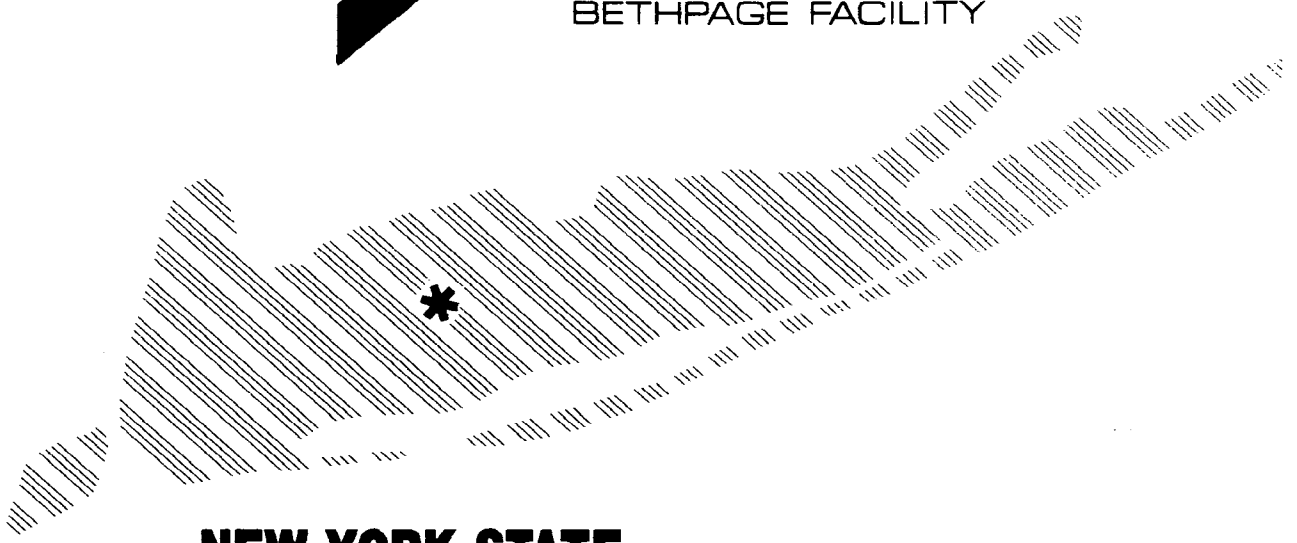
BARNES

5a

GRUMMAN AEROSPACE CORPORATION
BETHPAGE FACILITY



NEW YORK STATE SITE REGISTRY DELISTING PETITION PLANT 5 HICKSVILLE, NEW YORK

GRUMMAN AEROSPACE CORPORATION
BETHPAGE, NEW YORK

Dvirka and Bartilucci
Consulting Engineers

FEBRUARY 1993

Grumman Aerospace Corporation
Bethpage, New York 11714-3582

February 23, 1993

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

Re: New York State Site Registry Delisting Petition - Plant 5, Hicksville, New York

Dear Mr. Jorling:

I am pleased to submit for your review three copies of the enclosed document, entitled "New York State Site Registry Delisting Petition, Plant 5, Hicksville, New York," for the Grumman Aerospace Corporation property located off South Oyster Bay Road in Hicksville, 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 40 years and to evaluate the merits of the delisting petition. Based on the review of available information and the environmental data, we believe that the property is eligible for removal from the NYSDEC Site Registry of Inactive Hazardous Waste Disposal Sites, and as such, an appropriate modification to the map depicting the "superfund" site (Site 1-30-003) is warranted.

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

Very truly yours,

John Ohlmann
Director

JO/RR/mbf
Enclosure
cc/encl.:
Robert Marino (NYSDEC)
0503a/67
1167

GRUMMAN AEROSPACE CORPORATION

NEW YORK STATE
SITE REGISTRY DELISTING PETITION
PLANT 5
HICKSVILLE, NEW YORK

PREPARED BY
DVIRKA AND BARTILUCCI CONSULTING ENGINEERS
SYOSSET, NEW YORK

FEBRUARY 1993

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GRUMMAN AEROSPACE CORPORATION

NEW YORK STATE
SITE REGISTRY DELISTING PETITION
PLANT 5
HICKSVILLE, 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 Plant 5, hereafter referred to as "the site," from the New York State Registry of Superfund Sites (Site Code 1-30-003). The site is located to the east of the intersection of the South Oyster Bay Road Extension and Hicksville Road in Hicksville, New York. Information presented in this report has been compiled based upon a site inspection undertaken on November 25, 1992; 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. 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 current "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	1-30-003
3.	Site Location	East Side of South Oyster Bay Road Extension/ Hicksville Road Intersection Hicksville, Nassau County, NY 11801
4.	Size	Approx. 35 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:	East Side of South Oyster Bay Road Extension/Hicksville Road Intersection Hicksville, New York 11801		
Section:	46	Land Use(s):	Final Prototype Development/ Engineering/Executive
Block:	323		Management Offices
Lots:	77,222 (partial), 223 (partial), 224 (partial)	Plot Size:	Approx. 35 acres
		United States Navy Building:	Plant 5
Zoning:	Industrial H	Building Area:	709,000 square feet (including trailers)

2.1 Site History

As indicated by a review of the earliest available aerial photograph of the site taken in 1950 (see Appendix C), Plant 5 and the on-site recharge basins were in existence at this date. Interviews with Grumman Aerospace Corporation personnel indicated that the on-site building was constructed in 1943 and occupied in 1944. The 1950 aerial reveals the presence of a ballfield and a significant amount of unpaved land. By 1955, the ballfield is no longer evident and the majority of the site was paved and used for parking in association with Plant 5. The South Oyster Bay Road Extension was also constructed between 1950 and 1955, which traverses along and through the western boundary of the site. The site remains relatively unchanged from 1955 to 1962. Between 1962 and 1969, the southwestern wing of Plant 5 appears to have been extended to the south and to the north. In addition, several small structures appear to have been constructed in the southwestern portion of the site during this time period. The 1972 aerial also indicates structural changes in the southwestern portion of the site, in addition to the construction of a building in the northwestern portion of the site. This building is not evident on the 1988 aerial, which also shows structural changes in the southeastern portion of the plant in addition to the construction of three adjacent on-site buildings to the west of Plant 5.

Interviews with Grumman Aerospace Corporation personnel indicated that the plant was activated shortly after World War II and the earliest uses of the plant included small machine shops, model shops, a structural test hangar and laboratories. During the 1960s, the plant was utilized as an integrated test and final assembly area for the LEM lunar module. After the completion of this project, the majority of the building was, and continues to be, utilized for final

prototype development and engineering/executive management offices. Grumman personnel also indicated that other historical site uses which no longer exist on-site included the following:

- o Chrome Plating Facility (Collected Waste Transported to Industrial Wastewater Treatment Plant at Plant 2 for treatment)
- o Photo Lab
- o Cold Flow Testing
- o Sonar Testing
- o Painting
- o Paint Stripping
- o Aircraft Fueling (by tank trucks)
- o Vapor Degreaser Tank

The plant currently utilizes steam heat supplied by the adjacent off-site steam generation plant. Grumman Aerospace Corporation personnel indicated that Plant 5 originally housed a boiler (possibly coal-fired) in the south end of the building.

The western portion of the site contains a network of leaching pools which were closed after the plant was connected to the Nassau County sewer system in the late 1970s. Grumman utility maps indicate that this area comprises approximately 2.5 acres and contains approximately 140 "filled" leaching pools. This sanitary septic system/leaching field is evident on the 1950 aerial photograph of the site. The subsequent aerial photographs reveal that this area was paved over during construction of the South Oyster Bay Road Extension and the remaining on-site areas overlying the leaching field appear to be utilized for parking from 1955 to the present. Several circular "patched" areas continue to be evident in the paved area to the west of Plant 5 and appear to overlie the locations of the leaching pools.

2.2 General Site Description

The land on the site is currently owned by Grumman Aerospace Corporation and the on-site building (Plant 5) is owned by the Navy, which has an option to purchase the land. The site is utilized for final prototype development and engineering/executive management offices. The entire site is zoned Industrial H and comprises approximately 35 acres. The site is surrounded by

commercial development with areas of medium to high density residential development existing no closer than approximately 700 feet from the site boundaries. The Site Plan is presented in Appendix B.

Plant 5 comprises approximately 709,000 square feet including on-site trailers and storage buildings. The plant currently utilizes steam heat supplied by the adjacent cogeneration plant, and is connected to the Nassau County sewer system. Interviews with Grumman personnel and a review of Grumman tank records, indicate that there are currently three on-site storage tanks. Tank #05-01-01, located adjacent to the south side of the plant, is an active 1,000-gallon underground diesel tank. Tank #05-05-1 is located in the southern portion of the plant and is an active 275-gallon aboveground diesel tank. Tank #05-05-1 was apparently a replacement for a previous underground tank that had the same tank identification number and was abandoned in place and filled with sand in 1986 (see Appendix F for appropriate documentation). Tank #05-17-1 is located to the west of the northern side of the plant and is an active 550-gallon underground diesel tank.

A November 25, 1992 site inspection revealed that the facility is comprised predominantly of the following:

- o Self Contained Wet "Water Wash" Paint Tunnel
  - Chromated Primers
  - Polyurethane Top Coats
  - MEK Thinners and Cleaners
  - Collected "Water Wash" Treated at Industrial Wastewater Treatment Plant (IWTP) at Plant 2
- o Drop Quench Operations
  - Ethylene Glycol Tank
  - Collected Waste Materials Treated at IWTP at Plant 2
- o Carpenters Shops
  - Small Paint Spray Booth (Dry Booth)
  - Adhesives

- o Machine Shops
  - Aluminum
  - Lightweight Composites
  - Machining Equipment (Lathes, Bandsaws, etc.)
- o Corrosion Protection Operations
  - Alkaline Cleaning Tank
  - Rinse Tank 1
  - Deoxidizer Tank (Chromated)
  - Rinse Tank 2
  - Alodine Tank
  - Rinse Tank 3
  - Drying Tank
  - Collected Waste Transported to IWTP at Plant 2 for Treatment
- o Chemical Mixing Areas
  - Bonding Agents
  - Epoxy
  - RTV Rubbers/Silicone
  - Polyesters
  - Resins
  - Primers/Paints/Painting Agents
  - Heat Drying Ovens
- o Assembly Areas
  - Work Stations
- o Electrical Testing Areas
  - Work Stations
  - Soldering Equipment and Supplies
  - Heat Drying Ovens

- o Steam Cleaning Area
- o Sand Blasting Area
- o Mechanical Test Area
  - Strain Gauges, etc.
- o Facilities Room
  - Generators
  - High Voltage Areas
  - Drummed Waste Oils
  - Drummed Lubricating Oils
- o Facilities Maintenance Office
  - Machining Equipment (Lathes, Bandsaws, etc.)
  - Drummed Waste Oils
- o Storage Areas
- o Office Areas
- o Unaccessible "Secured" Area (approximately 6,000 square feet)

The site is generally level with good drainage. Catch basins are located throughout the site. The Soil Conservation Service (2/87) classifies the majority of the site as Urban Land, with a small area in the northwestern portion of the site as Udipsaments (nearly level) and the recharge basins in the southern portion of the site as Pits (groundwater recharge). 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. Pits (groundwater recharge) are defined as basins with steep sides and nearly level bottoms that are used for the disposal of runoff from streets, parking lots and buildings. 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 48 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 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. 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 from the on-site structure referred to as the "Pilot Plant" to other portions of the site was enhanced by storm water runoff and on-site truck traffic. However, the extent of contaminated soil is contained entirely on the Hooker Chemical/Ruco Polymer site. No off-site contamination or remedial activities have been identified from Operable Unit 2. Remedial action involving Operable Unit 2 has been completed and the facility remains active.

Until the EPA finalizes its review and releases all details concerning Operable Unit 1, it is not possible to fully characterize the extent of off-site impacts. However, the nearest area of the site proposed for delisting is located approximately 850 feet to the south of this area, and is likely removed from any significant adverse conditions present at the Hooker Chemical/Ruco Polymer site. According to recent communication with the EPA, the RI report was approved on December 7, 1992. The EPA expects to have a Feasibility Study completed by May 1993. A Record of Decision on a Proposed Remedial Action Plan is targeted for June 30, 1993.

Section 3

3.0 FIELD PROGRAM

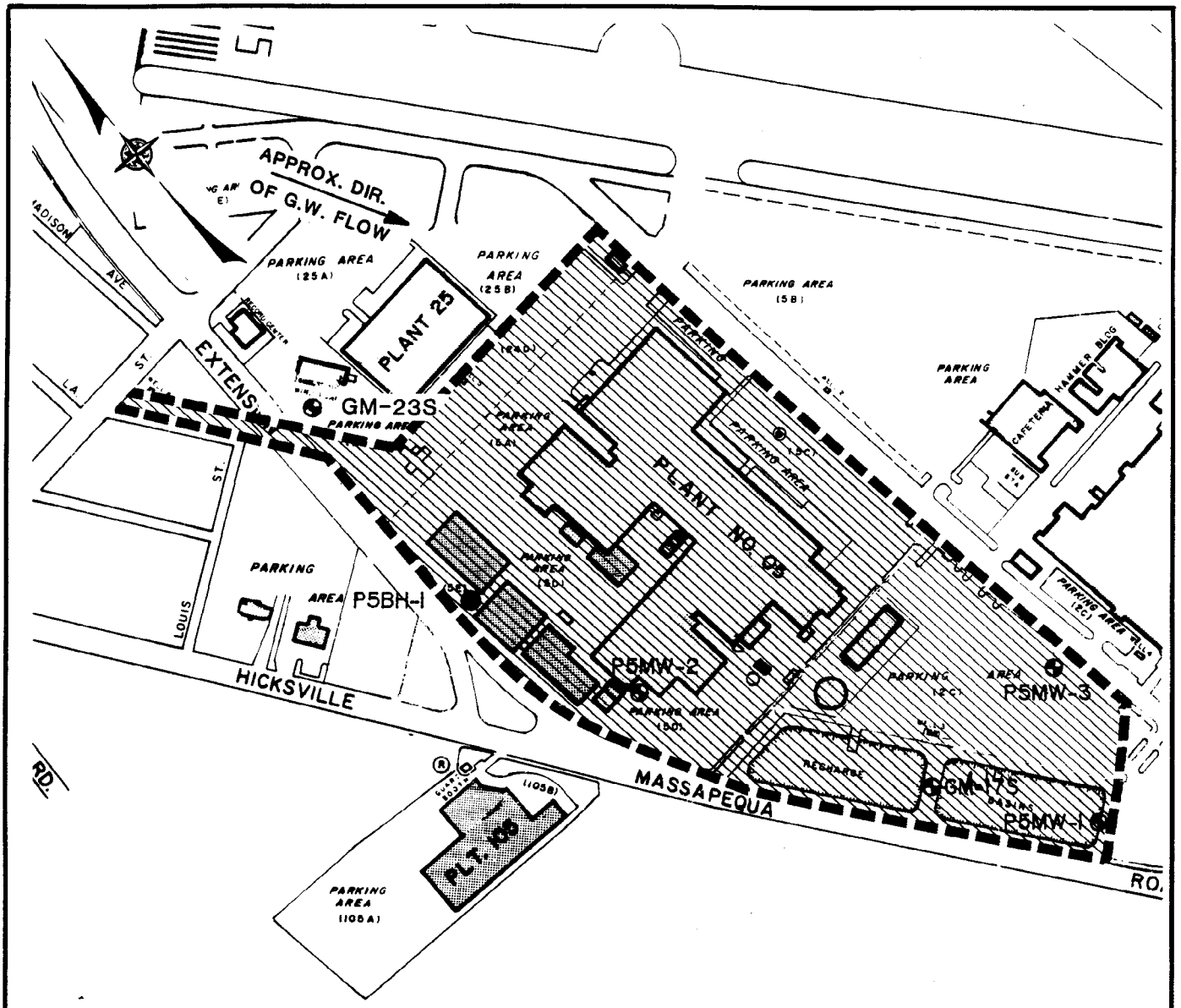
The following is a description of the field activities undertaken at the site in support of the delisting petition. Daily Field Activity Reports, which are available in the project file, provide documentation of the field program which included installation of one soil boring, installation of three monitoring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

3.1 Monitoring Well Installation

An existing Grumman Aerospace Corporation well (GM-23S), located to the northwest of Plant 5, was utilized as the upgradient well, and an existing Grumman Aerospace Corporation well (GM-17S), located in between the two recharge basins in the southern portion of the site, was utilized as a downgradient well. In addition, one shallow monitoring well was installed to the west of Plant 5 downgradient of the former septic system/leaching field, one shallow downgradient monitoring well was installed to the east of Plant 5, and one shallow downgradient monitoring well was installed in the southernmost portion of the site.

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 15 foot, 0.010 inch slot screen was sealed with a threaded PVC plug. The bottom of the screen for P5MW-1 was set at a depth of 57 feet below ground surface, and the water table was encountered at a depth of 47.4 feet. For P5MW-2, the bottom of the screen was set at a depth of 58.6 feet, and the water table was measured at a depth of 49 feet. The bottom of the screen for P5MW-3 was set at a depth of 58 feet below ground surface, and the water table was encountered at a depth of 48 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 when the discharge water measured 50 nephelometric turbidity units (NTUs) or less.



