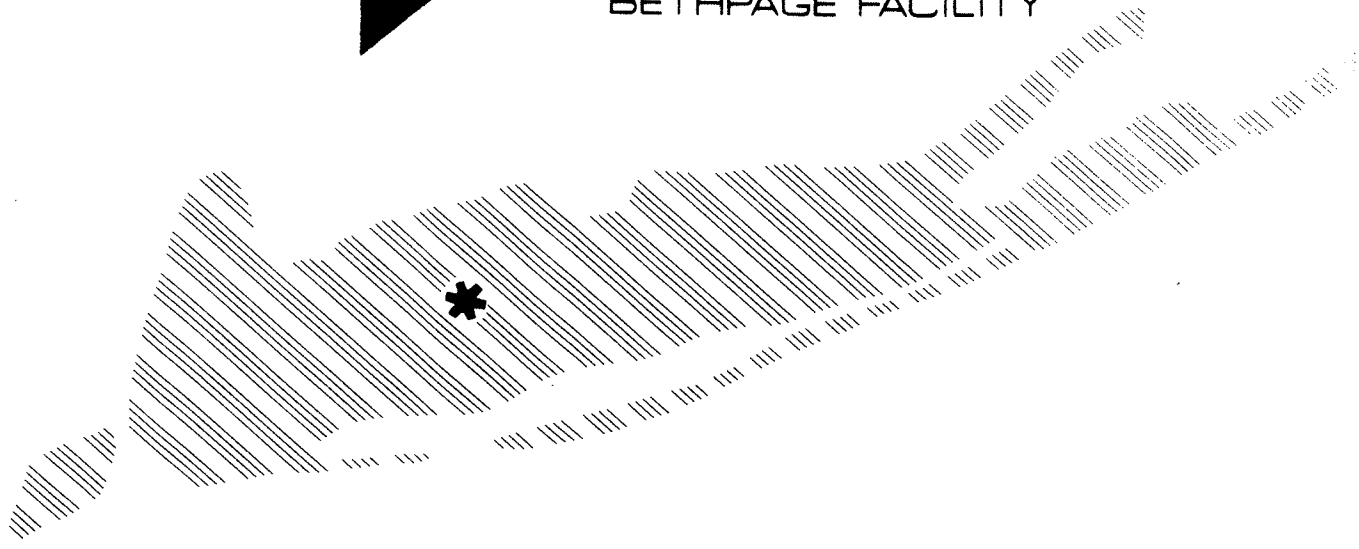
GRUMMAN AEROSPACE CORPORATION
BETHPAGE FACILITY



# NEW YORK STATE SITE REGISTRY DELISTING PETITION BALLFIELD SITE

GRUMMAN AEROSPACE CORPORATION
BETHPAGE, NEW YORK

**Dvirka and Bartilucci**

**Consulting Engineers**

MARCH 1992

# GRUMMAN AEROSPACE CORPORATION

## NEW YORK STATE
## SITE REGISTRY DELISTING PETITION
## BALLFIELD SITE
## BETHPAGE, NEW YORK

PREPARED BY
DVIRKA AND BARTILUCCI CONSULTING ENGINEERS
SYOSSET, NEW YORK

MARCH 1992

G1988G/1
1110

GRUMMAN AEROSPACE CORPORATION

NEW YORK STATE
SITE REGISTRY DELISTING PETITION
BALLFIELD SITE
BETHPAGE, NEW YORK

TABLE OF CONTENTS

## LIST OF FIGURES



## LIST OF TABLES

# Section 1

## 1.0 INTRODUCTION

Grumman Aerospace Corporation, has directed the preparation of this report as part of an effort to satisfy the requirements for delisting the Grumman Ballfield property located on the east side of South Oyster Bay Road, Bethpage, New York, from a New York State superfund site. Information presented in this report has been compiled based upon a site inspection undertaken on January 6, 1992; an evaluation of available aerial photographs, various files and records obtained from the Grumman Aerospace Corporation, Paumanock Development Corporation, the Nassau County Health Department, Town of Oyster Bay and the United States Environmental Protection Agency (USEPA); along with interviews of various Grumman personnel. The purpose of the report is to determine and document the historical use of the site and the surrounding areas. In addition, this report presents the results of laboratory analysis of soil and groundwater samples collected from the site. A "Location Plan" and a "Site Plan" have been included in this document as Appendices A and B, respectively. Additionally, aerial photographs of the site from 1950 through 1988 have been included as Appendix C.

Correspondence from the New York State Department of Environmental Conservation (NYSDEC) to the Grumman Aerospace Corporation listed the "Delist Petition Information" required for the Grumman property. In order to facilitate the review of this document, the 14 items requested in the NYSDEC correspondence are listed on the following table with an appropriate response or cross reference to the location of such response in this document. The information supplied 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 hazardous waste contamination.

# Section 2

GRUMMAN AEROSPACE CORPORATION

NEW YORK STATE
SITE REGISTRY DELISTING PETITION
BALLFIELD SITE
BETHPAGE, NEW YORK

**Delist 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 (south of intersection with Stewart Avenue) Bethpage, Nassau County, NY 11714 |
| 4. | Size | 11 Acres |
| 5. | Boundaries | See Appendices 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 |

## 2.0 SITE BACKGROUND

Location: East side of South Oyster Bay Road (south of intersection with Stewart Avenue) Bethpage, New York 11714

Lot: 59

Block: G

Zoning: Industrial H

Grumman Building: None

Land Use(s): Recreational

Plot Size: 11 acres

### 2.1 Site History

A review of available aerial photographs of the area from 1950 to 1988 (see Appendix C) revealed that the site, exclusive of a parking area and ballfields, remained undeveloped. The 1950 photo reveals a plowed field and sometime between 1950 and 1955, the site was converted to several ballfields. The 1969 photo shows development of the area adjacent to the northern boundary of the site and cars parked in the northwest corner of the ballfield. The subsequent aerial photo taken in 1972 indicates a larger parking area in the northwest corner of the site, but no pavement is evident. A paved parking area at the northeast portion of the site is shown in the 1988 photo. From 1988 to the present, the site appears to be approximately 6 percent paved, 2 percent gravel surface, 5 percent soil and 87 percent grass.

Visual inspection of the site identified a berm along the eastern property line which appears to be comprised of construction debris. This was evident at the south end of the berm which was not seeded and which revealed pieces of asphalt pavement along with the soil.

The visual inspection of the site failed to show any evidence of chemical and/or fuel spills or releases and aerial photographs show no indication of any aboveground waste storage or disposal facilities.

### 2.2 General Site Description

The site is currently owned by Grumman Aerospace Corporation with the major portion of the site used as a ballfield and a smaller portion being utilized as a parking area. The entire 11-acre site is zoned Industrial H. The site is surrounded by commercial development with areas

of medium to high density residential development existing approximately 120 feet from the northeast corner of the site boundary. Appendices A and B present the Location Plan and Site Plan, respectively.

The site is generally level with good drainage. There are no floodplains or wetlands located on-site. The north portion of the site where the parking areas are located is classified as Urban Land - Hempstead Complex by the Soil Conservation Service (SCS, February 1987). This classification is defined as 75 percent urbanized area, 20 percent Hempstead soils and 5 percent other soils. The remainder of the site is classified as Hempstead Silt Loam. This classification is defined by SCS as very deep and well drained soil with practically all areas of this soil existing in parks, playgrounds, athletic fields and golf courses, and along the right-of-way of the parkway system. Included with this soil type are small areas of well drained Enfield soils, moderately well drained Mineola soils and excessively drained to moderately well drained Udipsamments. 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 ranges from 62 to 65 feet.

## 2.3 Hooker Chemical Site

An element related to the delisting of the Grumman Ballfield 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, under review by USEPA, has identified two operable units at the Hooker Chemical Site requiring remedial action.

Operable Unit 1 involves 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 released 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 the contaminated soil is contained entirely on the Hooker Chemical/Ruco Polymer site. No off-site contamination or remedial activities have been identified with Operable Unit 2.

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, considering that the Grumman property is located approximately 1,250 feet to the northeast of this area, and that the general groundwater flow has a south/southeast direction, the property could be considered removed from the significant adverse conditions present at the Hooker Chemical/Ruco Polymer site. In fact, based on the collection and review of available data, including soil and groundwater analytical results, there appears to be no evidence that suggests a hazardous situation at the Ballfield site.

# Section 3

## 3.0 FIELD PROGRAM

The following is a description of the field activities at the Ballfield Site, which included the installation of monitoring wells, sampling of groundwater and soil, and air monitoring. Daily Field Activity Reports, which are available in the project file, provide documentation of the field program.

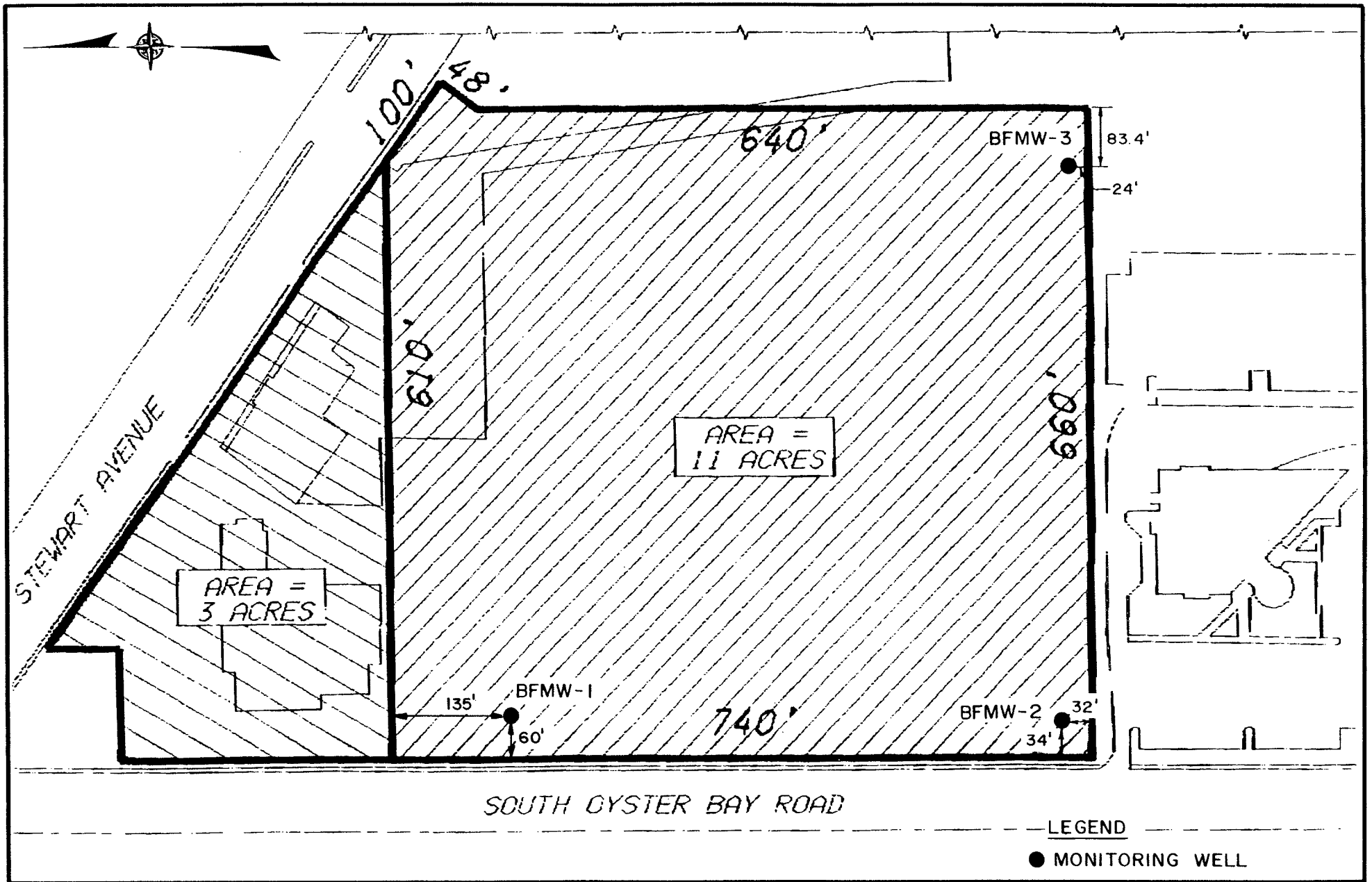
### 3.1 Monitoring Well Installation

Three shallow monitoring wells were installed at the Ballfield Site. Figure 3-1 presents the locations of the three wells, and Figures 3-2, 3-3 and 3-4 present the well construction logs for Ballfield Monitoring Well 1 (BFMW-1), Ballfield Monitoring Well 2 (BFMW-2), and Ballfield Monitoring Well 3 (BFMW-3), respectively. All three 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 BFMW-1 was set at a depth of 75 feet below ground surface. The water table was encountered at a depth of 65 feet. For BFMW-2, the bottom of the screen was set at a depth of 74 feet, and the water table was encountered at a depth of 62 feet. For the third Ballfield Site well (BFMW-3) the bottom of the screen was set at a depth of 73 feet and the water table was measured at 62.8 feet below ground surface.

A sandpack was installed around each screen using a tremie pipe. Above the sandpack, a minimum 2 feet thick bentonite seal was installed followed by grouting with a cement/bentonite grout for the remainder of the annulus to the ground surface also using a tremie pipe. All wells were protected with a locking PVC cap and a steel flush mount vault with a bolted cover. Upon completion of the well construction, the wells were developed using a submersible pump and/or bailed. The well was considered developed when the discharge water measured 50 NTUs or less.

