

ENVIRON

March 4, 2003

Federal Express

Carl Hoffman
New York State Department of Environmental Conservation
Bureau of Hazardous Site Control
50 Wolf Road, Room 252
Albany, New York 12233-7010

Re: December 2002 Ground Water Monitoring Results
Former Bulova Corporation Facility
Valley Stream, New York
NYSDEC Site No. 1-30-084

Dear Mr. Hoffman:

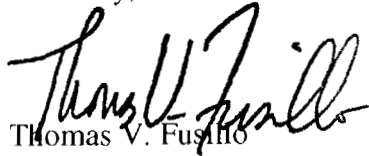
ENVIRON International Corporation (ENVIRON) has prepared this letter, on behalf of Bulova Corporation (Bulova), to present the results of additional ground water monitoring activities at the former Bulova facility in Valley Stream, New York (the "Site") as requested in the New York State Department of Environmental Conservation's (NYSDEC) letter dated October 16, 2002.

The additional monitoring activities were completed in December 2002 and included the measurement of ground water levels at seven monitoring wells (MW-HD1 through MW-HD7) and the collection of ground water samples from four monitoring wells (MW-HD4, MW-HD5, MW-HD6, and MW-HD7). NYSDEC Personnel were on-site during the December 2002 sampling activities and collected split-samples at each sampling location. Activities completed during the December 2002 monitoring event were performed in accordance with the procedures detailed in the *Operation and Maintenance Plan* (ENVIRON, March 2000/May 24, 2000).

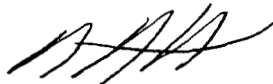
Ground water elevation data is summarized in Table 1 and presented on Figures 1 and 2. Analytical results associated with the December 2002 ground water sampling event are summarized in Table 2. A Data Usability Summary Report associated with the sampling event is provided in Attachment A. Based on ENVIRON's review, all samples were successfully analyzed for the requested compounds.

Please contact us at your earliest convenience to discuss any questions or comments regarding these monitoring activities.

Sincerely,



Thomas V. Fusillo
Principal



Michael J. Potts
Manager

TVFMJP:srh
02-1961APRIN_WPV17793v1.DOC

Attachments

cc: C. Montroy (NYSDEC)
B. Weber (Bulova)



LEGEND

PROPERTY BOUNDARY

BUILDING OUTLINE

FORMER BUILDING

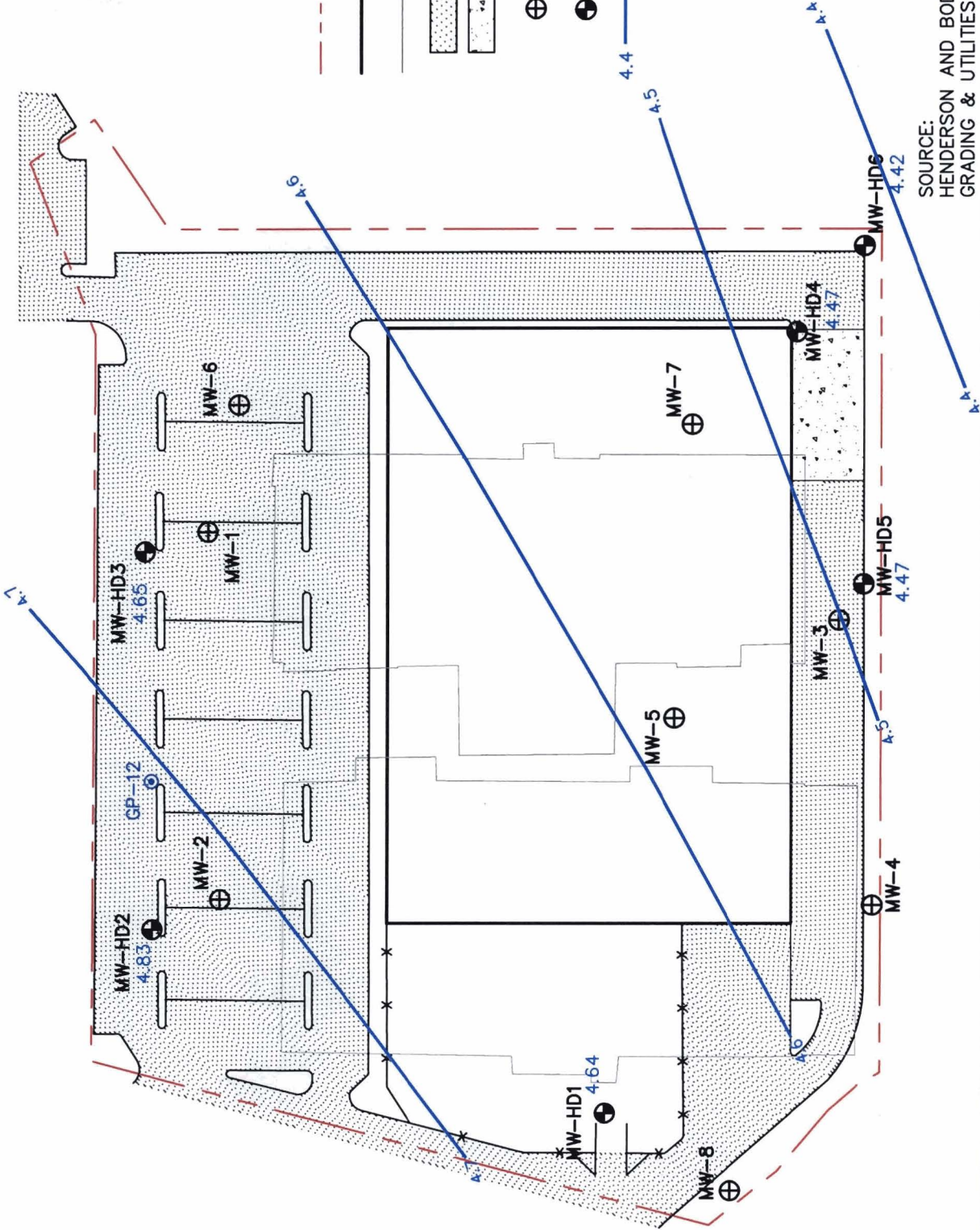
PAVED AREA

CONCRETE AREA

ABANDONED MONITORING WELL

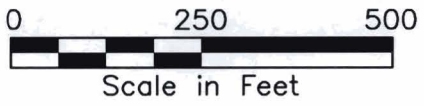
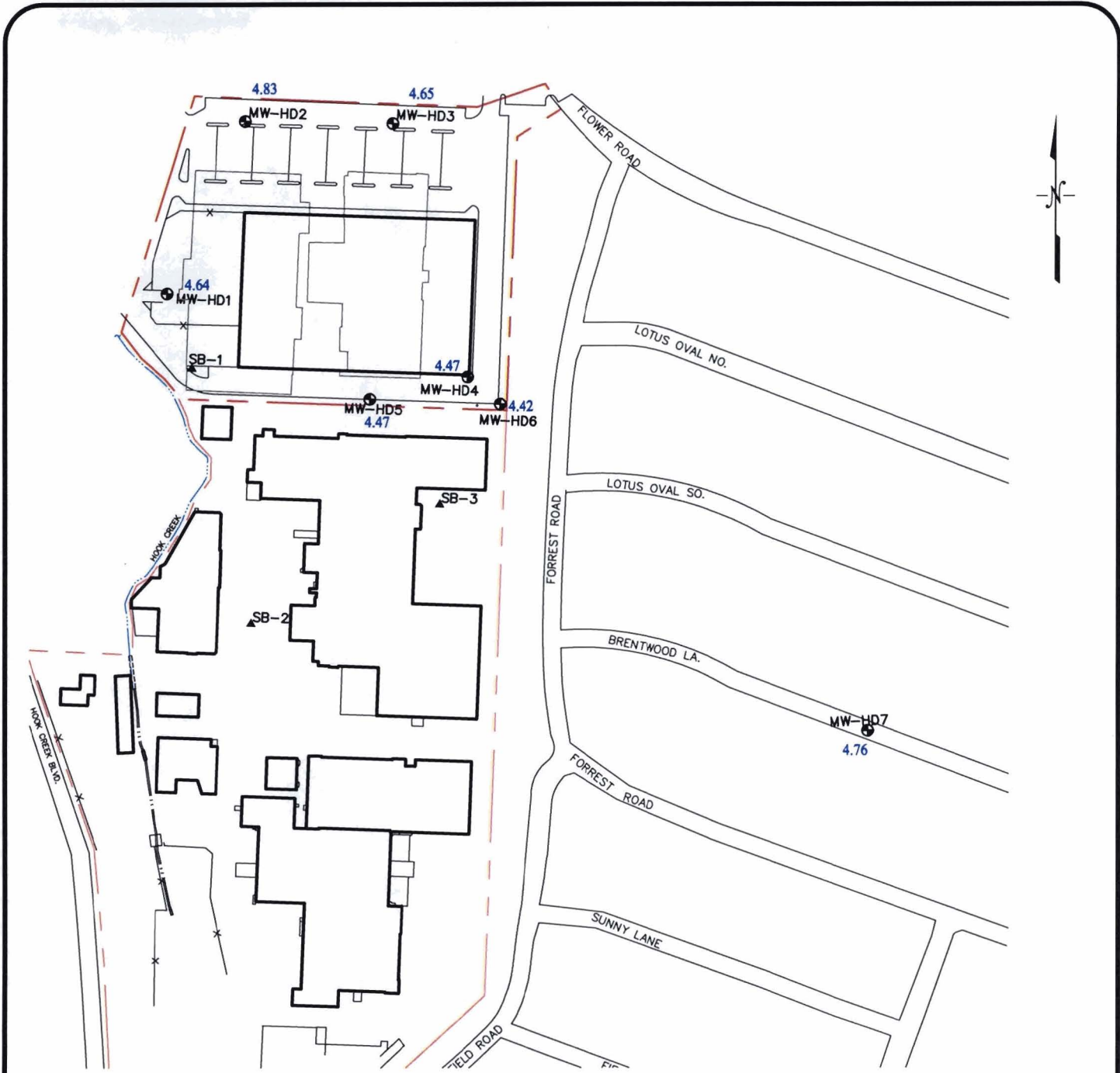
MONITORING WELL

APPROXIMATE GROUNDWATER CONTOUR AND ELEVATION; DECEMBER 18, 2002 (FT AMSL)



SOURCE:
HENDERSON AND BODWELL CONSULTING ENGINEERS
GRADING & UTILITIES PLAN, SEPT. 1992

GROUND WATER POTENTIOMETRIC SURFACE – DECEMBER 2002
FORMER BULOVA CORPORATION FACILITY
VALLEY STREAM, NEW YORK



- - - - PROPERTY BOUNDARY
- BUILDING OUTLINE
- FORMER BUILDING
- STREAM
- DITCH
- + MONITORING WELL
- ▲ SOIL BORING LOCATION
- 4.76 GROUND WATER ELEVATION;
DECEMBER 18, 2002 (FT AMSL)

ATTACHMENT A

Data Usability Summary Report

**DATA USABILITY SUMMARY REPORT (DUSR)
BULOVA: VALLEY STREAM
SAMPLING EVENT – DECEMBER 2002**

I. INTRODUCTION

During this sampling event, a total of seven aqueous samples, including wash and trip blanks were collected by ENVIRON and submitted to Accutest Laboratories in Dayton, New Jersey for analysis. The aqueous samples were analyzed for priority pollutant volatile organics (VOC) plus Freon 113 using SW846 Method 8260. Accutest prepared one data package (Job Number N29052) using the Category B Deliverables for New York Analytical Services Protocol (ASP).