LEGEND

- SOIL BORING LOCATION
- MONITORING WELL LOCATION

200 0 200

Source: GAC GENERAL PLAN

GRUMMAN AEROSPACE CORPORATION
BETHPAGE FACILITY
PLANT 5

Dvirka and Bartilucci CONSULTING ENGINEERS

WELL AND BORING LOCATIONS

FIGURE 3 - 1

Dvirka and Bartlucci
CONSULTING ENGINEERS

WELL CONSTRUCTION LOG

SITE Grumman Aerospace Corporation JOB NO. 1167 WELL NO. P5-MW-1

TOTAL DEPTH 57' SURFACE ELEV. _____ TOP RISER ELEV. _____

WATER LEVELS (DEPTH, DATE, TIME) 47.5' DATE INSTALLED 7/28/92

RISER DIA 2" MATERIAL PVC LENGTH 42'
SCREEN DIA 2" MATERIAL PVC LENGTH 15' SLOT SIZE 0.010"

SCHEMATIC

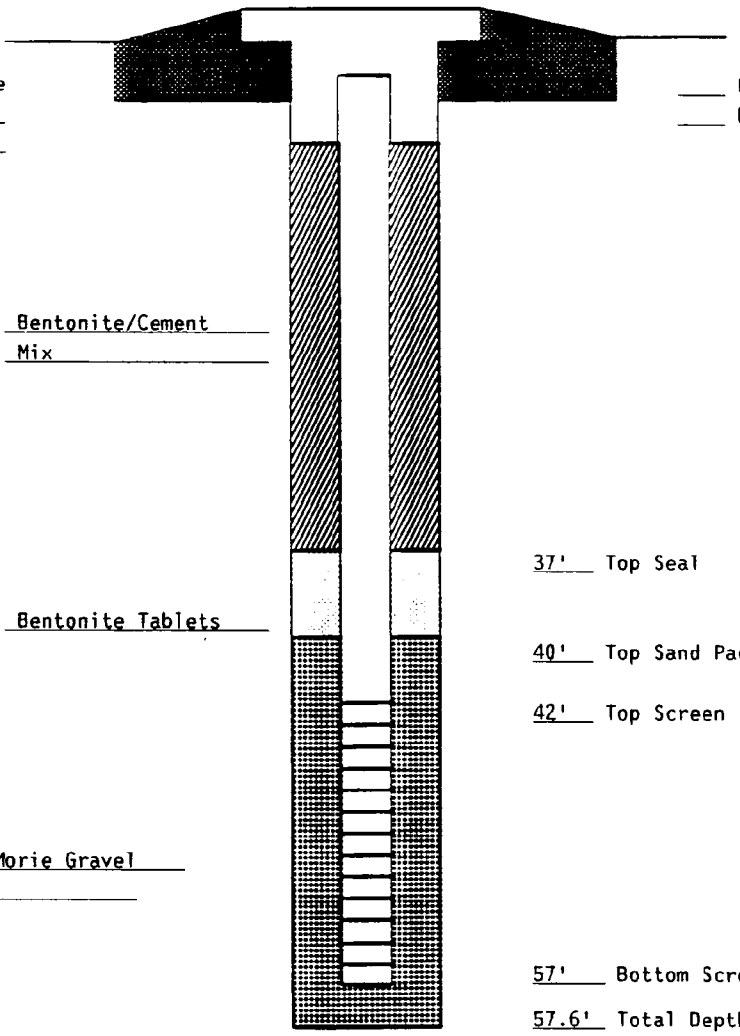


FIGURE 3-2

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Dvirka and Bartilucci CONSULTING ENGINEERS

WELL CONSTRUCTION LOG

SITE Grumman Aerospace Corporation JOB NO. 1167 WELL NO. P5-MW-2

TOTAL DEPTH 58'6" SURFACE ELEV. _____ TOP RISER ELEV. _____

WATER LEVELS (DEPTH, DATE, TIME) 49' _____ DATE INSTALLED 7/29/92

RISER DIA 2" MATERIAL PVC LENGTH 43.6'
SCREEN DIA 2" MATERIAL PVC LENGTH 15' SLOT SIZE 0.010"

SCHEMATIC

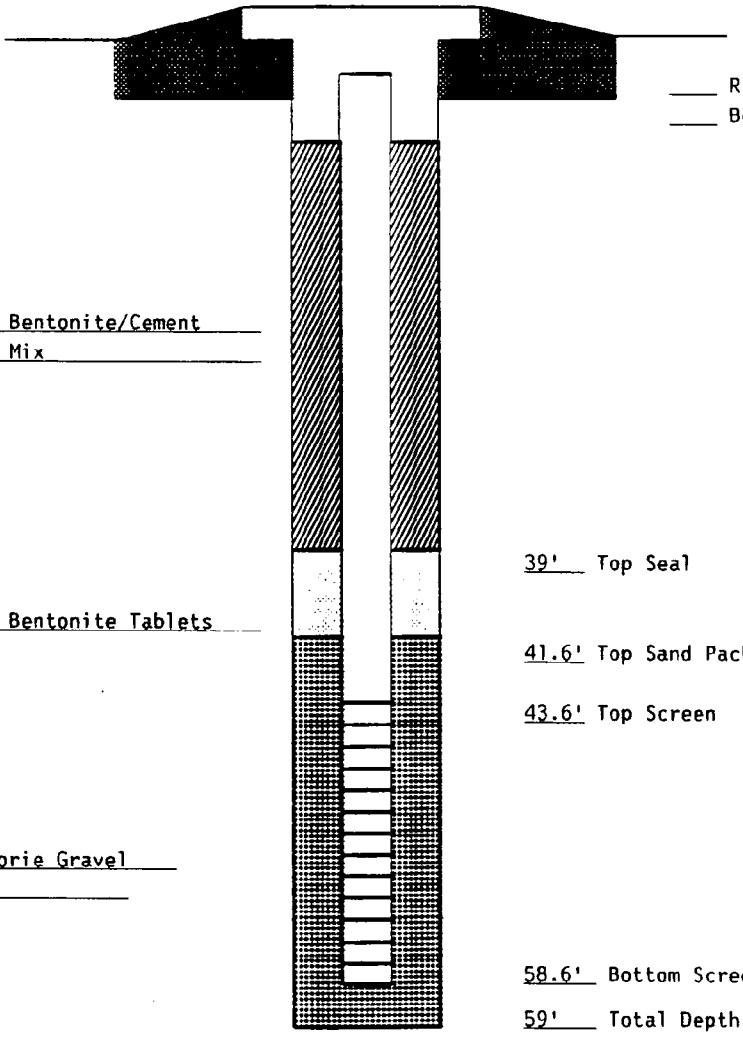

FIGURE 3-3

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Dvirka and Bartilucci CONSULTING ENGINEERS

WELL CONSTRUCTION LOG

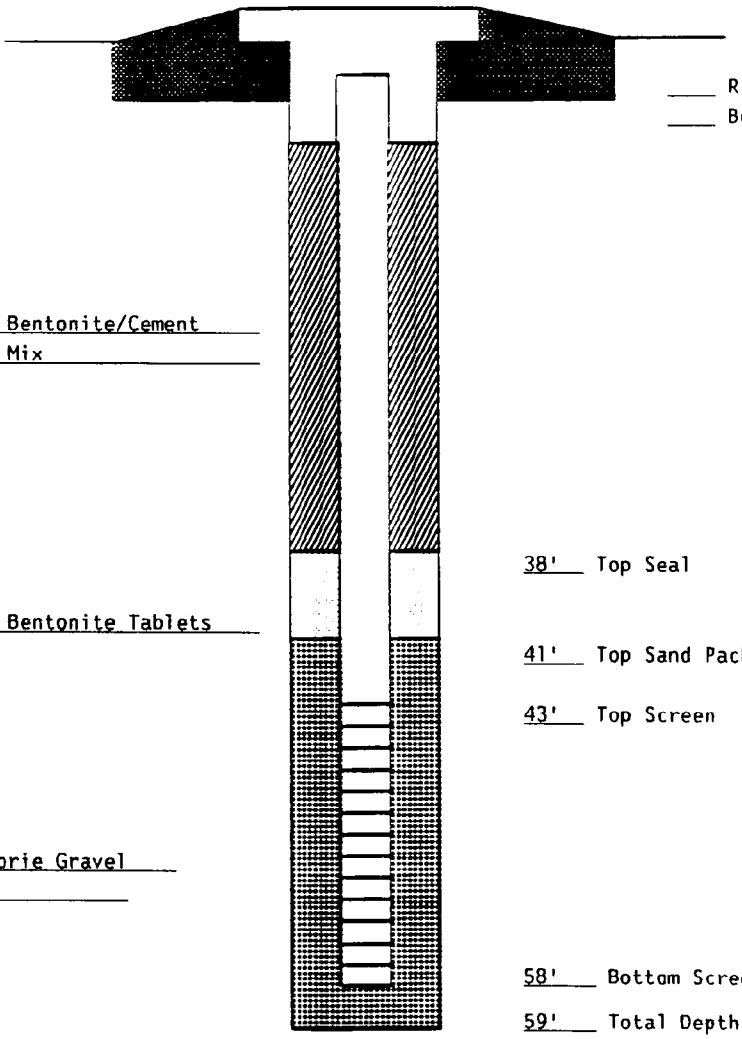
SITE Grumman Aerospace Corporation JOB NO. 1167 WELL NO. P5-MW-3

TOTAL DEPTH 58' SURFACE ELEV. _____ TOP RISER ELEV. _____

WATER LEVELS (DEPTH, DATE, TIME) 48.'1 _____ DATE INSTALLED 7/31/92

RISER DIA 2" MATERIAL PVC LENGTH 43'
SCREEN DIA 2" MATERIAL PVC LENGTH 15' SLOT SIZE 0.010"

SCHEMATIC



Surface Seal Type Portland Cement

Grout Type Bentonite/Cement Mix

Seal Type Bentonite Tablets

Sand Pack Type Morie Gravel
Size Number One

FIGURE 3-4

2854G/1167/4

3.2 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.

Fourteen split spoon samples were obtained from the P5MW-1 borehole. The split spoon samples indicated that the soil in the area of P5MW-1 was mostly brown/tan coarse to medium sand with little to some gravel to a depth of 57 feet. Fourteen split spoon samples were obtained from the P5MW-2 borehole. The samples indicated that the soil in the area of P5MW-2 is mostly brown/tan medium to coarse sand with little to some gravel to a depth of 35 feet and tan/light brown fine to medium sand with trace amounts of gravel to a depth of 59 feet. Fourteen split spoon samples were obtained from the P5MW-3 borehole. The split spoon samples indicated that the soil in the area of P5MW-3 is mostly brown/light tan medium to coarse sand with little gravel to a depth of 45 feet and brown coarse sand with abundant gravel to a depth of 57 feet.

Field screening of the split spoon samples and boreholes, taken with an organic vapor analyzer during construction, did not indicate readings above ambient conditions, and there was no apparent indication of contamination in either borehole associated with discoloration, odor or soil texture. Soil samples for laboratory analysis were obtained from the split spoon samples collected at the 4 to 6-foot interval. The soil samples were analyzed for volatile organics using USEPA SW-846 Method 8010/8020, and total petroleum hydrocarbons (TPHCs) using USEPA Method 418.1. The analytical results from the monitoring well borehole soil samples are presented in Section 4.

3.3 Soil Boring Sampling

Soil samples were obtained from a soil boring located within the boundaries of the abandoned septic system/leaching field. 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 using USEPA SW-846 Method 8010/8020, total petroleum hydrocarbons using USEPA Method 418.1 and metals using Method 6010. The analytical results from the soil boring sample are presented in Section 4.

3.4 Groundwater Sampling

Prior to well sampling, a minimum of three times the volume of standing water in the casing and sandpack from each well (GM-23S, GM-17S, P5MW-1, P5MW-2 and P5MW-3) was removed with a bailer. One sample was collected from each well for laboratory analysis. The water samples were analyzed for volatile organics using Method 624 and metals using USEPA SW-846 Method 6010. The analytical results from the groundwater samples are presented in Section 4.

3.5 Volatile Organics Monitoring

During the drilling of the monitoring wells, no volatile organic vapors were detected 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.

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.

4.1 Monitoring Well Borehole Soil Sampling

One soil sample was collected from each of the monitoring well boreholes and analyzed for volatile organics and total petroleum hydrocarbons (TPHCs). The results of these analyses are presented on Table 4-1 with the associated soil sampling field blank results presented on Table 4-2. In the soil samples collected from P5MW-1, P5MW-2 and P5MW-3, methylene chloride was detected at 3.3 ug/kg, 3.8 ug/kg and 1.9 ug/kg, respectively. However, since methylene chloride was also detected in the field blank and the compound is a common laboratory chemical, its presence in the environmental samples can be attributed to laboratory contamination.

The levels of total petroleum hydrocarbons for P5MW-1, P5MW-2 and P5MW-3 are also presented on Table 4-1 and were detected at 153 mg/kg, 183 mg/kg and 127 mg/kg, respectively, utilizing EPA Method 418.1. 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 utilizing NYSDOH Method 310-13. The analytical results for samples P5MW-1, P5MW-2 and P5MW-3 utilizing Method 310-13 are presented in Table 4-1 and indicate that the fuel-related constituents such as gasoline, lubricating oil, kerosene and fuel oil were 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.

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 also presents the volatile organic and TPHC results for the soil sample collected from the 24 to 26-foot interval of the installed soil boring. Methylene

TABLE 4-1
GRUMMAN AEROSPACE CORPORATION
PLANT 5
SOIL SAMPLING
VOLATILE ORGANICS AND TOTAL PETROLEUM HYDROCARBONS

SAMPLE ID	P5MW1S	P5MW2S	P5MW3S	P5BH1S	NYSDEC
SAMPLE DEPTH	(4'-6')	(4'-6')	(4'-6')	(24'-26')	RECOMMENDED
DATE COLLECTED	07/28/92	07/29/92	07/31/92	07/30/92	SOIL
MATRIX	SOIL	SOIL	SOIL	SOIL	CLEANUP
%MOISTURE	2	3	2	29	OBJECTIVES
DILUTION FACTOR	1	1	1	1	
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
PARAMETER					
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	3.3 B	3.8 B	1.9 B	3.0	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	----
Bromoform	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	----
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
Total Petroleum Hydrocarbons (mg/kg)	153	183	127	173	----
Gasoline	U	U	U	U	----
Lubricating Oil	U	U	U	U	----
Kerosene	U	U	U	U	----
Fuel Oil	U	U	U	U	----

QUALIFIERS:
U: Analyzed for but not detected
B: Compound found in method blank as well as sample

NOTE:
----: Not Established

TABLE 4-2
GRUMMAN AEROSPACE CORPORATION
PLANT 5
SOIL SAMPLING FIELD BLANK
VOLATILE ORGANICS AND TOTAL PETROLEUM HYDROCARBONS

SAMPLE ID	S9FBS	
SAMPLE DEPTH		
DATE COLLECTED	07/27/92	
MATRIX	WATER	
%MOISTURE	NA	
DILUTION FACTOR	1	
UNITS	(ug/l)	
PARAMETER		
Chloromethane		U
Bromomethane		U
Vinyl chloride		U
Chloroethane		U
Methylene chloride	2.9	B
1,1-Dichloroethene		U
1,1-Dichloroethane		U
1,2-Dichloroethene (trans)		U
Chloroform		U
1,2-Dichloroethane		U
1,1,1-Trichloroethane		U
Carbon tetrachloride		U
Bromodichloromethane		U
1,2-Dichloropropane		U
cis-1,3-Dichloropropene		U
Trichloroethene		U
Dibromochloromethane		U
1,1,2-Trichloroethane		U
Benzene		U
trans-1,3-Dichloropropene		U
Bromoform		U
Tetrachloroethene		U
1,1,2,2-Tetrachloroethane		U
Toluene		U
Chlorobenzene		U
Ethylbenzene		U
Xylene (total)		U
2-Chloroethylvinylether		U
Trichlorofluoromethane		U
1,2-Dichlorobenzene		U
1,3-Dichlorobenzene		U
1,4-Dichlorobenzene		U
Total Petroleum Hydrocarbons		U

QUALIFIERS:
U: Analyzed for but not detected
B: Compound found in method blank as well as sample

chloride was detected in sample P5BH-1 at a concentration of 3.0 ug/kg. Since methylene chloride was also detected in the field blank, its presence in the environmental sample can be attributed to laboratory contamination.

The levels of total petroleum hydrocarbons detected in sample P5BH-1 was 173 mg/kg. Additional analyses on the preceding sample utilizing Method 310-13 indicated that the fuel-related constituents such as gasoline, lubricating oil, kerosene and fuel oil were 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 P5BH-1 was located in a paved parking lot.

The results of the inorganic analyses of the soil boring sample and the associated field blank are presented on Tables 4-3 and 4-4, respectively. As indicated on Table 4-3, chromium, lead and zinc were detected in soil boring sample P5BH-1 at concentrations of 3.3 mg/kg, 3.8 mg/kg and 11.9 mg/kg, respectively. However, all inorganic constituents were detected in concentrations that were well below the referenced cleanup objectives.

4.3 Groundwater Sampling

One groundwater sample was collected from each monitoring well and analyzed for volatile organic and inorganic constituents. The results of the volatile organic analyses of the groundwater samples and the associated field and trip blanks are presented on Tables 4-5 and 4-6, respectively. Methylene chloride was detected in P5MW-1, P5MW-2, P5MW-3 and GM-17S. However, since methylene chloride was also detected in the field and trip blanks and the compound is a common laboratory chemical, its presence in the environmental samples can be attributed to laboratory contamination. Toluene was detected slightly above the NYSDOH drinking water standard in GM-17S at a concentration of 8 ug/l. However, since toluene was also detected in the method blank, its presence in the environmental sample can also be attributed to laboratory contamination.