### 3.2 Monitoring Well Borehole Soil Sampling

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




GRUMMAN CORPORATION
BETHPAGE FACILITY

Dvirka and Bartilucci CONSULTING ENGINEERS

## BALL FIELD
## SITE PLAN AND WELL LOCATIONS

FIGURE 3-1

Dvirka and Bartilucci CONSULTING ENGINEERS

WELL CONSTRUCTION LOG

SITE GRUMMAN AEROSPACE CORPORATION JOB NO. 1110 WELL NO. BFMW-1

TOTAL DEPTH 75' SURFACE ELEV. _____ TOP RISER ELEV. _____

WATER LEVELS (DEPTH, DATE, TIME) 65'/9:45AM (1/30) DATE INSTALLED 1/30/92

RISER DIA 2" MATERIAL PVC LENGTH 60'

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

## SCHEMATIC

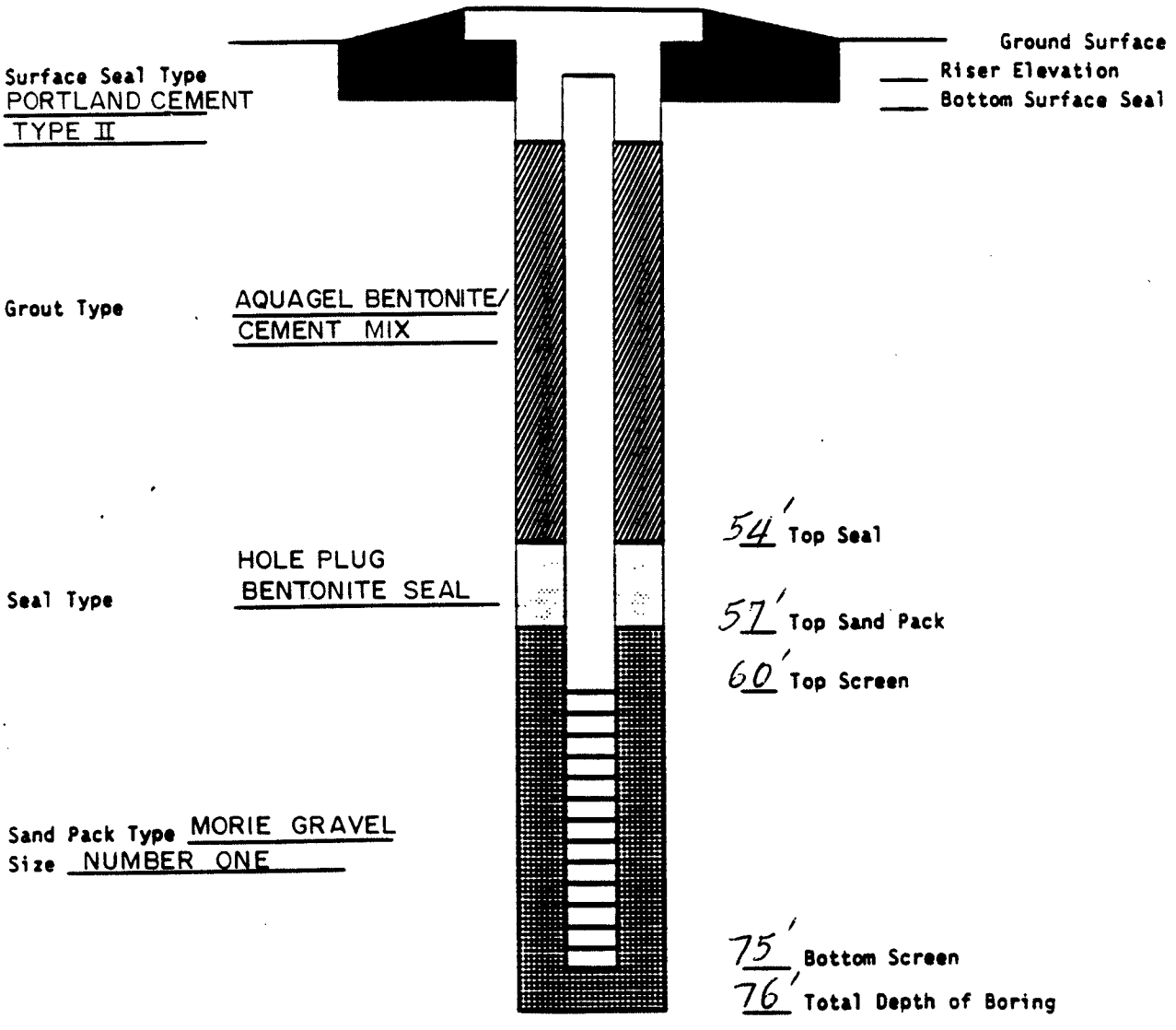



FIGURE 3-2

Dvirka and Bartilucci CONSULTING ENGINEERS

WELL CONSTRUCTION LOG

SITE GRUMMAN AEROSPACE CORPORATION JOB NO. 1110 WELL NO. BFMW-2

TOTAL DEPTH 74' SURFACE ELEV. _____ TOP RISER ELEV. _____

WATER LEVELS (DEPTH, DATE, TIME) 62'/12.00 11/31/92 DATE INSTALLED 1/31/92

RISER DIA 2" MATERIAL PVC LENGTH ____

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

## SCHEMATIC

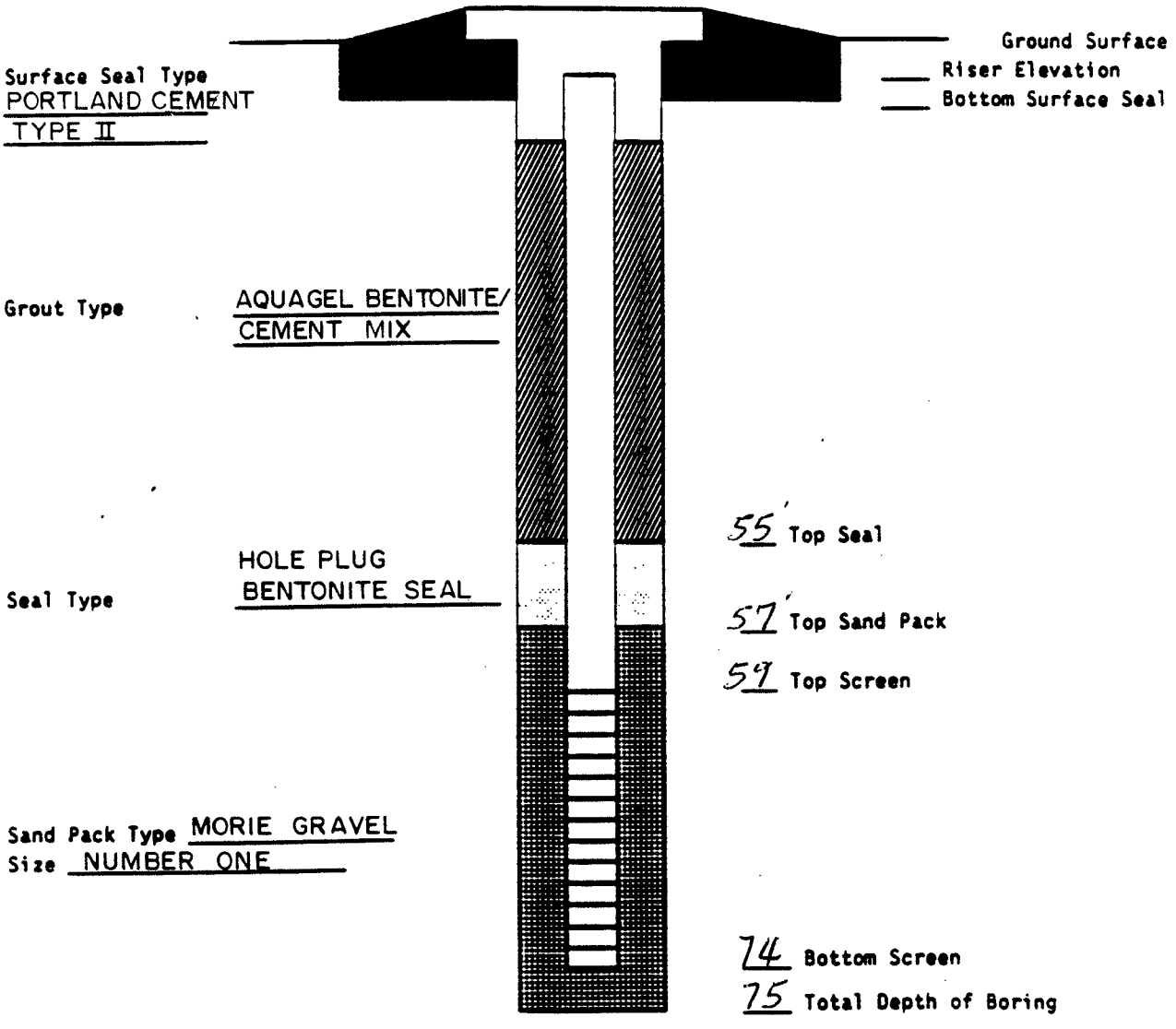



FIGURE 3-3

Dvirka and Bartilucci CONSULTING ENGINEERS

WELL CONSTRUCTION LOG

SITE GRUMMAN AEROSPACE CORPORATION JOB NO. 1110 WELL NO. BFMW-3

TOTAL DEPTH 74 SURFACE ELEV. _____ TOP RISER ELEV. _____

WATER LEVELS (DEPTH, DATE, TIME) 62.8' / 2/3/92 DATE INSTALLED 2/3/92

RISER DIA 2" MATERIAL PVC LENGTH 58

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

## SCHEMATIC

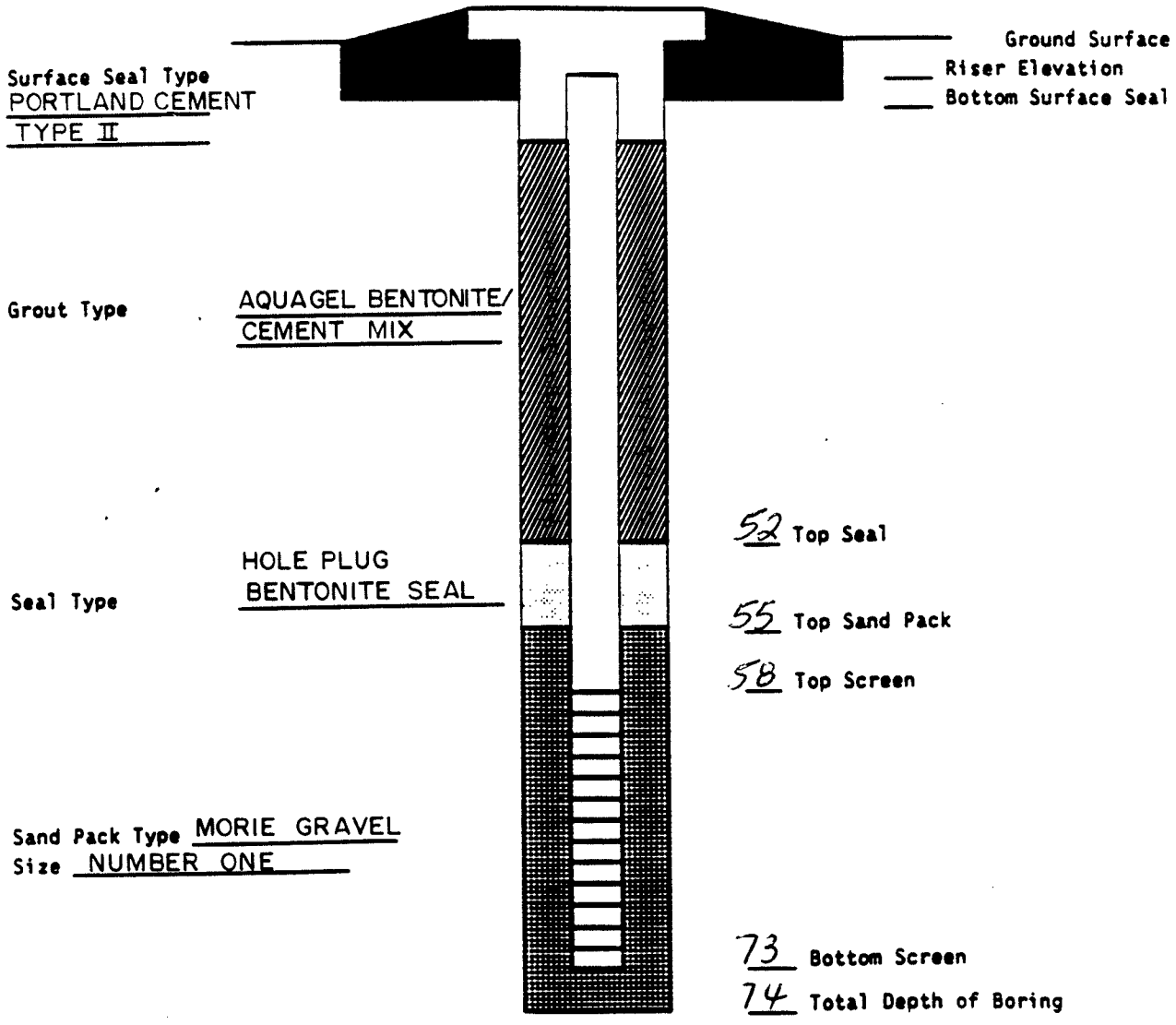



FIGURE 3-4

Based on the information provided from the collection of the 14 split spoon soil samples, the soil in the BFMW-1 borehole was identified as primarily brown sand and gravel to a depth of 38 feet and fine sand to a depth of 73 feet.

Fourteen split spoon samples were also collected from the BFMW-2 and BFMW-3 boreholes. The split spoon samples indicated that the soil in the area of BFMW-2 was brown sand and gravel for the first 37 feet, a clay layer between two silty sand layers from 38 to 52 feet and fine sand from 52 to 73 feet. The samples indicated that the soil in the area of BFMW-3 is mostly brown sand and trace gravel to a depth of about 38 feet, then mostly fine sand to a depth of 73 feet with a layer of medium sand and gravel from 57 to 59 feet.

A 4 ppm reading above ambient was obtained at a depth of 15 to 17 feet in BFMW-1 and a 2 ppm reading above ambient was obtained at a depth of 4 to 6 feet in BFMW-3 using an organic vapor analyzer. However, it is important to note that a visual inspection of all split spoon samples revealed no apparent indication of contamination in any of the three boreholes associated with discoloration, odor or soil texture. Soil samples for laboratory analysis were obtained from the split spoon samples taken at the 15 to 17 foot interval from BFMW-1, at the 2 to 4 foot interval from BFMW-2 and at the 4 to 6 foot interval from BFMW-3. 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.

### 3.3 Groundwater Sampling

Prior to well sampling, a minimum of three times the volume of standing water in the casing and sandpack from each well was removed with a bailer. One sample was collected from each well for laboratory analysis. The water samples were analyzed for volatile organics utilizing Method 624. The groundwater samples were also analyzed for metals using USEPA SW-846 Method 6010. It should be noted that while the 13 metals associated with Method 6010 were selected for analysis due to their inherent toxicity, the analytical results of all 23 metals associated with this method were reported by the laboratory.

## 3.4 Volatile Organics Monitoring

During the drilling of the three Ballfield monitoring wells, volatile organic vapors were not 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. The split spoon samples, as described above, were also monitored for volatile organics utilizing the OVA-128, and no significant levels were detected.

# Section 4

## 4.0 FINDINGS AND CONCLUSIONS

A site inspection performed on January 6, 1991 did not identify any visual evidence of any chemical and/or fuel spills or releases and did not reveal any environmental concerns requiring remediation.

The volatile organic results for groundwater samples were compared to the New York State Department of Health Drinking Water Standards. Soil sample results are compared to the standards published pursuant to the New Jersey State Environmental Cleanup Responsibility Act (ECRA) program since New York State does not have adopted soil standards. Of the three groundwater and three soil samples collected and analyzed, one groundwater sample (BFMW-1) contained lead in at a concentration slightly exceeding the NYSDOH drinking water standards. The likely explanation for this value is that the sample collected for analysis was turbid (>100 NTUs) and filtering the sample was not considered appropriate. The slightly elevated lead level is most likely attributed to soil in the groundwater sample and not to the groundwater itself. In addition, concentrations of iron were detected slightly above the standard in BFMW-2 and BFMW-3; however, iron is a common constituent in the groundwater on Long Island and does not represent a health concern. 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 three monitoring wells and analyzed for volatile organics and total petroleum hydrocarbons (TPHCs). The chemical analysis of soil samples are presented on Table 4-1 and the soil sampling field and trip blank analysis results are presented on Table 4-2. Methylene chloride was detected in two of the three samples. In sample BFMW-2, methylene chloride was detected at 4.0 ug/kg and in sample BFMW-3, methylene chloride was detected at 2.0 ug/kg. However, since methylene chloride was also detected in the field and trip blanks, as well as the method blank, and the compound is a common laboratory chemical, the detection of methylene chloride can be attributed to laboratory contamination .