ENVIRON reviewed the analytical and quality assurance/quality control (QA/QC) results contained in the data packages as well as the raw data. The data validation procedure and criteria were based on the *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review* (October 1999), and the appropriate methods where applicable. The USEPA data qualifiers used in this report are listed in Table 1.

Overall, the data is acceptable. The data package provided by Accutest met the requirements for a DUSR. No data transfer deviations were identified.

The description of the data review is in Section II and summarizes any problems detected that required the qualification of data. All samples were successfully analyzed for the requested analyses.

TABLE 1
Data Qualifier Definitions

The following definitions provide brief explanations of the national qualifiers assigned to results in the data review process.

| | |
|----|---|
| U | The analyte was analyzed for, but was not detected above, the reported sample quantitation limit. |
| J | The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample. |
| N | The analysis indicates the presence of any analyte for which there is presumptive evidence to make a “tentative identification.” |
| NJ | The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated numerical value represents its approximate concentration. |
| UJ | The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample. |
| R | The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified. |

II. DATA REVIEW

VOLATILE ORGANIC ANALYSIS (SW846 Method 8260)

A. Technical Holding Time

The holding time requirement was met for all samples.

B. Instrument Performance Check

All field samples were analyzed within the 12 hour period following the injection of the BFB. Method 8260 requires analysis within 12 hours of the instrument performance check.

C. Calibration

Initial Calibration

No problems were identified during this review.

Continuing Calibration

No problems requiring data qualification were identified during this review.

D. Blanks

No problems were identified during this review.

E. Surrogate Standards

No problems were identified during this review.

F. Matrix Spike/Matrix Spike Duplicate/Blank Spike (MS/MSD/BS)

The MS/MSD/BS analyses are used to determine long-term precision and accuracy of the analytical method for various matrices and/or sites. MS/MSD analyses are not used by themselves to qualify data points but are used in conjunction with other QC data to determine data usability issues.

No problems requiring the qualification of data were identified during this review.

G. Internal Standards

No problems were identified during this review.

H. Instrument Performance Check (BFB)

No problems were identified during this review.

I. Compound Identification, Quantitation and Detection Limits

No problems were identified during this review.

J. Overall Data Assessment

Data quality is acceptable.

TABLES

TABLE 1
Ground Water Elevation Data
Former Bulova Corporation Facility – Valley Stream, New York

| Monitoring Well | Top of Casing Elevation (ft AMSL) | December 18, 2002 | |
|-----------------|---|----------------------------|------------------------|
| | | Depth to Water (ft TOC) | Elevation (ft AMSL) |
| MW-HD1 | 9.93 | 5.29 | 4.64 |
| MW-HD2 | 9.45 | 4.62 | 4.83 |
| MW-HD3 | 9.93 | 5.28 | 4.65 |
| MW-HD4 | 10.09 | 5.62 | 4.47 |
| MW-HD5 | 9.45 | 4.98 | 4.47 |
| MW-HD6 | 9.97 | 5.55 | 4.42 |
| MW-HD7 | 9.33 | 4.57 | 4.76 |

Notes:

1. Abbreviations:

TOC: Top of casing

AMSL: Above mean sea level

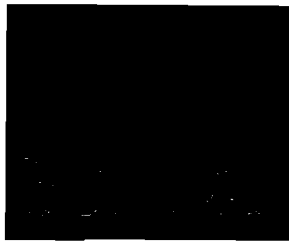
TABLE 2
Summary of December 2002 Ground Water Sampling Results
Former Bulova Corporation Facility - Valley Stream, New York

| Location | MW-HD4 | MW-HD5 | MW-HD5 | MW-HD6 | MW-HD7 | New York |
|-----------------------------------|----------------|------------|------------|----------|----------|------------------|
| Sample Collection Date | 12/18/02 | 12/18/02 | 12/18/02 | 12/18/02 | 12/18/02 | Ambient Water |
| Sample Method | Bailer | Bailer | Bailer | Bailer | Bailer | Quality Criteria |
| Comments | | | Duplicate | | | |
| Volatile Organic Compounds | | | | | | |
| 1,2-Dichlorobenzene | 1.0 (j) | ND | ND | ND | ND | 3 |
| 1,4-Dichlorobenzene | 3.2 (j) | ND | ND | ND | ND | 3 |
| 1,1-Dichloroethane | 24.3 | ND | ND | ND | 0.7 (j) | 5 |
| 1,1-Dichloroethene | 60.9 | ND | ND | ND | ND | 5 |
| <i>cis</i> -1,2-Dichloroethene | 2.6 (j) | 7.1 | 7.0 | ND | ND | 5 |
| Freon 113 | 309 | ND | ND | 2.0 (j) | 2.8 (j) | 5 |
| Tetrachloroethene | 7.3 | 1.1 | 1.1 | 0.58 (j) | ND | 5 |
| 1,1,1-Trichloroethane | 30 | ND | ND | ND | ND | 5 |
| Trichloroethene | 16.5 | 2.6 | 2.7 | 1.2 | 3.4 | 5 |
| Vinyl Chloride | ND | 1.9 | 2.1 | ND | ND | 2 |

Notes:

1. All concentrations are reported in micrograms per liter ($\mu\text{g/L}$) (parts per billion [ppb]).
2. Only targeted compounds detected in one or more samples are listed in this table.
3. Bold values meet or exceed the New York Ambient Water Quality Criteria.
4. Abbreviations:
ND = Not Detected
(j) = Estimated Concentration

FIGURES



NOV 25 2002

ROBERT A. WEBER
VICE PRESIDENT OF OPERATIONS
718-204-3277

November 21, 2002

Carl Hoffman, P.E.
Environmental Engineer, 2
Western Investigation Section
Bureau of Hazardous Site Control, 11th Floor
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233-7014

Re: 101 Green Acres Road Site
Site Code 1-30-084

Dear Mr. Hoffman:

This letter is in response to your letter to Mitchell Bernstein dated October 16, 2002, regarding Bulova Corporation's request to the Department to remove the above-referenced site from the Registry of Inactive Hazardous Waste Disposal Sites. That request was initially submitted to the Department by Bulova's consultant ENVIRON in a letter dated May 14, 2002, and was the subject of our meeting on August 27, 2002.

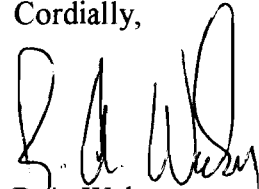
In your October 16 letter, you state that "in order to complete the two year evaluation of this project, a sampling of MW-HD5, and a resampling of MW-HD4, MW-HD6, and MW-HD7, for volatile organic compounds and Freon is needed." You also state that upon receiving the analytical results of that sampling, which you request be conducted before year-end, "all site information will be considered and a determination will be made."

Bulova is pleased that the Department has reconsidered its prior position that sampling for an additional two year period is necessary. Accordingly, Bulova voluntarily agrees to collect the additional sampling data specified in your October 16 letter. As you requested, you will be notified seven days prior to the start of the field work.

Thank you again for your reconsideration of your earlier position in this matter.

BULOVA CORPORATION
One Bulova Avenue Woodside, NY 11377-7874
Tel: (718) 204 3300 Fax: (718) 204 3546

Cordially,



R.A. Weber

RAW:dg

Cc: Denise D'Ambrosio
Mitchell Bernstein
Thomas Fusillo
William Gilday
Michael Potts

New York State Department of Environmental Conservation
Division of Environmental Remediation
Bureau of Program Management, 12th Floor
625 Broadway, Albany, New York 12233-7012
Phone: (518) 402-9764 • FAX: (518) 402-9722
Website: www.dec.state.ny.us



Certified Mail
Return Receipt Requested

DEC 17 2002

Mitchell H. Bernstein, Esq.
Van Ness Feldman, P.C.
1050 Thomas Jefferson Street, N.W.
Washington, D.C. 20007-3877

bcc: A. Quartararo
D. Norvik
G. DeMarco
C. Montroy
C. Hoffman
File

GD

Dear Mr. Bernstein:

Re: 101 Green Acres Road
Site No. 1-30-084
Consent Order Index
No. W1-0793-97-07
Dated: June 29, 2000
Bill No. 01

Enclosed are Cost Summaries of expenditures incurred by New York State for its activities outlined in the Consent Order in connection with overseeing remedial activities at the inactive hazardous waste disposal site. In accordance with Paragraph VIII, Consent Order Index No. W1-0793-97-07, the New York State Department of Environmental Conservation (NYSDEC) is requesting payment in the amount of \$60,980.35 within 30 days from receipt of this letter.

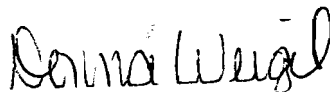
The check should be made payable to the New York State Department of Environmental Conservation and sent to the address below:

New York State Department of Environmental Conservation
Division of Environmental Remediation
Bureau of Program Management
625 Broadway, 12th Floor
Albany, NY 12233-7012
Attn: Donna Weigel, Bureau Director

The summaries include costs incurred by NYSDEC and the New York State Department of Health (DOH) for the site through March 31, 2002 and are documented by the enclosed exhibits. Exhibit I-A is a breakdown of the past costs associated with this site prior to the effective date of the Consent Order, July 23, 1997 through June 28, 2000. Exhibit I-B is a breakdown of costs since the effective date of the Consent Order, June 29, 2000 through March 31, 2001. Although this Consent Order has a cost cap of \$2,500 annually, the amount has been prorated for the nine months included in this billing period. Consent Orders with cost caps are now calculated by State Fiscal Year. Exhibit I-C includes expenditures from April 1, 2001 through March 31, 2002. If you have any questions on the enclosed information, please contact Dottie Norvik at (518) 402-9719.