Trichloroethene was detected in P5MW-1, P5MW-2, P5MW-3 and GM-17S at concentrations ranging from 4 ug/l to 20 ug/l. It appears that these samples may have been obtained during a time when the associated wells were within the zone of influence of localized mounding of the groundwater table which results from the on-site recharge basins (outfall 6)

TABLE 4-3
GRUMMAN AEROSPACE CORPORATION
PLANT 5
SOIL SAMPLING
INORGANIC CONSTITUENTS

SAMPLE ID	P5BH1S		NYSDEC RECOMMENDED SOIL CLEANUP OBJECTIVES
SAMPLE DEPTH	(24'-26')		
DATE COLLECTED	07/30/92		
MATRIX	SOIL		
% SOLIDS	71.2		
UNITS	(mg/kg)		(mg/kg)
PARAMETER			
Antimony		U	SB
Arsenic		U	7.5 or SB
Beryllium		U	1.0 or SB
Cadmium		U	1 or SB
Chromium	3.3		10 or SB
Copper		U	25 or SB
Lead	3.8		30 or SB
Mercury		U	0.1
Nickel		U	13 or SB
Selenium		U	2 or SB
Silver		U	SB
Thallium		U	SB
Zinc	11.9		20 or SB

QUALIFIERS:
U: Analyzed for but not detected

NOTE:
SB: Site Background

TABLE 4-4
GRUMMAN AEROSPACE CORPORATION
PLANT 5
SOIL SAMPLING FIELD BLANK
INORGANIC CONSTITUENTS

SAMPLE ID	S9FBS
SAMPLE DEPTH	
DATE COLLECTED	07/27/92
MATRIX	WATER
% SOLIDS	0.0
UNITS	(ug/l)
PARAMETER	
Antimony	U
Arsenic	U
Beryllium	U
Cadmium	U
Chromium	U
Copper	U
Lead	U
Mercury	U
Nickel	U
Selenium	U
Silver	U
Thallium	U
Zinc	U

QUALIFIERS:
U: Analyzed for but not detected

TABLE 4-5
GRUMMAN AEROSPACE CORPORATION
PLANT 5
GROUNDWATER SAMPLING
VOLATILE ORGANICS

SAMPLE ID	P5MW1	P5MW2	P5MW3	GM17S	GM23S	NYSDOH DRINKING WATER STANDARDS
DATE COLLECTED	08/28/92	08/31/92	08/31/92	09/03/92	09/18/92	
SAMPLE VOLUME	5 ml	5 ml	5 ml	5 ml	5 ml	
DILUTION FACTOR	1	1	1	1	1	
UNITS	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)
PARAMETER						
Chloromethane	U	U	U	U	U	5
Bromomethane	U	U	U	U	U	5
Vinyl chloride	U	U	U	U	U	2
Chloroethane	U	U	U	U	U	5
Methylene chloride	4 J	4 J	4 J	3 BJ	U	5
Acetone	U	U	U	U	U	50
Carbon disulfide	U	U	U	U	U	50
1,1-Dichloroethene	U	U	U	U	U	5
1,1-Dichloroethane	U	U	U	U	U	5
1,2-Dichloroethene (total)	1 J	U	U	3 J	U	5
Chloroform	U	U	U	U	U	100**
1,2-Dichloroethane	U	U	U	U	U	5
2-Butanone	U	U	U	U	U	5
1,1,1-Trichloroethane	U	1 J	U	U	U	5
Carbon tetrachloride	U	U	U	U	U	5
Bromodichloromethane	U	U	U	U	U	5
1,2-Dichloropropane	U	U	U	U	U	5
cis-1,3-Dichloropropene	U	U	U	U	U	5
Trichloroethene	4 J	7 J	5 J	20	U	5
Dibromochloromethane	U	U	U	U	U	100**
1,1,2-Trichloroethane	U	U	U	U	U	5
Benzene	U	U	U	U	U	5
trans-1,3-Dichloropropene	U	U	U	U	U	5
Bromoform	U	U	U	U	U	100**
4-Methyl-2-Pentanone	U	U	U	U	U	5
2-Hexanone	U	U	U	U	U	5
Tetrachloroethene	U	2 J	U	5 J	U	5
1,1,2,2-Tetrachloroethane	U	U	U	U	U	5
Toluene	U	U	U	6 BJ	U	5
Chlorobenzene	U	U	U	U	U	5
Ethylbenzene	U	U	U	U	U	5
Styrene	U	U	U	U	U	5
Xylene (total)	U	U	U	U	U	5

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

NOTES:
**: Applies to the sum of trihalomethanes
: Exceeds standard value

TABLE 4-6
GRUMMAN AEROSPACE CORPORATION
PLANT 5
GROUNDWATER SAMPLING
FIELD BLANK AND TRIP BLANKS
VOLATILE ORGANICS

SAMPLE ID	FIELD BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK
DATE COLLECTED	08/27/92	08/27/92	08/31/92	09/02/92
SAMPLE VOLUME	5 ml	5 ml	5 ml	5 ml
DILUTION FACTOR	1	1	1	1
UNITS	(ug/l)	(ug/l)	(ug/l)	(ug/l)
PARAMETER				
Chloromethane	U	U	U	U
Bromomethane	U	U	U	U
Vinyl chloride	U	U	U	U
Chloroethane	U	U	U	U
Methylene chloride	3 J	3 J	7 J	2 J
Acetone	5 BJ	6 BJ	U	U
Carbon disulfide	U	U	U	U
1,1-Dichloroethene	U	U	U	U
1,1-Dichloroethane	U	U	U	U
1,2-Dichloroethene (total)	U	U	U	U
Chloroform	U	U	U	U
1,2-Dichloroethane	U	U	U	U
2-Butanone	U	U	U	U
1,1,1-Trichloroethane	U	U	U	U
Carbon tetrachloride	U	U	U	U
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
Dibromochloromethane	U	U	U	U
1,1,2-Trichloroethane	U	U	U	U
Benzene	U	U	U	U
trans-1,3-Dichloropropene	U	U	U	U
Bromoform	U	U	U	U
4-Methyl-2-Pentanone	U	U	U	U
2-Hexanone	U	U	U	U
Tetrachloroethene	U	U	U	U
1,1,2,2-Tetrachloroethane	U	U	U	U
Toluene	U	U	U	U
Chlorobenzene	U	U	U	U
Ethylbenzene	U	U	U	U
Styrene	U	U	U	U
Xylene (total)	U	U	U	U

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

TABLE 4-7
GRUMMAN AEROSPACE CORPORATION
PLANT 5
GROUNDWATER SAMPLING
INORGANIC CONSTITUENTS

SAMPLE ID	P5MW1	P5MW2	P5MW3	GM17S	GM23S	GM23SF	NYSDOH DRINKING WATER
DATE COLLECTED	08/28/92	08/31/92	08/31/92	09/03/92	09/18/92	09/18/92	STANDARDS
UNITS	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)
PARAMETER							
Antimony	U	U	U	U	U	U	----
Arsenic	U	U	U	U	U	U	50
Beryllium	U	U	U	U	U	U	----
Cadmium	U	U	U	U	U	U	10
Chromium	U	U	U	U	6.6 B	U	50
Copper	U	U	8.1 B	U	6.8 B	U	1000
Lead	U	8.2	U	U	3.7	U	50
Mercury	0.28	0.23	U	0.20	0.31	0.29	2
Nickel	U	U	U	19.4 B	U	U	----
Selenium	U	U	U	U	U	U	10
Silver	U	U	U	U	U	U	50
Thallium	U	U	U	U	U	U	----
Zinc	10.2 B	6.5 B	U	U	24.0	U	5000

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

NOTES:
----: Not established
▒▒▒▒: Exceeds standard value

TABLE 4-8
GRUMMAN AEROSPACE CORPORATION
PLANT 5
GROUNDWATER SAMPLING
FIELD BLANK
INORGANIC CONSTITUENTS

SAMPLE ID	FIELD BLANK
DATE COLLECTED	08/27/92
UNITS	(ug/l)
PARAMETER	
Antimony	U
Arsenic	U
Beryllium	U
Cadmium	U
Chromium	U
Copper	U
Lead	U
Mercury	U
Nickel	U
Selenium	U
Silver	U
Thallium	U
Zinc	U

QUALIFIERS:
U: Analyzed for but not detected

receiving noncontact cooling water (pursuant to SPDES permit NY0096792). It is worthy to note that the well located immediately adjacent to both recharge basins (GM-17S) exhibited the highest concentration of trichloroethene (20 ug/l). Concentrations of trichloroethene ranging from 4 ug/l to 20 ug/l are not inconsistent with previous laboratory analyses of the noncontact cooling water at this location. However, it should be noted that the cooling water being utilized (influent) is pumped from the groundwater well in the vicinity of the site. Previous laboratory analyses reveal that trichloroethene is typically present in the influent prior to its introduction into the noncontact cooling system. Therefore, the elevated levels of trichloroethene are a characteristic of localized ambient groundwater conditions and are not attributable to the noncontact cooling operations at the site.

The results of inorganic analysis for the groundwater samples and the associated field blank are presented on Tables 4-7 and 4-8, respectively. As indicated on Table 4-7, several inorganic constituents were detected in groundwater samples obtained from the monitoring wells associated with the site. However, all inorganic constituents were detected in concentrations that were well below the NYSDOH drinking water standards.

4.4 Conclusions

A review of agency and Grumman files revealed records of only one on-site spill. This spill occurred in the vicinity of the on-site steam plant on August 31, 1983. However, the incident was reported to appropriate agencies and no environmental damage was noted. The incident involved the release of 20 to 30 gallons of No. 6 oil from a fuel oil truck. Appropriate documentation of the incident is presented in Appendix F. No other spill records were noted on file.

A review of agency and Grumman files revealed that there are three active storage tanks located on-site. These include Tank #05-01-1, Tank #05-05-1 and Tank #05-17-1. A review of agency and Grumman files did not reveal any records indicating that these tanks have had any associated leaks and/or spills. In addition, documentation concerning an underground tank that was abandoned in place and filled with sand was also noted during the file search. There were also no records available regarding this tank that indicated the existence of a leak and/or spill. Appropriate documentation on the preceding tanks is presented in Appendix F.

With the exception of trichloroethene, which was detected in groundwater samples P5MW-2 and GM-17S at concentrations of 7 ug/l and 20 ug/l, respectively, none of the compounds were detected above the referenced standards/guidelines other than those which were attributable to laboratory contamination. All four of the wells located within 200 feet of the recharge basins (P5MW-1, P5MW-2, P5MW-3 and GM-17S) exhibited the presence of trichloroethene. However, as previously mentioned, previous analyses have shown that the influent (groundwater) being utilized for the noncontact cooling operations typically exhibit concentrations of trichloroethene. As a result, since the cooling water is "noncontact" in nature and there is no inherent potential for contamination within the cooling system, the elevated levels of trichloroethene are not attributable to the on-site cooling operations.

Furthermore, Grumman Aerospace Corporation has recently implemented on-site polishing aeration basins for the treatment of the noncontact cooling water prior to discharge to the on-site recharge basins (pursuant to SPDES permit NY0096792). This is expected to effectively reduce concentrations of trichloroethene to levels below the NYSDOH drinking water standards.

Based on the above findings and on the review of available data, it does not appear that the elevated levels of trichloroethene are readily attributable to any existing on-site operations. All other compounds were detected below the referenced standards/guidelines other than those attributable to laboratory contamination. As a result, we believe that the information presented in this document is sufficient to support the delisting of the site under New York State regulations.

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.

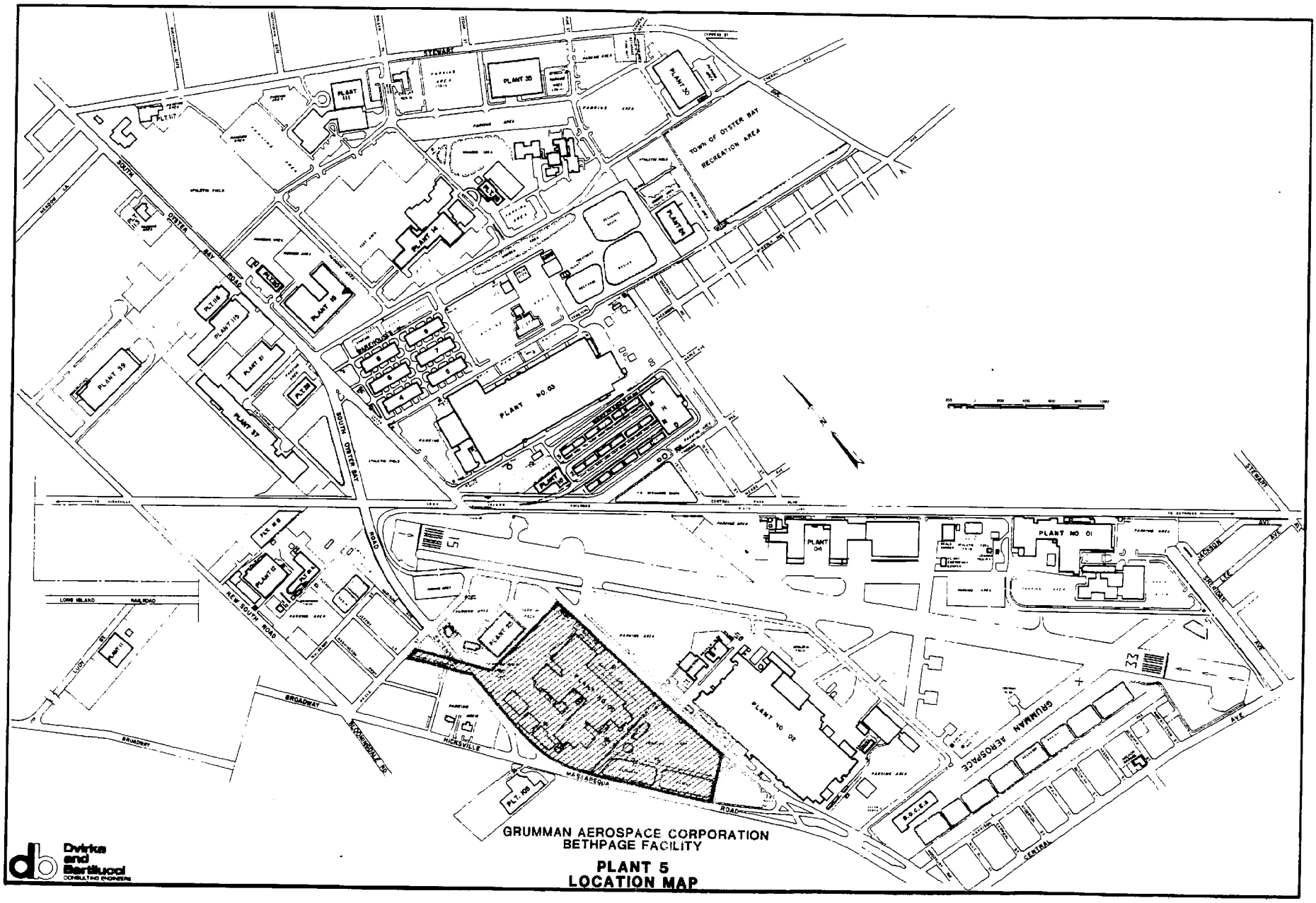
USEPA - Region 2, Proposed Plan Superfund Update Hooker Chemical/Ruco Polymer Site, Hicksville, New York, July 1990.

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

Appendix A

APPENDIX A

LOCATION MAP



Dvirka and Bartilucci CONSULTING ENGINEERS

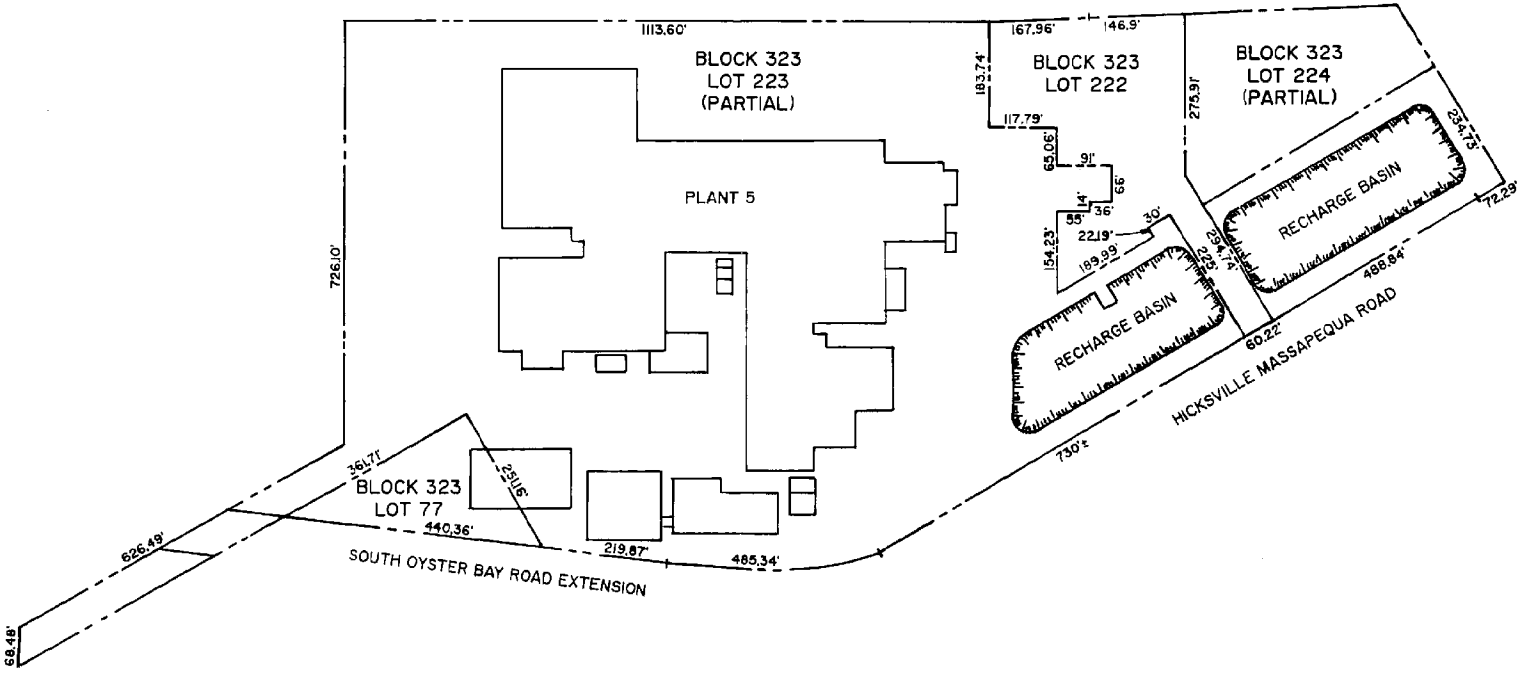
GRUMMAN AEROSPACE CORPORATION
BETHPAGE FACILITY