The levels of total petroleum hydrocarbons for the three soil samples are also presented on Table 4-1. In sample BFMW-3, the level of TPHC was detected at 107 mg/kg. This sample was collected at a depth of 4 to 6 feet below ground surface from the downgradient borehole located in the southeast corner of the site. There were no TPHCs detected in the other two samples. Since the action level for petroleum hydrocarbons is established at 100 ppm in accordance with the

TABLE 4-1
GRUMMAN AEROSPACE CORPORATION
BALLFIELD - SOIL SAMPLING
VOLATILE ORGANIC AND TOTAL PETROLEUM HYDROCARBON
RESULTS

| | BFMW-1<br>1/29/92 | BFMW-2<br>1/30/92 | BFMW-3<br>2/3/92 |
|---|---|---|---|
| VOLATILE COMPOUNDS | (ug/kg) | (ug/kg) | (ug/kg) |
| Chloromethane | U | U | U |
| Bromomethane | U | U | U |
| Vinyl Chloride | U | U | U |
| Chloroethane | U | U | U |
| Methylene Chloride | U | 4.0 TB | 2.0 TB |
| 1,1-Dichloroethene | U | U | U |
| 1,1-Dichloroethane | U | U | U |
| 1,2-Dichloroethene (trans) | U | U | U |
| Chloroform | U | U | U |
| 1,2-Dichloroethane | U | U | U |
| 1,1,1-Trichloroethane | U | U | U |
| Carbon Tetrachloride | U | U | U |
| Bromodichloromethane | U | U | U |
| 1,2-Dichloropropane | U | U | U |
| cis-1,3-Dichloropropene | U | U | U |
| Trichloroethene | U | U | U |
| Dibromochloromethane | U | U | U |
| 1,1,2-Trichloroethane | U | U | U |
| Benzene | U | U | U |
| Trans-1,3-Dichloropropene | U | U | U |
| Tetrachloroethene | U | U | U |
| 1,1,2,2-Tetrachloroethane | U | U | U |
| Toluene | U | U | U |
| Chlorobenzene | U | U | U |
| Ethylbenzene | U | U | U |
| Xylene (total) | U | U | U |
| 2-Chloroethylvinylether | U | U | U |
| Dichlorodifluoromethane | U | U | U |
| Trichlorofluoromethane | U | U | U |
| 1,2-Dichlorobenzene | U | U | U |
| 1,3-Dichlorobenzene | U | U | U |
| 1,4-Dichlorobenzene | U | U | U |
| Bromoform | U | U | U |
| Total Petroleum Hydrocarbons (mg/kg) | U | U | 107 |

QUALIFIERS
U: analyzed for but not detected
B: compound found in blank as well as sample
T: targeted compound found above the detection limit

TABLE 4-2
GRUMMAN AEROSPACE CORPORATION
SOIL SAMPLING FIELD BLANK AND TRIP BLANK
VOLATILE ORGANIC AND TOTAL PETROLEUM HYDROCARBON
RESULTS

| | FIELD BLANK 1/24/92 | TRIP BLANK 1/24/92 |
|---|---|---|
| VOLATILE COMPOUNDS | (ug/l) | (ug/l) |
| Chloromethane | U | U |
| Bromomethane | U | U |
| Vinyl Chloride | U | U |
| Chloroethane | U | U |
| Methylene Chloride | 2 TB | 2 TB |
| 1,1-Dichloroethene | U | U |
| 1,1-Dichloroethane | U | U |
| 1,2-Dichloroethene (trans) | U | U |
| Chloroform | U | U |
| 1,2-Dichloroethane | U | U |
| 1,1,1-Trichloroethane | U | U |
| Carbon Tetrachloride | U | U |
| Bromodichloromethane | U | U |
| 1,2-Dichloropropane | U | U |
| cis-1,3-Dichloropropene | U | U |
| Trichloroethene | U | U |
| Dibromochloromethane | U | U |
| 1,1,2-Trichloroethane | U | U |
| Benzene | U | U |
| Trans-1,3-Dichloropropene | U | U |
| Tetrachloroethene | U | U |
| 1,1,2,2-Tetrachloroethane | U | U |
| Toluene | U | U |
| Chlorobenzene | U | U |
| Ethylbenzene | U | U |
| Xylene (total) | U | U |
| 2-Chloroethylvinylether | U | U |
| Dichlorodifluoromethane | U | U |
| Trichlorofluoromethane | U | U |
| 1,2-Dichlorobenzene | U | U |
| 1,3-Dichlorobenzene | U | U |
| 1,4-Dichlorobenzene | U | U |
| Bromoform | U | U |
| Total Petroleum Hydrocarbons (mg/kg) | U | NR |

QUALIFIERS
U: analyzed for but not detected
B: compound found in blank as well as sample
T: targeted compound found above the detection limit
NR: Analysis not requested

New Jersey Department of Environmental Protection Environmental Cleanup Responsibility Act (ECRA), the TPHC concentration of 107 ppm detected at BFMW-3 is not considered significant. In addition, no soil staining was observed in this sample. It should be noted that BFMW-3 is located adjacent to the manmade berm situated along the eastern property line. As mentioned above, a visual inspection of the berm indicated the presence of asphalt mixed with soil, which could have influenced this sample.

## 4.2 Groundwater Sampling

One sample from each of the three monitoring wells was collected and analyzed for organic and inorganic constituents. Table 4-3 presents the volatile organic results for the groundwater samples and Table 4-4 presents the results of the field and trip blanks results for the program. As shown on Tables 4-3, none of the targeted compounds, except for methylene chloride which was also found in the field and trip blanks, and in a laboratory contaminant, were detected.

With respect to inorganic constituents detected in groundwater, the analytical results are presented on Table 4-5 with the results associated with the field blank program presented in Table 4-6. As shown in Table 4-5, lead was detected in the groundwater sample BFMW-1 in concentrations that slightly exceeded the NYSDOH standard. Lead was detected at a concentration of 0.10 mg/l compared to the standard of 0.05 mg/l. As mentioned above, the likely explanation for this value is that the sample collected for analysis was turbid (>100 NTUs) and filtering the sample was not considered appropriate. In addition, concentrations of iron were detected above the standard in BFMW-2 and BFMW-3; however, iron is a common constituent in the groundwater on Long Island and does not represent a health concern.

## 4.3 Conclusions

Based on the above findings and on the review of available data, we believe that the property is eligible for delisting under New York State regulations.

TABLE 4-3
GRUMMAN AEROSPACE CORPORATION
BALLFIELD - GROUNDWATER SAMPLING
VOLATILE ORGANIC
RESULTS

| | BFMW-1 (2/24/92) | BFMW-2 (2/24/92) | BFMW-3 (2/24/92) | NYSDOH DRINKING WATER STANDARDS |
|---|---|---|---|---|
| VOLATILE COMPOUNDS | (ug/l) | (ug/l) | (ug/l) | (ug/l) |
| Chloromethane | U | U | U | 5 |
| Bromomethane | U | U | U | 5 |
| Vinyl Chloride | U | U | U | 2 |
| Chloroethane | U | U | U | 5 |
| Methylene Chloride | 3.68 JB | U | 4.93 JB | 5 |
| 1,1-Dichloroethene | U | U | U | 5 |
| 1,1-Dichloroethane | U | U | U | 5 |
| 1,2-Dichloroethene (trans) | U | U | U | 5 |
| Chloroform | U | U | U | 100 |
| 1,2-Dichloroethane | U | U | U | 5 |
| 1,1,1-Trichloroethane | U | U | U | 5 |
| Carbon Tetrachloride | U | U | U | 5 |
| Bromodichloromethane | U | U | U | 100 |
| 1,2-Dichloropropane | U | U | U | 5 |
| cis-1,3-Dichloropropene | U | U | U | 5 |
| Trichloroethene | U | U | U | 5 |
| Dibromochloromethane | U | U | U | 100 |
| 1,1,2-Trichloroethane | U | U | U | 5 |
| Benzene | U | U | U | 5 |
| Trans-1,3-Dichloropropene | U | U | U | 5 |
| Tetrachloroethene | U | U | U | 5 |
| 1,1,2,2-Tetrachloroethane | U | U | U | 5 |
| Toluene | U | U | U | 5 |
| Chlorobenzene | U | U | U | 5 |
| Ethylbenzene | U | U | U | 5 |
| Xylene (total) | U | U | U | 5* |
| 2-Chloroethylvinylether | U | U | U | ---- |
| Dichlorodifluoromethane | U | U | U | 5 |
| 1,2-Dichlorobenzene | U | U | U | 5 |
| 1,3-Dichlorobenzene | U | U | U | 5 |
| 1,4-Dichlorobenzene | U | U | U | 5 |
| Bromoform | U | U | U | 100 |

QUALIFIERS
U: analyzed for but not detected
B: compound found in blank as well as sample
J: compound found below detection limit

NOTES
----: Not established
*: Applies to each isomer individually

TABLE 4-4
GRUMMAN AEROSPACE CORPORATION
GROUNDWATER SAMPLING - FIELD BLANK AND TRIP BLANK
VOLATILE ORGANIC
RESULTS

| VOLATILE COMPOUNDS | FIELD BLANK (2/24/92) (ug/l) | TRIP BLANK (2/24/92) (ug/l) |
|---|---|---|
| Chloromethane | U | U |
| Bromomethane | U | U |
| Vinyl Chloride | U | U |
| Chloroethane | U | U |
| Methylene Chloride | 4.56 JB | 3.74 J |
| 1,1-Dichloroethene | U | U |
| 1,1-Dichloroethane | U | U |
| 1,2-Dichloroethene (total) | U | U |
| Chloroform | U | U |
| 1,2-Dichloroethane | U | U |
| 1,1,1-Trichloroethane | U | U |
| Carbon Tetrachloride | U | U |
| Bromodichloromethane | U | U |
| 1,2-Dichloropropane | U | U |
| cis-1,3-Dichloropropene | U | U |
| Trichloroethene | U | U |
| Dibromochloromethane | U | U |
| 1,1,2-Trichloroethane | U | U |
| Benzene | U | U |
| Trans-1,3-Dichloropropene | U | U |
| Tetrachloroethene | U | U |
| 1,1,2,2-Tetrachloroethane | U | U |
| Toluene | U | U |
| Chlorobenzene | U | U |
| Ethylbenzene | U | U |
| Xylene (total) | U | U |
| 2-Chloroethylvinylether | U | U |
| Dichlorodifluoromethane | U | U |
| 1,2-Dichlorobenzene | U | U |
| 1,3-Dichlorobenzene | U | U |
| 1,4-Dichlorobenzene | U | U |
| Bromoform | U | U |

QUALIFIERS
U: analyzed for but not detected
B: compound found in blank as well as sample
J: compound found below detection limit

TABLE 4-5
GRUMMAN AEROSPACE CORPORATION
BALLFIELD - GROUNDWATER
INORGANIC CONSTITUENT
RESULTS

| CONSTITUENTS | BFMW-1 2/24/92 (mg/L) | BFMW-2 2/24/92 (mg/L) | BFMW-3 2/24/92 (mg/L) | NYSDOH DRINKING WATER STANDARDS (mg/L) |
|---|---|---|---|---|
| Aluminum | U | 1.43 | 0.40 | ---- |
| Antimony | U | U | U | ---- |
| Arsenic | U | U | U | 0.05 |
| Barium | U | U | U | 1 |
| Beryllium | U | U | U | ---- |
| Cadmium | U | U | U | 0.01 |
| Calcium | 8.80 | 48.5 | 16.5 | ---- |
| Chromium | U | U | U | 0.05 |
| Colbalt | U | U | U | ---- |
| Copper | U | U | U | 1 |
| Iron | 0.17 | 0.91 | 0.49 | 0.3 |
| Lead | 0.10 | U | U | 0.05 |
| Magnesium | 3.00 | 4.70 | 1.75 | ---- |
| Manganese | 0.07 | 0.08 | U | 0.3 |
| Mercury | U | U | U | 0.002 |
| Nickel | U | U | U | ---- |
| Potassium | 1.38 | 2.33 | 1.89 | ---- |
| Selenium | U | U | U | 0.01 |
| Silver | U | U | U | 0.05 |
| Sodium | 3.20 | 13.0 | 4.65 | ---- |
| Thallium | 0.05 | U | U | ---- |
| Vanadium | U | U | U | ---- |
| Zinc | U | U | U | 5 |

QUALIFIERS:
U: Analyzed for but not detected

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

TABLE 4-6
GRUMMAN AEROSPACE CORPORATION
GROUNDWATER SAMPLING FIELD BLANK
INORGANIC CONSTITUENT
RESULTS

| | FIELD BLANK 2/24/92 |
|---|---|
| CONSTITUENTS | (mg/L) |
| Aluminum | U |
| Antimony | U |
| Arsenic | U |
| Barium | U |
| Beryllium | U |
| Cadmium | U |
| Calcium | U |
| Chromium | U |
| Colbalt | U |
| Copper | U |
| Iron | U |
| Lead | U |
| Magnesium | U |
| Manganese | U |
| Mercury | U |
| Nickel | U |
| Potassium | U |
| Selenium | U |
| Silver | U |
| Sodium | U |
| Thallium | U |
| Vanadium | U |
| Zinc | U |

