26	100-41-4	Ethylbenzene	5.0 U.
27	107-02-8	Acrolein	100.0 U.
28	107-13-1	Acrylonitrile	100.0 U.
29	110-75-8	2-Chloroethylvinylether	10.0 U.
30	75-69-4	Trichlorofluoromethane	10.0 U.
31		Dichlorobenzene (total)	30.0 U.

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B24MW1

Lab Name: NYTEST_ENV_INC Contract: 9420827

Lab Code: NYTEST Case No.: 20204 SAS No.: SDG No.: 603

Matrix (soil/water): WATER Lab Sample ID: 020403

Level (low/med): LOW Date Received: 03/29/94

Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	26.0	U		P
7440-38-2	Arsenic	5.0	U	N	F
7440-39-3	Barium				NR
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	14.2			P
7440-48-4	Cobalt				NR
7440-50-8	Copper	8.1	B		P
7439-89-6	Iron				NR
7439-92-1	Lead	6.1		W	F
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	1.8			CV
7440-02-0	Nickel	23.0	U		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	5.0	U	N	F
7440-22-4	Silver	5.0	U	N	P
7440-23-5	Sodium				NR
7440-28-0	Thallium	5.0	U		F
7440-62-2	Vanadium				NR
7440-66-6	Zinc	57.5			P
5955-70-0	Cyanide				NR

Color Before: BROWN Clarity Before: TURBID Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

B24MW-1

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B24MW2

Lab Name: NYTEST_ENV_INC Contract: 9420827

Lab Code: NYTEST Case No.: 20204 SAS No.: SDG No.: 603

Matrix (soil/water): WATER Lab Sample ID: 020402

Level (low/med): LOW Date Received: 03/29/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	30.9	B		P
7440-38-2	Arsenic	29.6		SN	F
7440-39-3	Barium				NR
7440-41-7	Beryllium	27.8			P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	953			P
7440-48-4	Cobalt				NR
7440-50-8	Copper	603			P
7439-89-6	Iron				NR
7439-92-1	Lead	431			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	742			P
7440-09-7	Potassium				NR
7782-49-2	Selenium	5.0	U	N	F
7440-22-4	Silver	16.8		N	P
7440-23-5	Sodium				NR
7440-28-0	Thallium	5.0	U		F
7440-62-2	Vanadium				NR
7440-66-6	Zinc	1020			P
5955-70-0	Cyanide				NR

Color Before: BROWN Clarity Before: TURBID Texture:

Color After: YELLOW Clarity After: CLOUDY Artifacts:

Comments:

B24MW-2

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B24MW3

Lab Name: NYTEST_ENV_INC Contract: 9420827

Lab Code: NYTEST Case No.: 20204 SAS No.: SDG No.: 603

Matrix (soil/water): WATER Lab Sample ID: 020401

Level (low/med): LOW Date Received: 03/29/94

Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	26.0	U		P
7440-38-2	Arsenic	5.0	U	N	F
7440-39-3	Barium				NR
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	26.4			P
7440-48-4	Cobalt				NR
7440-50-8	Copper	14.7	B		P
7439-89-6	Iron				NR
7439-92-1	Lead	5.3			F
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	23.0	U		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	5.0	U	N	F
7440-22-4	Silver	5.0	U	N	P
7440-23-5	Sodium				NR
7440-28-0	Thallium	5.0	U		F
7440-62-2	Vanadium				NR
7440-66-6	Zinc	98.6			P
5955-70-0	Cyanide				NR

Color Before: BROWN Clarity Before: TURBID Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

B24MW-3

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

D24MW1

Lab Name: NYTEST_ENV_INC Contract: 9420827

Lab Code: NYTEST Case No.: 20204 SAS No.: SDG No.: 603

Matrix (soil/water): WATER Lab Sample ID: D020403

Level (low/med): LOW Date Received: 03/29/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	26.0	U		P
7440-38-2	Arsenic	5.0	U		F
7440-39-3	Barium				NR
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	9.0	U		P
7440-48-4	Cobalt				NR
7440-50-8	Copper	5.0	U		P
7439-89-6	Iron				NR
7439-92-1	Lead	3.0	U		F
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	24.3	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	5.0	U		F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	5.0	U		F
7440-62-2	Vanadium				NR
7440-66-6	Zinc	7.3	B		P
5955-70-0	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

B24MW-1-DISSOLVED

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

D24MW2

Lab Name: NYTEST_ENV_INC Contract: 9420827

Lab Code: NYTEST Case No.: 20204 SAS No.: SDG No.: 603

Matrix (soil/water): WATER Lab Sample ID: D020402

Level (low/med): LOW Date Received: 03/29/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	26.0	U		P
7440-38-2	Arsenic	5.0	U		F
7440-39-3	Barium				NR
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	9.0	U		P
7440-48-4	Cobalt				NR
7440-50-8	Copper	7.9	B		P
7439-89-6	Iron				NR
7439-92-1	Lead	3.0	U		F
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	24.3	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	5.0	U		F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	5.0	U		F
7440-62-2	Vanadium				NR
7440-66-6	Zinc	31.1			P
5955-70-0	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

D24MW-2-DISSOLVED

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

D24MW3

ab Name: NYTEST_ENV_INC Contract: 9420827

Code: NYTEST Case No.: 20204 SAS No.: SDG No.: 603

atrix (soil/water): WATER Lab Sample ID: D020401

evel (low/med): LOW Date Received: 03/29/94

olids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	26.0	U		P
7440-38-2	Arsenic	5.0	U		F
7440-39-3	Barium				NR
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	9.0	U		P
7440-48-4	Cobalt				NR
7440-50-8	Copper	5.0	U		P
7439-89-6	Iron				NR
7439-92-1	Lead	3.0	U		F
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	23.0	U		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	5.0	U		F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	5.0	U		F
7440-62-2	Vanadium				NR
7440-66-6	Zinc	29.6			P
5955-70-0	Cyanide				NR

olor Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

ments:
B24MW-3-DISSOLVED

Appendix F

APPENDIX F

SUPPLEMENTAL INFORMATION

New York State Department of Environmental Conservation
Building 40 - SUNY, Stony Brook, New York 11790-2356
Phone (516) 444-0320
Fax # (516) 444-0373

Michael D. Zagata
Commissioner

August 30, 1995

CERTIFIED MAIL - RETURN RECEIPT

Grumman Aerospace Corporation
Mailstop D08 - GHQ
Bethpage, New York 11714-3580

Attn: Mr. John Selva

Re: Spill #93-02825, Grumman Aerospace, Plant #24, Bethpage, NY

Dear Mr. Selva:

One(1) groundwater observation well was installed on August 25, 1994 by Miller Environmental Group as required by this office, due to the presence of soil contamination in the former underground tank location.

This office is in receipt of the initial round of groundwater sampling results and the groundwater contour map which were submitted by you on April 5, 1995.

As per our telephone conversation, this office requires that the following additional sampling be performed:

1. In accordance with EPA protocol, the well must be purged three(3) to five(5) times the volume of standing water in the well before a sample is collected.

2. The well must be sampled for Modified EPA Method 8015 (for hydrauilic oil), EPA Method 602, and RCRA Metals.

When this office has received and reviewed the latest sampling results, a determination will then be made regarding the status of the groundwater investigation. Please contact me at (516) 444-0325, if you have any questions.

Sincerely,

Brian Campbell
Environmental Engineer 1

cc: K. Gomez, NYSDEC
J. Ohlmann, Grumman Aerospace
File

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

TEL # (516) 444-0320
FAX # (516) 444-0373

Thomas C. Jorling
Commissioner

May 19, 1994

CERTIFIED LETTER - RETURN RECEIPT REQUESTED

Grumman Corporation
Mailstop D08 - GHQ
Bethpage, New York 11714

Attn: Mr. John Selva

Re: Spill #93-02825, Contaminated Soil Stockpile at
Grumman Aerospace, Plant #24
Bethpage, New York

Dear Mr. Selva:

On May 13, 1994, a representative of this office witnessed the excavation and stockpiling of approximately five (5) cubic yards of waste oil/hydraulic oil contaminated soil during the removal of a 1,000 gallon U.S.T. at the above referenced location.