PLANT 5
LOCATION MAP

Appendix B

APPENDIX B

SITE PLAN



Source: NASSAU COUNTY LAND & TAX MAP - SEC. 46 BLK. 323 AND GAC PARCEL BOUNDARIES MAP

GRUMMAN AEROSPACE CORPORATION
BETHPAGE FACILITY
PLANT 5

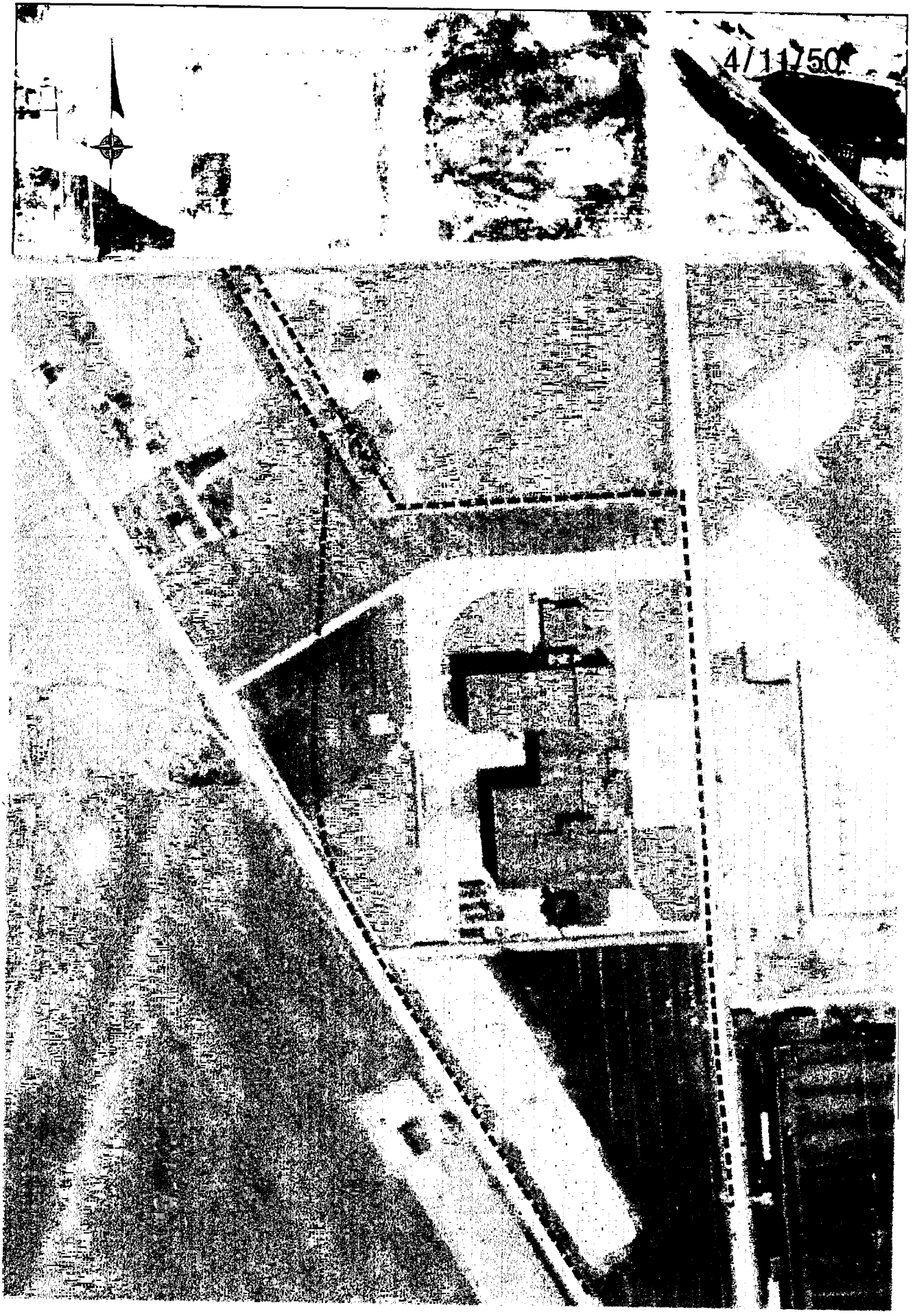
SITE PLAN

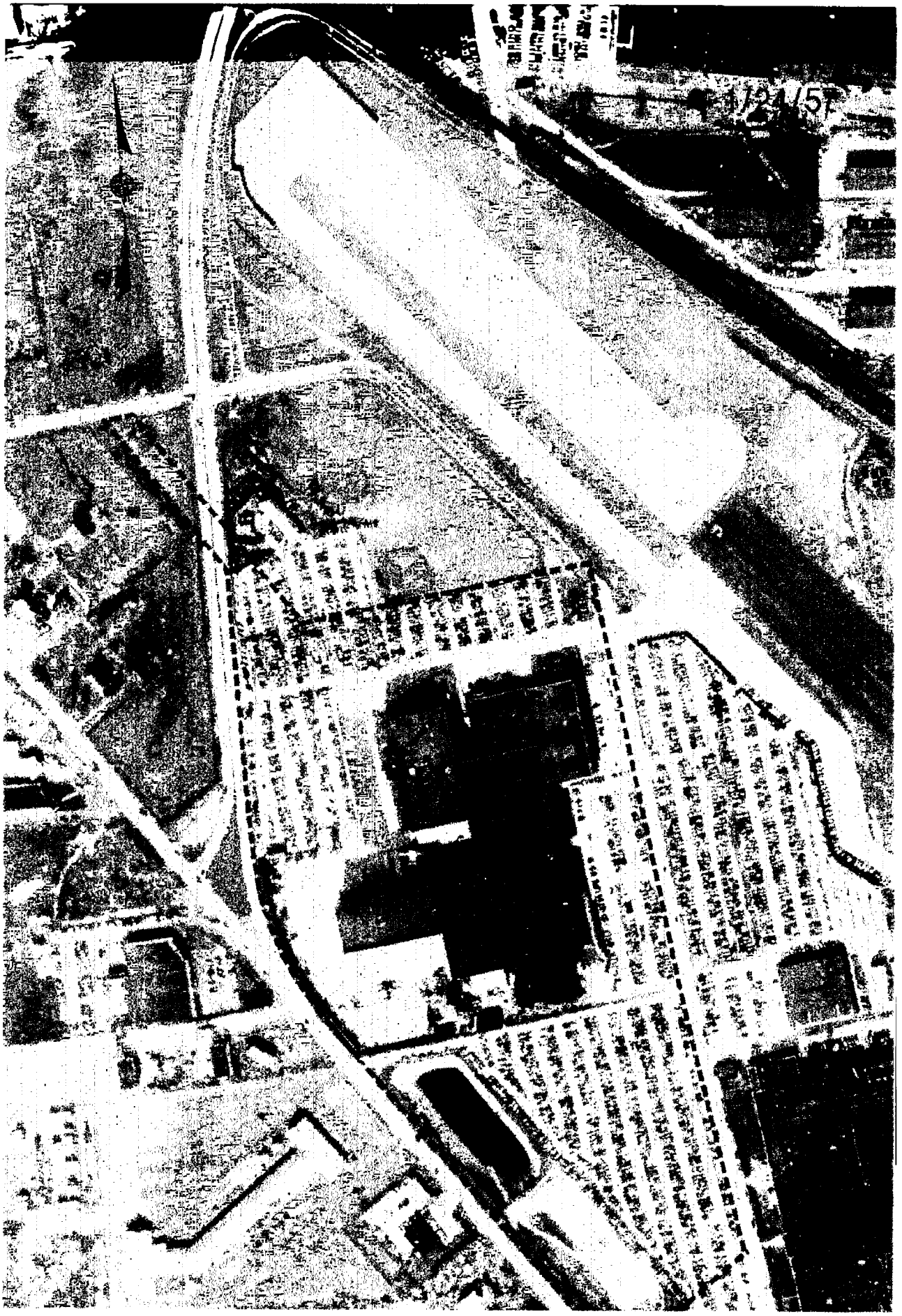
Dvirka and Bartilucci CONSULTING ENGINEERS

Appendix C

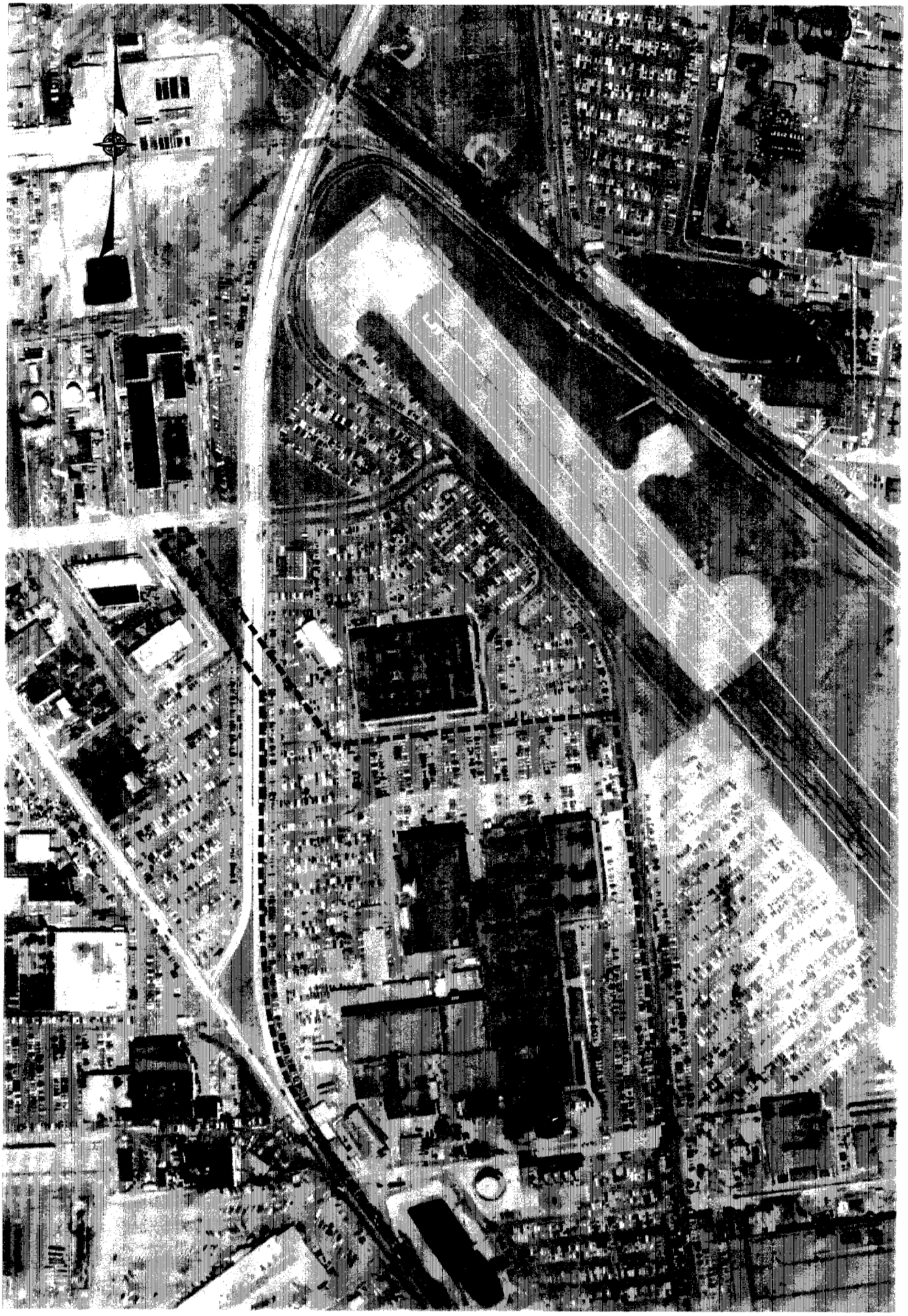
APPENDIX C

AERIAL PHOTOGRAPHS (1950-1988)


4/11/50



3/23/62



NYSDEC 046259

4/18/72


3/8/88

Appendix D

APPENDIX D

BORING LOGS

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1167
Project Name: Grumman Aerospace

Well/Boring No.: PS-MW-1
Sheet 1 of 1
By: KSR Date: 7/28/92
Chk'd: _____ Date: _____

Drilling Contractor: Fenley and Nicol
Driller: Jim Omuletz Geologist: Keith S. Robins
Drill Rig: B-47 Drilling Method: 4½" ID Stem Auger
Sample Spoon I.D.: 2" Drive Hammer Wt.: 140 lbs.
Date Started: 7/28/92 Date Completed: 7/28/92

Borehole Completion Depth: 57'
Borehole Diameter: 8"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
-0-	S-1	0-2	22"	3,10, 17,22	0	0-2" Grass Roots 2"-20" Brown-dk black fm Qtz Sand compacted, mixed with fm gravel dry
-1-						
2						0-12" Lt tan, coarse-med Sand, little subrnd gravel
3	S-2	2-4	20"	7,14, 17,24	0	12"-20" Dark brown-black, fine-medium Sand, trace gravel, tr silt, compact, dense damp-moist
4						
5	S-3	4-6	17"	18,29 29,53	0	Brown-Lt brown coarse-medium Qtz Sand and fm gravel, 2inch cobbles, tr. silt, tr dk minerals, ~~poorly~~ sorted dry
6						
7	S-4	6-8	21"	12,34 56,76	0	Lt brown, med subrnd Qtz Sand, tr silt little fm gravel, tr dk minerals, poorly sorted dry
8						
9	S-5	8-10	22"	17,33 54,60	0	Brown-Lt orange c-m subrnd Qtz Sand, tr silt, Little(-) fm gravel, tr dk minerals, Fe staining, Loose, poorly sorted. dry
10						

Remarks: Soil sample (4'-6'), taken for laboratory analysis

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

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1167
Project Name: Grumman Aerospace

Well/Boring No.: PS-MW-1
Sheet 1 of 2
By: KSR Date: 7/28/92
Chk'd: _____ Date: _____

Drilling Contractor: Fenley and Nicol
Driller: Jim Omulety Geologist: Keith S. Robins
Drill Rig: B-47 Drilling Method: Hollow Stem Auger
Sample Spoon I.D.: 2" Drive Hammer Wt.: 140 lbs.
Date Started: 7/28 Date Completed: 7/28/92

Borehole Completion Depth: 57'
Borehole Diameter: 8"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
10						
12						
14	S-6	15-17	18"	5,15 34,31	0	Brown-Tan-Lt orange Coarse, subrnd Qtz Sand, tr silt, fe staining, some (+) fm Qtz Subrnd gravel, poorly sorted, tr dk minerals. Loose, damp-moist
16						
18						
20	S-7	20-22	19"	6,7 13,13	0	Tan medium-Coarse subrnd Qtz Sand, tr silt, tr dk min., little fmc gravel, few cobbles, poorly sorted, loose (damp)
22						
24	S-8	25-27	30"	7,29 27,23	0	Brown-Tan fm(+)c Qtz subrnd Qtz Sand, abundant fm gravel (subang-subrnd), tr cobbles, tr silt, tr dk min. poorly graded, loose, fe iron nodules (damp)
26						
28						
30	S-9	30-32	8"	12,23 30,20	0	Coarse-medium gravel, mixed w/ coarse subrnd Qtz Sand, 2-3 inch cobble, tr dk minerals, poorly sorted, very loose damp

Remarks: Change Scale from 1' to 2' vertical

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

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1167
Project Name: Grumman Aerospace

Well/Boring No.: DS-MW-1
Sheet 1 of 3
By: KSR Date: 7/28/92
Chk'd: _____ Date: _____

Drilling Contractor: Fenley and Nicol
Driller: Jim Amerletty Geologist: Keith S. Robins
Drill Rig: B-47 Drilling Method: Hollow Stem Auger
Sample Spoon I.D.: 2" Drive Hammer Wt.: 140 lbs.
Date Started: 7/28/92 Date Completed: 7/28/92

Borehole Completion Depth: 57
Borehole Diameter: 8
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
32						
34	S-10	35-37	18"	7,13, 18,18	0	LT-brown-tan fm(f)c subrnd Qtz Sand, tr silt, tr dk min, trace(f) fine gravel, trace muscovite. damp
36						
38						
40	S-11	40-42	16"	9,20, 30,35	0	LT Brown-tan, coarse-medium subrnd Qtz Sand, tr silt, tr dk minerals, Lithic(-) fm subrnd gravel, poorly graded damp
42						
44	S-12	45-47	18"	9,30 50,75	0	LT Brown-tan coarse-medium subrnd Qtz Sand, some subrnd-subang. gravel tr silt, tr dk min, Fe nodules, tr cobbles, poorly sorted, loose. damp-moist
46						
48						
50	S-13	50-52	18"	7,20 32,70	0	fnc gravel subrnd-subang. mixed w Coarse Sand, trace silt, poorly sorte loose saturated
52						

Remarks:

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

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1167
Project Name: Grumman Aerospace

Well/Boring No.: BSMW-1
Sheet 1 of 4
By: KSR Date: 7/28
Chk'd: _____ Date: _____

Drilling Contractor: Fenley and Nicol
Driller: Jim Onufrey
Drill Rig: B-47
Sample Spoon I.D.: 2"
Date Started: 7/28/92
Geologist: Keith S. Robins
Drilling Method: Hollow Stem Auger
Drive Hammer Wt.: 140 lbs.
Date Completed: 7/28/92

Borehole Completion Depth: 57'
Borehole Diameter: 8"
Ground Surface El.: 7/28/92

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
54						
56	S-14	55-57	24"	14,25/NA	0	SAME AS Above Saturated
58						END OF Boring 57'
60						
62						
64						
66						
68						
70						
72						
74						

Remarks:

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

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1167
Project Name: Grumman Aerospace

Well/Boring No.: PS-MW-2
Sheet 1 of 1
By: KSR Date: 7/29
Chk'd: _____ Date: _____

Drilling Contractor: Fenley and Nicol
Driller: Jim Ormsbee Geologist: Keith S. Robins
Drill Rig: B-47 Drilling Method: Hollow Stem Auger
Sample Spoon I.D.: 2" Drive Hammer Wt.: 140 lbs.
Date Started: 7/29/92 Date Completed: 7/29/92

Borehole Completion Depth: 58'6
Borehole Diameter: 8"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
-0-						0-4" concrete
1-	S-1	0-2	20"	2,15 14,30	0	4"-20" Brown fm Sand, mixed with fm gravel, some silt, very compact/dense dry
2-						
3-	S-2	2-4	21"	9,31 50,65	0	Lt brown fm(+)C subrnd Qtz Sand tr silt, some-little fm subang gravel, tr dk min poorly sorted. dry
4						
5-	S-3	4-6	20"	17,33 45,70	0	Lt brown m-C subrnd Qtz Sand, tr silt, little fm(+)C subang gravel tr dk min. poorly sorted, loose
6-						
7-	S-4	6-8	22"	18,44 44,37	0	Brown, Coarse subrnd Qtz Sand, tr silt, some(+) fm gravel, tr dk min, tr muscovite, Fe nodules poorly sorted, loose. damp
8-						
9-	S-5	8-10	20"	7,13, 14,20	0	Lt Brown coarse-med subrnd Qtz sand, tr silt, little fine gravel (subrnd), tr dk minerals poorly sorted damp
10-						