QUALIFIERS:
U: Analyzed for but not detected

# Section 5

## 5.0 REFERENCES

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

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

# Appendix A

# APPENDIX A

# LOCATION PLAN

NOTE: CONTOURS BASED ON 1988 GROUNDWATER ELEVATIONS

MERRY OLDSMOBILE

BALLFIELD SITE

GROUNDWATER FLOW DIRECTION

HOOKER CHEMICAL SITE

GROUNDWATER FLOW DIRECTION

TOWN OF OYSTER BAY RECREATION AREA

GRUMMAN CORPORATION
BETHPAGE FACILITY

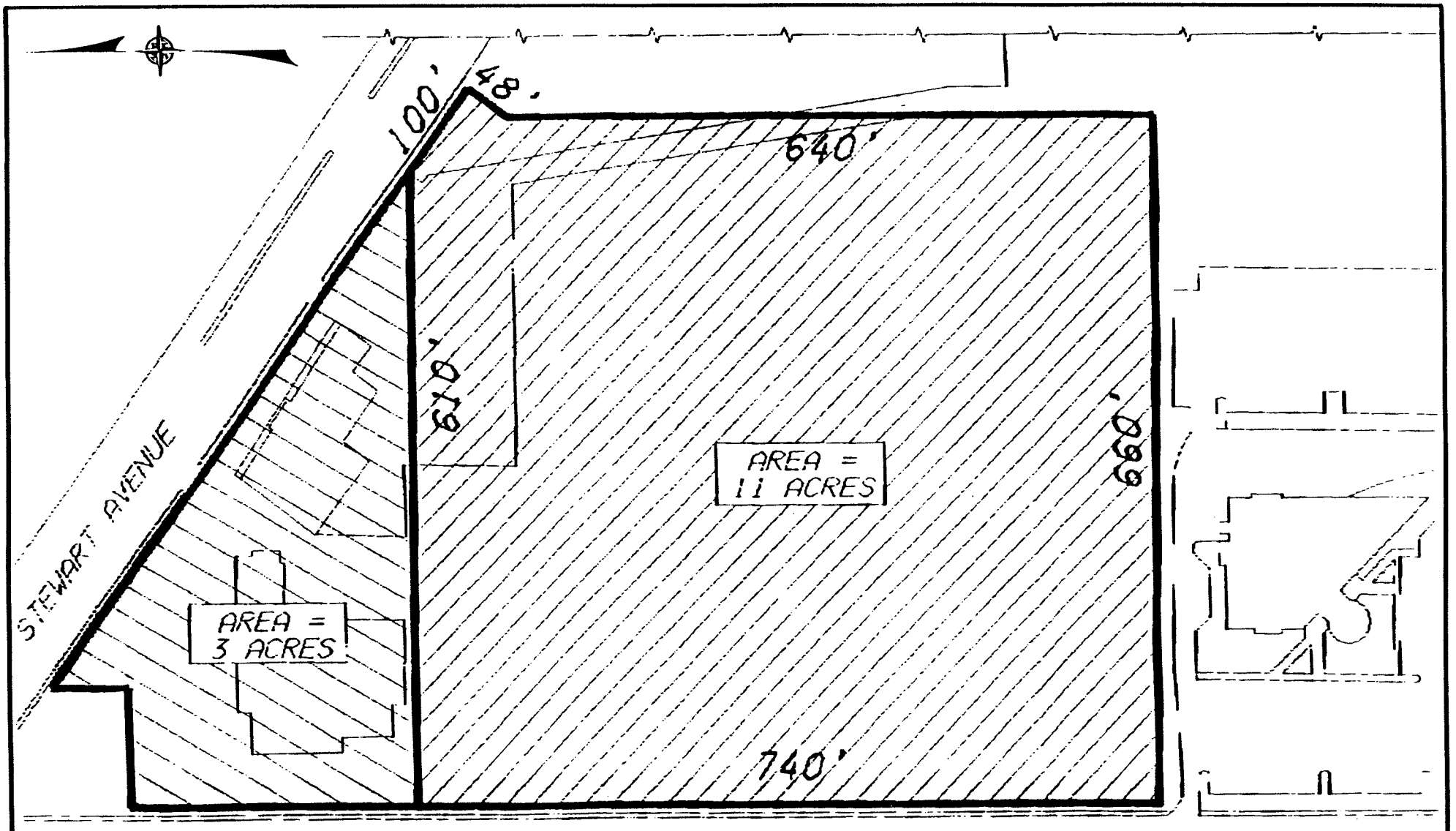
BALL FIELD
LOCATION MAP

Dvirka and Bartilucci
CONSULTING ENGINEERS

# Appendix B

# APPENDIX B

# SITE PLAN




GRUMMAN CORPORATION
BETHPAGE FACILITY

# BALL FIELD SITE PLAN

Dvirka and Bartilucci CONSULTING ENGINEERS

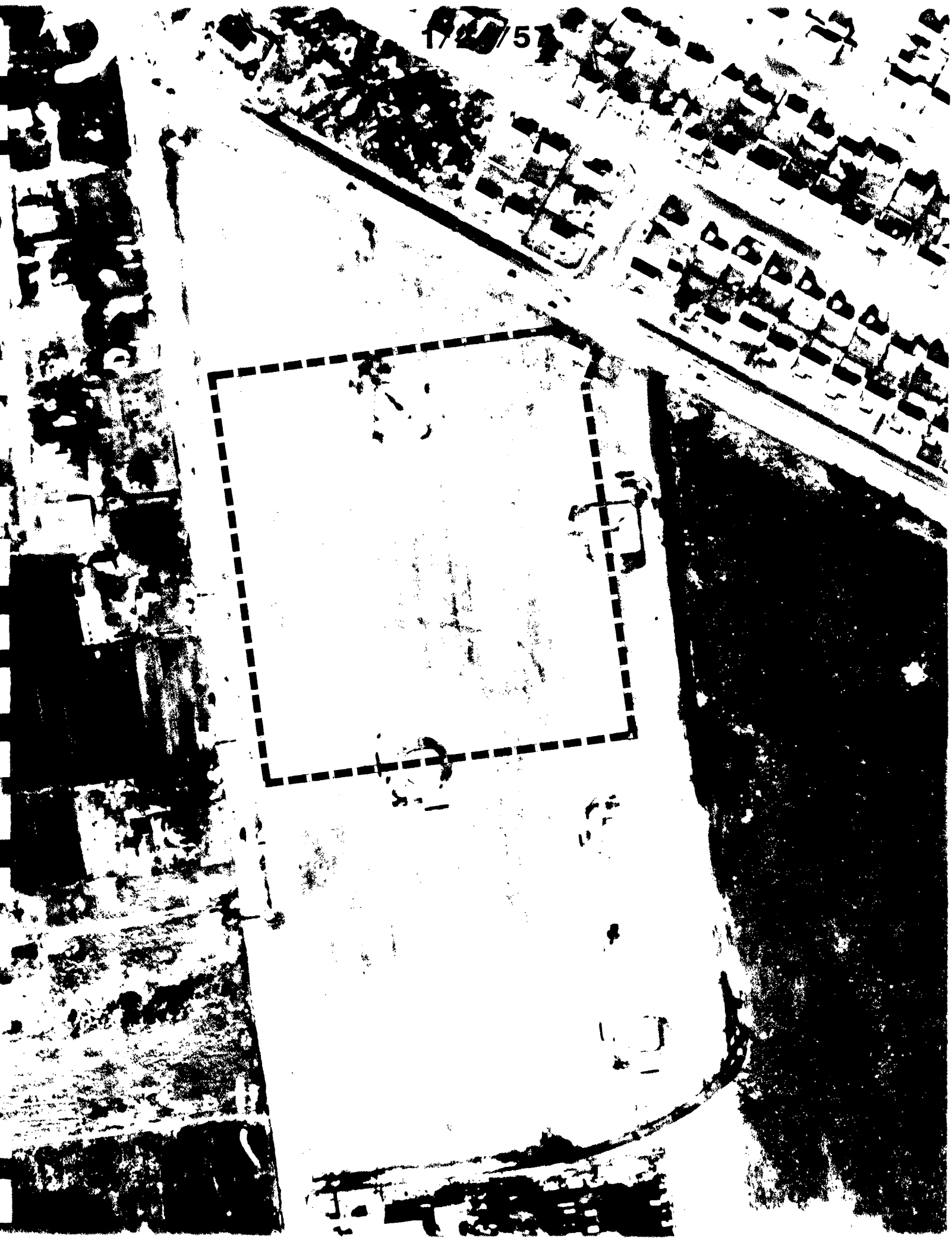
# Appendix C

# APPENDIX C

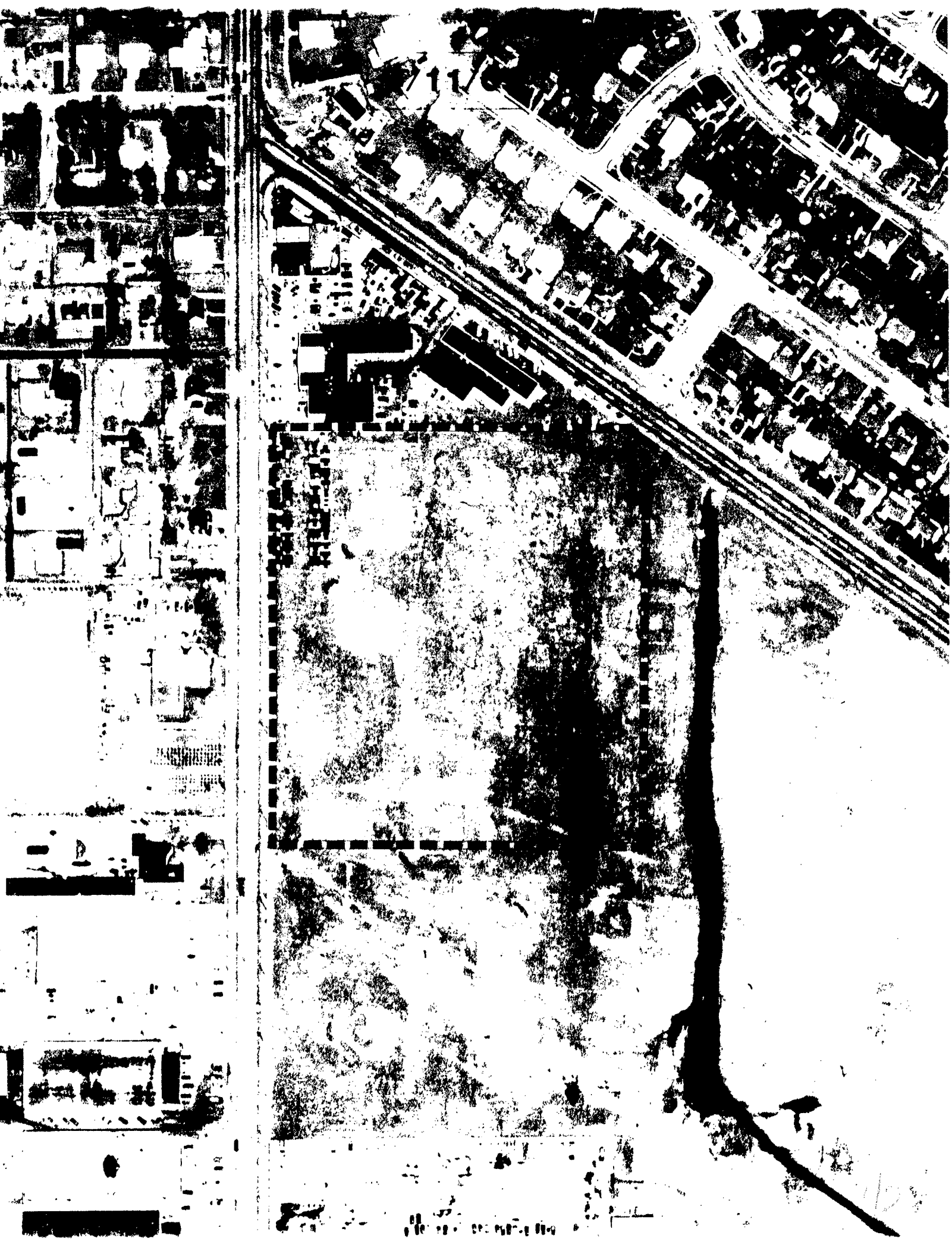
# AERIAL PHOTOGRAPHS
# (1950-1988)

NGINS000119796

NGINS000119797

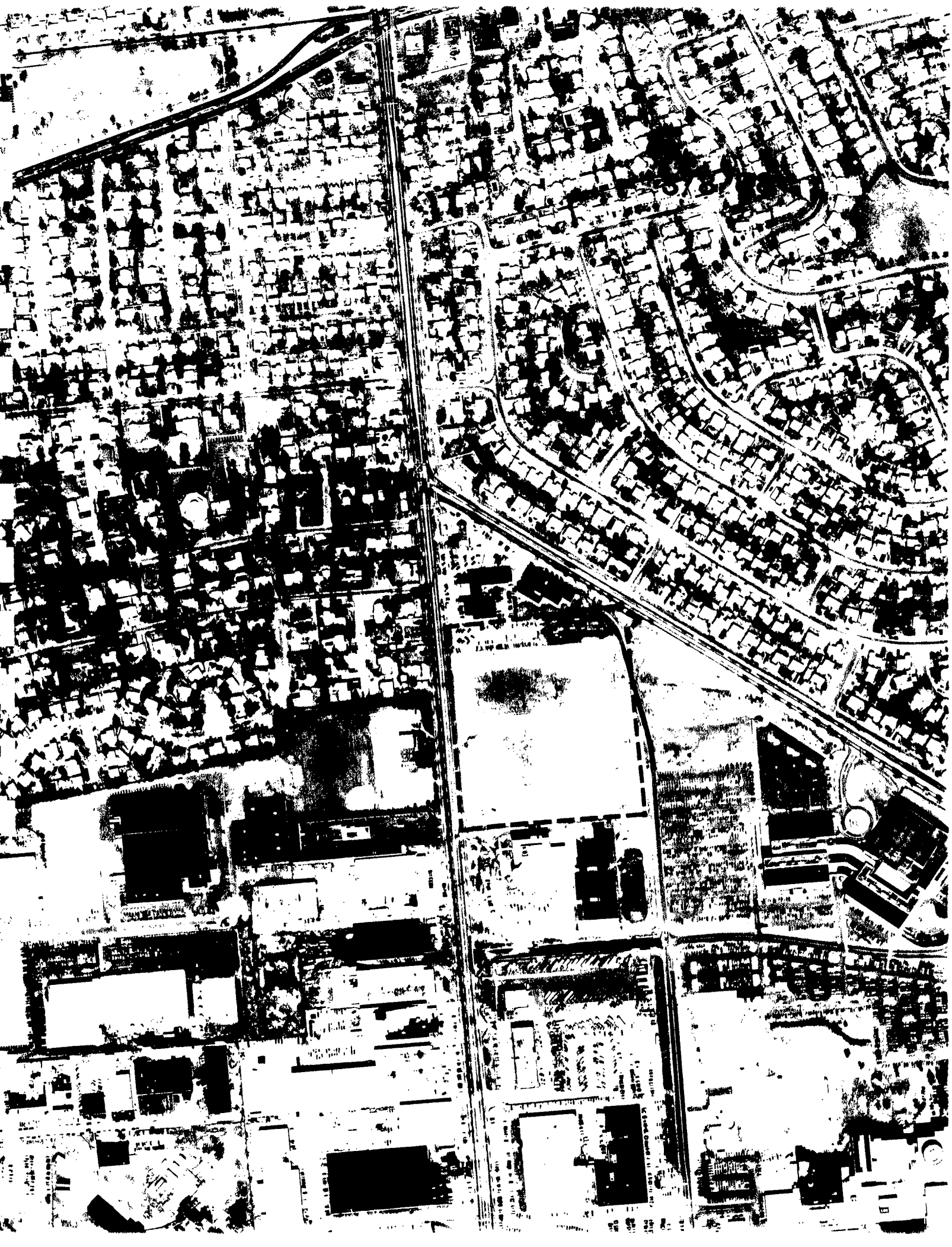


NGINS000119798



NGINS000119800

NGINS000119801



NGINS000119802

# Appendix D

# APPENDIX D

# BORING LOGS

# BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1110
Project Name: Grumman

Well/Boring No.: BF-MW-1
Sheet 1 of 7
By: _____ Date: _____
Chk'd: _____ Date: _____

Drilling Contractor: Water Resources
Driller: John Barnes
Drill Rig: Gus Beck
Sample Spoon I.D.: 1 3/8
Date Started: 1/29/92
Geologist: Keith Robins
Drilling Method: Hollow stem Auger
Drive Hammer Wt.: 240 lbs
Date Completed: 1/30/92