In accordance with 6 NYCRR Part 360, the contaminated soil must be removed within sixty (60) days of the above date. A contractor with a Part 364 (waste transporter) Permit is required for such removal. For further information, you may contact the Division of Solid Waste at (516) 444-0375 concerning the disposal of the contaminated soil, and the Division of Hazardous Substance Regulation at (516) 444-0230 concerning the Part 364 Permit.

This site has been placed on the Department's active petroleum spill site list. It has been assigned the above referenced spill number. The site will remain on the active list until copies of the disposal receipts are received and, if necessary, all additional cleanup/remedial work is performed.

If you have any questions or comment regarding this matter, please call this office at (516) 444-0320.

Sincerely,

Brian E. Campbell
Environmental Engineer I

ACHLMANN

MAY 31 [illegible]

BEC:ap
cc: W. Parish, NYSDEC

Grumman Corporation
Bethpage, New York 11714-3580

October 19, 1994
CETC94-489

Mr. Brian Campbell
New York State Department
of Environmental Conservation
Building 40 SUNY
Stony Brook, N.Y. 11790

Subject: **Soil Boring Sample Analytical Results for Spill Number 93-02825, Plant 24**

Enclosures: 1) Soil Boring Sample Analyses
2) Boring Log

Dear Mr. Campbell:

Please find soil sample analyses for the Plant 24 soil boring intervals 14' - 16' and 50' - 52', trip blank and field blank water analyses (Enclosure 1) and the associated boring log (Enclosure 2).

Should you have any questions, please contact me at 516/575-2385 or J. Selva, of this office, at 516/575-8176.

Very truly yours,

GRUMMAN CORPORATION

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

bcc: (w/o enclosure)
A. Gibson

J. Ohrtman
R. Pravednekow
J. Rosse
P. Siegal

(w/enclosure)
B. Andres
J. Cofman
J. Selva

JO/JGS:tla
WPsbsar24

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C943772/1 09/12/94

Grumman Aerospace Corporation
Mail Station D08-GHQ
Bethpage, NY 11714-3582
ATTN: John Selva PO# 30-88997

SOURCE OF SAMPLE: Plant 24
COLLECTED BY: MEG DATE COL'D:08/25/94 RECEIVED:08/25/94

SAMPLE: Soil sample, MW1 (14'-16'), 0940

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
ter.ButylMethylEther	ug/Kg	<2	
Benzene	ug/Kg	<2	
Toluene	ug/Kg	2	
Ethyl Benzene	ug/Kg	<2	
m + p Xylene	ug/Kg	<4	
o Xylene	ug/Kg	2	
Xylene	ug/Kg	<6	
Isopropylbenzene	ug/Kg	3	
n-Propylbenzene	ug/Kg	4	
135-Trimethylbenzene	ug/Kg	2	
124-Trimethylbenzene	ug/Kg	5	
sec-Butylbenzene	ug/Kg	31	
p-Isopropyltoluene	ug/Kg	5	
n-Butylbenzene	ug/Kg	<2	
Naphthalene	ug/Kg	<2	
tert-Butylbenzene	ug/Kg	<2	
Freon 113	ug/Kg	16	

cc:John Ohlmann, GAC

REMARKS: Date of Analysis = 08/26/94, by J. Turecamo.
EPA Method 8260.

DIRECTOR

rn= 18678 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C943772/1 09/12/94

Grumman Aerospace Corporation
Mail Station D08-GHQ
Bethpage, NY 11714-3582
ATTN: John Selva PO# 30-88997

SOURCE OF SAMPLE: Plant 24
COLLECTED BY: MEG DATE COL'D:08/25/94 RECEIVED:08/25/94

SAMPLE: Soil sample, MW1 (14'-16'), 0940
UNITS: ug/Kg

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS
Naphthalene	<40	
Acenaphthene	<40	
Fluorene	<40	
Phenanthrene	<40	
Anthracene	<40	
Fluoranthene	<40	
Pyrene	<40	
Benzo(a)anthracene	<40	
Chrysene	<40	
Benzo(b)fluoranthene	<40	
Benzo(k)fluoranthene	<40	
Benzo(a)pyrene	<40	
Indeno(1,2,3-cd)pyrene	<40	
Dibenzo(a,h)anthracene	<40	
Benzo(ghi)perylene	<40	

cc:John Ohlmann, GAC

REMARKS: Date of Extraction: 08/30/94, by R. Dumola.
Date of Analysis: 08/30/94, by N. Apostolico.
EPA Method 8270.

DIRECTOR

rm= 18677 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C943772/1 09/12/94

Grumman Aerospace Corporation
Mail Station D08-GHQ
Bethpage, NY 11714-3582
ATTN: John Selva PO# 30-88997

SOURCE OF SAMPLE: Plant 24
COLLECTED BY: MEG DATE COL'D:08/25/94 RECEIVED:08/25/94

SAMPLE: Soil sample, MW1 (14'-16'), 0940

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arsenic as As	mg/Kg	0.33	
Barium as Ba	mg/Kg	18	
Cadmium as Cd	mg/Kg	0.013	
Chromium as Cr	mg/Kg	2.8	
Lead as Pb	mg/Kg	1.5	
Mercury as Hg	mg/Kg	<0.005	
Selenium as Se	mg/Kg	<0.10	
Silver as Ag	mg/Kg	0.16	

cc:John Ohlmann, GAC

REMARKS: Dates of Analyses: AS = 09/09/94, by M.Dooley,
BA = 08/31/94, by M.Nelson, CD = 09/07/94, by G.Saunders,
CR = 09/01/94, by M.Estevez, PB = 09/07/94, by G.Saunders
HG = 09/01/94, by S.McConnell, SE = 09/02/94, by M.Dooley
AG = 08/31/94, by B. Harrison.

DIRECTOR

rn= 18680 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

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LAB NO.C943772/1 09/12/94

Grumman Aerospace Corporation
Mail Station D08-GHQ
Bethpage, NY 11714-3582
ATTN: John Selva PO# 30-88997

SOURCE OF SAMPLE: Plant 24
COLLECTED BY: MEG DATE COL'D:08/25/94 RECEIVED:08/25/94

SAMPLE: Soil sample, MW1 (14'-16'), 0940

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Diesel	ug/Kg	<4000	
#2 Fuel Oil	ug/Kg	<4000	
#4 Fuel Oil	ug/Kg	<4000	
#6 Fuel Oil	ug/Kg	<4000	
Lubricating Oil	ug/Kg	<4000	
Mineral Spirits	ug/Kg	<4000	
JP4	ug/Kg	<4000	
JP5	ug/Kg	<4000	
Jet A	ug/Kg	<4000	
kerosene	ug/Kg	<4000	
Dodecane	ug/Kg	<400	
Hydraulic fluid	ug/Kg*	13000000	

cc:John Ohlmann, GAC

REMARKS: Analyses performed by Modified 8015 Method.
*Hydraulic fluid standard provided by Grumman Aerospace Corp.
Date of Extraction = 08/29/94, by R. Dumola.
Dtae of Analysis = 08/29/94, by A. Gasiorowska.