Remarks: Soil sample (4-6), obtained for laboratory analysis

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

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1167
Project Name: Grumman Aerospace

Well/Boring No.: PS-MW-2
Sheet 1 of 2
By: KSR Date: 7/29
Chk'd: _____ Date: _____

Drilling Contractor: Fenley and Nicol
Driller: Jim Omulety Geologist: Keith S. Robins
Drill Rig: B-47 Drilling Method: Hollow Stem Auger
Sample Spoon I.D.: 2" Drive Hammer Wt.: 140 lbs.
Date Started: 7/27/92 Date Completed: 7/29/92

Borehole Completion Depth: 58.6'
Borehole Diameter: 8"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
14	S-6	15-17	20"	5,15, 16,20	0	Lt brown-Tan Coarse Subrnd Qtz Sand, some (F) subrnd-subang fn gravel, tr dk min. fe staining, tr silt, poorly sorted, very loose. damp
20	S-7	20-22	21"	7,12 14,15	0	Brown-Tan mC, Qtz Sand, tr silt, Little-some f-c gravel, tr dk min, poorly sorted, loose, fe nodual (damp)
26	S-8	25-27	19"	8,8, 14,8	0	Brown-LT Tan Coarse Subrnd Qtz Sand, tr silt, some (F) fn subang gravel, tr dk min, very loose, damp
32	S-9	30-32	20"	4,8, 12,18	0	Lt Brown, med (F) - coarse Qtz Sand, little (F) fn subrnd gravel, tr silt, Orthoclase Feldspar, fe iron nodual, poorly sorted. damp

Remarks: Changed vertical scale from 1ft, to 2 ft

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

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1167
Project Name: Grumman Aerospace

Well/Boring No.: PS-MW-2
Sheet 1 of 3
By: KSR Date: 7/29
Chk'd: _____ Date: _____

Drilling Contractor: Fenley and Nicol
Driller: Jim Gaudetz Geologist: Keith S. Robins
Drill Rig: B-49 Drilling Method: Hollow Stem Auger
Sample Spoon I.D.: 2" Drive Hammer Wt.: 140 lbs.
Date Started: 7/29/92 Date Completed: 7/29/92

Borehole Completion Depth: 58.6'
Borehole Diameter: 8
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
34						
36	S-10	35-37	20"	5,7, 14,25	0	Tan, medium Qtz Sand, trace silt, trace fm gravel, well graded damp.
38						
40	S-11	40-42	22"	5,8 12,13	0	LT tan fine-medium subrounded Qtz Sand, trace silt, trace fine gravel, well graded damp.
42						
44						
46	S-12	45-47	23"	8,16, 15,19	0	Tan-Lt brown fine subround, Qtz Sand, trace silt, tr muscovite, very well graded damp
48						
50	S-13	50-52	23"	8,20 31,40	0	Tan-LT Brown fine Qtz subrnded Sand, trace(+) silt, tr muscovite, well graded saturated
52						
54						

Remarks:

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

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1167
Project Name: Grumman Aerospace

Well/Boring No.: PS-MW-2
Sheet 1 of 7
By: KSR Date: 7/29/92
Chk'd: _____ Date: _____

Drilling Contractor: Fenley and Nicol
Driller: Jim Omvlety Geologist: Keith S. Robins
Drill Rig: B-47 Drilling Method: Hollow Stem Auger
Sample Spoon I.D.: 2" Drive Hammer Wt.: 140 lbs.
Date Started: 7/29/92 Date Completed: 7/29/92

Borehole Completion Depth: 58.6'
Borehole Diameter: 8"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
55						
57	S14	55-57	12"	5|10, 15|10	0	Brown fine Qtz Sand, mixed with Abundant fine Qtz Gravel, poorly sorted, saturated
59						
61						
63						End of Boring 58.6'
65						
67						
69						
71						
73						
75						

Remarks:

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

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1167
Project Name: Grumman Aerospace

Well/Boring No.: PS-BH1
Sheet 1 of 1
By: RSE Date: 7/30/92
Chk'd: _____ Date: _____

Drilling Contractor: Fenley and Nicol
Driller: Jim Omulotz Geologist: Keith S. Robins
Drill Rig: B-40 Drilling Method: Hollow Stem Auger
Sample Spoon I.D.: 2" Drive Hammer Wt.: 140 lbs.
Date Started: 7/30/92 Date Completed: 7/30/92

Borehole Completion Depth: 30'
Borehole Diameter: 8"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
-0-						0-5" Asphalt
2						5"-3' Brown coarse-medium Sand, some gravel
4						
6						3'-6' Brown clayey Sand and gravel
8						6'-8' Brown medium-coarse sand some silt, little clay + gravel
10						8'-10' Tan-gray-brown clay plastic moist
12						
14						10'-20' Brown medium-coarse Sand, fm gravel and cobbles, trace silt
16						
18						
20						

Remarks: (0-20') visual log of soil cuttings, No split spoon taken

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

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1167
Project Name: Grumman Aerospace

Well/Boring No.: P5-BH-1
Sheet 1 of 2
By: KSR Date: 7/30/92
Chk'd: _____ Date: _____

Drilling Contractor: Fenley and Nicol
Driller: Jim Omletz Geologist: Keith S. Robins
Drill Rig: B-47 Drilling Method: Hollow Stem Auger
Sample Spoon I.D.: 2" Drive Hammer Wt.: 140 lbs.
Date Started: 7/30/92 Date Completed: 7/30/92

Borehole Completion Depth: 30'
Borehole Diameter: 8"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
20						
21	S-1	20-22	22"	20,30 40,50	0	Brown medium-coarse Qtz Sand some gravel, trace silt.
22						
23	S-2	22-24	22"	9,13 17,18	0	LT Brown-LT orange f-m(+)c subrnd Qtz Sand, little (+) fm gravel, tr silt, tr dk minerals damp
24						
25	S-3	24-26	22"	5,12, 18,35	0	Brown, coarse-medium subrnd Qtz sand, some coarse-fine subrnd gravel trace silt, trace dk min, poorly sorted. damp.
26						
27	S-4	26-28	20"	10,15 12,15	0	Brown-LT fm coarse subrnd Sand, Little-some fm gravel, trace cobbles, tr silt, tr dk min, poorly sorted, loose damp
28						
29	S-5	28-30	20"	11,22, 24,20	0	Brown-LT fm coarse subrnd Qtz Sand, Some (+) fm gravel, trace cobbles, tr silt poorly sorted, loose (damp-moist)
30						

Remarks: Changed vertical scale to every 1 ft. Sample (24-26) sent for laboratory Analysis

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

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1167
Project Name: Grumman Aerospace

Well/Boring No.: PS-MW-3
Sheet 1 of 1
By: KSR Date: 7/31/92
Chk'd: _____ Date: _____

Drilling Contractor: Fenley and Nicol
Driller: Jim Owsley
Drill Rig: B-47
Sample Spoon I.D.: 2"
Date Started: 7/31/92
Geologist: Keith S. Robins
Drilling Method: Hollow Stem Auger
Drive Hammer Wt.: 140 lbs.
Date Completed: 8/3/92
Borehole Completion Depth: 58'
Borehole Diameter: 8"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
-0-						
1-	S-1	0-2	20"	26,31 24,15	0	0-4" Asphalt pavement 4"-20" Brown medium Qtz Sand, little silt, some angular gravel compact, dry
2						
3	S-2	2-4	20"	5,10, 14,21	0	Brown clayey sand, trace silt, trace fine gravel, compact, dense (dry-damp)
4-						
5-	S-3	4-6	18"	7,25, 50/6"	0	Brown, m-c subrnd Qtz Sand, little fine gravel, tr dk minerals dry
6-						
7-	S-4	6-8	20"	20,45 54,78	0	LT Tan-LT orange coarse subrnd Qtz Sand, some(+) fine gravel, tr silt, Fe staining at tip of spoon, loose, poorly Sorted damp
8-						
9-	S-5	8-10	20"	22,46 44,43	0	LT brown-Tan f-m-c subrnd Qtz Sand, trace silt, some-little f sub-ang. gravel, tr dk min, Fe staining, poorly sorted. (damp)
10						

Remarks: Soil sample take at (4-6), for lab analysis

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

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1167
Project Name: Grumman Aerospace

Well/Boring No.: PS-MW-3
Sheet 1 of 2
By: KSR Date: 7/31/92
Chk'd: _____ Date: _____

Drilling Contractor: Fenley and Nicol
Driller: Jim Dougherty Geologist: Keith S. Robins
Drill Rig: B-47 Drilling Method: Hollow Stem Auger
Sample Spoon I.D.: 2" Drive Hammer Wt.: 140 lbs.
Date Started: 7/31/92 Date Completed: 8/3/92

Borehole Completion Depth: 58'
Borehole Diameter: 8"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
12						
14	S-6	15-17	20"	6,15, 20,22	0	Brown-LT Tan m-c, subrnd sand, little fine gravel, trace cobbles, tr silt, Fe staining, poorly sorted damp.
16						
18						
20	S-7	20-22	23"	37,12 1,20	0	Brown-LT Tan fm(+)c subrnd Qtz Sand, tr. silt, tr fm gravel, tr dk minerals, Fe staining damp
22						
24						
26	S-8	25-27	20"	8,17, 20,30	0	Brown-dk brown coarse subrnd Qtz sand, some(+) fm gravel, poorly sorted, loose, damp
28						
30						
32	S-9	30-32	20"	8,15 12,15	0	Tan, med-coarse subrnd Qtz Sand, trace silt, tr. dk min, tr fine gravel, poorly sorted damp

Remarks: Change vertical scale to 2 ft.

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

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1167
Project Name: Grumman Aerospace

Well/Boring No.: P5-MW-3
Sheet 1 of ____
By: CSR Date: 7/31/92
Chk'd: ____ Date: ____

Drilling Contractor: Fenley and Nicol
Driller: Jim Umlitey Geologist: Keith S. Robins
Drill Rig: B-47 Drilling Method: Hollow Stem Auger
Sample Spoon I.D.: 2" Drive Hammer Wt.: 140 lbs.
Date Started: 7/3/92 Date Completed: 8/3/92

Borehole Completion Depth: 58'
Borehole Diameter: 8
Ground Surface El.: ____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
33						
35	S-10	35-37	21"	8,18, 18,15	0	Tan fm(+) c(-) subrnd Qtz Sand, little(-) fine gravel, tr Si, H, tr dk minerals poorly sorted, loose, damp
37						
39						
41	S-11	40-42	20"	10,20, 24,20	0	Tan-brown coarse-medium Qtz Sand, some(+) fm gravel, tr. silt poorly sorted, loose damp-moist
43						
45	S-12	45-47	10"	11,20 39,65	0	Brown, coarse Qtz Sand, some fm subangular gravel, trace cobbles tr dk min. poorly sorted, louse. moist
47						
49	S-13	50-52	18"	11,17, 35,40	0	Abundant fm gravel, mixed with Brown coarse Sand, tr Si, H, very loose, poorly sorted saturated
51						
53						

Remarks:

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

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1167
Project Name: Grumman Aerospace

Well/Boring No.: PS-MW-3
Sheet 1 of 4
By: KSR Date: 7/31/92
Chk'd: _____ Date: _____

Drilling Contractor: Fenley and Nicol
Driller: Jim Drury Geologist: Keith S. Robins
Drill Rig: B-47 Drilling Method: Hollow Stem Auger
Sample Spoon I.D.: 2" Drive Hammer Wt.: 140 lbs.
Date Started: 7/31/92 Date Completed: 8/3/92

Borehole Completion Depth: 58'
Borehole Diameter: 8"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
55						
57	S-14	55-59	7"	13,17 26,38	0	Fine-medium Gravel, sub rnd-sub ang, mixed with coarse Qtz Sand, trace(+) Silt, saturated
59						
61						
63						
65						
67						
69						
71						
73						
75						

END OF Boring at 58'

Remarks:

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

BL

Appendix E

APPENDIX E

LABORATORY DATA

1A - NYSDEC
NYTEST ENVIRONMENTAL INC.

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: WATER
CONC. LEVEL: LOW
ANALYSIS DATE: 7/31/92

SAMPLE ID: S9-FB-S
LAB ID: 1343805
DIL FACTOR: 1.00
% MOISTURE: NA

UG/L

CMPD #	CAS Number	VOLATILE COMPOUNDS	
1	74-87-3	Chloromethane	0.5 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	2.9 B
6	75-35-4	1,1-Dichloroethene	0.1 U.
7	75-34-3	1,1-Dichloroethane	0.5 U.
8	156-60-5	1,2-Dichloroethene (trans)	0.5 U.
9	67-66-3	Chloroform	0.5 U.
10	107-06-2	1,2-Dichloroethane	0.1 U.
11	71-55-6	1,1,1-Trichloroethane	0.1 U.
12	56-23-5	Carbon Tetrachloride	0.5 U.
13	75-27-4	Bromodichloromethane	0.5 U.
14	78-87-5	1,2-Dichloropropane	0.5 U.
15	10061-01-5	cis-1,3-Dichloropropene	0.5 U.
16	79-01-6	Trichloroethene	0.5 U.
17	124-48-1	Dibromochloromethane	0.5 U.
18	79-00-5	1,1,2-Trichloroethane	0.1 U.
19	71-43-2	Benzene	1.0 U.
20	10061-02-6	trans-1,3-Dichloropropene	1.0 U.
21	75-25-2	Bromoform	1.0 U.
22	127-18-4	Tetrachloroethene	0.1 U.
23	79-34-5	1,1,2,2-Tetrachloroethane	0.1 U.
24	108-88-3	Toluene	1.0 U.
25	108-90-7	Chlorobenzene	1.0 U.
26	100-41-4	Ethylbenzene	1.0 U.
27	1330-20-7	Xylene (total)	1.0 U.
28	110-75-8	2-Chloroethylvinylether	0.5 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.

1A - NYSDEC

NYTEST ENVIRONMENTAL INC.

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
ANALYSIS DATE: 8/01/92

SAMPLE ID: P5-MW1-S
LAB ID: 1344501
DIL FACTOR: 1.00
% MOISTURE: 2

CMPD #	CAS Number	VOLATILE COMPOUNDS	UG/KG (DRY BASIS)
1	74-87-3	Chloromethane	0.5 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	3.3 B
6	75-35-4	1,1-Dichloroethene	0.1 U.
7	75-34-3	1,1-Dichloroethane	0.5 U.
8	156-60-5	1,2-Dichloroethene (trans)	0.5 U.
9	67-66-3	Chloroform	0.5 U.
10	107-06-2	1,2-Dichloroethane	0.1 U.
11	71-55-6	1,1,1-Trichloroethane	0.1 U.
12	56-23-5	Carbon Tetrachloride	0.5 U.
13	75-27-4	Bromodichloromethane	0.5 U.
14	78-87-5	1,2-Dichloropropane	0.5 U.
15	10061-01-5	cis-1,3-Dichloropropene	0.5 U.
16	79-01-6	Trichloroethene	0.5 U.
17	124-48-1	Dibromochloromethane	0.5 U.
18	79-00-5	1,1,2-Trichloroethane	0.1 U.
19	71-43-2	Benzene	1.0 U.
20	10061-02-6	trans-1,3-Dichloropropene	1.0 U.
21	75-25-2	Bromoform	1.0 U.
22	127-18-4	Tetrachloroethene	0.1 U.
23	79-34-5	1,1,2,2-Tetrachloroethane	0.1 U.
24	108-88-3	Toluene	1.0 U.
25	108-90-7	Chlorobenzene	1.0 U.
26	100-41-4	Ethylbenzene	1.0 U.
27	1330-20-7	Xylene (total)	1.0 U.
28	110-75-8	2-Chloroethylvinylether	0.5 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.

0000009

1A - NYSDEC

NYTEST ENVIRONMENTAL INC.

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: WATER
CONC. LEVEL: LOW
ANALYSIS DATE: 8/1/92

SAMPLE ID: P5-MW2-S
LAB ID: 1347101
DIL FACTOR: 1.00
% MOISTURE: 3

UG/L

CMPD #	CAS Number	VOLATILE COMPOUNDS	
1	74-87-3	Chloromethane	0.5 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	3.8 B
6	75-35-4	1,1-Dichloroethene	0.1 U.
7	75-34-3	1,1-Dichloroethane	0.5 U.
8	156-60-5	1,2-Dichloroethene (trans)	0.5 U.
9	67-66-3	Chloroform	0.5 U.
10	107-06-2	1,2-Dichloroethane	0.1 U.
11	71-55-6	1,1,1-Trichloroethane	0.1 U.
12	56-23-5	Carbon Tetrachloride	0.5 U.
13	75-27-4	Bromodichloromethane	0.5 U.
14	78-87-5	1,2-Dichloropropane	0.5 U.
15	10061-01-5	cis-1,3-Dichloropropene	0.5 U.
16	79-01-6	Trichloroethene	0.5 U.
17	124-48-1	Dibromochloromethane	0.5 U.
18	79-00-5	1,1,2-Trichloroethane	0.1 U.
19	71-43-2	Benzene	1.0 U.
20	10061-02-6	trans-1,3-Dichloropropene	1.0 U.
21	75-25-2	Bromoform	1.0 U.
22	127-18-4	Tetrachloroethene	0.1 U.
23	79-34-5	1,1,2,2-Tetrachloroethane	0.1 U.
24	108-88-3	Toluene	1.0 U.
25	108-90-7	Chlorobenzene	1.0 U.
26	100-41-4	Ethylbenzene	1.0 U.
27	1330-20-7	Xylene (total)	1.0 U.
28	110-75-8	2-Chloroethylvinylether	0.5 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.

0000008

1A-GC

NYTEST ENVIRONMENTAL INC.

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL — SAMPLE ID: P5-MW3-5

CONC. LEVEL: LOW — LAB ID: 1350401

ANALYSIS DATE: 08/05/92 — DIL FACTOR: 1.00

% MOISTURE: 2

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	1.9 B
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.

0000008

1A - NYSDEC

NYTEST ENVIRONMENTAL INC.