Borehole Completion Depth: 76'
Borehole Diameter: 10"
Ground Surface El.:

| DEPTH (FT.) | SAMPLE NO. | SAMPLING INTERVAL | RECOVERY/ RQD | BLOWS/6" | HEADSPACE (PPM) | SAMPLE DESCRIPTION |
|---|---|---|---|---|---|---|
| -0- | | | | | | |
| -1- | | 0-2' | 6" | 6,4, 4,4 | 0 | Black fine sand (frozen) with grass routes (0-2") |
| -2- | | | | | | Moist-Frozen 2' |
| -3- | | 2-4' | 10" | 2,4, 3,8 | 0 | Brown-orange silty fine sand. 0-5" |
| -4- | | | | | | 5"-10" Brown coarse sand, some subrounded gravel and pebbles (Moist) 4' |
| -5- | | 4-6' | 14" | 5,10 12,15 | 0 | Gray silty fine sand, mixed with fine-coarse subrounded gravel 0-8" |
| -6- | | | | | | Brown coarse sand mixed with silt and fine sand, some sub rounded gravel and pebbles (moist) 8"-14" 6' |
| -7- | | 6-8' | 14" | 5,6, 10,20 | 0 | Light brown-brown coarse sand, abundant gravel subrounded (quartz) (damp) |
| -8- | | | | | | 8' |
| -9- | | 8-10' | 13" | 5,10, 13,15 | 0 | Gravelly, brown coarse sand abundant pebbles mixed with coarse gravel fragments predominately quartz |
| -10 | | | | | | damp 10' |

**Remarks:** Soil sample (15-17') collected for laboratory analysis

**Water Level Measurement** 65 Date 1/30/92
_____ Date _____
_____ Date _____
_____ Date _____

BL

# BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1110
Project Name: Grumman

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

Drilling Contractor: Water Resources
Driller: John Barnes Jr. Geologist: Keith Robins
Drill Rig: Gus Beck Drilling Method: Hollow Stem Auger
Sample Spoon I.D.: 1 3/8 Drive Hammer Wt.: 210 lbs
Date Started: 1/29/92 Date Completed: 1/30/92

Borehole Completion Depth: 96'
Borehole Diameter: 10"
Ground Surface El.: _____

| DEPTH (FT.) | SAMPLE NO. | SAMPLING INTERVAL | RECOVERY/ RQD | BLOWS/6" | HEADSPACE (PPM) | SAMPLE DESCRIPTION |
|---|---|---|---|---|---|---|
| 11-<br>12-<br>13-<br>14-<br>15- | | | | | | |
| 15-<br>16-<br>17- | | 15-17' | 18" | 4,7,<br>11,13 | 4 | Light brown-orange medium-fine sand, trace sub rounded gravel, trace muscovite. (damp) 17' |
| 17-<br>18-<br>19-<br>20-<br>21- | | | | | | |

**Remarks:**

Water Level Measurement 65' Date 1/30/92
_____ Date _____
_____ Date _____
_____ Date _____

BL

# BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1110
Project Name: Brunman

Well/Boring No.: BF-MW-1
Sheet 3 of 7
By: _____ Date: _____
Chk'd: _____ Date: _____

Drilling Contractor: Water Resources
Driller: John Burnes JR. Geologist: Keith Robins
Drill Rig: Gus Beck Drilling Method: Hollow Stem Auger
Sample Spoon I.D.: 1 3/8 Drive Hammer Wt.: 210, 165
Date Started: 1/29/92 Date Completed: 1/30/92

Borehole Completion Depth: 26'
Borehole Diameter: 10"
Ground Surface El.: _____

| DEPTH (FT.) | SAMPLE NO. | SAMPLING INTERVAL | RECOVERY/ RQD | BLOWS/6" | HEADSPACE (PPM) | SAMPLE DESCRIPTION |
|---|---|---|---|---|---|---|
| 22 | | 22-24' | 17" | 4,9, 13,15 | 0 | Light brown coarse sand, abundant subrounded-subangular gravel, some pebbles (damp) 24' |
| 23 | | | | | | |
| 24 | | | | | | |
| 25 | | | | | | |
| 26 | | | | | | |
| 27 | | | | | | |
| 28 | | | | | | |
| 29 | | | | | | |
| 30 | | 29-31' | 15" | 5,7, 13,15 | 0 | Light brown-white medium to fine sand, interbedded with thin lenses (1cm) brown medium to fine sand (damp) 31' |
| 31 | | | | | | |
| 32 | | | | | | |
| 33 | | | | | | |
| 34 | | | | | | |
| 35 | | | | | | |
| 36 | | | | | | |
| 37 | | | | | | |
| 38 | | | | | | |
| 39 | | | | | | |
| 40 | | | | | | |

**Remarks:**

**Water Level Measurement** 65' Date 1/30/92
_____ Date _____
_____ Date _____
_____ Date _____

BL

# BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1110
Project Name: Grumman

Well/Boring No.: BF-MW-1
Sheet 4 of 7
By: _____ Date: _____
Chk'd: _____ Date: _____

Drilling Contractor: Water Resources
Driller: John Burns Jr. Geologist: Keith Robins
Drill Rig: Gus Peck Drilling Method: Hollow stem Auger
Sample Spoon I.D.: 1 3/8 Drive Hammer Wt.: 210 lbs.
Date Started: 1/29/92 Date Completed: 1/30/92

Borehole Completion Depth: 76'
Borehole Diameter: 10"
Ground Surface El.: _____

| DEPTH (FT.) | SAMPLE NO. | SAMPLING INTERVAL | RECOVERY/ RQD | BLOWS/6" | HEADSPACE (PPM) | SAMPLE DESCRIPTION |
|---|---|---|---|---|---|---|
| 34-<br>35-<br>36- | | | | | | |
| 36-38<br>38- | | 36-38 | 18" | 4,10,<br>60/18" | 2 | Brown - orange coarse sand, abundant sub-rounded gravel (damp) 38' |
| 39-<br>40-<br>41-<br>42-<br>43- | | 43-45 | | | | |

**Remarks:**
Sample 43-45' description on following page.

**Water Level Measurement** 65' Date 1/30/92
_____ Date _____
_____ Date _____
_____ Date _____

BL

# BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1110
Project Name: Grumman

Well/Boring No.: BF-MW-4
Sheet 5 of 7
By: _____ Date: _____
Chk'd: _____ Date: _____

Drilling Contractor: Water Resources
Driller: John Burnes Jr. Geologist: Keith Robins
Drill Rig: Gus Pack Drilling Method: Hollowstem Auger
Sample Spoon I.D.: 1 3/8 Drive Hammer Wt.: 210 lbs.
Date Started: 1/29/92 Date Completed: 1/30/92

Borehole Completion Depth: 76'
Borehole Diameter: 10"
Ground Surface El.: _____

| DEPTH (FT.) | SAMPLE NO. | SAMPLING INTERVAL | RECOVERY/ RQD | BLOWS/6" | HEADSPACE (PPM) | SAMPLE DESCRIPTION |
|---|---|---|---|---|---|---|
| 43 44 45 | | 43-45' | 12" | 6,10 20,26 | 0 | White-gray fine sand with thin lenses (< 1cmm) of brown and pink fine sand possibly (fe) staining well rounded, trace muscovite. (damp) 45' |
| 46 47 48 49 50 | | | | | | |
| 50 51 52 | | 50-52' | 19" | 7,13, 18,23 | 0 | Brown-orange medium sand, trace subangular gravel. 0-15" Light brown-white fine sand. (damp) 15"-19" 52' |
| 52 53 | | | | | | |

**Remarks:**

Water Level Measurement 65 Date 1/30/92
_____ Date _____
_____ Date _____
_____ Date _____

BL

# BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1110
Project Name: Grumman

Well/Boring No.: BF-MW-1
Sheet 6 of 7
By: _____ Date: _____
Chk'd: _____ Date: _____

Drilling Contractor: Water Resources
Driller: John Burnes Jr. Geologist: Keith Robins
Drill Rig: Gus Pack Drilling Method: Hollow Stem Auger
Sample Spoon I.D.: 13/8 Drive Hammer Wt.: 210 lbs.
Date Started: 1/29/92 Date Completed: 1/30/92

Borehole Completion Depth: 96'
Borehole Diameter: 10"
Ground Surface El.: _____

| DEPTH (FT.) | SAMPLE NO. | SAMPLING INTERVAL | RECOVERY/ RQD | BLOWS/6" | HEADSPACE (PPM) | SAMPLE DESCRIPTION |
|---|---|---|---|---|---|---|
| 54 | | | | | | |
| 55 | | | | | | |
| 56 | | | | | | |
| 57 | | | | | | |
| 58 | | 57-59' | 13" | 6,7, 10,40 | 0 | Fine white sand interbedded with altering layers of fine brown sand 0-3"<br>Brown - orange Fine sand 3"-7"<br>Fine white sand 8"-9"<br>Brown - Pink fine sand well rounded 9"-13"<br>trace muscovite. (MOIST) 59' |
| 59 | | | | | | |
| 60 | | | | | | |
| 61 | | | | | | |
| 62 | | | | | | |
| 63 | | | | | | |
| 64 | | 64-66 | | | | |

**Remarks:** sample (64-66') description on following page

Water Level Measurement 55' Date 1/30/92
_____ Date _____
_____ Date _____
_____ Date _____

BL

# BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1110
Project Name: Grumman

Well/Boring No.: BF-MW-1
Sheet 7 of 7
By: _____ Date: _____
Chk'd: _____ Date: _____

Drilling Contractor: Water Resources
Driller: John Barnes Jr. Geologist: Keith Rubins
Drill Rig: Gus Peck Drilling Method: Hollow Stem Auger
Sample Spoon I.D.: 3/8 Drive Hammer Wt.: 210 lbs
Date Started: 1/29/92 Date Completed: 1/30/92

Borehole Completion Depth: 76'
Borehole Diameter: 10"
Ground Surface El.: _____

| DEPTH (FT.) | SAMPLE NO. | SAMPLING INTERVAL | RECOVERY/ RQD | BLOWS/6" | HEADSPACE (PPM) | SAMPLE DESCRIPTION |
|---|---|---|---|---|---|---|
| 64-65-66- | | 64-66' | 24" | 6,8, 12,18 | 0 | Gray-light brown fine-silty sand, mixed with thin lenses (<1cmm thick) of brown and Pinkish red fine sand (Possibly (Fe) stained, well rounded, trace muscovite. (wet) 66' |
| 67-68-69-70- | | | | | | |
| 71-72-73- | | 71-73' | | | | Light Gray fine-silty sand, some muscovite and biotite. 0-4"<br>Light brown fine sand 4"-12"<br>Brown-orange Fine sand, with 1/2" layer (Fe) stain 12"-14"<br>Brown Fine sand well rounded, trace muscovite. (wet) 14"-24"<br>73' |
| 74-75- | | | | | | |

Remarks:

Water Level Measurement 65' Date 1/30/92
_____ Date _____
_____ Date _____
_____ Date _____

BL

# BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1110
Project Name: Grumman

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

Drilling Contractor: Water Resources
Driller: John Barnes Jr. Geologist: Keith Robins
Drill Rig: Gus Peck Drilling Method: Hollow Stem Auger
Sample Spoon I.D.: 1 3/8 Drive Hammer Wt.: 240 lbs
Date Started: 1/30/92 Date Completed: 1/31/92

Borehole Completion Depth: 75'
Borehole Diameter: 10"
Ground Surface El.: _____

| DEPTH (FT.) | SAMPLE NO. | SAMPLING INTERVAL | RECOVERY/ RQD | BLOWS/6" | HEADSPACE (PPM) | SAMPLE DESCRIPTION |
|---|---|---|---|---|---|---|
| -0- | | 0-2' | 8" | 3,4, 4,6 | 0 | Black fine sand with some grass roots at (0-2") |
| -1- | | | | | | (moist-frozen) |
| -2- | | | | | | 2' |
| -3- | | 2-4' | 11" | 4,8, 8,9 | 0 | Brown coarse sand abundant subrounded gravel and trace pebbles |
| -4- | | | | | | (damp) 4' |
| -5- | | 4-6' | 10" | 4,5 7,7 | 0 | Brown-orange coarse sand, some coarse gravel fragments 0-6" |
| -6- | | | | | | Brown medium sand, some subrounded gravel 6"-10" |
| | | | | | | (damp) 6' |
| -7- | | 6-8' | 14" | 9,8, 13,25 | 0 | Brown-orange coarse sand, abundant coarse subangular gravel (quartz) 0-11" |
| -8- | | | | | | Brown medium-coarse sand some rounded-subrounded gravel 11"-14" |
| | | | | | | (damp) 8' |
| -9- | | 8-10' | 16" | 13,18, 18,13 | 0 | Gravelly, brown-orange sand, abundant coarse subangular (quartz) gravel and some pebbles |
| -10 | | | | | | (dry) 10' |

**Remarks:** Soil sample (2-4') obtained for laboratory analysis

**Water Level Measurement** 62' Date 1/31/92
_____ Date _____
_____ Date _____
_____ Date _____

BL

# BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1110
Project Name: Grumman

Well/Boring No.: BF-MW-2
Sheet 2 of 7
By: _____ Date: _____
Chk'd: _____ Date: _____

Drilling Contractor: Water Resources
Driller: John Barnes Jr. Geologist: Keith Robins
Drill Rig: Gus Pech Drilling Method: Hollow Stem Augr
Sample Spoon I.D.: 1 3/4 Drive Hammer Wt.: 210 lbs
Date Started: 1/30/92 Date Completed: 1/31/92

Borehole Completion Depth: 95
Borehole Diameter: 10"
Ground Surface El.: _____

| DEPTH (FT.) | SAMPLE NO. | SAMPLING INTERVAL | RECOVERY/ RQD | BLOWS/6" | HEADSPACE (PPM) | SAMPLE DESCRIPTION |
|---|---|---|---|---|---|---|
| 11 | | | | | | |
| 12 | | | | | | |
| 13 | | | | | | |
| 14 | | | | | | |
| 15 | | | | | | |
| 16 | | 15-17' | 17" | 5,9, 16,17 | 0 | Light brown coarse sand, abundant subangular (quartz) gravel 0-10"<br>Brown medium sand, trace fine gravel (dry) 10"-17" |
| 17 | | | | | | 17' |
| 18 | | | | | | |
| 19 | | | | | | |
| 20 | | | | | | |
| 21 | | | | | | |

**Remarks:**

**Water Level Measurement** 62' Date 1/31/92
_____ Date _____
_____ Date _____
_____ Date _____

BL

# BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1110
Project Name: Grumman

Well/Boring No.: BF-MW-2
Sheet 3 of 7
By: _____ Date: _____
Chk'd: _____ Date: _____

Drilling Contractor: Water Resources
Driller: John Burnes
Drill Rig: Gus Pack
Sample Spoon I.D.: 1 3/8
Date Started: 1/30/92
Geologist: Keith Robins
Drilling Method: Hollowstem Auger
Drive Hammer Wt.: 210 lbs
Date Completed: 1/31/92

Borehole Completion Depth: 75'
Borehole Diameter: 10"
Ground Surface El.: _____

| DEPTH (FT.) | SAMPLE NO. | SAMPLING INTERVAL | RECOVERY/ RQD | BLOWS/6" | HEADSPACE (PPM) | SAMPLE DESCRIPTION |
|---|---|---|---|---|---|---|
| 22-0- | | | | | | |
| 23- | | 22-24' | 15" | 7,8, 18,14 | 0 | Light brown medium-coarse Sand Some coarse sub-rounded gravel |
| 24- | | | | | | (dry) 24' |
| 25- | | | | | | |
| 26- | | | | | | |
| 27- | | | | | | |
| 28- | | | | | | |
| 29- | | | | | | |
| 30- | | 29-31' | 15" | 9,10, 12,17 | 0 | Light brown coarse sand, Some coarse gravel (quartz) and 1/2" fragments of iron |
| 31- | | | | | | (dry) 31' |
| 32-0 | | | | | | |