DIRECTOR

rn= 18679 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C943772/2 09/12/94

Grumman Aerospace Corporation
Mail Station D08-GHQ
Bethpage, NY 11714-3582
ATTN: John Selva PO# 30-88997

SOURCE OF SAMPLE: Plant 24
COLLECTED BY: MEG DATE COL'D:08/25/94 RECEIVED:08/25/94

SAMPLE: Soil sample, MW1 (50'-52'). 1305

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
ter.ButylMethylEther	ug/Kg	<2	
Benzene	ug/Kg	<2	
Toluene	ug/Kg	<2	
Ethyl Benzene	ug/Kg	<2	
m + p Xylene	ug/Kg	<4	
o Xylene	ug/Kg	<2	
Xylene	ug/Kg	<6	
Isopropylbenzene	ug/Kg	<2	
n-Propylbenzene	ug/Kg	<2	
135-Trimethylbenzene	ug/Kg	<2	
124-Trimethylbenzene	ug/Kg	<2	
sec-Butylbenzene	ug/Kg	<2	
p-Isopropyltoluene	ug/Kg	<2	
n-Butylbenzene	ug/Kg	<2	
Naphthalene	ug/Kg	<2	
tert-Butylbenzene	ug/Kg	<2	
Freon 113	ug/Kg	<2	

cc:John Ohlmann, GAC

REMARKS: Date of Analysis = 08/26/94, by J. Turecamo.
EPA Method 8260.

DIRECTOR

rn= 18682 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C943772/2 09/12/94

Grumman Aerospace Corporation
Mail Station D08-GHQ
Bethpage, NY 11714-3582
ATTN: John Selva PO# 30-88997

SOURCE OF SAMPLE: Plant 24
COLLECTED BY: MEG DATE COL'D:08/25/94 RECEIVED:08/25/94

SAMPLE: Soil sample, MW1 (50'-52'), 1305
UNITS: ug/Kg

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS
Naphthalene	<40	
Acenaphthene	<40	
Fluorene	<40	
Phenanthrene	<40	
Anthracene	<40	
Fluoranthene	<40	
Pyrene	<40	
Benzo(a)anthracene	<40	
Chrysene	<40	
Benzo(b)fluoranthene	<40	
Benzo(k)fluoranthene	<40	
Benzo(a)pyrene	<40	
Indeno(1,2,3-cd)pyrene	<40	
Dibenzo(a,h)anthracene	<40	
Benzo(ghi)perylene	<40	

cc:John Ohlmann, GAC

REMARKS: Date of Extraction: 08/29/94, by R. Dumola.
Date of Analysis: 08/29/94, by N. Apostolico.
EPA Method 8270.

DIRECTOR

rn= 18681 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C943772/2 09/12/94

Grumman Aerospace Corporation
Mail Station D08-GHQ
Bethpage, NY 11714-3582
ATTN: John Selva PO# 30-88997

SOURCE OF SAMPLE: Plant 24
COLLECTED BY: MEG DATE COL'D:08/25/94 RECEIVED:08/25/94

SAMPLE: Soil sample, MW1 (50'-52'), 1305

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arsenic as As	mg/Kg	0.14	
Barium as Ba	mg/Kg	2.7	
Cadmium as Cd	mg/Kg	0.11	
Chromium as Cr	mg/Kg	1.8	
Lead as Pb	mg/Kg	1.1	
Mercury as Hg	mg/Kg	<0.005	
Selenium as Se	mg/Kg	<0.10	
Silver as Ag	mg/Kg	0.06	

cc:John Ohlmann, GAC

REMARKS: Dates of Analyses: AS = 09/09/94, by M.Dooley,
BA = 08/31/94, by M.Nelson, CD = 09/08/94, by G.Saunders,
CR = 09/01/94, by M.Estevez, PB = 09/07/94, by G.Saunders,
HG = 09/01/94, by S.McConnell, SE = 09/09/94, by M.Dooley,
AG = 08/31/94, by B. Harrison.

DIRECTOR

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C943772/2 09/12/94

Grumman Aerospace Corporation
Mail Station D08-GHQ
Bethpage, NY 11714-3582
ATTN: John Selva PO# 30-88997

SOURCE OF SAMPLE: Plant 24
COLLECTED BY: MEG DATE COL'D:08/25/94 RECEIVED:08/25/94

SAMPLE: Soil sample, MW1 (50'-52'), 1305

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Diesel	ug/Kg	<400	
#2 Fuel Oil	ug/Kg	<400	
#4 Fuel Oil	ug/Kg	<400	
#6 Fuel Oil	ug/Kg	<400	
Lubricating Oil	ug/Kg	<400	
Mineral Spirits	ug/Kg	<400	
JP4	ug/Kg	<400	
JP5	ug/Kg	<400	
Jet A	ug/Kg	<400	
kerosene	ug/Kg	<400	
Dodecane	ug/Kg	<40	
Hydraulic fluid	ug/Kg*	200	

cc:John Ohlmann, GAC

REMARKS: Analyses performed by Modified 8015 Method.
*Hydraulic fluid standard provided by Grumman Aerospace Corp.
Date of Extraction = 08/29/94, by R. Dumola.
Date of Analysis = 08/29/94, by A. Gasiorowska.

DIRECTOR

rn= 18683 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C943772/3 09/12/94

Grumman Aerospace Corporation
Mail Station D08-GHQ
Bethpage, NY 11714-3582
ATTN: John Selva PO# 30-88997

SOURCE OF SAMPLE: Plant 24
COLLECTED BY: MEG DATE COL'D:08/25/94 RECEIVED:08/25/94

SAMPLE: Water sample, Trip Blank

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
ter.ButylMethylEther	ug/L	<1	
Benzene	ug/L	<1	
Toluene	ug/L	<1	
Ethyl Benzene	ug/L	<1	
m + p Xylene	ug/L	<2	
o Xylene	ug/L	<1	
Xylene	ug/L	<3	
Isopropylbenzene	ug/L	<1	
n-Propylbenzene	ug/L	<1	
135-Trimethylbenzene	ug/L	<1	
124-Trimethylbenzene	ug/L	<1	
sec-Butylbenzene	ug/L	<1	
p-Isopropyltoluene	ug/L	<1	
n-Butylbenzene	ug/L	<1	
Naphthalene	ug/L	<1	
tert-Butylbenzene	ug/L	<1	
Freon 113	ug/L	<1	

cc:John Ohlmann, GAC

REMARKS: Date of Analysis = 08/26/94, by J. Turecamo.
EPA Method 8260.

DIRECTOR

rn= 18686 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C943772/3 09/12/94

Grumman Aerospace Corporation
Mail Station D08-GHQ
Bethpage, NY 11714-3582
ATTN: John Selva PO# 30-88997

SOURCE OF SAMPLE: Plant 24
COLLECTED BY: MEG DATE COL'D:08/25/94 RECEIVED:08/25/94

SAMPLE: Water sample, Trip Blank
UNITS: ug/L

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS
Naphthalene	<1	
Acenaphthene	<1	
Fluorene	<1	
Phenanthrene	<1	
Anthracene	<1	
Fluoranthene	<1	
Pyrene	<1	
Benzo(a)anthracene	<1	
Chrysene	<1	
Benzo(b)fluoranthene	<1	
Benzo(k)fluoranthene	<1	
Benzo(a)pyrene	<1	
Indeno(1,2,3-cd)pyrene	<1	
Dibenzo(a,h)anthracene	<1	
Benzo(ghi)perylene	<1	

cc:John Ohlmann, GAC

REMARKS: Date of Extraction: 08/29/94, by R. Dumola.
Date of Analysis: 08/26/94, by N. Apostolico.
EPA Method 625.