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL — SAMPLE ID: PS-BH-1

CONC. LEVEL: LOW — LAB ID: 1348401

ANALYSIS DATE: 8/05/92 — DIL FACTOR: 1.00

% MOISTURE: 29

CMPD #	CAS Number	VOLATILE COMPOUNDS	UG/KG (DRY BASIS)
1	74-87-3	Chloromethane	0.7 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	3.0
6	75-35-4	1,1-Dichloroethene	0.1 U.
7	75-34-3	1,1-Dichloroethane	0.7 U.
8	156-60-5	1,2-Dichloroethene (trans)	0.7 U.
9	67-66-3	Chloroform	0.7 U.
10	107-06-2	1,2-Dichloroethane	0.1 U.
11	71-55-6	1,1,1-Trichloroethane	0.1 U.
12	56-23-5	Carbon Tetrachloride	0.7 U.
13	75-27-4	Bromodichloromethane	0.7 U.
14	78-87-5	1,2-Dichloropropane	0.7 U.
15	10061-01-5	cis-1,3-Dichloropropene	0.7 U.
16	79-01-6	Trichloroethene	0.7 U.
17	124-48-1	Dibromochloromethane	0.7 U.
18	79-00-5	1,1,2-Trichloroethane	0.1 U.
19	71-43-2	Benzene	1.0 U.
20	10061-02-6	trans-1,3-Dichloropropene	1.0 U.
21	75-25-2	Bromoform	1.0 U.
22	127-18-4	Tetrachloroethene	0.1 U.
23	79-34-5	1,1,2,2-Tetrachloroethane	0.1 U.
24	108-88-3	Toluene	1.0 U.
25	108-90-7	Chlorobenzene	1.0 U.
26	100-41-4	Ethylbenzene	1.0 U.
27	1330-20-7	Xylene (total)	1.0 U.
28	110-75-8	2-Chloroethylvinylether	0.7 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.

0000008

nytest environmental inc

REPORT OF ANALYSIS

Log in No.: 13445

We find as follows:

Results in mg/kg (dry wt. basis) except where noted:

Sample Identification	Parameter(s)
	Total Petroleum Hydrocarbons
1344501 P5-MW1-S	153
Soil Method Blank	< 10.0

0000143

nytest environmental inc

REPORT OF ANALYSIS

Log in No.: 13471

We find as follows:

Results in mg/kg (dry wt. basis) except where noted:

Sample Identification	Parameter(s)
	Total Petroleum Hydrocarbons
1347101 P5-MW2-S	183
Soil Method Blank	< 10.0

0000143

nytest environmental inc

REPORT OF ANALYSIS

Log in No.: 13504

We find as follows:

Results in mg/kg (dry wt. basis) except where noted:

Sample Identification	Parameter(s)
	Total Petroleum Hydrocarbons
1350401 P5-MW3-5	127
Soil Method Blank	< 10.0

0000141

nytest environmental inc

REPORT OF ANALYSIS

Log in No.: 13484

We find as follows:

Results in mg/kg (dry wt. basis) except where noted:

Sample Identification	Parameter(s)
	Total Petroleum Hydrocarbons
1348401 P5-BH-1	173
1348402 P12-BH-2	143
Soil Method Blank	< 10.0

0000333

nytest environmental inc

REPORT OF ANALYSIS

Log In No.: 14185

We find as follows:

Results in ug/kg (dry wt. basis):

Sample Identification		Parameter(s)
		Total Petroleum Hydrocarbons (310-13)
1418508	P5-MW1-S	ND

ND = None Detected

0000014

nytest environmental inc

REPORT OF ANALYSIS

Log In No.: 14185

We find as follows:

Results in ug/kg (dry wt. basis):

Sample Identification	Parameter(s)
	Total Petroleum Hydrocarbons (310-13)
1418509 P5-MW2-S	ND

ND = None Detected

0000015

nytest environmental inc

REPORT OF ANALYSIS

Log In No.: 14185

We find as follows:

Results in ug/kg (dry wt. basis):

Sample Identification	Parameter(s)
	Total Petroleum Hydrocarbons (310-13)
1418512 P5-MW3-5	ND

ND = None Detected

0000018

nytest environmental inc

REPORT OF ANALYSIS

Log In No.: 14185

We find as follows:

Results in ug/kg (dry wt. basis):

Sample Identification	Parameter(s)
	Total Petroleum Hydrocarbons (310-13)
1418510 P5-BH-1	ND

ND = None Detected

0000016

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

FB0727

Lab Name: NYTEST ENVIRONMENTAL INC. Contract: 9218699

Lab Code: 10195 Case No.: 13438 SAS No.: SDG No.: SDG694

Matrix (soil/water): WATER Lab Sample ID: 438-05

Level (low/med): LOW Date Received: 07/27/92

% 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				
7440-36-0	Antimony	55.2	U		P
7440-38-2	Arsenic	5.0	U	W	F
7440-39-3	Barium				
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.8	U		P
7440-70-2	Calcium				
7440-47-3	Chromium	6.5	U		P
7440-48-4	Cobalt				
7440-50-8	Copper	6.4	U		P
7439-89-6	Iron				
7439-92-1	Lead	3.0	U		F
7439-95-4	Magnesium				
7439-96-5	Manganese				
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	16.8	U		P
7440-09-7	Potassium				
7782-49-2	Selenium	5.0	U		F
7440-22-4	Silver	9.3	U		P
7440-23-5	Sodium				
7440-28-0	Thallium	5.0	U		F
7440-62-2	Vanadium				
7440-66-6	Zinc	4.3	U		P
	Cyanide				

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
S9-FB-S

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

PX5BH1

Lab Name: NYTEST ENVIRONMENTAL INC. Contract: 9218699

Lab Code: 10195 Case No.: 13484 SAS No.: SDG No.: SDG702

Matrix (soil/water): SOIL Lab Sample ID: 484-01

Level (low/med): LOW Date Received: 07/30/92

% Solids: 71.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				
7440-36-0	Antimony	15.5	U		P
7440-38-2	Arsenic	1.4	U	NW	F
7440-39-3	Barium				
7440-41-7	Beryllium	0.28	U		P
7440-43-9	Cadmium	1.3	U		P
7440-70-2	Calcium				
7440-47-3	Chromium	3.3			P
7440-48-4	Cobalt				
7440-50-8	Copper	1.8	U		P
7439-89-6	Iron				
7439-92-1	Lead	3.8			F
7439-95-4	Magnesium				
7439-96-5	Manganese				
7439-97-6	Mercury	0.14	U		CV
7440-02-0	Nickel	4.7	U		P
7440-09-7	Potassium				
7782-49-2	Selenium	1.4	U		F
7440-22-4	Silver	2.6	U		P
7440-23-5	Sodium				
7440-28-0	Thallium	1.4	U		F
7440-62-2	Vanadium				
7440-66-6	Zinc	11.9			P
	Cyanide				

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FIELDBLK

Lab Name: NYTEST ENV INC Contract: 9218699

Lab Code: NYTEST Case No.: I3822 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 1382204

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D1758

Level: (low/med) LOW Date Received: 08/27/92

% Moisture: not dec. ____ Date Analyzed: 09/03/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	3	J
67-64-1	Acetone	5	BJ
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

0000012

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TRIPBLK

Lab Name: NYTEST ENV INC Contract: 9218699

Lab Code: NYTEST Case No.: 13822 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 1382205

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D1757

Level: (low/med) LOW Date Received: 08/27/92

% Moisture: not dec. ____ Date Analyzed: 09/03/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	3	J
67-64-1	Acetone	6	BJ
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

0000018

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TRIPBLK

Lab Name: NYTEST ENV INC Contract:

Lab Code: NYTEST Case No.: 11142 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 1387607

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D1784

Level: (low/med) LOW Date Received: 08/31/92

% Moisture: not dec. Date Analyzed: 09/04/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	7	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

0000016

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TRIPBLK

Lab Name: NYTEST ENV INC Contract: _____

Lab Code: NYTEST Case No.: 11187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 1390504

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C8951

Level: (low/med) LOW Date Received: 09/02/92

% Moisture: not dec. ____ Date Analyzed: 09/09/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

0000012

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TRIPBLK

Lab Name: NYTEST ENV INC Contract: _____

Lab Code: NYTEST Case No.: 11187 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 1390504

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C8951

Level: (low/med) LOW Date Received: 09/02/92

% Moisture: not dec. ____ Date Analyzed: 09/09/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

0000049

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PS-MW-1

Lab Name: NYTEST ENV INC Contract:

Lab Code: NYTEST Case No.: 11142 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 1384703

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D1776

Level: (low/med) LOW Date Received: 08/28/92

% Moisture: not dec. Date Analyzed: 09/04/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	4	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	1	J
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	4	J
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

0000014

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PS-MW-2

Lab Name: NYTEST ENV INC Contract: _____

Lab Code: NYTEST Case No.: 11142 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 1387505

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D1790

Level: (low/med) LOW Date Received: 08/31/92

% Moisture: not dec. ____ Date Analyzed: 09/05/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	4	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	1	J
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	7	J
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	2	J
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

P5-MW-3

Lab Name: NYTEST ENV INC Contract: 9218699

Lab Code: NYTEST Case No.: 13822 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 1387602

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 01787

Level: (low/med) LOW Date Received: 08/31/92

% Moisture: not dec. ____ Date Analyzed: 09/04/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	4	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	5	J
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GM-17S

Lab Name: NYTEST ENV INC Contract: 9218699

Lab Code: NYTEST Case No.: 13933 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 1393301

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D1862

Level: (low/med) LOW Date Received: 09/03/92

% Moisture: not dec. ____ Date Analyzed: 09/10/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	3	BJ
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	3	J
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	20	
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	J
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	8	BJ
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

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1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

GM-23S

Lab Name: NYTEST ENV INC Contract: 9218699

Lab Code: NYTEST Case No.: 14097 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 1409701

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9153

Level: (low/med) LOW Date Received: 09/18/92

% Moisture: not dec. ____ Date Analyzed: 09/23/92

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FLDBLK

Lab Name: NYTEST_ENVIRONMENTAL_INC. Contract: 9218699___

Lab Code: 10195_ Case No.: 13822_ SAS No.: _____ SDG No.: B28MW1

Matrix (soil/water): WATER Lab Sample ID: 822-04___

Level (low/med): LOW__ Date Received: 08/27/92

% 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_	55.0	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__	5.0	U		P_
7440-70-2	Calcium__		_		NR
7440-47-3	Chromium_	6.0	U		P_
7440-48-4	Cobalt___		_		NR
7440-50-8	Copper___	6.0	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___	17.0	U		P_
7440-09-7	Potassium		_		NR
7782-49-2	Selenium_	5.0	U		F_
7440-22-4	Silver___	9.0	U		P_
7440-23-5	Sodium___		_		NR
7440-28-0	Thallium_	5.0	U		F_
7440-62-2	Vanadium_		_		NR
7440-66-6	Zinc_____	4.0	U		P_
5955-70-0	Cyanide__		_		NR

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

FIELD_BLK

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

PS-MW1

Lab Name: NYTEST_ENVIRONMENTAL_INC. Contract: 9218699___

Lab Code: 10195_ Case No.: 13847_ SAS No.: _____ SDG No.: SDG754

Matrix (soil/water): WATER Lab Sample ID: 847-03___

Level (low/med): LOW__ Date Received: 08/28/92

% 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_	55.0	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__	5.0	U	_____	P_
7440-70-2	Calcium__	_____	_	_____	NR
7440-47-3	Chromium_	6.0	U	_____	P_
7440-48-4	Cobalt___	_____	_	_____	NR
7440-50-8	Copper___	6.0	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__	0.28	_	*	CV
7440-02-0	Nickel___	17.0	U	_____	P_
7440-09-7	Potassium	_____	_	_____	NR
7782-49-2	Selenium_	5.0	U	_____	F_
7440-22-4	Silver___	9.0	U	_____	P_
7440-23-5	Sodium___	_____	_	_____	NR
7440-28-0	Thallium_	5.0	U	_____	F_
7440-62-2	Vanadium_	_____	_	_____	NR
7440-66-6	Zinc_____	10.2	B	_____	P_
5955-70-0	Cyanide__	_____	_	_____	NR

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

P5-MW2

Lab Name: NYTEST_ENVIRONMENTAL_INC. Contract: 9218699___

Lab Code: 10195_ Case No.: 13876_ SAS No.: _____ SDG No.: SDG758

Matrix (soil/water): WATER Lab Sample ID: 876-05___

Level (low/med): LOW__ Date Received: 08/31/92

% 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	55.0	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	5.0	U		P
7440-70-2	Calcium		-		NR
7440-47-3	Chromium	6.0	U		P
7440-48-4	Cobalt		-		NR
7440-50-8	Copper	6.0	U		P
7439-89-6	Iron		-		NR
7439-92-1	Lead	8.2	-		F
7439-95-4	Magnesium		-		NR
7439-96-5	Manganese		-		NR
7439-97-6	Mercury	0.23	-		CV
7440-02-0	Nickel	17.0	U		P
7440-09-7	Potassium		-		NR
7782-49-2	Selenium	5.0	U		F
7440-22-4	Silver	9.0	U		P
7440-23-5	Sodium		-		NR
7440-28-0	Thallium	5.0	U		F
7440-62-2	Vanadium		-		NR
7440-66-6	Zinc	6.5	B		P
5955-70-0	Cyanide		-		NR

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

P5-MW3

Lab Name: NYTEST_ENVIRONMENTAL_INC. Contract: 9218699

Lab Code: 10195 Case No.: 13876 SAS No.: SDG No.: SDG758

Matrix (soil/water): WATER Lab Sample ID: 876-02

Level (low/med): LOW Date Received: 08/31/92

% 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	55.0	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	5.0	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	6.0	U		P
7440-48-4	Cobalt				NR
7440-50-8	Copper	8.1	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	17.0	U		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	5.0	U		F
7440-22-4	Silver	9.0	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	5.0	U	W	F
7440-62-2	Vanadium				NR
7440-66-6	Zinc	4.0	U		P
5955-70-0	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

GM-17S

Lab Name: NYTEST_ENVIRONMENTAL_INC. Contract: 9218699

Lab Code: 10195 Case No.: 13933 SAS No.: SDG No.: SDG766

Matrix (soil/water): WATER Lab Sample ID: 933-01

Level (low/med): LOW Date Received: 09/03/92

% 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	55.0	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	5.0	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	6.0	U		P
7440-48-4	Cobalt				NR
7440-50-8	Copper	6.0	U		P
7439-89-6	Iron				NR
7439-92-1	Lead	3.0	U	N	F
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.20		*	CV
7440-02-0	Nickel	19.4	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	5.0	U		F
7440-22-4	Silver	9.0	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	4.0	U		P
5955-70-0	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

GMT23S

Lab Name: NYTEST_ENVIRONMENTAL_INC. Contract: 9218699___

Lab Code: 10195_ Case No.: 14097_ SAS No.: _____ SDG No.: SDG734

Matrix (soil/water): WATER Lab Sample ID: 097-T1____

Level (low/med): LOW__ Date Received: 09/18/92

% 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_	55.0	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__	5.0	U		P_
7440-70-2	Calcium__		_		NR
7440-47-3	Chromium_	6.6	B		P_
7440-48-4	Cobalt___		_		NR
7440-50-8	Copper___	6.8	B		P_
7439-89-6	Iron_____		_		NR
7439-92-1	Lead_____	3.7	_	W	F_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese		_		NR
7439-97-6	Mercury__	0.31	_		CV
7440-02-0	Nickel___	17.0	U		P_
7440-09-7	Potassium		_		NR
7782-49-2	Selenium_	5.0	U		F_
7440-22-4	Silver___	9.0	U		P_
7440-23-5	Sodium___		_		NR
7440-28-0	Thallium_	5.0	U		F_
7440-62-2	Vanadium_		_		NR
7440-66-6	Zinc_____	24.0	_		P_
5955-70-0	Cyanide__		_		NR

Color Before: YELLOW___ Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

GM-23S_TOTAL_____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
GMD23S

Lab Name: NYTEST_ENVIRONMENTAL_INC. Contract: 9218699___

Lab Code: 10195_ Case No.: 14097_ SAS No.: _____ SDG No.: SDG734

Matrix (soil/water): WATER Lab Sample ID: 097-D1____

Level (low/med): LOW__ Date Received: 09/18/92

% 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	55.0	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	5.0	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	6.0	U		P
7440-48-4	Cobalt				NR
7440-50-8	Copper	6.0	U		P
7439-89-6	Iron				NR
7439-92-1	Lead	3.0	U	W	F
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.29			CV
7440-02-0	Nickel	17.0	U		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	5.0	U		F
7440-22-4	Silver	9.0	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	5.0	U		F
7440-62-2	Vanadium				NR
7440-66-6	Zinc	4.0	U		P
5955-70-0	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:
GM-23S_DISSOLVED_____

Appendix F

APPENDIX F

SUPPLEMENTAL INFORMATION

RUMMAN

Memorandum

☐ Action ☐ Information Only ☐ Reply Requested Date 9/1/83
No.

From: George Kerrigan, Foreman Environmental Operations A32-02 309 GAC 2614
Name Mail Station - Plt - Group No - Company Extension

To: Barry Andres, Superintendent Environmental Operations A32-02 309 GAC 3599
Name Mail Station - Plt - Group No - Company Extension

Subject: Emergency Response To Oil Spill At Steam Plant

On August 31, 1983, at about 3:00 p.m., I received a call from Plant 2 Maintenance Office reporting that there had been an oil spill at the Steam Plant. I immediately responded to the steam plant and found that a vendor, Academy Oil Company, was delivering #6 oil to the Steam Plant Storage Tank. The vendor had pressurized all compartments in his truck to speed up the delivery. The hatch on the rear compartment popped open and the oil ran over the top of the truck and ran onto the concrete. The vendor claims he lost about 25-30 gallons of oil.

At the time of the oil spill, we were having a very heavy rain storm. Personnel from the steam plant came out and spread about 10 bags of Speedy Dry around the spill to try and dike it off, but due to the heavy rain, the oil and Speedy Dry flooded out into the parking lot, Plant 2, and into the storm water drains in the parking lot. The chemical handlers responded to the scene, diked off the drains, and started to clean up the area. The oil also ran down on a strip of soil alongside the fence of the Steam Plant. A loader was sent over to the scene by Lee Stacey at which time the soil was scraped up and put into 55 gallon drums, 15 total.

As soon as I had seen what the situation was, I called John Ohlmann and also Frank Morosky. John Ohlmann came to the scene and spoke with the vendor about the spill. The vendor sent a few people to the scene to help with the clean up. He also told John Ohlmann that he would take care of the cost of the clean up. After the parking lot was cleaned and made safe, the recharge basin was also cleaned with a boom and with spill control pads.