Thank you for your attention to this matter.

Sincerely,

A handwritten signature in black ink that reads "Donna Weigel". The signature is written in a cursive style with a large, looped 'D' and a long, sweeping tail on the 'l'.

Donna Weigel
Director
Bureau of Program Management
Division of Environmental Remediation

Enclosure

cc: Robert Weber
Vice President of Operations
Bulova Corporation
One Bulova Avenue
Woodside, NY 11377-7874

EXHIBIT I-A

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION
BUREAU OF PROGRAM MANAGEMENT

COST SUMMARY

SITE NAME: 101 GREEN ACRES ROAD
SITE NO.: 1-30-084
CONSENT ORDER NO.: W1-0793-97-07
EFFECTIVE DATE: JUNE 29, 2000
BILL NO.: 01
TIME PERIOD: 7/23/97 through 6/28/00

| COST CATEGORY | AMOUNTS |
|----------------------------|-------------|
| * DIRECT PERSONAL SERVICES | \$27,346.91 |
| * FRINGE | \$8,279.92 |
| * INDIRECT | \$10,460.48 |
| * PERSONAL SVCS SUBTOTAL | \$46,087.31 |
| CONTRACTUAL | \$0.00 |
| ** LABORATORY | \$741.61 |
| TRAVEL | \$0.00 |
| DEC SUBTOTAL | \$46,828.92 |
| *** DOH | \$11,887.85 |
| TOTAL | \$58,716.77 |

* SEE EXHIBIT II-A FOR PERSONAL SERVICES COST BREAKDOWN

** SEE EXHIBIT III-A FOR LABORATORY COST BREAKDOWN

*** SEE EXHIBIT IV-A FOR DOH COST BREAKDOWN

EXHIBIT I-B

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION
BUREAU OF PROGRAM MANAGEMENT

COST SUMMARY

SITE NAME: 101 GREEN ACRES ROAD
SITE NO.: 1-30-084
CONSENT ORDER NO.: W1-0793-97-07
EFFECTIVE DATE: JUNE 29, 2000
BILL NO.: 01
TIME PERIOD: 06/29/00 through 3/31/01

| COST CATEGORY | AMOUNTS |
|--|-------------------|
| * DIRECT PERSONAL SERVICES | \$1,674.09 |
| * FRINGE | \$504.92 |
| * INDIRECT | \$762.65 |
| * PERSONAL SVCS SUBTOTAL | \$2,941.66 |
| CONTRACTUAL | \$0.00 |
| LABORATORY | \$0.00 |
| TRAVEL | \$0.00 |
| DEC SUBTOTAL | \$2,941.66 |
| ** DOH | \$45.43 |
| TOTAL | \$2,987.09 |
| TOTAL DUE PER ANNUAL CAP OF \$2500 BASED ON 9 OF 12 MONTHS: | \$1,875.00 |

* SEE EXHIBIT II-B FOR PERSONAL SERVICES COST BREAKDOWN

** SEE EXHIBIT III-B FOR DOH COST BREAKDOWN

EXHIBIT I-C

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION
BUREAU OF PROGRAM MANAGEMENT

COST SUMMARY

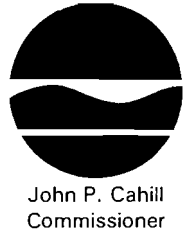
SITE NAME: 101 GREEN ACRES ROAD
SITE NO.: 1-30-084
CONSENT ORDER NO.: W1-0793-97-07
EFFECTIVE DATE: JUNE 29, 2000
BILL NO.: 01
TIME PERIOD: 4/01/01 through 3/31/02

| COST CATEGORY | AMOUNTS |
|----------------------------|----------|
| * DIRECT PERSONAL SERVICES | \$224.37 |
| * FRINGE | \$71.48 |
| * INDIRECT | \$92.73 |
| * PERSONAL SVCS SUBTOTAL | \$388.58 |
| CONTRACTUAL | \$0.00 |
| LABORATORY | \$0.00 |
| TRAVEL | \$0.00 |
| DEC SUBTOTAL | \$388.58 |
| DOH | \$0.00 |
| TOTAL | \$388.58 |

* SEE EXHIBIT II-C FOR PERSONAL SERVICES COST BREAKDOWN

New York State Department of Environmental Conservation
Division of Environmental Remediation
Bureau of Eastern Remedial Action, Room 242
50 Wolf Road, Albany, New York 12233-7010
Phone: (518) 457-3395

*TOM/Cahill
FYA*



MEMORANDUM

To: Gerald Rider, Section Chief, Bureau of Hazardous Site Control

From: George Heitzman, Environmental Engineer 2, Bureau of Eastern Remedial Action

Re: 101 Green Acres Road, Site No. 1-30-084

Date: 2/2/01

George Heitzman

The 101 Green Acres Road site is in the operations and maintenance phase of the project and is ready for transfer to your section.

A groundwater monitoring program has been implemented per the record of decision (ROD). Attached to this memo is the first two installments of analytical results for the groundwater monitoring program, the operations and maintenance (O&M) plan, and the ROD. This information is for your review and records.

Please contact the remedial project manager, Crystal Montroy, if you have any questions.

cc: C. Montroy

FEB 02 2001

| | | |
|--|---|---|
| Operation & Maintenance NEEDS SUMMARY [Completion of this Form starts the O&M planning process.] | TO: O&M Section, BHSC 50 Wolf Road Albany NY 12233-7010 | ¹ Site ID No.: 1-30-084 Site Name: 101 Green Acres Operable Unit No.(s): |
| | ³ FUNDING SOURCE: <input type="checkbox"/> Federal Superfund <input type="checkbox"/> Title 3 <input type="checkbox"/> State Superfund <input type="checkbox"/> Volunteer <input checked="" type="checkbox"/> Responsible Party <input type="checkbox"/> Brownfields | FROM: |

| |
|---|
| ⁴ Construction End date: Month: NFA Year: <input type="checkbox"/> Planned <input type="checkbox"/> Actual |
| ⁵ Institutional controls? <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES Describe: Deed restriction for on-site groundwater usage |
| ⁶ Total Cost/Year: <input type="checkbox"/> Estimated <input type="checkbox"/> Actual Comments on cost: \$ |
| ⁷ Until what date will Remedial Action Contractor perform O&M? Month: March Year: 2002 ^{7.a} Tentative Transfer Schedule: |
| ⁸ Brief Description of Remedy and O&M Requirements, including Long-term Monitoring: Monitor four on-site and one off-site groundwater wells for chlorinated solvents |
| ⁹ Names and Addresses of Project Managers: Remedial Action: Crystal Montroy, BERA Construction: None EPA: None Other Contacts: Robert Weber, Bulova, One Bulova Way, Woodside, NY 11377-7874 |

| | |
|--|--------------------------|
| BHSC STAFF WILL FILL IN THESE SHADED AREAS | |
| Recommended O&M Option after Shakedown: | |
| Lead Agency for O&M: Address: | Project Manager for O&M: |
| Suggested methods to Perform O&M, per Table 3: "O&M Assignment Alternatives" O&M S.O.P.: | |

**OPERATION AND MAINTENANCE PLAN
FORMER BULOVA CORPORATION FACILITY
VALLEY STREAM, NEW YORK**

Prepared for

Bulova Corporation
Woodside, New York

Prepared by

ENVIRON International Corporation
Princeton, New Jersey

March 2000
Project No. 02-1961A

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A T T A C H M E N T S

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| Attachment A: | Phase III Sampling Data |
| Attachment B: | Supplemental Soil Gas Survey Data |
| Attachment C: | Post-Demolition Sampling Data |
| Attachment D: | Soil Mechanics Sampling Data |

I. INTRODUCTION

A. Purpose

ENVIRON International Corporation (ENVIRON) has prepared this report, on behalf of Bulova Corporation (Bulova), to serve as an Operation and Maintenance Plan for the former Bulova manufacturing facility in Valley Stream, New York (the "Site"). Based on the results of prior investigations and remedial actions at the Site, the New York State Department of Environmental Conservation (NYSDEC) has determined that no further remedial actions are warranted at the Site. As detailed in the *Record of Decision*, NYSDEC has determined that the remedial actions completed to date at the Site have eliminated or mitigated all significant threats to the public health or the environment.

In conjunction with the reclassification of the Site from a Class 2 to a Class 4 site on the New York State Registry of Inactive Hazardous Waste Disposal Sites, NYSDEC has required that ground water monitoring be completed at and in the vicinity of the Site for a period of two years. These monitoring activities would also include the installation of an off-site monitoring well. This report details the environmental setting of the former Bulova manufacturing facility, summarizes the results of prior investigations at the Site, and presents the field procedures associated with the proposed downgradient monitoring well installation and the ground water monitoring program.

B. Background

1. Location and Physical Setting

The Site is located in the town of Hempstead, Nassau County, New York in a mixed-use urban area with residential, commercial, and light industrial properties. The Site is included in the Lynbrook, New York USGS topographic quadrangle and the Site location is

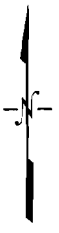
depicted on Figure 1. The Site covers approximately 7.2 acres and is bordered to the northwest and northeast by retail stores and paved parking areas. The Green Acres shopping mall is immediately northeast of the Site. The northern limits of the retail stores and parking areas are bordered by the Sunrise Highway and the Far Rockaway branch of the Long Island Railroad. A residential area is adjacent to the eastern property boundary. Light industrial facilities, including distribution and shipping companies, are located to the south of the Site at the Airport Industrial Office park (AIOP). John F. Kennedy International Airport is approximately 2 miles southwest of the Site. The Site layout is depicted on Figure 2.

Hook Creek, an intermittent stream, is located beyond the western edge of the Site. The creek receives storm water drainage from the Site as well as from upgradient areas including paved parking areas, Sunrise Highway, and the Long Island Railroad adjacent to the Sunrise highway. Hook Creek flows south, merges with Valley Stream approximately 0.5 miles south of the Site, and then flows to the west, discharging to Jamaica Bay. Clear Stream, located approximately 0.3 miles southeast of the Site, flows to the south and joins Valley Stream approximately 0.2 miles upstream of Hook Creek. In the vicinity of the Site, the Nassau/Queens County line roughly follows Hook Creek.