DIRECTOR

rn= 18685 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C943772/3 09/12/94

Grumman Aerospace Corporation
Mail Station D08-GHQ
Bethpage, NY 11714-3582
ATTN: John Selva PO# 30-88997

SOURCE OF SAMPLE: Plant 24
COLLECTED BY: MEG DATE COL'D:08/25/94 RECEIVED:08/25/94

SAMPLE: Water sample, Trip Blank

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arsenic as As	mg/L	<0.002	
Barium as Ba	mg/L	<0.05	
Cadmium as Cd	mg/L	<0.001	
Chromium as Cr	mg/L	<0.02	
Lead as Pb	mg/L	<0.005	
Mercury as Hg	mg/L	<0.00025	
Selenium as Se	mg/L	<0.002	
Silver as Ag	mg/L	<0.01	

cc:John Ohlmann, GAC

REMARKS: Dates of Analyses: AS = 08/30/94, by S.Ziotkowski
BA = 08/26/94, by M.Nelson, CD = 09/08/94, by G.Saunders,
CR = 09/06/94, by M.Estevez, PB = 09/08/94, by G.Saunders,
HG = 08/31/94, by S.McConnell,
SE = 09/01/94, by F. Pillitteri,
AG = 09/01/94, by B. Harrison.

DIRECTOR

rn= 18688 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C943772/3 09/12/94

Grumman Aerospace Corporation
Mail Station D08-GHQ
Bethpage, NY 11714-3582
ATTN: John Selva PO# 30-88997

SOURCE OF SAMPLE: Plant 24
COLLECTED BY: MEG DATE COL'D:08/25/94 RECEIVED:08/25/94

SAMPLE: Water sample, Trip Blank

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Diesel	ug/L	<10	
#2 Fuel Oil	ug/L	<10	
#4 Fuel Oil	ug/L	<10	
#6 Fuel Oil	ug/L	<10	
Lubricating Oil	ug/L	<10	
Mineral Spirits	ug/L	<10	
JP4	ug/L	<10	
JP5	ug/L	<10	
Jet A	ug/L	<10	
kerosene	ug/L	<10	
Dodecane	ug/L	<1	
Hydraulic fluid	ug/L*	<10	

cc:John Ohlmann, GAC

REMARKS: Analyses performed by Modified 8015 Method.
*Hydraulic fluid sample provided by Grumman Aerospace Corp

Date of Extraction = 08/29/94, by R. Dumola.
Date of Analysis = 08/29/94, by A. Gasiorowska.

DIRECTOR

rn= 18687 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C943772/4 09/12/94

Grumman Aerospace Corporation
Mail Station D08-GHQ
Bethpage, NY 11714-3582
ATTN: John Selva PO# 30-88997

SOURCE OF SAMPLE: Plant 24
COLLECTED BY: MEG DATE COL'D:08/25/94 RECEIVED:08/25/94

SAMPLE: Water sample, Field Blank, 1315

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
ter.ButylMethylEther	ug/L	<1	
Benzene	ug/L	<1	
Toluene	ug/L	<1	
Ethyl Benzene	ug/L	<1	
m + p Xylene	ug/L	<2	
o Xylene	ug/L	<1	
Xylene	ug/L	<3	
Isopropylbenzene	ug/L	<1	
n-Propylbenzene	ug/L	<1	
135-Trimethylbenzene	ug/L	<1	
124-Trimethylbenzene	ug/L	<1	
sec-Butylbenzene	ug/L	<1	
p-Isopropyltoluene	ug/L	<1	
n-Butylbenzene	ug/L	<1	
Naphthalene	ug/L	<1	
tert-Butylbenzene	ug/L	<1	
Freon 113	ug/L	<1	

cc:John Ohlmann, GAC

REMARKS: Date of Analysis = 08/26/94, by J. Turecamo.
EPA Method 8260.

DIRECTOR

rn= 18690 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C943772/4 09/12/94

Grumman Aerospace Corporation
Mail Station D08-GHQ
Bethpage, NY 11714-3582
ATTN: John Selva PO# 30-88997

SOURCE OF SAMPLE: Plant 24
COLLECTED BY: MEG DATE COL'D:08/25/94 RECEIVED:08/25/94

SAMPLE: Water sample, Field Blank, 1315
UNITS: ug/L

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS
Naphthalene	<1	
Acenaphthene	<1	
Fluorene	<1	
Phenanthrene	<1	
Anthracene	<1	
Fluoranthene	<1	
Pyrene	<1	
Benzo(a)anthracene	<1	
Chrysene	<1	
Benzo(b)fluoranthene	<1	
Benzo(k)fluoranthene	<1	
Benzo(a)pyrene	<1	
Indeno(1,2,3-cd)pyrene	<1	
Dibenzo(a,h)anthracene	<1	
Benzo(ghi)perylene	<1	

cc:John Ohlmann, GAC

REMARKS: Date of Extraction: 08/29/94, by R. Dumola.
Date of Analysis: 08/26/94, by N. Apostolico.
EPA Method 625.

DIRECTOR

rn= 18689 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

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LAB NO.C943772/4 09/12/94

Grumman Aerospace Corporation
Mail Station D08-GHQ
Bethpage, NY 11714-3582
ATTN: John Selva PO# 30-88997

SOURCE OF SAMPLE: Plant 24
COLLECTED BY: MEG DATE COL'D:08/25/94 RECEIVED:08/25/94

SAMPLE: Water sample, Field Blank, 1315

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arsenic as As	mg/L	<0.002	
Barium as Ba	mg/L	<0.05	
Cadmium as Cd	mg/L	<0.001	
Chromium as Cr	mg/L	<0.02	
Lead as Pb	mg/L	<0.005	
Mercury as Hg	mg/L	<0.00025	
Selenium as Se	mg/L	<0.002	
Silver as Ag	mg/L	<0.01	

cc:John Ohlmann, GAC

REMARKS: Dates of Analyses: AS = 08/30/94, by S.Zlotkowski
BA = 08/26/94, by M.Nelson, CD = 09/08/94, by G.Saunders,
CR = 09/06/94, by M.Estevez, PB = 09/09/94, by G.Saunders.
HG = 08/31/94, by S.McConnell,
SE = 09/01/94, by F. Pillitteri,
AG = 09/01/94, by B. Harrison.

DIRECTOR

rn= 18692 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C943772/4 09/12/94

Grumman Aerospace Corporation
Mail Station D08-GHQ
Bethpage, NY 11714-3582
ATTN: John Selva PO# 30-88997

SOURCE OF SAMPLE: Plant 24
COLLECTED BY: MEG DATE COL'D:08/25/94 RECEIVED:08/25/94

SAMPLE: Water sample, Field Blank, 1315

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Diesel	ug/L	<10	
#2 Fuel Oil	ug/L	<10	
#4 Fuel Oil	ug/L	<10	
#6 Fuel Oil	ug/L	<10	
Lubricating Oil	ug/L	<10	
Mineral Spirits	ug/L	<10	
JP4	ug/L	<10	
JP5	ug/L	<10	
Jet A	ug/L	<10	
kerosene	ug/L	<10	
Dodecane	ug/L	<1	
Hydraulic fluid	ug/L*	<10	

cc:John Ohlmann, GAC

REMARKS: Analyses performed by Modified 8015 Method.
*Hydraulic fluid sample provided by Grumman Aerospace Cor

Date of Extraction = 08/29/94, by R. Dumola.
Date of Analysis = 08/29/94, by A. Gasiorowska.

DIRECTOR

rn= 18691 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

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LAB NO.C943772/5 09/12/94

Grumman Aerospace Corporation
Mail Station D08-GHQ
Bethpage, NY 11714-3582
ATTN: John Selva PO# 30-88997

SOURCE OF SAMPLE: Plant 24
COLLECTED BY: Client DATE COL'D:08/23/94 RECEIVED:08/25/94

SAMPLE: Hydraulic Oil sample.

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Diesel	%	<1	
#2 Fuel Oil	%	<1	
#4 Fuel Oil	%	<1	
#6 Fuel Oil	%	<1	
Lubricating Oil	%	<1	
Mineral Spirits	%	<1	
JP4	%	<1	
JP5	%	<1	
Jet A	%	<1	
kerosene	%	<1	
Dodecane	%	<1	
Hydraulic fluid	%	100	

cc:John Ohlmann, GAC

REMARKS: Analyses performed by Modified 8015 Method.
Date of Extraction = 08/29/94, by R. Dumola.
Date of Analysis = 08/29/94, by A. Gasiorowska.