John Ohlmann reported the spill to the State E.P.A. On 9/1/83 at about 12:00 p.m., the E.P.A. inspector came and checked the area of the spill and also the recharge basins. He said that everything was fine and that a good clean up job had been done. The job was secured at 6:00 p.m. on 8/31/83. The total man hours used for the job was 15 man hours.

CC: J. Ohlmann
M. Leogrande
F. Morosky

Facilities Eng. Dept
SEP 7 1983
J. OHLMANN-ASST. DIR. ENVIRONMENTAL

G1168 REV 9
8 82

GRUMMAN

Memorandum

☐ Action ☐ Information Only ☐ Reply Requested

Date September 6, 1983
No. FDP-212-983

From: J. Ohlmann — Facilities Engineering — B08-30 — 296 — GAC — 2385
Name — Mail Station - Plt. - Group No. - Company — Extension

To: File
Name — Mail Station - Plt. - Group No. - Company — Extension

Subject: FUEL OIL SPILL AT BETHPAGE STEAM PLANT STORAGE TANK ON 8-31-83

At approximately 2:15 PM, 20-30 gal. of #6 oil spilled on the concrete pad from an Acadamy Fuel Oil Co. truck making a delivery.

Though originally contained, a sudden rainstorm carried the material off the pad. A trace amount of oil entered the recharge basin via a storm drain.

All liquid material was absorbed with Speedy-Dri & spill pillows. Contaminated soil was removed and the recharge basin boomed.

A faulty spring caused the oil to spill out of the truck during air pressurization of the tank compartment. The incident was reported at 4 PM to NYSDOT (Larry Peterec, Hauppauge). NYSDOT (Charles Ruk, Hauppauge) inspected the spill area on 9/1/83. - No problem. NCDH (John Oechler) also contacted.

JO:tm
cc: R. Fitzpatrick

G1168 REV 9
8-82

Climatic Mechanical Contracting, Inc.

92 TERRY ROAD • P.O. BOX 809
SMITHTOWN, NEW YORK 11787

PHONE (516) 265-5500

AIR CONDITIONING
HEATING

January 3, 1986

Grumman Aerospace
U.S. Navy Plant 03
Bethpage, New York 11714

Att: Al Tamorina

Re: South Fire Loop
Plant 5

Gentlemen:

In accordance with our recent conversation, we submit our credit of $1020.00 (one thousand twenty dollars) for abandoning the existing fuel oil tank in its place, in lieu of removing same.

Very truly yours,

Climatic Mechanical Contracting, Inc.

Robert W. Attridge
President

RWA/cr

Also Plt 01 diesel pump tank '85
or generator tk '85

NEW TANK 05-05-1

1986

275 gals
Diesel
Above ground
Indoors

PROJECT	REQUEST NO.	DATE
BETHPAGE - SOUTH FIRE LOOP PUMP REPLACEMENT	AMEND #1	1/21/86
	I.D. NO. BP-0608	AMEND. AMOUNT $(1020.00)

CONTRACTOR: CLIMATIC MECHANICAL CONTRACTING Inc.

N00019-82-E-9022

Contract No. OBP-83133

DESCRIPTION OF WORK: ☐ WITHIN PROJECT SCOPE ☒ CHANGE OF SCOPE

SPECIFICATION REQUIRED CONTRACTOR TO REMOVE BURIED TANK. CONTRACTOR LEFT TANK IN THE GROUND AND FILLED IT WITH SAND. THIS METHOD OF DISPOSAL WAS ACCEPTABE TO NASSAU COUNTY FIRE MARSHALL.

TANK 05-05-1

IMPACT ON CONTRACT PROJECT TIME:

☐ INCREASE ____ DAYS ☐ DECREASE ____ DAYS ☒ NO CHANGE

REQUESTED BY: B. ROCHFORD
PROJECT/COGNIZANT ENGINEER — DATE

APPROVAL RECOMMENDED: _____
CHIEF ENGINEER — DATE

☐ OVER $10,000, AUTHORIZATION DOCUMENTATION ATTACHED

Contract BUDGET STATUS		CONTRACT STATUS	
BUDGET	$	ORIGINAL CONTRACT	$
COMMITTED		PRIOR AMENDMENT	
THIS AMENDMENT		THIS AMENDMENT	
BUDGET BALANCE	$	REV. CONTRACT	$

☐ CAP. ☐ IND. ☐ NAVY ☐ LTM

SIGNED: _____
FACILITIES BUSINESS MANAGER

SIGNED: _____
FACILITIES CONTRACTS ADMINISTRATOR

NOTE: AS APPLICABLE, ATTACH CONTRACTOR PROPOSAL, GAC ESTIMATE AND NAVY ESTIMATE. FOR CHANGE OF SCOPE OR OVER BUDGET ATTACH AUTHORIZATION DOCUMENTATION.

*GAC 512 REV 1
11-77

NYSDEC 046318

GRUMMAN AEROSPACE CORPORATION FACILITIES ENGINEERING
BETHPAGE, LONG ISLAND, NEW YORK
AMENDMENT NO. 1 MAR 28 1986

T. ALFANO
PROGRAM MGMT.

TO: Climatic Mechanical Contracting
P.O. Box 809, 92 Terry Rd.
Smithtown, NY 11787

Subcontract No. OBP-83133

Date: March 3, 1986

Subject: Contract No. N00019-82-E-9022 (BP-0608), Subcontract No. OBP-83133, Amendment No. 1 - South Fire Loop Pump Replacement for Grumman Aerospace Corporation at Bethpage, New York

Gentlemen:

As a change to the subcontract, it is directed that you provide all labor, materials, supervision, plant, etc., necessary to complete the following:

- Abandon existing fuel tank and fill with sand in lieu of removing same and repairing asphalt as required.

TOTAL AMOUNT THIS CHANGE ORDER (DEDUCT)..... ($1,020.00)

All work as directed by GAC Project Engineer and NFEC-ROICC.

The aforementioned change shall be accomplished in accordance with the applicable portions of the basic subcontract and specifications and as directed by the Office in Charge of Construction. The subcontract price, pursuant to the "Changes" clause of the subcontract is hereby decreased by the sum of ($1,020.00), with no change in contract time. New subcontract amount is $99,750.00.

Except as herein modified, the terms and provisions of the basic subcontract shall remain in full force and effect.

Very truly yours,

GRUMMAN AEROSPACE CORPORATION

By: R. Simon
R. Simon, Vice President
Corporate Procurement

ACCEPTED: March 17, 1986

Climatic Mechanical Contracting, Inc.
(subcontractor)

By: [signature]
(Name and Official Title)
Pres

APPROVED: 24 MAR. 1986

A. Taormina
Supervisory Civil Engineer
By Direction of the ROICC
New York City Area, Northern Division
Naval Facilities Engineering Command

669, WR

HORNER EZY CHEK PRODUCT LINE TESTING

STATION NAME Grumman Aero Space

ADDRESS

CITY, STATE Bethpage N.Y. Plant 5

DATE OF TEST 3/2/89

PRODUCT ID NUMBER

TYPE OF SYSTEM SUBMERGED/SUCTION Suction

APPLIED PRESSURE 15 psi

	LINE START	LINE END		+/-		RESULT	TIME	
	71	70	=	-1	X.003	-.003	930 - 945	
Trans line	70	70	=	0	X.003	.000	945 - 1000	
(3)	70	69	=	-1	X.003	-.003	1000 - 1015	
	69	69	=	0	X.003	.000	1015 - 1030 =	-.006
Trans line	73	72	=	-1	X.003	.003	1045 - 1100	
	72	72	=	0	X.003	.000	1100 - 1115	
(4)	72	72	=	0	X.003	.000	1115 - 1130	
	72	71	=	-1	X.003	.003	1130 - 1145	-.006

(5) -.006

FINAL RESULT (4) -.006 PASS OR FAIL CRITERIA Y/N Yes

TESTING OPERATOR NAME Terence Neilly GCF224

REMARKS Seperate Line Test Left connected to Tank

NYSDEC 046320

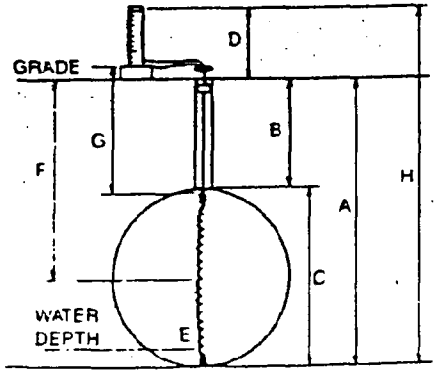
GENERAL UTILITIES, INC.

100 FAIRCHILD AVENUE, PLAINVIEW, N.Y. 11803
Central Nassau: 349-8989
Nassau: 922-5722 • Suffolk: 549-3900

DATA CHART FOR TANK SYSTEM TIGHTNESS TEST
(EZY CHEK)

~~TEST~~ System Test
FACILITY I.D.
F.M. CONF. 612290

Time (Military)	Reading No.	PRODUCT MONITORING ON LLR Start	End	+Gain -Loss	X Factor A	Product +Gain -Loss	TEMPERATURE COMPENSATION A Start	End	+Gain -Loss	X Factor B	+Expansion -Contraction	TEMPERATURE COMPENSATION B Start	End	+Gain -Loss	X Factor B	+Expansion -Contraction	NET VOL. CHANGE	LLR
1212	0	50			.00154							52.104			.26115			
1218	1	50	48	-2	.00154	-.00308						.104	.085	-.019	.26115	-.00496	+.00108	
1224	2	53	54	+1	.00154	+.00154						.085	.070	-.015	.26115	-.00391	+.00515	
1230	3	54	52	-2	.00154	-.00308						.070	.055	-.015	.26115	-.00391	+.00003	
1236	4	52	49	-3	.00154	-.00462						.055	.042	-.013	.26115	-.00339	-.00243	
1242	5	54	54	0	.00154	.00000						.042	.029	-.013	.26115	-.00339	+.00339	
1248	6	54	52	-2	.00154	-.00308						.029	.013	-.016	.26115	-.00417	+.00029	
1254	7	52	49	3	.00154	-.00462						.013	.998	-.015	.26115	-.00391	-.00191	1st mo.
1300	8	53	53	0	.00154	.00000						.998	.983	-.015	.26115	-.00391	+.00391	+.01872
1306	9	53	51	-2	.00154	-.00308						.983	.969	-.014	.26115	-.00365	-.00023	-.00457
1312	10	55	55	0	.00154	.00000						.969	.953	-.016	.26115	-.00417	+.00417	+.01915
1318	11	55	52	3	.00154	-.00462						.953	.935	-.018	.26115	-.00470	-.00112	
1324	12	54	53	-1	.00154	-.00154						.935	.910	-.025	.26115	-.00652	+.00458	
1330	13	53	51	-2	.00154	-.00308						.910	.897	-.013	.26115	-.00339	-.00049	
1336	14	55	54	-1	.00154	-.00154						.897	.885	-.012	.26115	-.00313	+.00119	
1342	15	54	49	-5	.00154	-.00770						.885	.859	-.026	.26115	-.00678	-.00292	
1348	16	53	51	-2	.00154	-.00308						.859	.846	-.013	.26115	-.00339	-.00049	
1354	17	53	54	+1	.00154	+.00154						.846	.833	-.013	.26115	-.00339	+.00533	
1400	18	54	50	-4	.00154	-.00616						.833	.807	-.026	.26115	-.00678	-.00058	+.01788
1406	19	55	55	0	.00154	.00000						.807	.781	-.026	.26115	-.00678	+.00678	-.00761
1412	20	55	50	5	.00154	-.00770						.781	.750	-.031	.26115	-.00809	-.00161	+.01027
----	-	-															-	+.010



A. Tank Bot. to Grade	52.5"
B. Tank Top to Grade	27"
C. Tank Diameter	55.5"
D. Test Level above grade	47.5"
E. Depth of water in tank	0"
F. Depth for taking sample	54.75"
G. Temp. Probe depth (connector)	29"
H. Test level to Tank Bot.	130"
I. Groundwater above tank bottom	0"
J. Product Pressure per 1" height	.031 PSI

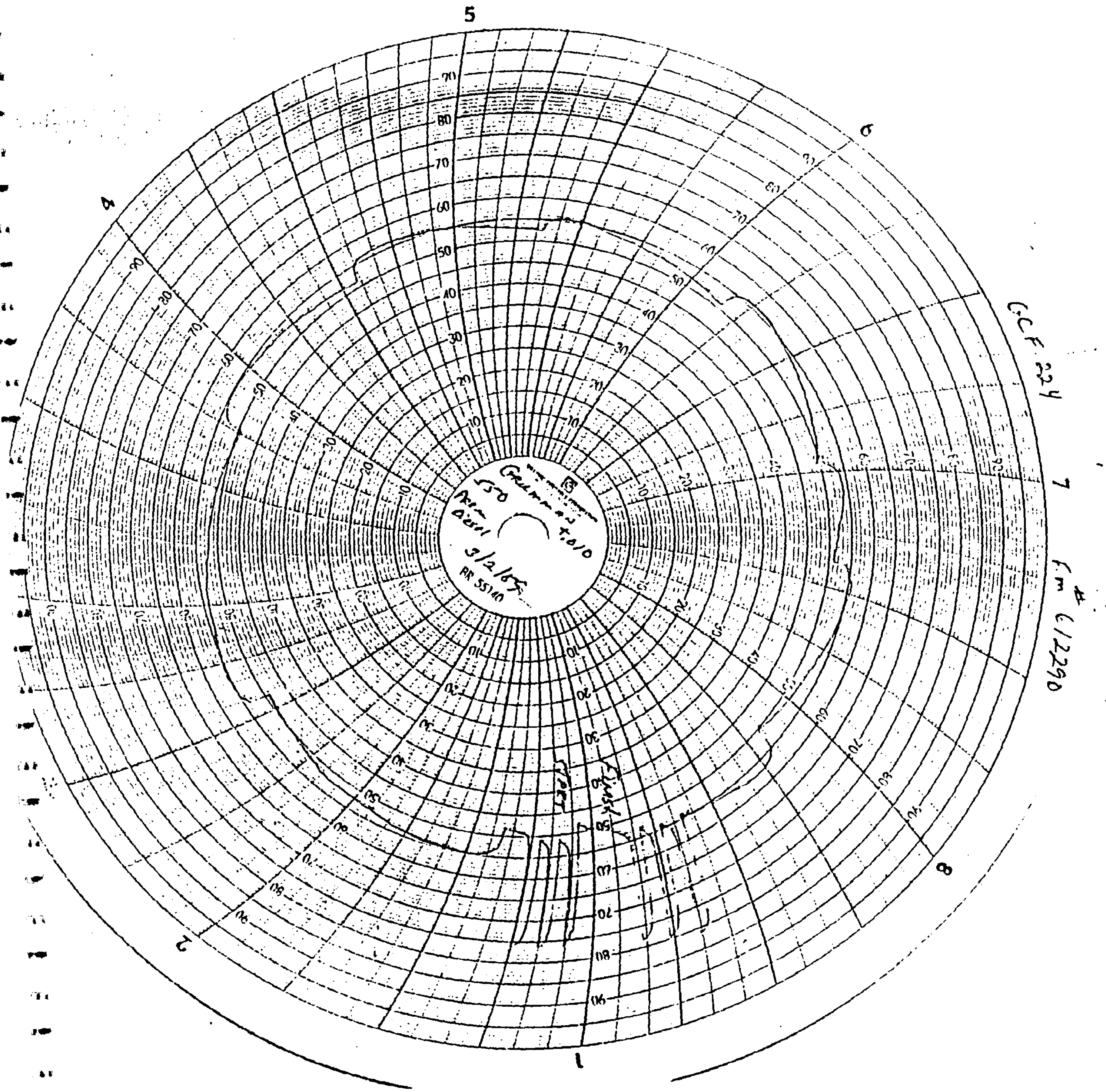
Test Pressure Formula
130 (H) × .031 (J) − (0 (I) × .036) = 4.03 NET TEST PRESSURE

Send Report to: Perfered Plumbing
Client Grumman Aero space
Address
City, State [redacted] Bethpage. N.Y.
Phone ( )
Attn:

CERTIFICATION This is to certify that this tank system was tested on date shown. Those indicated "Tight" meet the criteria established by the National Fire Protection Association Pamphlet 329

Tank No. #0001 Prem Diesel 550 - Generator.
Tight Yes
Leakage Indicated +.010
Technician Terence Neilly GCF224
Date Tested 3/2/89

NYSDEC 046321


5
6
7
8
1
2
4
C.C.F 224
F.m # C/2290
RR 55140
3/2/85

DATA CHART FOR TANK SYSTEM TIGHTNESS TEST
(EZY CHEK)

CLIENT
NAME OF SUPPLIER
OWNER OR DEALER Grumman Aerospace
ADDRESS (NO & STREET)
CITY AND STATE Bethpage N.Y

DATE OF TEST 3/2/89
WEATHER Cool + Sunny TEMPERATURE 38° F

TANK INFORMATION
CAPACITY (NOMINAL) 577 GALS
CAPACITY (CHART) 581 GALS.
DIMENSIONS: DIAMETER 48"
LENGTH 61'

SIZE OF FILL OR TEST OPENING 4" To 2"
TOP OFF TIME 3/2/89 IN.
NUMBER OF GALLONS ADDED TO START TEST 4 GALLONS 90
TANK NO. # 6001 PLANT 5 - 550 Prem. Diesel - Generator
INCHES OF WATER – BEFORE TEST " AFTER TEST "

CONTENTS (PRODUCT) Prem Diesel
TANK MATERIAL Fiberglass
APPROX. AGE 2 Yrs New
PUMP SYSTEM (TYPE) Suction

TEST CALIBRATION
SIZE OF CAL. BAR OR ML'S ADDED .05 ÷ 25.66666 (ALM) = .00194 (FACTOR A)

LINE MOVEMENT

1	49	to 77	= 28	LINES
2	52	to 76	= 24	LINES
3	51	to 76	= 25	LINES
		TOTAL	77	LINES ÷ 3 = 25.66666 (ALM) LINES

END OF TEST CALIBRATION
SIZE OF CAL. BAR OR ML'S ADDED .05 ÷ 26.00000 (ALM) = .00192 (FACTOR A)

LINE MOVEMENT

1	54	to 81	= 27	LINES
2	54	to 80	= 26	LINES
3	53	to 78	= 25	LINES
		TOTAL	78	LINES ÷ 3 = 26.00000 (ALM) LINES

MEASURED API SPECIFIC GRAVITY 32.0
PRODUCT TEMPERATURE 46.0° F
API SPECIFIC GRAVITY @ 60° F 33.0
COEFFICIENT OF EXPANSION .00044950 (FROM TABLE A)
.00044950 (FROM TABLE B)
C.O.E. × 581 TOTAL CAPACITY (GAL.) = .26115 VOL. CHANGE/° F (FACTOR B)

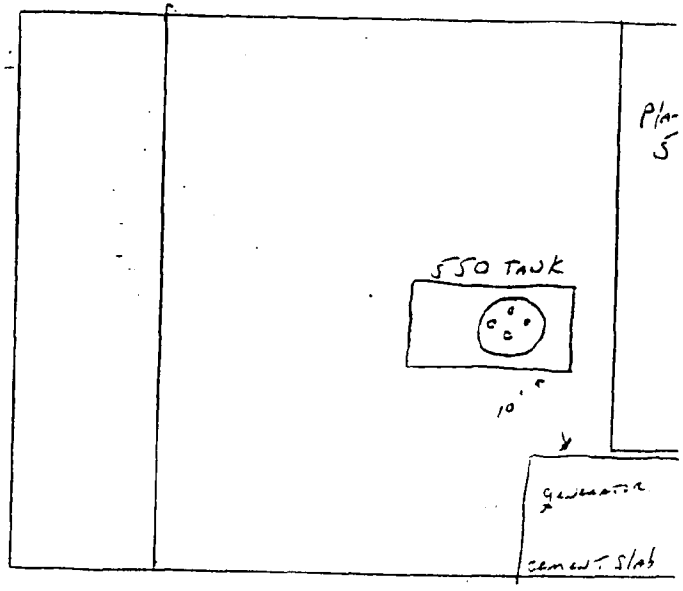
PRODUCT LINE TESTING Separate Sheet

Time (Military)	Reading No.	PRODUCT MONITORING ON LL Start	End	+Gain -Loss	X Factor A	Product +Gain -Loss
					.003	
					.003	
					.003	
	Suction Line =			.006	.003	
	Return Line =			.006		

SYSTEM

Serial	Number

TANK LAYOUT



Terence Neilly GCF224 3/2/89
TECHNICIAN(S)

NYSDEC 046323

FORTUNATO SONS, INC.