**Remarks:**

**Water Level Measurement** 62' Date 1/31/92
_____ Date _____
_____ Date _____
_____ Date _____

BL

# BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1110
Project Name: Grumman

Well/Boring No.: BF-MW-2
Sheet 4 of 7
By: _____ Date: _____
Chk'd: _____ Date: _____

Drilling Contractor: Water Resources
Driller: John Burner JR. Geologist: Keith Robins
Drill Rig: Gus Peck Drilling Method: Hollow Stem Auger
Sample Spoon I.D.: 1 3/8 Drive Hammer Wt.: 210 lbs
Date Started: 1/30/92 Date Completed: 1/31/92

Borehole Completion Depth: 75'
Borehole Diameter: 10"
Ground Surface El.: _____

| DEPTH (FT.) | SAMPLE NO. | SAMPLING INTERVAL | RECOVERY/ RQD | BLOWS/6" | HEADSPACE (PPM) | SAMPLE DESCRIPTION |
|---|---|---|---|---|---|---|
| 33-34 | | | | | | |
| 34-35 | | | | | | |
| 35-36 | | | | | | |
| 36-37 | | | | | | |
| 37-38 | | 36-38' | 15" | 9, 17, 20, 50 | 0 | Brown-orange medium sand 0-4"<br>Fine-medium sand (dark red) 4"-8"<br>possible iron staining<br>Brown-orange fine sand, trace fine gravel 8"-12"<br>12"-15"<br>Brown fine silty sand, trace sub angular gravel (dump) 38' |
| 38-39 | | | | | | |
| 39-40 | | | | | | |
| 40-41 | | | | | | |
| 41-42 | | | | | | |
| 42-43 | | | | | | |
| 43-44 | | 43-45' | | | | |
| 44-45 | | | | | | |

**Remarks:** Sample (43-45') description on following page.

Water Level Measurement 62' Date 1/31/92
_____ Date _____
_____ Date _____
_____ Date _____

BL

# BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1110
Project Name: Grumman

Well/Boring No.: BF-MW-2
Sheet 5 of 7
By: _____ Date: _____
Chk'd: _____ Date: _____

Drilling Contractor: Water Resources
Driller: John Barnes
Drill Rig: Gus Pech
Sample Spoon I.D.: 1 3/8
Date Started: 1/30/92
Geologist: Keith Robins
Drilling Method: Hollow Stem Augur
Drive Hammer Wt.: 210 lbs
Date Completed: 1/31/92

Borehole Completion Depth: 75'
Borehole Diameter: 10"
Ground Surface El.: _____

| DEPTH (FT.) | SAMPLE NO. | SAMPLING INTERVAL | RECOVERY/ RQD | BLOWS/6" | HEADSPACE (PPM) | SAMPLE DESCRIPTION |
|---|---|---|---|---|---|---|
| 43<br>44<br>45 | | 43-45' | 15" | 12, 13, 20, 25 | 0 | Light brown fine-medium sand, interbedded with thin gray-white fine-silty sand (dump) 45' |
| 46<br>47<br>48<br>49 | | | | | | |
| 50<br>51<br>52 | | 50-52' | 22" | 6, 8, 10, 14 | 0 | Light gray, solid-dense clay 0-5"<br>Light gray alternating brown fine silty sand 5"-15"<br>PINK-red coarse-med sand 15"-22"<br>(dump) 52' |
| 53 | | | | | | |

Remarks:

Water Level Measurement 62' Date 1/31/92
_____ Date _____
_____ Date _____
_____ Date _____

BL

# BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1110
Project Name: Brumman

Well/Boring No. BF-MW-2
Sheet 6 of 7
By: _____ Date: _____
Chk'd: _____ Date: _____

Drilling Contractor: Water Resources
Driller: John Barnes Jr. Geologist: Keith Robins
Drill Rig: Gus Pack Drilling Method: Hollow Stem Auger
Sample Spoon I.D.: 1 3/8 Drive Hammer Wt.: 210 lbs
Date Started: 1/30/92 Date Completed: 1/31/92

Borehole Completion Depth: 75
Borehole Diameter: 10"
Ground Surface El.: _____

| DEPTH (FT.) | SAMPLE NO. | SAMPLING INTERVAL | RECOVERY/ RQD | BLOWS/6" | HEADSPACE (PPM) | SAMPLE DESCRIPTION |
|---|---|---|---|---|---|---|
| 55 | | | | | | |
| 56 | | | | | | |
| 57 | | 57-59 | 12" | 7, 9, 13, 18 | 0 | Light gray-white medium sand interbedded with red fine sand (Fe) staining. (damp) 59' |
| 58 | | | | | | |
| 59 | | | | | | |
| 60 | | | | | | |
| 61 | | | | | | |
| 62 | | | | | | |
| 63 | | | | | | |
| 64 | | 64-66' | | | | |

**Remarks:** Sample (64-66') description is on following page

Water Level Measurement 62' Date 1/31/92
_____ Date _____
_____ Date _____
_____ Date _____

BL

# BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1110
Project Name: Grumman

Well/Boring No.: BF-MW-2
Sheet 7 of 7
By: _____ Date: _____
Chk'd: _____ Date: _____

Drilling Contractor: Water Resources
Driller: John Barnes Jr. Geologist: Keith Robins
Drill Rig: Gus Beck Drilling Method: Hollow Stem Auger
Sample Spoon I.D.: 1 3/8 Drive Hammer Wt.: 210 lbs
Date Started: 1/30/92 Date Completed: 1/3/92

Borehole Completion Depth: 75'
Borehole Diameter: 10"
Ground Surface El.: _____

| DEPTH (FT.) | SAMPLE NO. | SAMPLING INTERVAL | RECOVERY/ RQD | BLOWS/6" | HEADSPACE (PPM) | SAMPLE DESCRIPTION |
|---|---|---|---|---|---|---|
| 64 65 66 | | 64-66' | 18" | 9,10, 15,20 | 0 | Light brown-orange medium-fine sand well rounded. (wet) 66' |
| 67 68 69 70 71 | | | | | | |
| 71 72 73 | | 71-73 | 15" | 7,9, 13,18 | 0 | Red - light gray silty sand (Fe) staining 0-8" 8"-15" Brown fine sand, trace muscovite, well rounded (wet) 73' |
| 73 74 75 | | | | | | |

**Remarks:**

**Water Level Measurement** 62' Date 1/3/92
_____ Date _____
_____ Date _____
_____ Date _____

BL

# BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1110
Project Name: Grumman

Well/Boring No.: BF-MW-3
Sheet 1 of 1
By: _____ Date: _____
Chk'd: _____ Date: _____

Drilling Contractor: Water Resources
Driller: John Barnes
Drill Rig: Gus Feck
Sample Spoon I.D.: 1 3/8
Date Started: 2/3/92
Geologist: Keith Robins
Drilling Method: Hollowstem Auger
Drive Hammer Wt.: 210 lbs
Date Completed: 2/3/92

Borehole Completion Depth: 24'
Borehole Diameter: 10"
Ground Surface El.: _____

| DEPTH (FT.) | SAMPLE NO. | SAMPLING INTERVAL | RECOVERY/ RQD | BLOWS/6" | HEADSPACE (PPM) | SAMPLE DESCRIPTION |
|---|---|---|---|---|---|---|
| -0- | | | | | | |
| -1- | | 0-2' | 12" | 9,7<br>8,10 | 0 | Black-Brown fine sand, trace sub-angular gravel grass roots 0-2" |
| -2- | | | | | | (dump frozen) 2' |
| -3- | | 2-4' | 8" | 7,8,<br>13,15 | 0 | Light Brown coarse sand, some subrounded gravel 0-4"<br>Brown fine-coarse sand, some silt, trace fine gravel (dump) 4"-8" 4' |
| -4- | | | | | | |
| -5- | | 4-6' | 14" | 13,15<br>20,22 | 2 | Orange-Brown coarse-medium sand, abundant sub. angular gravel 0-11"<br>Brown medium sand, trace silt. 11"-14" 6' |
| -6- | | | | | | |
| -7- | | 6'-8' | 14" | 8,12<br>23,21 | 0 | Light Brown-orange Coarse sand abundant coarse sub angular gravel (quartz) |
| -8- | | | | | | (dump) 8' |
| -9- | | 8'-10' | 7" | 12,13<br>18,25 | 0 | Light Brown medium sand, abundant coarse sub angular gravel fragments. |
| -10 | | | | | | (dump) 10' |

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

**Water Level Measurement** 62.6' Date 2/3/92
_____ Date _____
_____ Date _____
_____ Date _____

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1110
Project Name: Grumman

Well/Boring No.: BF-MW-3
Sheet 2 of 7
By: _____ Date: _____
Chk'd: _____ Date: _____

Drilling Contractor: Water Resources
Driller: John Barnes Jr. Geologist: Keith Robins
Drill Rig: Bus Peck Drilling Method: Hollow Stem Augr
Sample Spoon I.D.: 1 3/8 Drive Hammer Wt.: 140 lbs
Date Started: 2/3/92 Date Completed: 2/3/92

Borehole Completion Depth: 24'
Borehole Diameter: 10"
Ground Surface El.: _____

| DEPTH (FT.) | SAMPLE NO. | SAMPLING INTERVAL | RECOVERY/ RQD | BLOWS/6" | HEADSPACE (PPM) | SAMPLE DESCRIPTION |
|---|---|---|---|---|---|---|
| 11 10 12 11 13 12 14 13 15 14 | | | | | | |
| 16 15 17 16 | | 15-17' | 18" | 7, 13, 17, 26 | 0 | Abundant Gravel and pebbles (Subrounded) mixed with Light Brown Coarse sand. 0-12" Brown medium-coarse sand, trace fine gravel (damp) 12"-18" 17' |
| 18 17 19 18 20 19 21 20 | | | | | | |

Remarks:

Water Level Measurement 62.8' Date 2/3/92
_____ Date _____
_____ Date _____
_____ Date _____

BL

# BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1110
Project Name: Grumman

Well/Boring No.: BF-MW-3
Sheet 3 of 7
By: _____ Date: _____
Chk'd: _____ Date: _____

Drilling Contractor: Water Resources
Driller: John Barnes II
Drill Rig: Gus Pech
Sample Spoon I.D.: 1 3/8
Date Started: 2/3/92
Geologist: Keith Robins
Drilling Method: Hollow Stem Auger
Drive Hammer Wt.: 140 lbs
Date Completed: 2/3/92

Borehole Completion Depth: 74'
Borehole Diameter: 10"
Ground Surface El.: _____

| DEPTH (FT.) | SAMPLE NO. | SAMPLING INTERVAL | RECOVERY/ RQD | BLOWS/6" | HEADSPACE (PPM) | SAMPLE DESCRIPTION |
|---|---|---|---|---|---|---|
| 22-23-24 | | 22-24' | 16" | 9,12, 13,13 | 0 | Light Brown medium sand, some coarse subangular gravel (quartz) little subrounded pebbles. (damp) 24' |
| 25-26-27-28-29 | | | | | | |
| 29-30-31 | | 29-31' | 17" | 8,12 14,16 | 0 | Brown medium sand trace subrounded gravel 0-15" Brown silty clay some mvscavite (Moist) 15"-17" 31' |
| 31-32 | | | | | | |

**Remarks:**

**Water Level Measurement** 62.8' Date 2/3/92
_____ Date _____
_____ Date _____
_____ Date _____

BL

# BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1110
Project Name: Grumman

Well/Boring No.: BF-MW-3
Sheet 4 of 7
By: _____ Date: _____
Chk'd: _____ Date: _____

Drilling Contractor: Water Resources
Driller: John Barnes
Drill Rig: Gus Peck
Sample Spoon I.D.: 3/8
Date Started: 2/3/92
Geologist: Keith Robins
Drilling Method: Hollow stem Auger
Drive Hammer Wt.: 210 lbs
Date Completed: 2/3/92

Borehole Completion Depth: 74'
Borehole Diameter: 10"
Ground Surface El.: _____

| DEPTH (FT.) | SAMPLE NO. | SAMPLING INTERVAL | RECOVERY/ RQD | BLOWS/6" | HEADSPACE (PPM) | SAMPLE DESCRIPTION |
|---|---|---|---|---|---|---|
| 33 34 35 36 | | | | | | |
| 37 | | 36-38' | 16" | 7, 10 17, 17 | 0 | Light Brown-orange medium-coarse sand, (rounded), with little fine sand, trace subrounded gravel (dump) 38' |
| 38 39 40 41 42 43 | | 43-45' | | | | |

Remarks: Sample (43-45') description on following page.

Water Level Measurement 62.8' Date 2/3/92
_____ Date _____
_____ Date _____
_____ Date _____

BL

# BORING LOG

3

DVIRKA AND BARTILUCCI

Project No.: 1110
Project Name: Grumman

Well/Boring No.: BF-MW-7
Sheet 5 of 7
By: _____ Date: _____
Chk'd: _____ Date: _____

Drilling Contractor: Water Resources
Driller: John Barnes Jr. Geologist: Keith Robins
Drill Rig: Gus Peck Drilling Method: Hollow stem Auger
Sample Spoon I.D.: 1 3/8 Drive Hammer Wt.: 240 lbs
Date Started: 2/3/92 Date Completed: 2/3/92

Borehole Completion Depth: 74
Borehole Diameter: 10"
Ground Surface El.: _____

| DEPTH (FT.) | SAMPLE NO. | SAMPLING INTERVAL | RECOVERY/ RQD | BLOWS/6" | HEADSPACE (PPM) | SAMPLE DESCRIPTION |
|---|---|---|---|---|---|---|
| 43-44-45- | | 43-45' | 18" | 11,14<br>25,27 | 0 | Light Brown-White fine sand interbedded with thin Brown fine sand, trace biotite (damp) 45' |
| 46-47-48-49-50- | | | | | | |
| 50-51-52- | | 50-52' | 14" | 6,10<br>16,20 | 0 | Light Brown altering layers of white medium sand (1cm thick) dark Brown-Red fine sand (Fe) Staining (damp) 52' |
| 52-53-54-55- | | | | | | |

**Remarks:**

**Water Level Measurement** 62.8' Date 2/3/92
_____ Date _____
_____ Date _____
_____ Date _____

BL

# BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1110
Project Name: Grumman

Well/Boring No: BF-MW-3
Sheet 6 of 7
By: _____ Date: _____
Chk'd: _____ Date: _____

Drilling Contractor: Water Resources
Driller: John Barnes
Drill Rig: Gus Pech
Sample Spoon I.D.: 1 3/8
Date Started: 2/3/92
Geologist: Keith Rubins
Drilling Method: Hollow Stem Auger
Drive Hammer Wt.: 140 lbs
Date Completed: 2/3/92

Borehole Completion Depth: 74'
Borehole Diameter: 10"
Ground Surface El.: _____

| DEPTH (FT.) | SAMPLE NO. | SAMPLING INTERVAL | RECOVERY/ RQD | BLOWS/6" | HEADSPACE (PPM) | SAMPLE DESCRIPTION |
|---|---|---|---|---|---|---|
| 55-<br>56-<br>57- | | | | | | |
| 58-<br>59- | | 57-59 | 17" | 7,20<br>10,15 | 0 | Brown-Orange Coarse-medium sand, some subrounded-subangular gravel, trace biotite. moist 59' |
| 60-<br>61-<br>62-<br>63-<br>64- | | | | | | |
| 65-<br>66- | | 64-66' | 15" | 7,9,<br>12,16 | | Light Gray fine silty sand) 0-12"<br>Trace muscovite and biotite)<br>Brown silt, some fine sand 12"-15"<br>(wet) 66' |

Remarks:

Water Level Measurement 62.8' Date 2/3/92
_____ Date _____
_____ Date _____
_____ Date _____

BL

BORING LOG

DVIRKA AND BARTILUCCI

Project No.: 1110
Project Name: Grumman

Well/Boring No.: BF-MW-3
Sheet 7 of 7
By: _____ Date: _____
Chk'd: _____ Date: _____

Drilling Contractor: Water Resources
Driller: John Burns Jr
Drill Rig: Gus Rock
Sample Spoon I.D.: 1 3/8
Date Started: 2/3/92

Geologist: Keith Rubini
Drilling Method: Hollow Stem Auger
Drive Hammer Wt.: 210 lbs
Date Completed: 2/3/92

Borehole Completion Depth: 94'
Borehole Diameter: 10"
Ground Surface El.: _____

| DEPTH (FT.) | SAMPLE NO. | SAMPLING INTERVAL | RECOVERY/ RQD | BLOWS/6" | HEADSPACE (PPM) | SAMPLE DESCRIPTION |
|---|---|---|---|---|---|---|
| 67-0- | | | | | | |
| 68-1- | | | | | | |
| 69-2- | | | | | | |
| 70-3- | | | | | | |
| 71-4- | | 71-73' | 16" | 6,8, 8,10 | 0 | Light Gray-White fine silty sand trace muscovite and biotite. wet 93' |
| 72-5- | | | | | | |
| 73-6- | | | | | | |
| 74-7- | | | | | | |
| 75-8- | | | | | | |
| 76-9- | | | | | | |
| 77-10- | | | | | | |

Remarks:

Water Level Measurement 62.8' Date 4/3/92
_____ Date _____
_____ Date _____
_____ Date _____

BL

# Appendix E

# APPENDIX E

# LABORATORY DATA

1A-QC

NYTEST ENVIRONMENTAL INC.