DIRECTOR

rn= 18693 NYSDOH ID# 10320

MILLER ENVIRONMENTAL GROUP, INC.
460 Edwards Avenue
Calverton, New York 11933
(516)369-4900

Boring/Well No. MW #1 Page 1 of 3

Location BETHPAGE PLANT 24
Client GRUMMAN Date 8/26/94

Drilling Method H.S.A. Driller M. MULLER
Type of Sample SPLIT SPOON Depth to Water ~52'

Casing type PVC SCH 40 Diameter 4" Length 42'
Screen type PVC 0.020" Diameter 4" Length 20'
Gravel type #2 MORIE Seal BENTONITE PELLETS Backfill BANK RUN

Sample Depth From	To	OVM ppm	Blow Count 6" Intervals	Sample Description
0	10'		—	FINE, SILTY, YELLOW/ORANGE SAND, GRAVEL.
10'	12'	91.0	20,50,50,10	RECOVERY = 2" COARSE - VERY COARSE, YELLOW/ORANGE SAND, GRAVEL. DAMP.
12'	14'	—	16,10,20,15	NO RECOVERY CUTTING SHOE INDICATES COBBLE IN WAY
14'	16'	98.0	9,7,8,8	RECOVERY = 7" COARSE - VERY COARSE, YELLOW/ORANGE SAND GRAVEL, COBBLE FRAGMENTS, SHEEN, ODORS.
16'	18'	45.0	9,8,10,12	RECOVERY = 14" COARSE - VERY COARSE, YELLOW/ORANGE SAND, GRAVEL, SHEEN, ODORS.
18'	20'	97.0	15,12,16,9	RECOVERY = 12" COARSE - VERY COARSE, YELLOW/ORANGE SAND, GRAVEL, SHEEN, ODORS.
20'	22'	78.0	15,18,20,20	RECOVERY = 10" COARSE - VERY COARSE, YELLOW/ORANGE SAND, GRAVEL, SHEEN, ODORS.
22'	24'	4.0	18,8,15,21	RECOVERY = 22" COARSE - VERY COARSE, YELLOW/ORANGE SAND, GRAVEL. ONLY TOP 2' SHOWING SHEEN AND ODORS.
24'	26'	12.0	12,12,8,20	RECOVERY = 20" TOP 4" A COARSE - VERY COARSE, YELLOW/ORANGE

MILLER ENVIRONMENTAL GROUP, INC.

460 Edwards Avenue
Calverton, New York 11933
(516)369-4900

Boring/Well No. MW#1 Page 2 of 3

Location BETHPAGE PLANT 24
Client GRUMMAN Date 8/25/94

Drilling Method H.S.A. Driller M. MULLER
Type of Sample SPLIT SPOON Depth to Water ~52'

Casing type PVC SCH 40 Diameter 4" Length 42'
Screen type PVC 0.020" Diameter 4" Length 20'
Gravel type #2 MORIE Seal BENTONITE PELLETS Backfill BANK RUN

Sample Depth From	To	OVA ppm	Blow Count 6" Intervals	Sample Description
				SAND, GRAVEL.
				BOTTOM 16" A FINE-MEDIUM, TAN SAND,
				SOME GRAVEL.
26'	28'	0.0	12,8,9,7	RECOVERY = 22"
				FINE-MEDIUM, TAN SAND, SOME GRAVEL.
28'	30'	7.0	7,13,15,17	RECOVERY = 12"
				FINE-MEDIUM, TAN SAND, SOME GRAVEL.
30'	32'	4.0	4,8,12,10	RECOVERY = 8"
				COARSE-VERY COARSE, YELLOW/ORANGE SAND,
				GRAVEL.
32'	34'	1.0	8,7,9,10	RECOVERY = 8"
				COARSE-VERY COARSE, YELLOW/ORANGE SAND,
				GRAVEL.
34'	36'	1.0	12,8,8,9	RECOVERY = 10"
				MEDIUM-COARSE, YELLOW/ORANGE TO TAN
				SAND, GRAVEL.
36'	38'	4.0	4,5,8,7	RECOVERY = 12"
				MEDIUM-COARSE, TAN SAND, GRAVEL.
38'	40'	2.0	5,7,8,8	RECOVERY = 10"
				FINE, TAN SAND, SOME GRAVEL
40'	42'	36.0	7,7,8,5	RECOVERY = 16"
				MEDIUM-COARSE YELLOW/ORANGE TO REDDISH/
				BROWN SAND, GRAVEL.
42'	50'	—	———	MEDIUM-COARSE, YELLOW/ORANGE SAND,
				GRAVEL.

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(516)369-4900

Boring/Well No. MW#1 Page 3 of 3

Location BETHPAGE PLANT 24
Client GRUMMAN Date 8/25/94

Drilling Method H.S.A. Driller M. MULLER
Type of Sample SPLIT SPOON Depth to Water ~52'

Casing type PVC SCH 40 Diameter 4" Length 42'
Screen type PVC 0.020" Diameter 4" Length 20'
Gravel type #2 MORIE Seal BENTONITE PELLETS Backfill BANK RUN

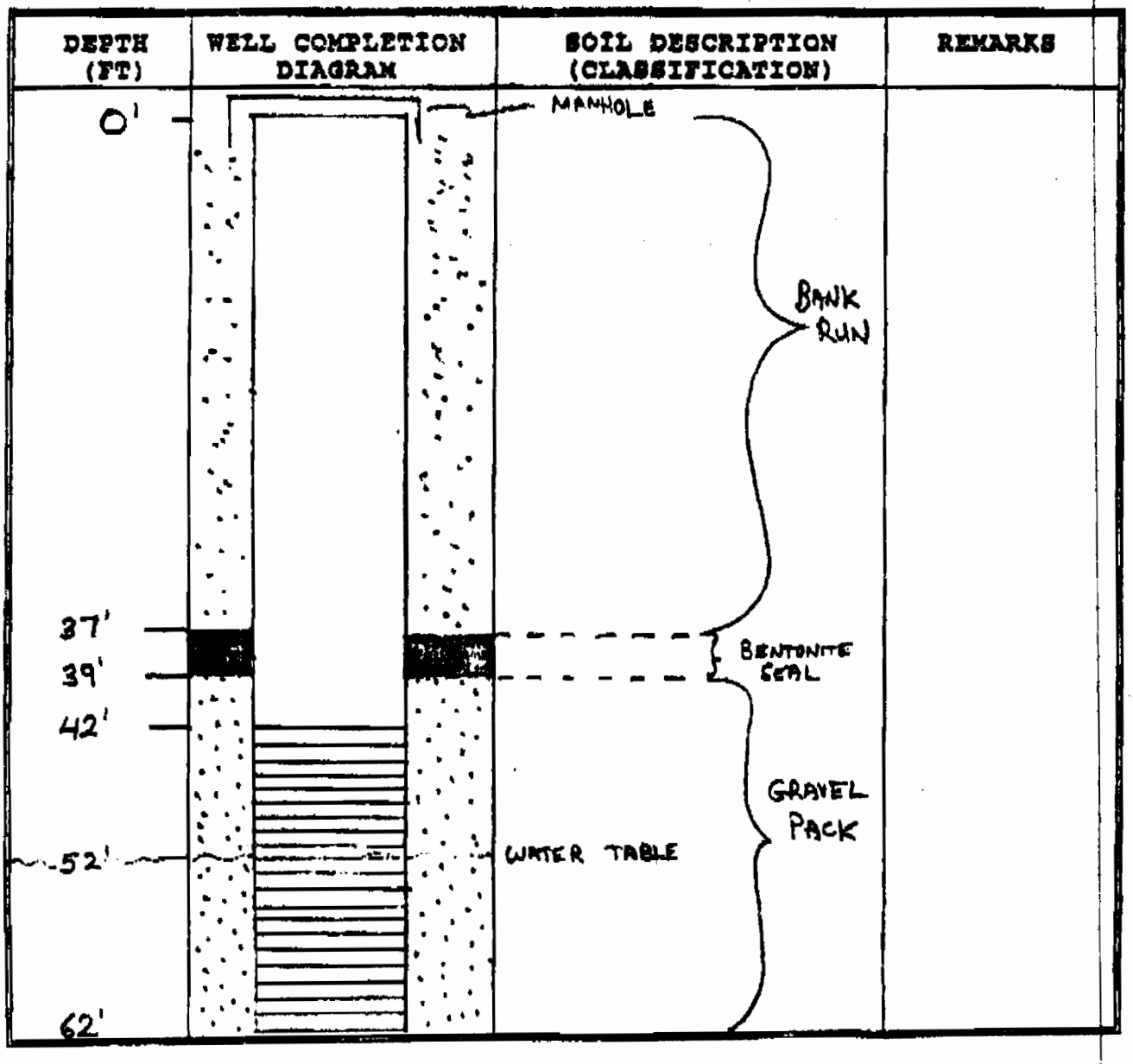
Sample Depth From	To	OVA ppm	Blow Count 6" Intervals	Sample Description
50'	52'	0.0	7,8,7,9	RECOVERY = 16"
				MEDIUM - COARSE, YELLOW/ORANGE SAND,
				GRAVEL, WET.
				WELL CONSTRUCTION
				62' TO 39' = GRAVEL PACK
				39' TO 37' = BENTONITE PELLETS
				37' TO 1' = BANK RUN
				1' TO 0 = CEMENT/MANHOLE