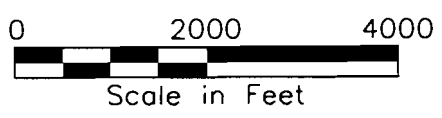
2. Geology

The Site is located within Long Island's glacial outwash plain, which extends 10 miles southward from the Ronkonkama and Harbor Hill terminal moraines to the south shore. Surface topography at the Site is flat, with surface elevations ranging from approximately 8 to 10 feet above mean sea level (amsl). Topography in the vicinity of the Site is also generally flat and gently slopes toward the south and southeast in the direction of Hook Creek and Valley Stream.

The Site is underlain by upper Pleistocene deposits, which form the upper glacial aquifer. The upper Pleistocene deposits consist mainly of stratified beds of fine to coarse sand and of sand and gravel. Thin beds of silt and clay are often interbedded with the coarse-grained material. The upper glacial aquifer is underlain by the "20-foot" clay and the Gardiners Clay. The "20-foot" clay is lithologically similar to the underlying Gardiners



SITE



SOURCE: 40°39'35" N, 73°43'28" W WGS84 TOPOI map printed on 01/20/00 from "NYC.tpo"

ENVIRON

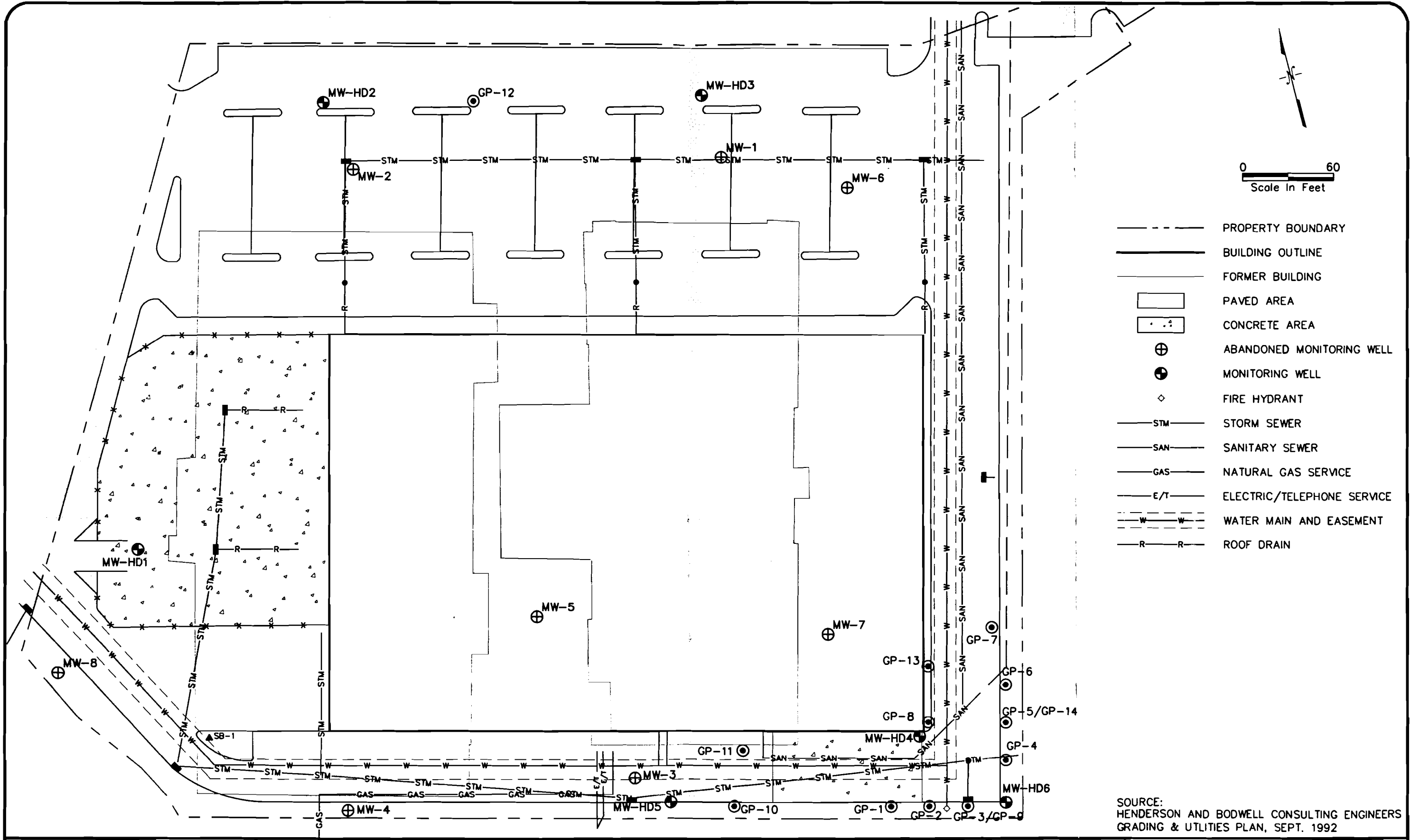
SITE LOCATION MAP
 FORMER BULOVA CORPORATION FACILITY
 VALLEY STREAM, NEW YORK

FIGURE
 1

DRAFTED BY: KPM

DATE: 1/20/00

1961AJ01



SOURCE:
 HENDERSON AND BODWELL CONSULTING ENGINEERS
 GRADING & UTILITIES PLAN, SEPT. 1992

ENVIRON

DRAFTED BY: KPM DATE: 8/5/98

SITE MAP
 FORMER BULOVA CORPORATION FACILITY
 VALLEY STREAM, NEW YORK

FIGURE

2

1961AW02

Clay and the two units are distinguished primarily by stratigraphic position. In some portions of southern Nassau County, the "20-foot" clay is separated from the Gardiners Clay by a layer of upper Pleistocene deposits. The "20-foot" clay and the Gardiners Clay represent the major confining layers within the upper portion of the ground water reservoir beneath Nassau County. Additional information related to the regional geology is detailed in the *Geologic Review and Well Record Search Results* letter report (ENVIRON, April 16, 1998).

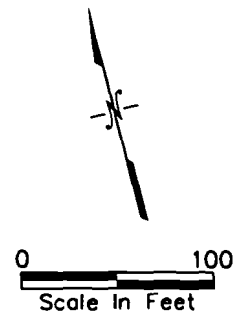
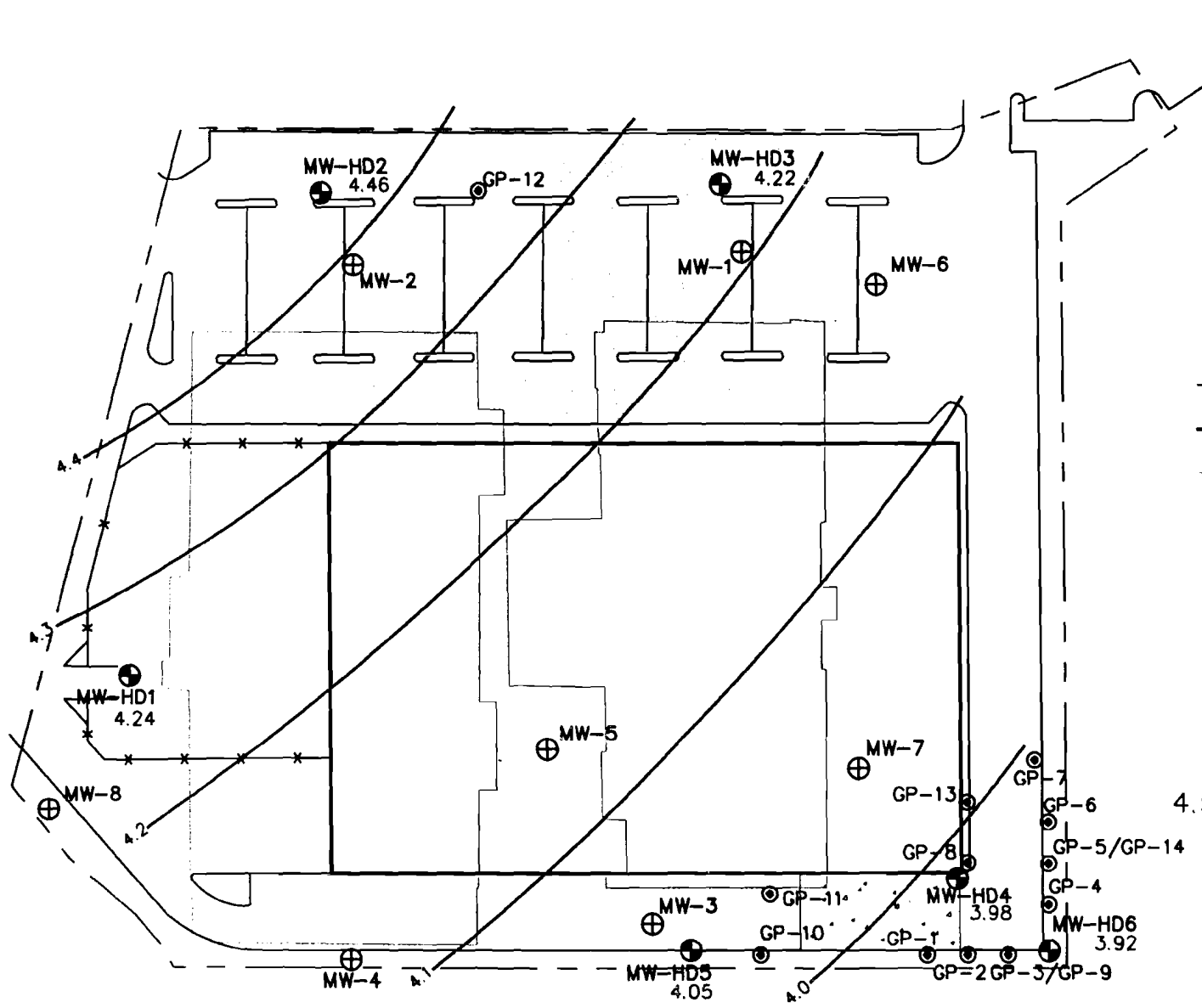
Based on observations during the prior site investigations, geologic conditions at and in the vicinity of the Site are consistent with the findings of regional geologic investigations. The Site is underlain by fine to medium sands. Ground water is located approximately 5 feet below ground surface (bgs). Regional geologic investigation reports indicate that the northern boundary of the "20-foot" clay is present in the vicinity of the Site, and the site investigation results indicate that the "20-foot" clay is discontinuous beneath the Site. Where the "20-foot" clay is present, a thin layer of upper Pleistocene deposits appear to be positioned between the "20-foot" clay and the Gardiners Clay. The top of the "20-foot" clay has been encountered at depths of 38 – 45 feet bgs and the top of the Gardiners Clay has been encountered at depths of 45 – 52 feet bgs.