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW

SAMPLE ID: GBF-MW15
LAB ID: 112301
DIL FACTOR: 1.00
% MOISTURE: 7

| 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 | 1.04 |
| 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. |
| 34 | | | |
| 35 | | | |

1A-OC

NYTEST ENVIRONMENTAL INC.

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW

SAMPLE ID: GBF-MW25
LAB ID: 112302
DIL FACTOR: 1.00
% MOISTURE: 6

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

1A-GC

NYTEST ENVIRONMENTAL INC.

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
5g

SAMPLE ID: GBF-MW 3
LAB ID: 11328-01
DIL FACTOR: 1.00
% MOISTURE: ~~NEED MOISTURE~~ 3

| CMPD # | CAS Number | VOLATILE COMPOUNDS | UG/KG (DRY BASIS) |
|---|---|---|---|
| 1 | 74-87-3 | Chloromethane | 1.0 U. |
| 2 | 74-83-9 | Bromomethane | 1.0 U. |
| 3 | 75-01-4 | Vinyl Chloride | 1.0 U. |
| 4 | 75-00-3 | Chloroethane | 1.0 U. |
| 5 | 75-09-2 | Methylene Chloride | ~~1.0~~ U. 2 TB |
| 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-Dichloropropene | 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. |
| 34 | | | |
| 35 | | | |

BFB = 68%

% MT = 2.56

nytest environmental inc.

## REPORT OF ANALYSIS

Log in No.: 11283

We find as follows:

Results in mg/kg (dry weight basis):

| Sample Identification | Parameter(s) |
|---|---|
| | Total Petroleum Hydrocarbons |
| 1128301 GBF-MW1S | <10.0 |
| 1128302 GBF-MW2S | <10.0 |
| 1128303 GLT-BH1S | <10.0 |
| 1128304 GLT-BH2S | <10.0 |
| 1128307 GLT-BH3S | <10.0 |
| Method Blank | <10.0 |
| Method Detection Limit | 10.0 |

nytest environmental inc

## REPORT OF ANALYSIS

Log in No.: 11323

We find as follows:

Results in mg/kg (dry weight basis):

| Sample Identification | Parameter(s) |
|---|---|
| | Total Petroleum Hydrocarbons |
| 1132301 GBF-MW3 | 107 |
| Method Blank | <10.0 |
| Method Detection Limit | 10.0 |

1A-GC

NYTEST ENVIRONMENTAL INC.

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: ~~SOIL~~ water  SAMPLE ID: FB-5

CONC. LEVEL: LOW  LAB ID: 112402

DIL FACTOR: 1.00

% MOISTURE: ~~NEED MOISTURE~~ NA

| CMPD # | CAS Number | VOLATILE COMPOUNDS | UG/KG (DRY BASIS) |
|---|---|---|---|
| 1 | 74-87-3 | Chloromethane | 1.0 U. |
| 2 | 74-83-9 | Bromomethane | 1.0 U. |
| 3 | 75-01-4 | Vinyl Chloride | 1.0 U. |
| 4 | 75-00-3 | Chloroethane | 1.0 U. |
| 5 | 75-09-2 | Methylene Chloride | ~~1.0 U.~~ 2TB |
| 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. |
| 34 | | | |
| 35 | | | |

1A-GC

NYTEST ENVIRONMENTAL INC.

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: ~~SOIL~~ water  SAMPLE ID: TB 1/24

CONC. LEVEL: LOW  LAB ID: 1121403

DIL FACTOR: 1.00

% MOISTURE: ~~NEED MOISTURE~~ NA

| CMPD # | CAS Number | VOLATILE COMPOUNDS | UG/KG (DRY BASIS) |
|---|---|---|---|
| 1 | 74-87-3 | Chloromethane | 1.0 U. |
| 2 | 74-83-9 | Bromomethane | 1.0 U. |
| 3 | 75-01-4 | Vinyl Chloride | 1.0 U. |
| 4 | 75-00-3 | Chloroethane | 1.0 U. |
| 5 | 75-09-2 | Methylene Chloride | ~~1.0 U.~~ 2TB |
| 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. |
| 34 | | | |
| 35 | | | |

KBF POLLUTION MANAGEMENT, INC.
1110 FARMINGDALE ROAD, NORTH LINDENHURST NEW YORK 11757-1024
PHONE (516)225-0007 - (800)366-1456 - FAX (516)225-0048

| | | | |
|---|---|---|---|
| **Client Sample ID:** | *BFMW-1* | **Date Received:** | *February 24, 1992* |
| **Lab Sample ID:** | *780-1* | **Date Analyzed** | *February 25, 1992* |
| **Sample Matrix:** | *Water* | **Customer ID#:** | *KBF ID #1327* |

PRIORITY POLLUTANT ANALYSIS EPA METHOD 624 VOLATILES

| CAS # | PARAMETER | ug/l |
|---|---|---|
| 67-64-1 | Acetone | <10.0 |
| 78-93-3 | 2-Butanone | <10.0 |
| 71-43-2 | Benzene | <5.0 |
| 75-27-4 | Bromodichloromethane | <5.0 |
| 75-25-2 | Bromoform | <5.0 |
| 74-83-9 | Bromomethane | <10.0 |
| 75-15-0 | Carbon Disulfide | <5.0 |
| 56-23-5 | Carbon Tetrachloride | <5.0 |
| 108-90-7 | Chlorobenzene | <5.0 |
| 75-00-3 | Chloroethane | <10.0 |
| 110-75-8 | 2-Chloroethylvinyl ether | <10.0 |
| 67-66-3 | Chloroform | <5.0 |
| 74-87-3 | Chloromethane | <10.0 |
| 124-48-1 | Dibromochloromethane | <5.0 |
| 95-50-1 | 1,2-Dichlorobenzene | <10.0 |
| 541-73-1 | 1,3-Dichlorobenzene | <10.0 |
| 106-46-7 | 1,4-Dichlorobenzene | <10.0 |
| 75-71-8 | Dichlorodifluoromethane | <10.0 |
| 75-34-3 | 1,1-Dichloroethene | <5.0 |
| 107-06-2 | 1,2-Dichloroethane | <5.0 |
| 75-35-4 | 1,1-Dichloroethane | <5.0 |
| 156-60-5 | trans-1,2-Dichloroethene | <5.0 |
| 78-87-5 | 1,2-Dichloropropane | <5.0 |
| 10061-01-5 | cis-1,3-Dichloropropene | <5.0 |
| 10061-02-6 | trans-1,3-Dichloropropene | <5.0 |
| 100-41-4 | Ethylbenzene | <5.0 |
| 591-78-6 | 2-Hexanone | <10.0 |
| 108-10-1 | 4-Methyl-2-Pentanone | <10.0 |
| 75-09-2 | Methylene Chloride | 3.68 J B |
| 100-42-5 | Styrene | <5.0 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | <5.0 |
| 127-18-4 | Tetrachloroethene | <5.0 |
| 108-88-3 | Toluene | <5.0 |
| 71-55-6 | 1,1,1-Trichloroethane | <5.0 |
| 79-00-5 | 1,1,2-Trichloroethane | <5.0 |
| 79-01-6 | Trichloroethene | <5.0 |
| 75-69-4 | Trichlorofluoromethane | <5.0 |
| 75-01-4 | Vinyl Chloride | <10.0 |
| | Total Xylenes | <5.0 |

CERTIFIED BY: Michael Veraldi

MICHAEL VERALDI LABORATORY DIRECTOR

DRAFT

KBF POLLUTION MANAGEMENT, INC.
1110 FARMINGDALE ROAD, NORTH LINDENHURST NEW YORK 11757-1024
PHONE (516)225-0007 - (800)366-1456 - FAX (516)225-0048

| | | | |
|---|---|---|---|
| **Client Sample ID:** | *BFMW-2* | **Date Received:** | *February 24, 1992* |
| **Lab Sample ID:** | *780-2* | **Date Analyzed** | *February 25, 1992* |
| **Sample Matrix:** | *Water* | **Customer ID#:** | *KBF ID #1327* |

PRIORITY POLLUTANT ANALYSIS EPA METHOD 624 VOLATILES

| CAS # | PARAMETER | ug/l |
|---|---|---|
| 67-64-1 | Acetone | <10.0 |
| 78-93-3 | 2-Butanone | <10.0 |
| 71-43-2 | Benzene | <5.0 |
| 75-27-4 | Bromodichloromethane | <5.0 |
| 75-25-2 | Bromoform | <5.0 |
| 74-83-9 | Bromomethane | <10.0 |
| 75-15-0 | Carbon Disulfide | <5.0 |
| 56-23-5 | Carbon Tetrachloride | <5.0 |
| 108-90-7 | Chlorobenzene | <5.0 |
| 75-00-3 | Chloroethane | <10.0 |
| 110-75-8 | 2-Chloroethylvinyl ether | <10.0 |
| 67-66-3 | Chloroform | <5.0 |
| 74-87-3 | Chloromethane | <10.0 |
| 124-48-1 | Dibromochloromethane | <5.0 |
| 95-50-1 | 1,2-Dichlorobenzene | <10.0 |
| 541-73-1 | 1,3-Dichlorobenzene | <10.0 |
| 106-46-7 | 1,4-Dichlorobenzene | <10.0 |
| 75-71-8 | Dichlorodifluoromethane | <10.0 |
| 75-34-3 | 1,1-Dichloroethene | <5.0 |
| 107-06-2 | 1,2-Dichloroethane | <5.0 |
| 75-35-4 | 1,1-Dichloroethane | <5.0 |
| 156-60-5 | trans-1,2-Dichloroethene | <5.0 |
| 78-87-5 | 1,2-Dichloropropane | <5.0 |
| 10061-01-5 | cis-1,3-Dichloropropene | <5.0 |
| 10061-02-6 | trans-1,3-Dichloropropene | <5.0 |
| 100-41-4 | Ethylbenzene | <5.0 |
| 591-78-6 | 2-Hexanone | <10.0 |
| 108-10-1 | 4-Methyl-2-Pentanone | <10.0 |
| 75-09-2 | Methylene Chloride | <5.0 |
| 100-42-5 | Styrene | <5.0 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | <5.0 |
| 127-18-4 | Tetrachloroethene | <5.0 |
| 108-88-3 | Toluene | <5.0 |
| 71-55-6 | 1,1,1-Trichloroethane | <5.0 |
| 79-00-5 | 1,1,2-Trichloroethane | <5.0 |
| 79-01-6 | Trichloroethene | <5.0 |
| 75-69-4 | Trichlorofluoromethane | <5.0 |
| 75-01-4 | Vinyl Chloride | <10.0 |
| | Total Xylenes | <5.0 |

CERTIFIED BY: Michael Veraldi
MICHAEL VERALDI LABORATORY DIRECTOR

**DRAFT**

KBF POLLUTION MANAGEMENT, INC.
1110 FARMINGDALE ROAD, NORTH LINDENHURST NEW YORK 11757-1024
PHONE (516)225-0007 - (800)366-1456 - FAX (516)225-0048

| | | | |
|---|---|---|---|
| **Client Sample ID:** | *BFMW-3* | **Date Received:** | *February 24, 1992* |
| **Lab Sample ID:** | *780-3* | **Date Analyzed** | *February 25, 1992* |
| **Sample Matrix:** | *Water* | **Customer ID#:** | *KBF ID #1327* |

PRIORITY POLLUTANT ANALYSIS EPA METHOD 624 VOLATILES

| CAS # | PARAMETER | ug/l |
|---|---|---|
| 67-64-1 | Acetone | <10.0 |
| 78-93-3 | 2-Butanone | <10.0 |
| 71-43-2 | Benzene | <5.0 |
| 75-27-4 | Bromodichloromethane | <5.0 |
| 75-25-2 | Bromoform | <5.0 |
| 74-83-9 | Bromomethane | <10.0 |
| 75-15-0 | Carbon Disulfide | <5.0 |
| 56-23-5 | Carbon Tetrachloride | <5.0 |
| 108-90-7 | Chlorobenzene | <5.0 |
| 75-00-3 | Chloroethane | <10.0 |
| 110-75-8 | 2-Chloroethylvinyl ether | <10.0 |
| 67-66-3 | Chloroform | <5.0 |
| 74-87-3 | Chloromethane | <10.0 |
| 124-48-1 | Dibromochloromethane | <5.0 |
| 95-50-1 | 1,2-Dichlorobenzene | <10.0 |
| 541-73-1 | 1,3-Dichlorobenzene | <10.0 |
| 106-46-7 | 1,4-Dichlorobenzene | <10.0 |
| 75-71-8 | Dichlorodifluoromethane | <10.0 |
| 75-34-3 | 1,1-Dichloroethene | <5.0 |
| 107-06-2 | 1,2-Dichloroethane | <5.0 |
| 75-35-4 | 1,1-Dichloroethane | <5.0 |
| 156-60-5 | trans-1,2-Dichloroethene | <5.0 |
| 78-87-5 | 1,2-Dichloropropane | <5.0 |
| 10061-01-5 | cis-1,3-Dichloropropene | <5.0 |
| 10061-02-6 | trans-1,3-Dichloropropene | <5.0 |
| 100-41-4 | Ethylbenzene | <5.0 |
| 591-78-6 | 2-Hexanone | <10.0 |
| 108-10-1 | 4-Methyl-2-Pentanone | <10.0 |
| 75-09-2 | Methylene Chloride | 4.93 J B |
| 100-42-5 | Styrene | <5.0 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | <5.0 |
| 127-18-4 | Tetrachloroethene | <5.0 |
| 108-88-3 | Toluene | <5.0 |
| 71-55-6 | 1,1,1-Trichloroethane | <5.0 |
| 79-00-5 | 1,1,2-Trichloroethane | <5.0 |
| 79-01-6 | Trichloroethene | <5.0 |
| 75-69-4 | Trichlorofluoromethane | <5.0 |
| 75-01-4 | Vinyl Chloride | <10.0 |
| | Total Xylenes | <5.0 |