WELL COMPLETION REPORT & DRILLING LOG

SITE BETHPAGE PLANT 24 SPILL #_____ DATE 8/25/94
LOCATION GRUMMAN

BOREHOLE #_____ TOTAL DEPTH_____ DIAMETER_____
SCREEN: DIA_____ LENGTH_____ TYPE/SIZE_____
CASING: DIA_____ LENGTH_____ TYPE_____
SURFACE SEAL_____ SEAL_____ FILTER PACK_____
WATER LEVEL_____

DRILL CO._____ METHOD_____
DRILLER_____ LOGGED BY_____



Grumman Corporation
Bethpage, New York 11714-3580

April 5, 1995
CETC95-126

N.Y.S. Department of Environmental Conservation
SUNY - Building 40
Stony Brook, New York 11790

Attention: Brian Campbell

Subject: **Groundwater Monitoring Results, Spill #93-02825**
Site Investigation, Plant 24, Bethpage Facility

Reference: Grumman Letter to NYSDEC (Brian Campbell) dated October 19, 1994, Soil Boring Sample Analytical Results for MW1

Enclosures:
1) Eco Test Lab Report No. C945615 (1 page)
2) Eco Test Lab Report No. C945616 (4 pages)
3) Eco Test Lab Report No. C950383 (1 page)
4) Ground Water Contour and Well Location Plan, Figure 1
5) NYTEST Ground Water Analysis from Well B24MW-3 (3 pages)

Dear Mr. Campbell:

As a follow up to Grumman's site investigation of NYSDEC Spill Number 93-02825 (referenced above), a groundwater sample was taken from monitoring well MW1 on December 20, 1994 . The sample was analyzed for BTEX (EPA Method 602), Acid Extractables (EPA Method 625), Base Neutral Extractables (EPA Method 625), eight RCRA metals, and Diesel Range Organics (Modified 8015 Method). The results are included in Enclosure 2.

Acid Extractables, Diesel Range Organics, and the eight RCRA metals were found less than their established detectability limits. Please note that the December 20, 1994 sample taken for the analysis of eight RCRA metals contained approximately 2% silt. This is verfied in an addendum to the report and is included in Enclosure 2. Due to this level of silt in the sample, an accurate analysis of the RCRA metals in the ground water was not obtained. Therefore, a sample was taken on January 27, 1995 and was field-filtered to remove the silt. The results of this analysis are provided as Enclosure 3.

The Base Neutral Extractables were found less than their established detectability limits except Di-n-Butyl Phthalate found at 2 ug/l, Bis(2-ethylhexyl)phthalate found at 6 ug/l and Naphthalene found at its detectability limit of 1 ug/l.

The BTEX analysis detected Benzene, Ethylene Benzene and m + p Xylene at levels equal to or below their New York State Maximum Contaminate Drinking Water Levels. Toluene was detected at 7 ug/l and o-Xylene at 9 ug/l which are only slightly above their New York State Maximum Contaminate Drinking Water Levels of 5 ug/l.

Grumman is in the process of delisting the Plant 24 site for property transfer. To do so, three monitoring wells were installed to analyze upgradient and downgradient ground water quality. The upgradient well is identified as B24MW-1 and the downgradient wells as B24MW-2 and B24MW-3. These wells are located on the Ground Water Contour & Well Location Plan (Enclosure 4). The Ground Water Contour & Well Location Plan is provided to show that a ground water sample from well number B24MW-3 will represent downgradient ground water quality from well MW1. Well B24MW-3 is approximately 500 feet south-west from well MW-1.

A ground water sample for delisting purposes was obtained from well B24MW-3 on March 31, 1994 (Enclosure 5). We believe that this analysis represented downgradient ground water quality from MW1, at the time the sample was collected, because the sample was obtained only two days before the initial tank test failure on June 2, 1994. The results of this analysis confirm that Benzene, Toluene, and Ethylene Benzene were not present above their detectability limits of 5 ug/l and therefore did not migrate downgradient from the spill site to Well B24MW-3.

In summary, the contamination found in the soil matrix, (primarily hydraulic fluid as identified in the soil borings submitted to you on October 19, 1994), has not significantly migrated to the ground water. We hope this information is helpful to you in developing future site investigation requirements. Please note that the decisions made by your department will affect the delisting, therefore, Grumman requests your timely review of this data, and your comments, so that we may expeditiously delist this property.

Should you have any questions, please call me at 516/575-2385 or John Selva, of this office, at 516/575-8176.

Very truly yours,

GRUMMAN CORPORATION

J. Ohlmann

J. Ohlmann, P.E., Director
Corporate Environmental Technology
& Compliance
Mail Stop: D08-111

JO/JGS:tmd1789

bcc: w/o enclosures
A. Gibson
G. Smith

B. Andres, J. Cofman, J. Ingenito, R. Pravednekow, J. Selva
P. Siegel

ENCLOSURE 1

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C945615 01/09/95

Grumman Aerospace Corporation
Mail Station D08-GHQ
Bethpage, NY 11714-3582
ATTN: John Selva PO# 30-88997

SOURCE OF SAMPLE: Plant 24-Bethpage
COLLECTED BY: MEG DATE COL'D:12/20/94 RECEIVED:12/20/94

SAMPLE: Wastewater sample, Plant 24 MW#1

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Benzene	ug/L	3	
Toluene	ug/L	7	
Ethyl Benzene	ug/L	4	
m + p Xylene	ug/L	5	
o Xylene	ug/L	9	

cc:John Goff, GAC

REMARKS: EPA Method 602.
Date of analysis: 12/30/94, by K.M.
Amended Report.