Ground water level measurements collected during the investigations at the Site indicate that shallow ground water flow beneath the Site is directed toward the southeast at a very small hydraulic gradient of less than 0.001 ft/ft. Shallow ground water elevations at the Site did not appear to be tidally-influenced. The ground water potentiometric surface is depicted on Figure 3.

3. Site History

Industrial operations at the Site are believed to have started in the late 1920s with the construction of the Curtiss-Wright Airport in 1929.¹ Airport related structures at the Site included airplane hangars and a portion of the runway. Although Curtiss Flying Service abandoned the airfield in approximately 1938, several other air service companies continued

¹ Information related to prior site operations was obtained from a Phase I environmental assessment performed by Certified Engineering and Testing Company during 1990.



- LEGEND**
- PROPERTY BOUNDARY
 - BUILDING OUTLINE
 - - - FORMER BUILDING
 - ▨ PAVED AREA
 - ▭ CONCRETE AREA
 - ⊕ ABANDONED MONITORING WELL
 - MONITORING WELL
 - ⊙ GEOPROBE SAMPLE LOCATION
 - 4.5 — APPROXIMATE GROUNDWATER CONTOUR AND ELEVATION; JANUARY 8, 1999 (FT AMSL)

SOURCE:
HENDERSON AND BODWELL CONSULTING ENGINEERS
GRADING & UTILITIES PLAN, SEPT. 1992

ENVIRON

GROUND WATER POTENTIOMETRIC SURFACE—JANUARY 1999
FORMER BULOVA CORPORATION FACILITY
VALLEY STREAM, NEW YORK

FIGURE
3

DRAFTED BY: KPM/CCG DATE: 5/25/99

1961AW03

to operate the airfield. Occupants included the Columbia Aircraft Corporation, which built airplanes for military and private concerns between 1940 and 1948. The Bulova Watch Company leased the property from 1948 until 1960, when Bulova took title of the property.

When Bulova took occupancy of the Site in 1948, two airplane hangars existed on the eastern portion of the Site. Based on discussions with Bulova personnel, it is believed that Bulova connected the airplane hangars in 1952, creating Building No. 1. Building No. 2 was erected west of Building No. 1 in 1967. During Bulova's occupancy, the eastern and northern portions of the Site were paved; a portion of the paved area incorporated the original concrete airfield runway, which traversed the eastern portion of the property from north to south. Bulova ceased operations at the Site during 1990 and title of the property was transferred to Home Depot in April 1993.

The Site was redeveloped during 1993. Redevelopment included demolition of all existing Site structures and construction of a Home Depot retail store. The entire Site is currently covered by the Home Depot building and the associated paved parking areas. Potable water and sanitary service at the Site are provided by the local municipal authority. Storm water drainage from the building roof and paved parking areas is collected in a series of catch basins and directed via reinforced concrete piping beyond the eastern property boundary.

C. Investigation Results

The following sections summarize the results of historical investigations completed at the Site, as well as results of a ground water delineation investigation and a remedial investigation completed by ENVIRON.

1. Historical Investigations

Initial Site Investigations and Initial Soil Remediation

A Phase II site investigation was completed by Storb Environmental Incorporated (Storb) in December 1990. The scope of the Phase II investigation was developed based on the findings of a Phase I environmental site assessment completed by Certified Engineering and Testing Company in July 1990. The Phase II site investigation included the completion of

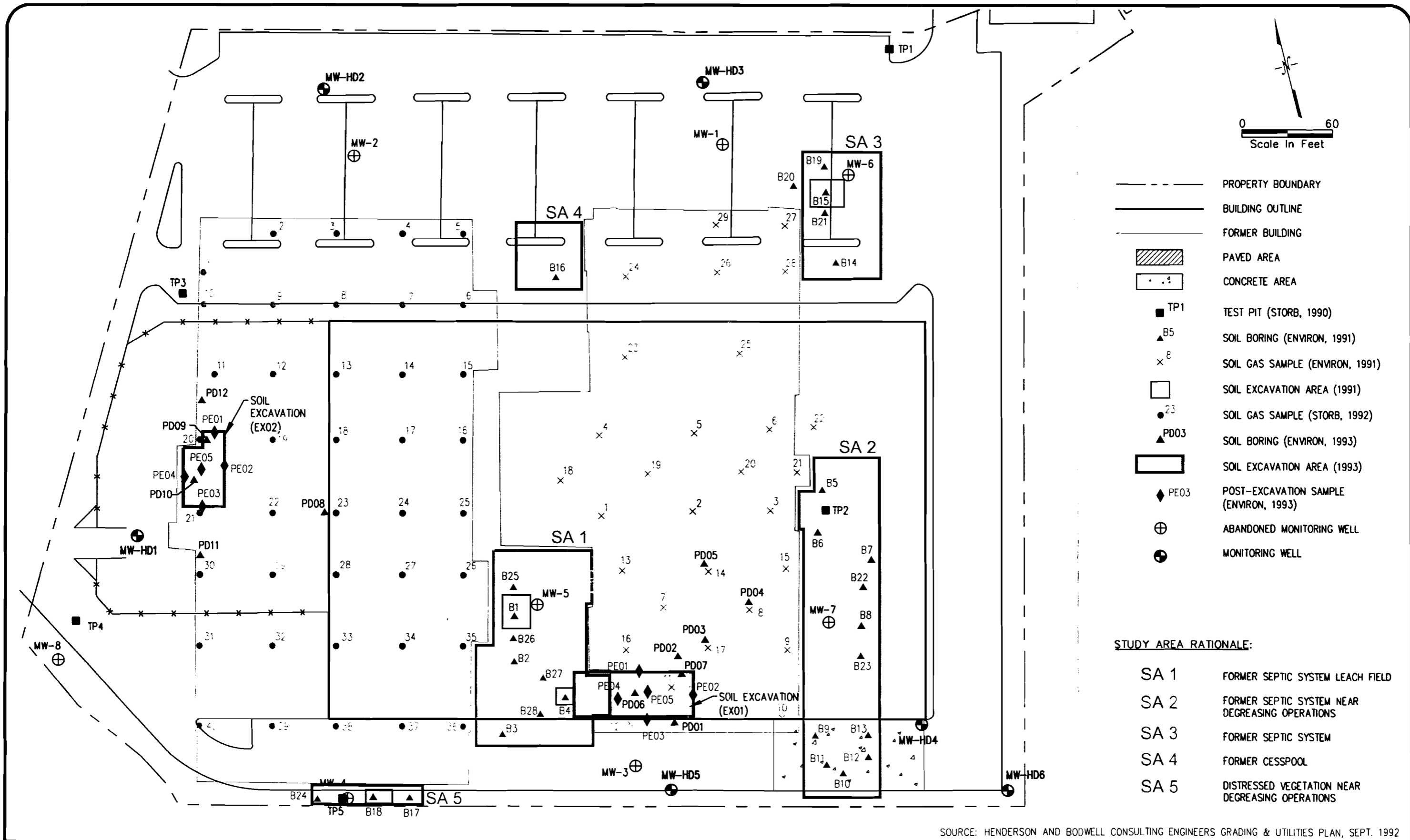
five test pits for the purpose of shallow soil logging and ground water sampling.

Additionally, two surface water samples were reportedly collected from Hook Creek. The Phase II site investigation completed by Storb identified volatile organic compound (VOC) concentrations in ground water above the applicable ground water quality criteria. The VOCs were limited to 1,1,1-trichloroethane (TCA), trichloroethene (TCE), and trans-1,2-dichloroethene at two sampling points (test pits TP2 and TP5).

Based on the results of Storb's Phase II site investigation, ENVIRON completed a Phase III site investigation to identify areas of potential environmental concern and further characterize the nature and extent of the Site-related contamination. The Phase III investigation focused on four areas identified as former septic systems/cesspools (Areas SA1 – SA4) and one area described as stressed vegetation near a former degreasing area (Area SA5). Each area is depicted on Figure 4. The field investigation included the collection of 42 soil samples from 27 locations, the installation of 8 shallow monitoring wells, the collection of ground water samples from each monitoring well, and the collection of soil gas samples from 29 points within the former eastern building (Building No. 1). Sample locations are presented in Figure 4.

Soil sampling activities during an initial stage of the Phase III investigation identified elevated concentrations of several VOCs at four locations (soil borings B1, B4, B15, and B18). Reported constituents in the soil samples included TCA, TCE, tetrachloroethene (PCE), 1,1-dichloroethane, acetone, ethylbenzene, and xylenes. Freon compounds were not detected in any of the soil samples. Soil sampling during a subsequent stage of the Phase III investigation delineated the extent of impacted soils as the area in the immediate vicinity of soil borings B1, B4, B15, and B18. Soil sampling data, as presented in the Phase III report, are provided in Attachment A to this plan.

Based on the results of the Phase III sample collection activities, soils at and in the vicinity of soil borings B1, B4, B15, and B18 were excavated and transported for off-site disposal. The remediation activities were performed under the oversight of the Nassau County Department of Health (NCDOH) and included the removal of approximately 130 cubic yards of impacted soil. The limits of each excavation area included in the 1991 remedial action are depicted on Figure 4.



SOURCE: HENDERSON AND BODWELL CONSULTING ENGINEERS GRADING & UTILITIES PLAN, SEPT. 1992

ENVIRON

DRAFTED BY: KPM DATE: 2/18/00

HISTORICAL SAMPLE LOCATIONS
 FORMER BULOVA CORPORATION FACILITY
 VALLEY STREAM, NEW YORK

FIGURE

4

1961AB05

Consistent with the soil sampling data, ground water sampling completed during the Phase III investigation detected TCA, TCE, PCE, and xylenes. Summarized ground water sampling data, as presented in the Phase II report, are provided in Attachment A. Freon compounds were detected at former monitoring well MW-3 only. Former monitoring well MW-3 was positioned downgradient of a former septic system leach field beyond the southwest wall of Building No. 1 (Area SA1). Ground water sampling subsequent to the Phase III investigation identified decreasing Freon 113 concentrations at MW-3. Reported Freon 113 concentrations decreased from 35 µg/l during January 1991 to not detected during August 1993.