CERTIFIED BY: Michael Veraldi

MICHAEL VERALDI LABORATORY DIRECTOR

DRAFT

KBF POLLUTION MANAGEMENT, INC.
1110 FARMINGDALE ROAD, NORTH LINDENHURST NEW YORK 11757-1024
PHONE (516)225-0007 - (800)366-1456 - FAX (516)225-0048

| | | | |
|---|---|---|---|
| **Client Sample ID:** | *TB-1* | **Date Received:** | *February 25, 1992* |
| **Lab Sample ID:** | *785-6* | **Date Analyzed** | *February 26, 1992* |
| **Sample Matrix:** | *Water* | **Customer ID#:** | *KBF ID #1327* |

## PRIORITY POLLUTANT ANALYSIS EPA METHOD 624 VOLATILES

| CAS # | PARAMETER | ug/l |
|---|---|---|
| 67-64-1 | Acetone | <10.0 |
| 78-93-3 | 2-Butanone | <10.0 |
| 71-43-2 | Benzene | <5.0 |
| 75-27-4 | Bromodichloromethane | <5.0 |
| 75-25-2 | Bromoform | <5.0 |
| 74-83-9 | Bromomethane | <10.0 |
| 75-15-0 | Carbon Disulfide | <5.0 |
| 56-23-5 | Carbon Tetrachloride | <5.0 |
| 108-90-7 | Chlorobenzene | <5.0 |
| 75-00-3 | Chloroethane | <10.0 |
| 110-75-8 | 2-Chloroethylvinyl ether | <10.0 |
| 67-66-3 | Chloroform | <5.0 |
| 74-87-3 | Chloromethane | <10.0 |
| 124-48-1 | Dibromochloromethane | <5.0 |
| 95-50-1 | 1,2-Dichlorobenzene | <10.0 |
| 541-73-1 | 1,3-Dichlorobenzene | <10.0 |
| 106-46-7 | 1,4-Dichlorobenzene | <10.0 |
| 75-71-8 | Dichlorodifluoromethane | <10.0 |
| 75-34-3 | 1,1-Dichloroethene | <5.0 |
| 107-06-2 | 1,2-Dichloroethane | <5.0 |
| 75-35-4 | 1,1-Dichloroethane | <5.0 |
| 156-60-5 | trans-1,2-Dichloroethene | <5.0 |
| 78-87-5 | 1,2-Dichloropropane | <5.0 |
| 10061-01-5 | cis-1,3-Dichloropropene | <5.0 |
| 10061-02-6 | trans-1,3-Dichloropropene | <5.0 |
| 100-41-4 | Ethylbenzene | <5.0 |
| 591-78-6 | 2-Hexanone | <10.0 |
| 108-10-1 | 4-Methyl-2-Pentanone | <10.0 |
| 75-09-2 | Methylene Chloride | 3.74 J |
| 100-42-5 | Styrene | <5.0 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | <5.0 |
| 127-18-4 | Tetrachloroethene | <5.0 |
| 108-88-3 | Toluene | <5.0 |
| 71-55-6 | 1,1,1-Trichloroethane | <5.0 |
| 79-00-5 | 1,1,2-Trichloroethane | <5.0 |
| 79-01-6 | Trichloroethene | <5.0 |
| 75-69-4 | Trichlorofluoromethane | <5.0 |
| 75-01-4 | Vinyl Chloride | <10.0 |
| | Total Xylenes | <5.0 |

CERTIFIED BY: Michael Veraldi
MICHAEL VERALDI LABORATORY DIRECTOR

DRAFT

US EPA TREATMENT AND RECOVERY FACILITY PERMIT NUMBER NYD981182769
NYS DOH ENVIRONMENTAL ANALYTICAL LABORATORY CERTIFICATION NUMBER NYS DOH 11014
NYS DEC HAZARDOUS WASTE TRANSPORTER NYS DEC 1A 140
CONNECTICUT DEQ HAZARDOUS WASTE TRANSPORTER CT HW 410

KBF POLLUTION MANAGEMENT, INC.
1110 FARMINGDALE ROAD, NORTH LINDENHURST NEW YORK 11757-1024
PHONE (516)225-0007 - (800)366-1456 - FAX (516)225-0048

| | | | |
|---|---|---|---|
| **Client Sample ID:** | *Field Blank* | **Date Received:** | *February 24, 1992* |
| **Lab Sample ID:** | *780-6* | **Date Analyzed** | *February 25, 1992* |
| **Sample Matrix:** | *Water* | **Customer ID#:** | *KBF ID #1327* |

PRIORITY POLLUTANT ANALYSIS EPA METHOD 624 VOLATILES

| CAS # | PARAMETER | ug/l |
|---|---|---|
| 67-64-1 | Acetone | <10.0 |
| 78-93-3 | 2-Butanone | <10.0 |
| 71-43-2 | Benzene | <5.0 |
| 75-27-4 | Bromodichloromethane | <5.0 |
| 75-25-2 | Bromoform | <5.0 |
| 74-83-9 | Bromomethane | <10.0 |
| 75-15-0 | Carbon Disulfide | <5.0 |
| 56-23-5 | Carbon Tetrachloride | <5.0 |
| 108-90-7 | Chlorobenzene | <5.0 |
| 75-00-3 | Chloroethane | <10.0 |
| 110-75-8 | 2-Chloroethylvinyl ether | <10.0 |
| 67-66-3 | Chloroform | <5.0 |
| 74-87-3 | Chloromethane | <10.0 |
| 124-48-1 | Dibromochloromethane | <5.0 |
| 95-50-1 | 1,2-Dichlorobenzene | <10.0 |
| 541-73-1 | 1,3-Dichlorobenzene | <10.0 |
| 106-46-7 | 1,4-Dichlorobenzene | <10.0 |
| 75-71-8 | Dichlorodifluoromethane | <10.0 |
| 75-34-3 | 1,1-Dichloroethene | <5.0 |
| 107-06-2 | 1,2-Dichloroethane | <5.0 |
| 75-35-4 | 1,1-Dichloroethane | <5.0 |
| 156-60-5 | trans-1,2-Dichloroethene | <5.0 |
| 78-87-5 | 1,2-Dichloropropane | <5.0 |
| 10061-01-5 | cis-1,3-Dichloropropene | <5.0 |
| 10061-02-6 | trans-1,3-Dichloropropene | <5.0 |
| 100-41-4 | Ethylbenzene | <5.0 |
| 591-78-6 | 2-Hexanone | <10.0 |
| 108-10-1 | 4-Methyl-2-Pentanone | <10.0 |
| 75-09-2 | Methylene Chloride | 4.56 J B |
| 100-42-5 | Styrene | <5.0 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | <5.0 |
| 127-18-4 | Tetrachloroethene | <5.0 |
| 108-88-3 | Toluene | <5.0 |
| 71-55-6 | 1,1,1-Trichloroethane | <5.0 |
| 79-00-5 | 1,1,2-Trichloroethane | <5.0 |
| 79-01-6 | Trichloroethene | <5.0 |
| 75-69-4 | Trichlorofluoromethane | <5.0 |
| 75-01-4 | Vinyl Chloride | <10.0 |
| | Total Xylenes | <5.0 |

CERTIFIED BY: Michael Veraldi

MICHAEL VERALDI LABORATORY DIRECTOR

DRAFT

KBF POLLUTION MANAGEMENT, INC.
1110 FARMINGDALE ROAD, NORTH LINDENHURST NEW YORK 11757-1024
PHONE (516)225-0007 - (800)366-1456 - FAX (516)225-0048

February 27, 1992

| | | | |
|---|---|---|---|
| **Client Sample ID:** | *BF MW-1* | **Date Received:** | *February 24, 1992* |
| **Lab Sample ID:** | *780-1* | **Date Digested:** | *February 25, 1992* |
| **Sample Matrix:** | *Water* | **Date Analyzed:** | *February 26, 1992* |
| **Customer ID#:** | *KBF-ID# 1327* | | |

ANALYTICAL DATA FOR METAL DIGESTION

| Metal | Chemical Symbol | Concentration mg/l |
|---|---|---|
| Aluminum | Al | <0.05 |
| Arsenic | As | <0.05 |
| Barium | Ba | <1.0 |
| Beryllium | Be | <0.05 |
| Cadmium | Cd | <0.05 |
| Calcium | Ca | 8.80 |
| Chromium | Cr | <0.05 |
| Cobalt | Co | <0.05 |
| Copper | Cu | <0.05 |
| Iron | Fe | 0.17 |
| Lead | Pb | 0.10 |
| Magnesium | Mg | 3.00 |
| Manganese | Mn | 0.07 |
| Mercury | Hg | <0.002 |
| Nickel | Ni | <0.05 |
| Potassium | K | 1.38 |
| Antimony | Sb | <0.05 |
| Selenium | Se | <0.05 |
| Silver | Ag | <0.05 |
| Sodium | Na | 3.20 |
| Thallium | Tl | 0.05 |
| Vanadium | V | <0.05 |
| Zinc | Zn | <0.05 |

CERTIFIED BY: Michael Veraldi
MICHAEL VERALDI
LABORATORY DIRECTOR

DRAFT

KBF POLLUTION MANAGEMENT, INC.
1110 FARMINGDALE ROAD, NORTH LINDENHURST NEW YORK 11757-1024
PHONE (516)225-0007 - (800)366-1456 - FAX (516)225-0048

February 27, 1992

| | | | |
|---|---|---|---|
| **Client Sample ID:** | *BF MW-2* | **Date Received:** | *February 24, 1992* |
| **Lab Sample ID:** | *780-2* | **Date Digested:** | *February 25, 1992* |
| **Sample Matrix:** | *Water* | **Date Analyzed:** | *February 26, 1992* |
| **Customer ID#:** | *KBF-ID# 1327* | | |

ANALYTICAL DATA FOR METAL DIGESTION

| Metal | Chemical Symbol | Concentration mg/l |
|---|---|---|
| Aluminum | Al | 1.43 |
| Arsenic | As | <0.05 |
| Barium | Ba | <1.0 |
| Beryllium | Be | <0.05 |
| Cadmium | Cd | <0.05 |
| Calcium | Ca | 48.5 |
| Chromium | Cr | <0.05 |
| Cobalt | Co | <0.05 |
| Copper | Cu | <0.05 |
| Iron | Fe | 0.91 |
| Lead | Pb | <0.05 |
| Magnesium | Mg | 4.70 |
| Manganese | Mn | 0.08 |
| Mercury | Hg | <0.002 |
| Nickel | Ni | <0.05 |
| Potassium | K | 2.33 |
| Antimony | Sb | <0.05 |
| Selenium | Se | <0.05 |
| Silver | Ag | <0.05 |
| Sodium | Na | 13.0 |
| Thallium | Tl | <0.05 |
| Vanadium | V | <0.05 |
| Zinc | Zn | <0.05 |

CERTIFIED BY: Michael Veraldi
MICHAEL VERALDI
LABORATORY DIRECTOR

**DRAFT**

KBF POLLUTION MANAGEMENT, INC.
1110 FARMINGDALE ROAD, NORTH LINDENHURST NEW YORK 11757-1024
PHONE (516)225-0007 - (800)366-1456 - FAX (516)225-0048

February 27, 1992

| | | | |
|---|---|---|---|
| **Client Sample ID:** | *Field Blank* | **Date Received:** | *February 24, 1992* |
| **Lab Sample ID:** | *780-6* | **Date Digested:** | *February 25, 1992* |
| **Sample Matrix:** | *Water* | **Date Analyzed:** | *February 26, 1992* |
| **Customer ID#:** | *KBF-ID# 1327* | | |

ANALYTICAL DATA FOR METAL DIGESTION

| Metal | Chemical Symbol | Concentration mg/l |
|---|---|---|
| Aluminum | Al | <0.05 |
| Arsenic | As | <0.05 |
| Barium | Ba | <1.0 |
| Beryllium | Be | <0.05 |
| Cadmium | Cd | <0.05 |
| Calcium | Ca | <0.05 |
| Chromium | Cr | <0.05 |
| Cobalt | Co | <0.05 |
| Copper | Cu | <0.05 |
| Iron | Fe | <0.05 |
| Lead | Pb | <0.05 |
| Magnesium | Mg | <0.05 |
| Manganese | Mn | <0.05 |
| Mercury | Hg | <0.002 |
| Nickel | Ni | <0.05 |
| Potassium | K | <0.05 |
| Antimony | Sb | <0.05 |
| Selenium | Se | <0.05 |
| Silver | Ag | <0.05 |
| Sodium | Na | <0.05 |
| Thallium | Tl | <0.05 |
| Vanadium | V | <0.05 |
| Zinc | Zn | <0.05 |

CERTIFIED BY: Michael Veraldi
MICHAEL VERALDI
LABORATORY DIRECTOR

**DRAFT**

KBF POLLUTION MANAGEMENT, INC.
1110 FARMINGDALE ROAD, NORTH LINDENHURST NEW YORK 11757-1024
PHONE (516)225-0007 - (800)366-1456 - FAX (516)225-0048

February 27, 1992

| | | | |
|---|---|---|---|
| **Client Sample ID:** | *BF MW-3* | **Date Received:** | *February 24, 1992* |
| **Lab Sample ID:** | *780-3* | **Date Digested:** | *February 25, 1992* |
| **Sample Matrix:** | *Water* | **Date Analyzed:** | *February 26, 1992* |
| **Customer ID#:** | *KBF-ID# 1327* | | |

ANALYTICAL DATA FOR METAL DIGESTION

| Metal | Chemical Symbol | Concentration mg/l |
|---|---|---|
| Aluminum | Al | 0.40 |
| Arsenic | As | <0.05 |
| Barium | Ba | <1.0 |
| Beryllium | Be | <0.05 |
| Cadmium | Cd | <0.05 |
| Calcium | Ca | 16.5 |
| Chromium | Cr | <0.05 |
| Cobalt | Co | <0.05 |
| Copper | Cu | <0.05 |
| Iron | Fe | 0.49 |
| Lead | Pb | <0.05 |
| Magnesium | Mg | 1.75 |
| Manganese | Mn | <0.05 |
| Mercury | Hg | <0.002 |
| Nickel | Ni | <0.05 |
| Potassium | K | 1.89 |
| Antimony | Sb | <0.05 |
| Selenium | Se | <0.05 |
| Silver | Ag | <0.05 |
| Sodium | Na | 4.65 |
| Thallium | Tl | <0.05 |
| Vanadium | V | <0.05 |
| Zinc | Zn | <0.05 |

CERTIFIED BY: Michael Veraldi DRAFT
MICHAEL VERALDI
LABORATORY DIRECTOR