DIRECTOR

rn= 29004 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C945616 01/20/95

Grumman Aerospace Corporation
Mail Station D08-GHQ
Bethpage, NY 11714-3582
ATTN: John Selva PO# 30-88997

SOURCE OF SAMPLE: Plant 24-Bethpage
COLLECTED BY: MEG DATE COL'D:12/20/94 RECEIVED:12/20/94

SAMPLE: Water sample, Plant 24 MW#1
UNITS: ug/L

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS
henol	<1	
2-Chlorophenol	<1	
-Nitrophenol	<1	
,4-Dimethylphenol	<1	
2,4-Dichlorophenol	<1	
4-Chloro-3-methylphenol	<1	
,4,6-Trichlorophenol	<1	
4-Nitrophenol	<10	
2,4-Dinitrophenol	<10	
-Methyl-4,6-dinitrophenol	<10	
entachlorophenol	<10	

cc:John Goff, GAC

REMARKS: Date of analysis 1/4/95, by M.List.
Date of extraction: 12/30/94 by R. DuMola.
EPA Method 625. CORRECTED REPORT.

DIRECTOR

rn= 29005 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

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LAB NO.C945616 01/20/95

Grumman Aerospace Corporation
Mail Station D08-GHQ
Bethpage, NY 11714-3582
ATTN: John Selva PO# 30-88997

SOURCE OF SAMPLE: Plant 24-Bethpage
COLLECTED BY: MEG DATE COL'D:12/20/94 RECEIVED:12/20/94

SAMPLE: Water sample, Plant 24 MW#1
UNITS: ug/L

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS	
N-Nitrosodimethylamine	<1	1,2-Diphenylhydrazine	<1
Bis(2-chloroethyl)ether	<1	4-Bromophenyl phenyl ether	<1
,3 Dichlorobenzene	<1	Hexachlorobenzene	<1
,4 Diohlorobenzene	<1	Phenanthrene	<1
1,2 Dichlorobenzene	<1	Anthracene	<1
is(2-chloroisopropyl)ether	<1	Di-n-Butyl Phthalate	2
-Nitrosodi-n-propylamine	<1	Fluoranthene	<1
Hexachloroethane	<1	Benzidine	<10
Nitrobenzene	<1	Pyrene	<1
sophorone	<1	BenzylButylPhthalate	<1
Bis(2-ohloroethoxy)methane	<1	Benzo(a)anthracene	<1
124-Trichlorobenzene	<1	3,3'-Dichlorobenzidine	<10
aphthalene	1	Chrysene	<1
exachlorobutadiene	<1	Bis(2-ethylhexyl)phthalate	6
Hexachlorocyclopentadiene	<10	Di-n-octyl Phthalate	<1
-Chloronaphthalene	<1	Benzo(b)fluoranthene	<1
imethyl Phthalate	<1	Benzo(k)fluoranthene	<1
Acenaphthylene	<1	Benzo(a)pyrene	<1
2,6-Dinitrotoluene	<1	Indeno(1,2,3-od)pyrene	<1
cenaphthene	<1	Dibenzo(a,h)anthracene	<1
,4-Dinitrotoluene	<1	Benzo(ghi)perylene	<1
Diethyl Phthalate	<1		
Fluorene	<1		
-Chlorophenyl phenyl ether	<1		
N-Nitrosodiphenylamine	<1		

cc:John Goff, GAC

REMARKS: Date of analysis:12/23/94, by M. List
Date of extraction: 12/22/94 by R.DuMola.
EPA Method 625. CORRECTED REPORT.

DIRECTOR

rn= 29006 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

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LAB NO.C945616 01/20/95

Grumman Aerospace Corporation
Mail Station D08-GHQ
Bethpage, NY 11714-3582
ATTN: John Selva PO# 30-88997

SOURCE OF SAMPLE: Plant 24-Bethpage
COLLECTED BY: MEG DATE COL'D:12/20/94 RECEIVED:12/20/94

SAMPLE: Water sample, Plant 24 MW#1

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arsenic as As	mg/L	0.32	
Barium as Ba	mg/L	0.35	
Cadmium as Cd	mg/L	0.014	
Chromium as Cr	mg/L	0.09	
Lead as Pb	mg/L	0.14	
Mercury as Hg	mg/L	0.0012	
Selenium as Se	mg/L	0.009	
Silver as Ag	mg/L	<0.01	

cc:John Goff, GAC

REMARKS: Dates of analyses:As(206.2)=12/27/94, by S.Zlotkowski, Ba(ICP 200.7):12/27/95,by M.Nelson, Cd(213.2)= 01/03/95,by G.Saunders, Cr(218.1) = 12/27/94,by M.Estevez. Pb(239.2)=01/04/95,by M.Dooley,Hg(245.2)=12/28/94,by S. McConnell, Se(270.2)=12/29/94,by F.Pilliteri. Ag(272.1)=12/27/94,by E.Harrison. CORRECTED REPORT.

DIRECTOR

rn= 29007 NYSDOH ID# 10320

EcoTest Laboratories, Inc.
377 Sheffield Avenue
North Babylon, NY 11703
516 422-5777

Lab No. C945616 01/18/95

Grumman Aerospace Corporation
Mail Station D08-GHQ
Bethpage, NY 11714-3582
Attn: John Selva

SOURCE OF SAMPLE: Plant 24 - Bethpagel
COLLECTED BY: MEG DATE COL'D: 12/20/94 RECEIVED: 12/20/94

SAMPLE: Water sample, Plant 24 MW#1

ADDENDUM TO REPORT

cc:

REMARKS: Sample received contained approximately 2% silt.

DIRECTOR:

m=29007 NYSDOH ID# 10320

w:\letters\gac.wpd

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

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LAB NO.C945616 01/20/95

Grumman Aerospace Corporation
Mail Station D08-GHQ
Bethpage, NY 11714-3582
ATTN: John Selva PO# 30-88997

SOURCE OF SAMPLE: Plant 24-Bethpage
COLLECTED BY: MEG DATE COL'D:12/20/94 RECEIVED:12/20/94

SAMPLE: Water sample, Plant 24 MW#1

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Diesel	ug/L	<10	
#2 Fuel Oil	ug/L	<10	
#4 Fuel Oil	ug/L	<10	
#6 Fuel Oil	ug/L	<10	
Lubricating Oil	ug/L	<10	
Mineral Spirits	ug/L	<10	
JP4	ug/L	<10	
JP5	ug/L	<10	
Jet A	ug/L	<10	
kerosene	ug/L	<10	
Dodecane	ug/L	<1	
Hydraulic fluid	ug/L *	<10	

cc:John Goff, GAC

REMARKS: Analyses performed by Modified 8015 Method.
Date of extraction: 12/30/94, by R. DuMola
Date of analysis: 12/30/94, by A.J.Gasiorowski.
* Hydraulic fluid used as standard was submitted by GAC 08/25/94 (C943772/5).
Corrected Report.