Soil gas sample collection identified elevated VOC concentrations beneath the southern portion of Building No. 1. The field analyses, which were limited to specific compounds, identified elevated concentrations of TCA, TCE, and PCE. Freon compounds were not included in the field analysis program. Soil gas sampling data, as presented in the Phase II report, are provided in Attachment A. Soil sampling activities to further evaluate reported VOC concentrations in soil gas beneath Building No. 1 are described below.

Supplemental Soil Gas Survey

Subsequent to ENVIRON's Phase III investigation, Storb completed a soil gas survey within the western building at the Site (Building No. 2). The soil gas survey was completed during May 1992 and included 40 sampling locations on an approximate 50-foot grid within Building No. 2. Sample locations are depicted in Figure 4. Consistent with prior sampling events at the Site, the 1992 soil gas survey detected TCA, TCE, PCE, and xylenes. Freon compounds were not included in the field analysis program. Soil gas sampling data, as presented in the investigation results report prepared by Tracer Research Corporation (Tracer; May 24 – 28, 1992), are provided in Attachment B. Soil sampling activities to further evaluate reported VOC concentrations in soil gas beneath Building No. 2 are described below.

Post-Demolition Soil Sample Collection and Soil Remediation

ENVIRON collected soil samples from 12 locations at the Site during August 1993 following demolition of Building Nos. 1 & 2 and removal of the associated concrete floor

slabs. Sampling locations at the former location of Building No. 1 were targeted toward stained soils identified during demolition activities (PD01 – PD02) and soil gas hot spots identified during the Phase III site investigation (PD03 – PD07). Post-demolition soil sampling locations at the former location of Building No. 2 were targeted toward soil gas hot spots identified during Storb's soil gas survey (PD08 – PD09) and stained soils identified during demolition activities (PD10 – PD12). Sample locations are depicted on Figure 4.

The post-demolition soil sampling activities identified two areas of impacted soils: one beneath the southern portion of Building No. 1 containing elevated concentrations of several VOCs and total petroleum hydrocarbons (TPHCs) and one in the vicinity of a former underground storage tank beyond the western wall of Building No. 2 containing elevated concentrations of TPHCs. Consistent with the prior sampling activities, identified VOCs included TCA, TCE, PCE, and ethylbenzene. Freon compounds were not detected in any of the post-demolition soil samples. Soil sampling data, as presented in a prior summary letter, are provided in Attachment C.

VOC and TPHC-impacted soils beneath Building Nos. 1 and 2 were excavated and removed from the Site during September and October 1993 under the oversight of NYSDEC and NCDOH. The remedial activities completed by Bulova included the removal of approximately 400 yd³ of impacted soil.² Analysis of 10 post-excavation samples confirmed the effectiveness of the soil removal activities. In addition, Freon compounds were not detected in any of post-excavation samples. The limits of each excavation area included in the 1993 remedial action are depicted on Figure 4.

Ground Water Monitoring

Routine ground water monitoring was completed by Soil Mechanics Environmental Services (Soil Mechanics), on behalf of Home Depot, in conjunction with NYSDEC Spill Case No. 93-07732. Based on the ground water monitoring results, NYSDEC closed the spill case

² Concurrent with the soil remediation activities completed by Bulova at the southern portion of Building No. 1, additional soils were excavated at the western end of the excavation by Home Depot in conjunction with the removal of two underground storage tanks. The approximately 160 – 200 yd³ of impacted soils excavated by Home Depot during October 1993 were consolidated with the soils excavated by Bulova and transported for off-site disposal. Characterization of the UST release was performed by Home Depot under NYSDEC Spill Case No. 93-07732. The spill case was closed on November 22, 1995.

and noted that Division of Spills Management had no further requirements for the Site (NYSDEC; Nov. 22, 1995). However, although NYSDEC closed the spill case, Soil Mechanics continued the routine monitoring activities. Ground water samples were collected on a quarterly basis from five monitoring wells (MW-HD1 through MW-HD5) for a period of approximately 30 months following the November 1995 no further action approval. Results of the additional ground water monitoring activities, as tabulated by Soil Mechanics, are provided in Attachment D.³ In a letter to NYSDEC dated January 26, 1999, Soil Mechanics concluded that constituent concentrations at several monitoring wells had decreased as a result of natural attenuation and that no further monitoring was warranted at monitoring wells MW-HD1, MW-HD2, MW-HD-3, and MW-HD5.

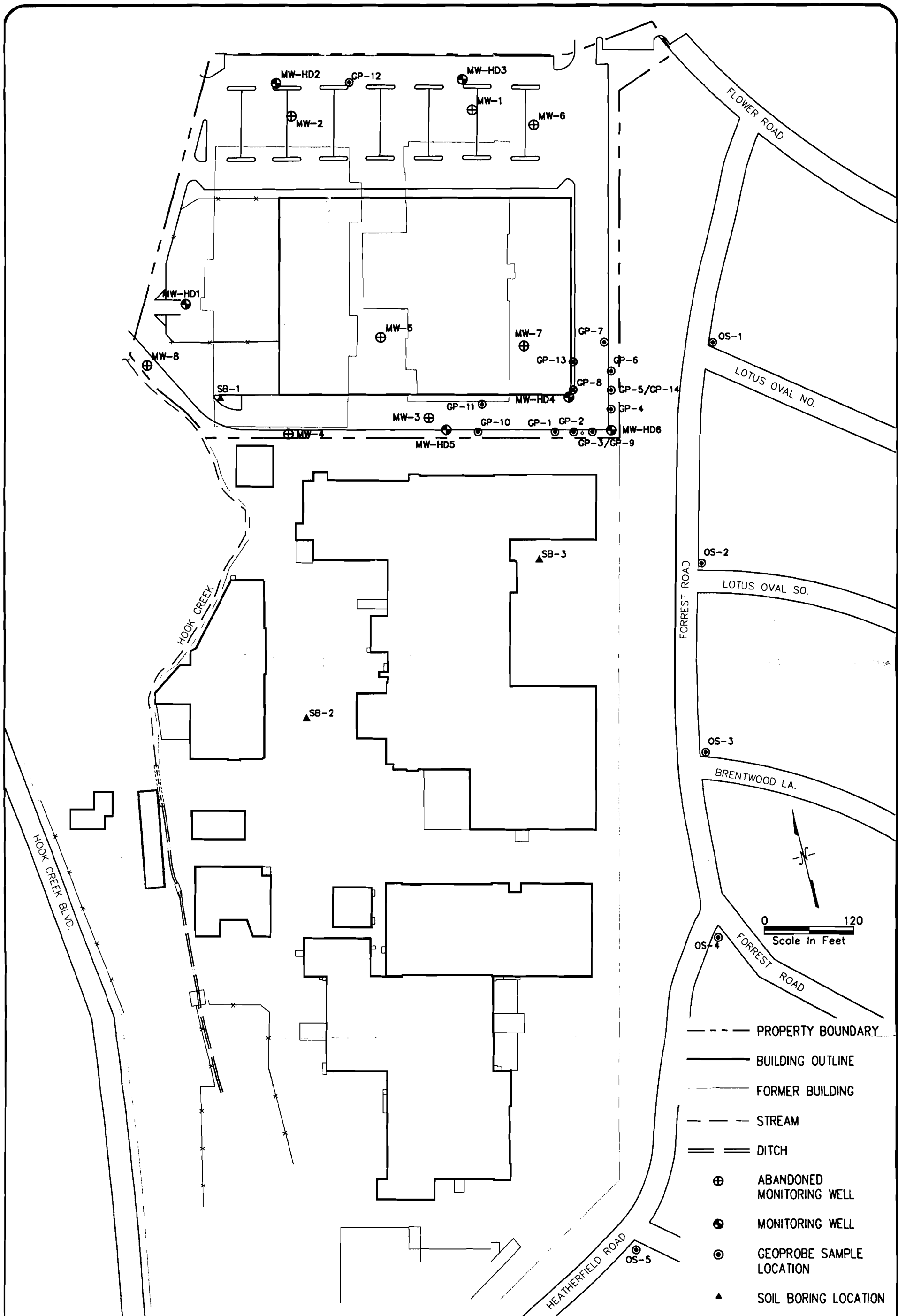
2. Ground Water Delineation Investigation

Based on results of a meeting between NYSDEC, ENVIRON, and Bulova on May 13, 1998, ENVIRON completed a ground water delineation investigation at the Site. The June 1998 ground water delineation investigation was developed to: (1) characterize hydrogeologic conditions at the Site; (2) delineate the elevated concentrations of VOCs detected near the southeastern corner of the Site; and (3) evaluate ground water quality within the upper glacial aquifer at locations downgradient of the Site. Sample locations included in the ground water delineation investigation are depicted on Figure 5. Results of the ground water delineation investigation were provided to NYSDEC in a letter dated August 5, 1998, and are summarized below.

Hydrogeologic Conditions

During the ground water delineation investigation, ENVIRON advanced one soil boring (SB-1) near the southwestern property boundary to confirm the presence of the regional confining layer beneath the Site. Soil sampling identified a consistent section of fine to medium sands extending from immediately beneath the pavement/

³ The sampling data provided in Attachment D are related to existing monitoring wells MW-HD1 through MW-HD5. The tables prepared by Soil Mechanics abbreviate each well identification to remove the "HD" labeling associated with the existing monitoring wells.



ENVIRON

SOIL AND GROUND WATER SAMPLE LOCATIONS
 FORMER BULOVA CORPORATION FACILITY
 VALLEY STREAM, NEW YORK

FIGURE 5

DRAFTED BY: KPM

DATE: 6/14/99

1961AB07

sub-base material to approximately 42 feet bgs. Ground water was encountered at approximately 5 feet bgs. The "20-foot" clay was encountered at approximately 42 feet bgs. Geotechnical testing of an undisturbed sample from the clay unit determined the vertical permeability to be 6×10^{-7} cm/sec, confirming the conclusions of prior regional geologic investigations which have identified the clay unit beneath the Site as a significant hydrogeologic confining unit.

On-Site Ground Water Quality Evaluation

Additional on-site ground water delineation sampling was completed in the shallow portion of the upper glacial aquifer to further define the horizontal extent of VOC concentrations at the southeastern corner of the Site. In addition, due to the physical nature of the chemicals of concern (*i.e.*, more dense than water in their pure form), ENVIRON collected ground water samples from deeper portions of the upper glacial aquifer to determine the vertical extent of elevated VOC concentrations. Deeper ground water sampling completed at the southeastern portion of the Site indicated that slightly higher VOC concentrations are present in the deeper portions of the upper glacial aquifer. Consistent with concentrations trends identified based on historical sampling completed by ENVIRON and Soil Mechanics, reported VOC concentrations in ground water at the southeastern corner of the Site continued to display an overall downward trend with time. In addition to the ground water sampling performed at the southeastern portion of the Site, ground water sampling at the upgradient portion of the Site detected VOC contamination, suggesting that some of the VOCs detected in ground water at the Site may result from an off-site upgradient source.