150 KNICKERBOCKER AVENUE, BOHEMIA, NEW YORK 11716
(516) 567-7200

3/15/89 D
145

Bill Rockford
B&-30

Att: C. DIAMANT

GRUMMAN AEROSPACE CORP
MAIL STOP 808-30
BETHPAGE, NY 11714

Re: GAC PLT 5 BLDG 5-17 GENERAL CONSTRUCTION
GRUMMAN AEROSPACE CORP

/E ARE SENDING YOU

COPIES	DRAWING #	DESCRIPTION	STATUS
04	TRUDT	UNDERGROUND DIESEL TANK TEST RESULTS	FOR YOUR USE

EMARKS:

CC: FILE/FIELD

(516) 567-7201

SIGNED: B. Fortunato Jr.
BERNARD FORTUNATO, JR
PROJECT MANAGER

CONSTRUCTION — DESIGNERS • BUILDERS • MANAGERS

NYSDEC 046324

(516) 249-3150

TYREE BROS.
ENVIRONMENTAL SERVICES, INC.

208 ROUTE 109 • FARMINGDALE, NEW YORK 11735

nassau county fire commission
office of the fire marshall
899 Jerusalem Ave.
Uniondale, New York, 11553

4/5/90

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

Putman
#23 Bldg 05-01-01
Bethpage, New York

Sincerely,

Laurie Jodice

Laurie Jodice

Testing Technician: armand kulpa
License #: GCF-295
Date of Test: 4/2/90
NCFM ID #: 9927390

cc: NYSDEC

FM Key #23

Data Chart for Tank System Tightness Test

PLEASE PRINT

1. OWNER Property ☒ Tank(s) ☒
Name: GRUMMAN #23 Address: BETHPAGE, NY Representative: Telephone:
Name: Address: Representative: Telephone:

2. OPERATOR
Name: GRUMMAN P.O. Box 396 Address: MANORVILLE 208-30 BETHPAGE Telephone:

3. REASON FOR TEST (Explain Fully)
ANNUAL REQUEST

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

5. TANK INVOLVED Use additional lines for manifolded tanks

Identity by Direction	Capacity	Brand/Supplier	Grade	Approx Age	Steel/Fiberglass
#1 NEW #5	1000	—	DIESEL	—	S

6. INSTALLATION DATA

Location (North inside driveway, Rear of station, etc.)	Cover (Concrete, Black Top, Earth, etc.)	Fills (Size, Thick/ make, Drop tubes, Remote Fills)	Vents (Size, Manifolded)	Siphons (Which tanks?)	Pumps (System, Remote, Make if known)
	EARTH	2"	1 1/4"	—	

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

8. FILL-UP ARRANGEMENTS
Tanks to be filled ~~8:00~~ 8:00AM hr. 4-2-90 Date Arranged by ARMAND KULPA Name Telephone
Enter product to "top off" and run tank tester. How and who to provide? Consider NO Lead.

Terminal or other contact for notice or absence: Company Name Telephone

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

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

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

Tank Identification	Tight	Leakage Indicated	Date Tested
#23 -1000-DSL	PASS	-.010 GPH	4-2-90
LINE TEST	PASS	-.002-.004 GPH	4-2-90

12. SENSOR CERTIFICATION
4-2-90 Date
741 Serial No. of Thermal Sensor

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

Technician 1. ARMAND KULPA Certification # CCF-255
2. _____ Certification # _____

TYREE BROS. ENVIRONMENTAL SERVICES, INC. 208 ROUTE 109 FARMINGDALE, N.Y. 11735
Tester's Name or Company By: Signature
Address
(516) 249-3150

NYSDEC 046326

DATA CHART
For Use With
Petro Tite

1 LOCATION: Gunning Plant HS (Street No. and/or Corner) Bethpage (City) NY (State) (Telephone No.)

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

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

4 REASON FOR TEST ____

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

6 SPECIAL INSTRUCTIONS: ____

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

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

9 MAKE AND TYPE OF PUMP OR DISPENSERS ____

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

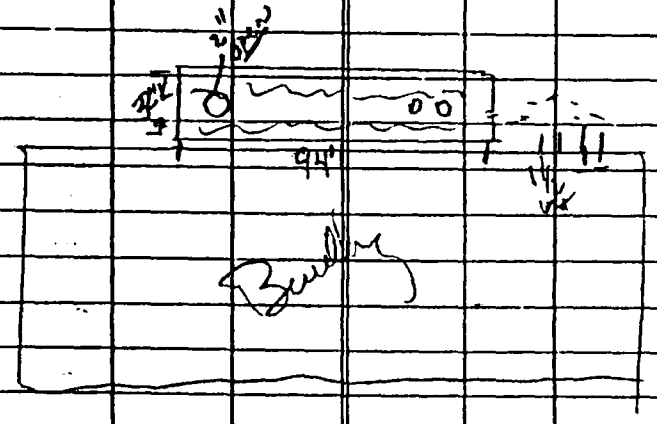
OWNER: Name ____ State ____ City ____
LOCATION: State ____
DATE OF TEST: Year ____ Mo ____ Day ____

11 IDENTIFY EACH LINE AS TESTED	12 TIME (MILITARY)	13 LOG OF TEST PROCEDURES, AMBIENT TEMPERATURE, WEATHER, ETC.	14 PRESSURE psi OR kPa BEFORE	14 PRESSURE psi OR kPa AFTER	15 VOLUME READING BEFORE	15 VOLUME READING AFTER	NET CHANGE	16 TEST RESULTS CONCLUSIONS, REPAIRS AND COMMENTS
Diesel	1030	Start Test		15				
	1045	Cont "	14	15	070	069	-001	-002 in 1 hr
	1100	"	14	15	067	066	-001	
	1115	"	15	15	064	064	+000	
	1130	"	15	15	064	064	+000	
		Bleed Back			064	068	+004	OK
	1030	Start Test		15				-004 GO in 1 hr PASS
	1045	Cont "	13	15	065	067	-002	
	1100	"	13	15	066	064	-002	
	1115	"	15	15	064	064	+000	
	1130	"	15	15	064	064	+000	

NYSDEC 046327

27. Sensor Calibration ______ / ______ LOG OF TEST PROCEDURES			30. HYDROSTATIC PRESSURE CONTROL		31. VOLUME MEASUREMENTS (V) RECORD TO .001 GAL			34 TEMPERATURE COMPENSATION USE FACTOR (a)			38 NET VOLUME CHANGING EACH READING	39 ACCUMULATED CHANGE
28. DATE / TIME (24 hr)	Record details of setting up and running test (Use full length of line if needed)	29 Reading No	Standpipe Level in Inches: Beginning of Reading	Standpipe Level in Inches: Level to which Restored	32. Product in Graduate: Before Reading	Product in Graduate: After Reading	33 Product Replaced (+) / Product Recovered (-)	35 Thermal Sensor Reading	36. Change Higher + Lower - (c)	37 Computation (c) × (a) = Expansion + Contraction -	Temperature Adjustment: Volume Minus Expansion (+) or Contraction (-) #33(V) − #37(T)	At Low Level compute Change per Hour (NFPA criteria)
	Pump Removed and Bleed all line [illegible]									(.0015)		
	Took API Sample						Deg change			06794	326	
	" " " "											
1200	Start High level	1	—	42	—	—	—	496	—	—	—	
1215	Cont " "	2	41.0	42	710	660	-050	532	+36	+054	-104	
1230	— " "	3	41.5	42	660	640	-020	577	+45	+068	-088	
1245	" —	4	41.6	42	640	620	-020	617	+40	+060	-080	
	Drop To Low Level	—	—	—	—	—	—	—	—	—	—	
1300	Start "	5	-1	12	—	—	—	659	+42	—	—	
1315	Cont " "	6	12.8	12	210	250	+040	699	+40	+060	-020	
1320	" " "	7	12.5	12	250	270	+020	713	+14	+021	-001	
1325	" " "	8	12.4	12	270	285	+015	727	+14	+021	-006	-007
1330	" " "	9	12.4	12	285	300	+015	739	+12	+018	-003	-010
1335	" " "	10	12.5	12	300	320	+020	752	+13	+020	+000	-010
1340	" " "	11	12.5	12	320	340	+020	766	+14	+021	-001	-011
1345	" " "	12	12.4	12	340	355	+015	778	+12	+018	-003	-014
1350	" " "	13	12.5	12	355	375	+020	791	13	+020	+000	-014
1355	" " "	14	12.4	12	375	390	+015	804	+13	+018	-003	-017
1400	" " "	15	12.5	12	390	410	+020	816	+12	+017	+003	-014
1405	" " "	16	12.4	12	410	425	+015	827	+11	+015	+000	-014
1410	" " "	17	12.5	12	425	445	+020	839	+12	+017	+003	-011
1415	" " "	18	12.5	12	445	465	+020	852	+13	+018	+002	-009
1420	" " "	19	12.4	12	465	480	+015	864	+12	+017	-002	-011
1425	" " "	20	12.4	12	480	495	+015	876	+12	+017	-002	-013
1430	" " "	21	12.4	12	495	510	+015	889	+13	+018	-003	-016
1435	" " "	22	12.5	12	510	530	+020	902	+13	+018	+002	-014
[illegible]	" " "	23	12.5	12	530	550	+020	914	+12	+017	+003	-011
	" " "	24	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]					

1450	Start Low Level	25	12.4	12	565	580	+015	939	+12	+017.	-002	-016
1455	" " "	26	12.4	12	580	595	+015	952	+13	+018.	-003	-019
1500	" " "	27	12.5	12	595	615	+020	964	+12	+017.	+003	-016.
1505	" " "	28	12.4	12	615	630	+015	976	+12	+017.	-002	-018.
1510	" " "	29	12.6	12	630	650	+020	989	+13	+018	+002	-016
1515	" " "	30	12.4	12	650.	665	+015	1002	+13	+018	-003	-019
												-019
												12
												-0106 P14
												(MAS)



P-T Tank Test Data Chart
Additional Info

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

Signature of Tester _____

Date _____

2. Statement:

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

OR

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

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

Tank Owner/Operator _____

Date _____

NYSDEC 046329

Data Chart for Tank System Tightness Test

PLEASE PRINT

1. OWNER Property ☐ Tank(s) ☐

Name | Address | Representative | Telephone

Name | Address | Representative | Telephone

2. OPERATOR

Name | Address | Telephone

3. REASON FOR TEST (Explain Fully)

4. WHO REQUESTED TEST AND WHEN

Name | Title | Company or Affiliation | Date

Address | Telephone

5. TANK INVOLVED

Use additional lines for manifolded tanks

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

6. INSTALLATION DATA

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

7. UNDERGROUND WATER

Depth to the Water table _____ ft.

Is the water over the tank? ☐ Yes ☐ No

8. FILL-UP ARRANGEMENTS

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

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

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

9. CONTRACTOR, MECHANICS, any other contractor involved

10. OTHER INFORMATION OR REMARKS

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

11. TEST RESULTS

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

Tank Identification	Tight	Leakage Indicated	Date Tested

12. SENSOR CERTIFICATION

Date

Serial No. of Thermal Sensor

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

Technicians

1. _____ Certification # _____

2. _____ Certification # _____

Testing Contractor or Company. By: Signature

Address

PN6827

[illegible] [illegible] Betsy[illegible] NY 4-2-90.
Name of Supplier, Owner or Dealer — Address (No. and Street(s)) — City — State — Date of Test

15. TANK TO TEST

Plant #5
Identify by position

Diesel
Brand and Grade

15a BRIEF DIAGRAM OF TANK FIELD

16. CAPACITY

Nominal Capacity 1000 Gallons

By most accurate capacity chart available 1000 Gallons

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

17. FILL-UP FOR TEST

Stick Water Bottom before Fill-up — to ¼" in — Gallons — 48" Tank Diameter in

Inventory 48" — Gallons — Total Gallons as Reading 1000

20

1020.

Transfer total to line 25a

18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK

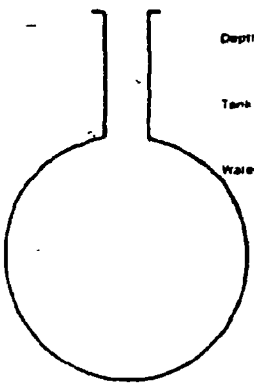
- [ ] Water in tank
- [ ] Line(s) being tested with LVLLT
- [ ] High water table in tank excavation

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

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

Complete section below

1. Is four pound rule required? Yes [ ] No [ ]
2. Height to 12" mark from bottom of tank 132. in
3. Pressure at bottom of tank 4092 PSI
4. Pressure at top of tank 2604 PSI



Depth of burial 40 in
Tank dia 48. in
Water table 0. in

NOTES

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

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

19. TANK MEASUREMENTS FOR TSTT ASSEMBLY

Bottom of tank to grade* 88. in.
Add 30" for "T" probe assy 30 in.
Total tubing to assemble — approximate 144. in.

20. EXTENSION HOSE SETTING

Tank top to grade* 40 in.
Extend hose on suction tube 6" or more below tank top — in.

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

22. Thermal-Sensor reading after circulation 064522 digits 211142 °F
23. Digits per °F in range of expected change Between 323 digits

COEFFICIENT OF EXPANSION (Complete after circulation)

24a. Corrected A.P.I. Gravity

Observed A.P.I. Gravity

Hydrometer employed — H

Observed Sample Temperature — °F

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

Coefficient of Expansion for Involved Product From Table B

Transfer COE to Line 25b

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

None.

24b. COEFFICIENT OF EXPANSION RECIPROCAL METHOD

Type of Product Diesel
Hydrometer Employed 4 H
Temperature in Tank After Circulation 41 °F
Temperature of Sample 38 °F
Difference (+/-) -3 °F
Observed A.P.I. Gravity 34.5
Reciprocal 2168 Page # 38

1020 ÷ 2168 = 0.470479704
Total quantity in full tank (16 or 17) — Reciprocal — Volume change in this tank per °F. Transfer to Line 26a

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

Water Temperature after Circulation — Table C — °F

Coefficient of Water Table D

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

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

26. (a) 0.470479704 Volume change per °F (25 or 24b) ÷ 323 (Digits per °F to test) = 0.001456533 (cont.) Volume change per digit. This is

FAX (516) 249-3281

INVOICE

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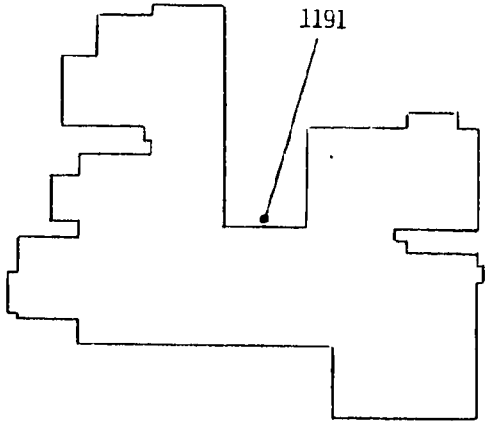
NO.
DATE 901314
WORKSITE ADDRESS 4/09/90

GRUMMAN
#23 BETHPAGE, NY.
BLDG 05-01-1

DESCRIPTION	AMOUNT
CONTRACT # 99-89109 OBF TK 05-01-1 PHASE I	
4/2/90	
PERFORMED PETRO TITE LINE & TEST ON 1-1000 G/L DIESEL	
(LINES & TANK PASS)	
AGREED PRICE	1,260.00
NET AMOUNT	1,260.00
TAX	100.80
INVOICE TOTAL	1,360.80

NYSDEC 046332

TANK NO.	DESCRIPTION	CAPACITY GAL.
1191	ALODINE RINSE	1,940



WASTE HOLDING TANKS

GRUMMAN AEROSPACE CORPORATION
BETHPAGE, NEW YORK 11714
FACILITIES DEPARTMENT

APPROVED BY
DATE 3-2-82

SCALE —

PLT. 5