DIRECTOR

rn= 29008 NYSDOH ID# 10320

SOURCE OF SAMPLE: Plant 24-Bethpage, FILTERED*
COLLECTED BY: MEG DATE COL'D:01/27/95 RECEIVED:01/27/95

SAMPLE: Water sample, Plant 24 MW#1, 11:00 am

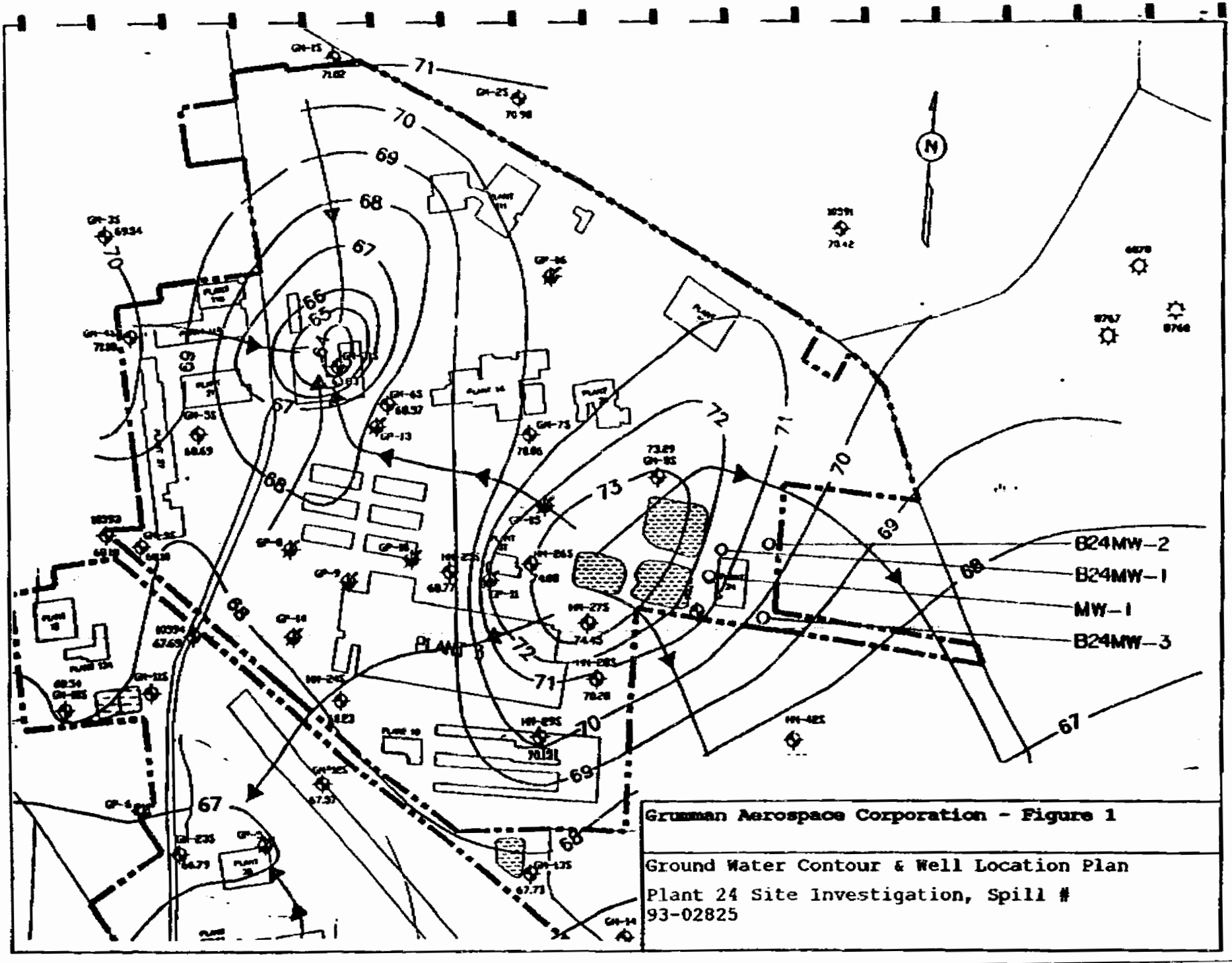
ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arsenic as As	mg/L	<0.002	
Barium as Ba	mg/L	<0.05	
Cadmium as Cd	mg/L	<0.001	
Chromium as Cr	mg/L	<0.02	
Lead as Pb	mg/L	<0.001	
Mercury as Hg	mg/L	<0.00025	
Selenium as Se	mg/L	<0.002	
Silver as Ag	mg/L	<0.01	

cc:John Ohlmann, GAC

REMARKS: * Sample was filtered in the field.

DIRECTOR

rn= 1935 NYSDOH ID# 10320



Grumman Aerospace Corporation - Figure 1

Ground Water Contour & Well Location Plan

Plant 24 Site Investigation, Spill # 93-02825

LAB 414

NYTEST ENVIRONMENTAL INC.

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX:	WATER	SAMPLE ID:	934901-5
CONC. LEVEL:	LOW	LAB ID:	9328401
ANALYSIS DATE:	3/31/94	DIL FACTOR:	1.00
		% MOISTURE:	NA

UG/L

CMPD #	CAS Number	VOLATILE COMPOUNDS	
1	74-87-3	Chloromethane	10.0 U.
2	74-83-9	Bromomethane	10.0 U.
3	75-01-4	Vinyl Chloride	10.0 U.
4	75-00-3	Chloroethane	10.0 U.
5	75-09-2	Methylene Chloride	4.0 JB
6	75-35-4	1,1-Dichloroethene	5.0 U.
7	75-34-3	1,1-Dichloroethane	5.0 U.
8	156-60-5	Trans-1,2-Dichloroethene	5.0 U.
9	67-66-3	Chloroform	5.0 U.
10	107-06-2	1,2-Dichloroethane	5.0 U.
11	71-55-6	1,1,1-Trichloroethane	5.0 U.
12	56-23-5	Carbon Tetrachloride	5.0 U.
13	75-27-4	Bromodichloromethane	5.0 U.
14	78-87-5	1,2-Dichloropropane	5.0 U.
15	10061-01-5	cis-1,3-Dichloropropene	5.0 U.
16	79-01-6	Trichloroethene	2.0 J.
17	124-48-1	Dibromochloromethane	5.0 U.
18	79-00-5	1,1,2-Trichloroethane	5.0 U.
19	71-43-2	Benzene	5.0 U.
20	10061-02-6	Trans-1,3-Dichloropropene	5.0 U.
21	75-25-2	Bromoform	5.0 U.
22	127-18-4	Tetrachloroethene	5.0 U.
23	79-34-5	1,1,2,2-Tetrachloroethane	5.0 U.
24	108-88-3	Toluene	5.0 U.
25	108-90-7	Chlorobenzene	5.0 U.
26	100-41-4	Ethylbenzene	5.0 U.
27	107-02-8	Acrolein	100.0 U.
28	107-13-1	Acrylonitrile	100.0 U.
29	110-75-8	2-Chloroethylvinylether	10.0 U.
30	75-69-4	Trichlorofluoromethane	10.0 U.
31		Dichlorobenzene (total)	10.0 U.

0000042

INORGANIC ANALYSES DATA SHEET

B24MW3

Name: NYTEST_ENV_INC Contract: 9420827

Code: NYTEST Case No.: 20204 SAS No.: SDG No.: 603

Matrix (soil/water): WATER Lab Sample ID: 020401

Level (low/med): LOW Date Received: 03/29/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	26.0	U		P
7440-38-2	Arsenic	5.0	U	N	F
7440-39-3	Barium				NR
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	26.4			P
7440-48-4	Cobalt				NR
7440-50-8	Copper	14.7	B		P
7439-89-6	Iron				NR
7439-92-1	Lead	5.3			F
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	23.0	U		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	5.0	U	N	F
7440-22-4	Silver	5.0	U	N	P
7440-23-5	Sodium				NR
7440-28-0	Thallium	5.0	U		F
7440-62-2	Vanadium				NR
7440-66-6	Zinc	98.6			P
5955-70-0	Cyanide				NR

Color Before: BROWN Clarity Before: TURBID Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

B24MW-3

FORM I - IN

ILM02.1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

D24MW3

Name: NYTEST_ENV_INC Contract: 9420827

Lab Code: NYTEST Case No.: 20204 SAS No.: SDG No.: 603

Matrix (soil/water): WATER Lab Sample ID: D020401

Level (low/med): LOW Date Received: 03/29/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	26.0	U		P
7440-38-2	Arsenic	5.0	U		F
7440-39-3	Barium				NR
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	9.0	U		P
7440-48-4	Cobalt				NR
7440-50-8	Copper	5.0	U		P
7439-89-6	Iron				NR
7439-92-1	Lead	3.0	U		F
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	23.0	U		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	5.0	U		F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	5.0	U		F
7440-62-2	Vanadium				NR
7440-66-6	Zinc	29.6			P
5955-70-0	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
B24MW-3-DISSOLVED