Off-Site Ground Water Quality Evaluation

Based on prior ground water sampling events and the estimated ground water flow direction at the Site, ENVIRON advanced 6 off-site Geoprobe borings for the purpose of ground water sample collection. Shallow and deep ground water sampling did not detect VOC concentrations above the applicable New York Ground Water Quality Criteria at the downgradient sampling locations closest to the Site.

Although VOC concentrations above applicable New York Ground Water Quality Criteria were detected at one off-site sampling point, several industrial establishments are located between that sampling point and the Site.

3. Remedial Investigation

ENVIRON completed a remedial investigation at the Site between January 1999 and April 1999. The scope of the remedial investigation was developed based on requests from the NYSDEC to characterize hydrogeologic conditions at and in the vicinity of the Site, delineate the vertical extent of impacted ground water, and evaluate soil vapor quality at the southeast corner of the Site. The remedial investigation included the completion of deep soil borings and collection of ground water level measurements to characterize local hydrogeology, collection of soil gas samples to determine VOC concentrations in the unsaturated zone at the southeastern portion of the Site, and the collection of ground water samples to characterize shallow and deep ground water quality at and in the vicinity of the Site. Sample locations included in the remedial investigation are depicted on Figure 5. Results of the remedial investigation were provided to NYSDEC in a letter dated June 15, 1999, and are summarized below.

Off-Site Hydrogeologic Characterization

Based on NYSDEC requests, ENVIRON advanced two soil borings (SB-2 and SB-3) south of the Site at the AIOP property to confirm the continuity and thickness of the "20-foot" clay, determine if a transmissive zone was located between the "20-foot" clay and the Gardiners Clay in the vicinity of the Site, and locate the top of the Gardiners Clay. The off-site borings were completed to a depth of approximately 65 feet bgs. Consistent with results of regional geologic investigation and prior Site-related sampling, soil sampling identified fine to medium sands to a depth of approximately 44 to 45 feet bgs. A clay unit suspected to be the "20-foot" clay was encountered at a depth of 44 to 45 feet bgs. The thickness of the clay ranged from approximately 4 to 7 feet at the off-site soil borings. An approximately 5-foot-thick layer of silty fine sands was encountered at each soil boring location and is suspected to be associated with

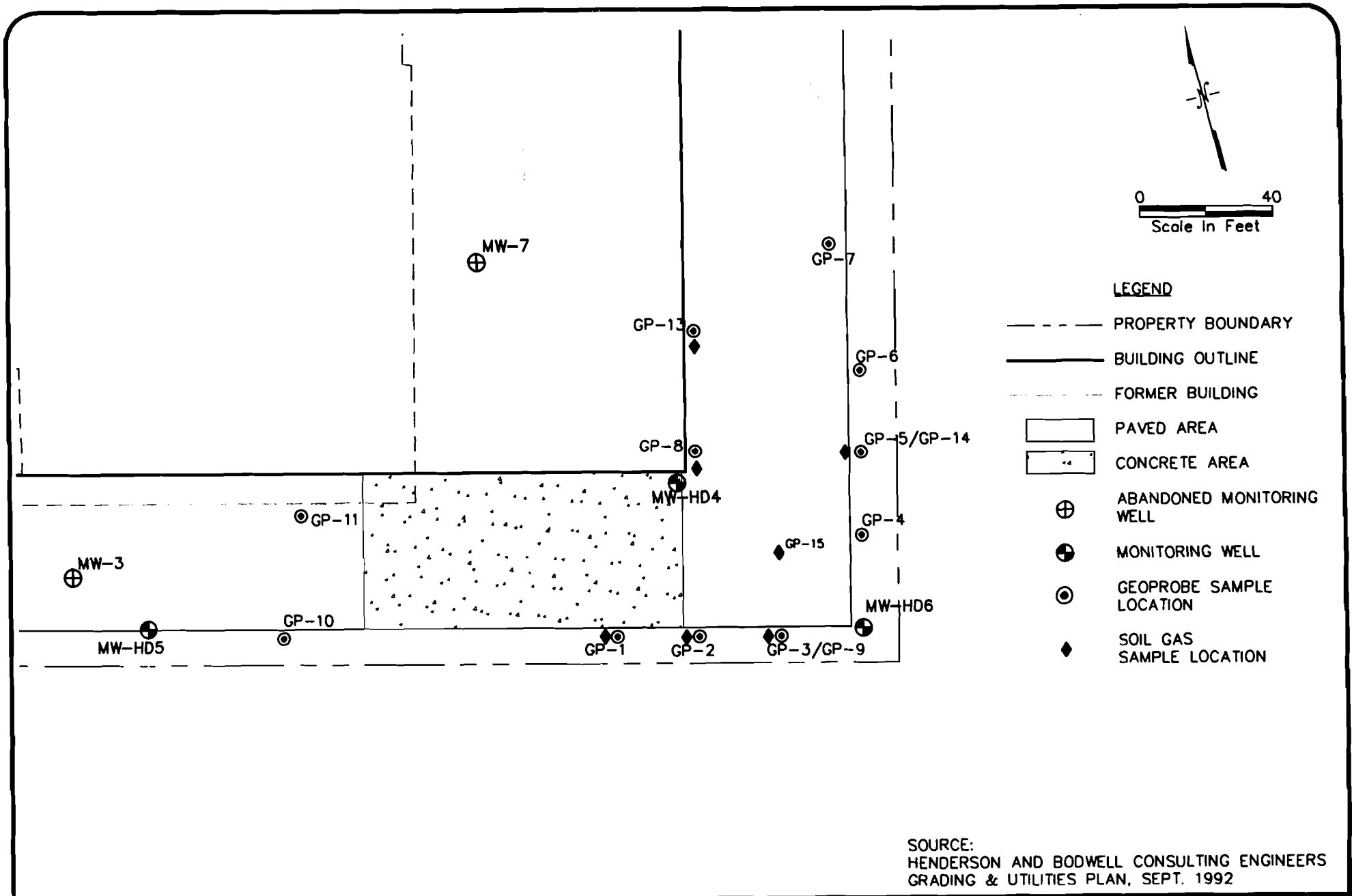
upper Pleistocene deposits between the "20-foot" clay and Gardiners Clay. These intermediate upper Pleistocene deposits were underlain by glauconitic silty fine sands with trace amounts of clay, believed to represent the Gardiners Clay.

On-Site Conductivity Borings

Two soil conductivity borings were completed to depths of approximately 75 feet bgs at the southeastern portion of the Site to further characterize the lithology at each location and to select appropriate ground water sampling intervals. The conductivity borings were positioned immediately adjacent to Geoprobe borings GP-5 and GP-9. Lithologic conditions encountered during the conductivity survey were generally consistent with prior drilling activities at and in the vicinity of the Site. Logging at GP-5B identified sandy deposits underlain by a clay unit, suspected to be the "20-foot" clay, at approximately 38 to 44 feet bgs. Logging at GP-9B did not detect this upper clay unit. A silty sand unit, consistent with the suspected Gardiners Clay unit, was identified at approximately 45 to 52 feet bgs.

Soil Gas Sample Collection

Based on results of a March 1999 meeting between NYSDEC and the New York State Department of Health (NYSDOH), NYSDEC requested that soil gas samples be collected from the southeastern corner of the Site to characterize concentrations of VOCs in the unsaturated zone. Soil gas samples were collected from seven locations and analyzed for VOCs using EPA Method TO-14. Soil gas sample locations are depicted on Figure 6. Consistent with historical ground water sampling activities at the Site, the primary VOCs detected in the soil gas samples included TCA, PCE, and TCE. Freon 113 was also detected in the soil gas samples. As no soil gas cleanup criteria or screening values were available from the NYSDEC, ENVIRON compared the soil gas data generated during the remedial investigation to the Residential Volatilization Criteria for Soil Vapors used by the State of Connecticut (RCSA 22a-133k-3). Reported soil vapor concentrations were at least two orders of magnitude below the corresponding soil vapor criteria at each soil gas sample point.



ENVIRON

DRAFTED BY: HFZ/TJF/KPM DATE: 6/3/99

SOIL GAS AND GEOPROBE SAMPLE LOCATIONS
FORMER BULOVA CORPORATION FACILITY
VALLEY STREAM, NEW YORK

FIGURE
6

1961AW04

Based on the decreasing VOC concentrations in the direction of the residential area adjacent to the eastern property boundary and results of the volatilization criteria evaluation, which indicated that reported VOC vapor concentrations are well below an appropriate set of cleanup criteria, ENVIRON and Bulova believe that vapors related to the impacted ground water at the southeastern corner of the Site do not represent a significant health concern. Subsequent to the remedial investigation, NCDOH and NYSDOH completed air sampling within several residences immediately adjacent to the Site. The NCDOH/NYSDOH investigation did not detect VOCs in the air samples.

Off-Site Deep Ground Water Sampling

Off-site drilling activities completed during the remedial investigation included ground water sample collection from several intervals at the two soil borings at AIOP to characterize ground water quality to the south of the Site. Ground water sampling intervals were selected to target intervals above the "20-foot" clay, within the transmissive zone between the "20-foot" clay and the Gardiners Clay, and within the Gardiners Clay.

Reported chloroform and TCE concentrations in samples collected from boring SB-2 exceeded the applicable New York Ground Water Quality Standard. The only constituent to exceed an applicable ground water quality standard at soil boring SB-3 was cis-1,2-dichloroethene, in the deepest ground water sample. Based on the review of Site-specific ground water flow information and evaluation of constituents detected in the ground water beneath AIOP and the Site, ENVIRON and Bulova believe that VOCs detected in the off-site ground water samples are not associated with the impacted ground water at the southeastern corner of the Site.

On-Site Vertical Delineation Sampling

Additional on-site vertical delineation sampling was completed during the remedial investigation, as per the request of NYSDEC. Sample locations were positioned near the southeastern property boundary in the vicinity of prior Geoprobe sampling locations GP-5 and GP-9. As described above, soil conductivity logging was completed in the vicinity of GP-5 and GP-9 prior to ground water sampling in order to select appropriate

sampling intervals. Sampling depths were selected by ENVIRON and NYSDEC and were targeted toward the top of the saturated zone, above the first potential confining unit encountered, below the suspected Gardiners Clay unit, and at the bottom of each boring. Ground water samples were also collected from monitoring wells MW-HD4 and MW-HD6 during the April 1999 field investigation to support evaluation of the vertical delineation and soil gas sampling results.

The April 1999 monitoring well sampling results were consistent with recent sampling results. Although the reported concentrations of several VOCs were above applicable New York Ground Water Quality Standards, the VOC concentrations at MW-HD4 were much lower than historical sampling results. Reported concentrations of 1,1-dichloroethane, 1,1-dichloroethene, PCE, TCA, Freon 113, and TCE in the shallow ground water sample collected at GP-9 exceeded the applicable New York ground water quality criteria. TCE, Freon 113, and vinyl chloride were the only compounds detected at concentrations above an applicable New York Ground Water Quality Criteria in the shallow sample collected at GP-5. Lower VOC concentrations were detected in samples from the next deeper sampling interval at both GP-5 and GP-9. TCE was the only compound to exceed an applicable New York Ground Water Quality Criteria in the deep samples collected at GP-5 and GP-9. Samples collected beneath the Gardiners Clay at GP-5 and GP-9 did not detect VOCs at concentrations above an applicable New York Ground Water Quality Criteria. Based on results of the on-site delineation sampling, the impacted ground water at the southeast corner of the Site extends to approximately 50 feet bgs and does not appear to extend below the Gardiners Clay.

Monitoring Well Sampling

Ground water samples were collected from the six on-site monitoring wells in January 1999. Analysis of ground water samples collected from upgradient monitoring wells MW-HD1 and MW-HD2 detected chlorobenzene, 1,2-dichlorobenzene, 1,4-dichlorobenzene, and dichlorodifluoromethane (Freon 12) at concentrations above the applicable New York Ground Water Quality Criteria. Based on ground water flow direction at the Site and historical Site operations, the reported VOC concentrations at

MW-HD1 and MW-HD2 are not believed to be indicative of Site-related contamination. VOCs were not detected in the sample collected from upgradient monitoring well MW-HD3.

VOCs were not detected in the sample collected from monitoring well MW-HD5. Sampling during 1997 and 1998 at MW-HD5 had detected trace concentrations of several VOCs, and historical sampling had identified VOC concentrations above the applicable New York water quality standards.

Consistent with historical sampling results at the Site, analysis of ground water samples from monitoring wells MW-HD4 and MW-HD6 detected several VOCs (1,1-dichloroethane, 1,1-dichloroethene, TCA, TCE, and PCE) at concentrations equal to or above the applicable New York ground water quality standards. Reported concentrations of these VOCs displayed a decreasing trend since 1995, as would be anticipated following the 1991 and 1993 excavation activities to remove impacted soils which would have acted as an on-going source of ground water contamination. Reported VOC concentrations have decreased by as much as approximately two orders of magnitude since a September 1995 sampling event. Table 1 provides a summary of the historical ground water sampling results at the Site.

Reported Freon concentrations at the southeast corner of the Site also exceed the applicable New York ground water quality standards. Reported Freon compound concentrations at the southeast corner of the Site have significantly increased during the recent Geoprobe and monitoring well sampling events. However, the Freon compound concentration patterns and the recent timing of the Freon detections indicate that the reported Freon concentrations are likely related to activities subsequent to Bulova's ownership and operation of the Site.

D. Scope of Work

Based on the decreasing VOC concentration trends at the Site, NYSDEC concluded that active ground water remediation is not warranted and that natural attenuation represents an appropriate alternative to address impacted ground water at the Site. As detailed in the *Record of Decision*, NYSDEC has determined that the remedial actions completed to date at the Site have eliminated or mitigated all significant threats to the public health or the environment. NYSDEC

TABLE 1
Summary of Historical Ground Water Sampling Results
Former Bulova Corporation Facility - Valley Stream, New York

| Location Sample Collection Date | MW-HD1 | | | MW-HD2 | | | | | | MW-HD3 | | | | | | | |
|------------------------------------|---------|---------|--------|---------|---------|--------|---------|---------|---------|--------|---------|---------|--------|---------|---------|---------|--------|
| | 3/19/97 | 9/24/98 | 1/8/99 | 5/18/94 | 6/23/94 | 9/5/95 | 3/19/97 | 6/23/97 | 9/24/98 | 1/8/99 | 5/18/94 | 6/23/94 | 9/5/95 | 3/19/97 | 6/23/97 | 9/24/98 | 1/8/99 |
| Volatile Organic Compounds | | | | | | | | | | | | | | | | | |
| Chlorobenzene | ND | ND | ND | ND | ND | 5 | ND | ND | 7 | 16.4 | ND | ND | ND | ND | ND | ND | ND |
| Chloroethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Chloroform | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,2-Dichlorobenzene | 5 | ND | ND | NA | NA | 47 | ND | ND | ND | 19.3 | NA | NA | ND | ND | ND | ND | ND |
| 1,3-Dichlorobenzene | ND | ND | ND | NA | NA | ND | ND | ND | ND | 0.9 | NA | NA | ND | ND | ND | ND | ND |
| 1,4-Dichlorobenzene | ND | ND | ND | NA | NA | 96 | ND | ND | ND | 41.9 | NA | NA | ND | ND | ND | ND | ND |
| Dichlorodifluoromethane | ND | ND | 6 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,1-Dichloroethane | ND | 1 | 2.4 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1.6 | ND |
| 1,2-Dichloroethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,1-Dichloroethene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,2-Dichloroethene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 | 5 | ND | 3 | ND |
| <i>cis</i> -1,2-Dichloroethene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1.7 | ND | ND |
| <i>trans</i> -1,2-Dichloroethene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Methylene Chloride | ND | ND | ND | ND | 7.16 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Tetrachloroethene | ND | ND | ND | ND | ND | ND | ND | 1.1 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Toluene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,1,1-Trichloroethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,1,2-Trichloroethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Trichloroethene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 25.6 | 32.8 | 6 | 4 | 1.1 | 4 | ND |
| Trichlorofluoromethane | ND | ND | ND | ND | 1.3 (j) | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Vinyl Chloride | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |

Notes:

- All concentrations are reported in micrograms per liter ($\mu\text{g/L}$) (parts per billion [ppb]).
- Only Priority Pollutant compounds detected in one or more samples are listed in this table.
- Abbreviation:
 ND = Not Detected.
 NA = Not Analyzed.

TABLE 1 (continued)
Summary of Ground Water Sampling Results
Former Bulova Technologies Facility - Valley Stream, New York

| Location | MW-HD4 | | | | | | | | | | MW-HD5 | | | | | | | |
|-----------------------------------|------------------------|---------|---------|--------|---------|---------|--------|----------|---------|--------|---------|---------|---------|--------|---------|---------|---------|--------|
| | Sample Collection Date | 5/18/94 | 6/23/94 | 9/5/95 | 3/19/97 | 6/23/97 | 9/9/97 | 11/21/97 | 9/24/98 | 1/8/99 | 4/20/99 | 5/18/94 | 6/23/94 | 9/5/95 | 3/19/97 | 6/23/97 | 9/24/98 | 1/8/99 |
| Volatile Organic Compounds | | | | | | | | | | | | | | | | | | |
| Chlorobenzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Chloroethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Chloroform | ND | ND | 2 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,2-Dichlorobenzene | NA | NA | ND | ND | ND | ND | ND | ND | 0.68 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,3-Dichlorobenzene | NA | NA | ND | ND | ND | ND | ND | ND | ND | ND | 0.9 | ND | ND | ND | ND | ND | ND | ND |
| 1,4-Dichlorobenzene | NA | NA | ND | ND | ND | ND | ND | ND | 1.4 | 1 | ND | ND | ND | ND | ND | ND | ND | ND |
| Dichlorodifluoromethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | 2.8 | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,1-Dichloroethane | ND | 34.9 | 340 | 26 | 71.7 | 78.8 | 44.7 | 61 | 18 | 28.4 | 8.81 | 7.76 | 2 | 2 | ND | ND | ND | ND |
| 1,2-Dichloroethane | ND | ND | 4 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,1-Dichloroethene | 120 | 281 | 3,000 | 150 | 360 | 640 | 313 | 450 | 64.8 | 92 | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,2-Dichloroethene | ND | ND | 84 | 2 | ND | ND | ND | 28 | ND | ND | ND | ND | 7 | 2 | ND | 3 | ND | ND |
| cis-1,2-Dichloroethene | ND | ND | ND | ND | 6 | 18.6 | 13.6 | ND | ND | 2.9 | ND | ND | ND | ND | 0.65 | ND | ND | ND |
| trans-1,2-Dichloroethene | ND | 9.67 | ND | ND | ND | ND | ND | ND | ND | ND | 2.57 | ND | ND | ND | ND | ND | ND | ND |
| Methylene Chloride | ND | ND | 1 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Tetrachloroethene | ND | ND | 2 | ND | ND | ND | ND | 8 | 4.8 | 7.8 | 113 | 32.6 | 1 | ND | 1.2 | ND | ND | ND |
| Toluene | ND | ND | 2 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,1,1-Trichloroethane | 1,010 | 3,100 | 16,000 | 260 | 929 | 2,680 | 572 | 1,600 | 80.7 | 98.2 | 24.7 | 37 | ND | ND | ND | ND | ND | ND |
| 1,1,2-Trichloroethane | ND | ND | 5 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Trichloroethene | 27.4 | 99.4 | 800 | 12 | 46 | 163 | 52.2 | 120 | 13.6 | 17.2 | 3.68 | 3.05 | 4 | 2 | 2.3 | 1 | ND | ND |
| Trichlorofluoromethane | ND | ND | ND | ND | ND | ND | ND | ND | 302 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Vinyl Chloride | ND | ND | 2 | ND | ND | ND | ND | 1 | ND | ND | ND | ND | 3 | ND | ND | 2 | ND | ND |

Notes:

1. All concentrations are reported in micrograms per liter (µg/L) (parts per billion [ppb]).
2. Only Priority Pollutant compounds detected in one or more samples are listed in this table.
3. Abbreviation:
 ND = Not Detected.
 NA = Not Analyzed.

TABLE 1 (continued)
Summary of Ground Water Sampling Results
Former Bulova Technologies Facility - Valley Stream, New York

| Location | MW-HD06 | | | | |
|-----------------------------------|------------------------|---------|--------|----------|--------|
| | Sample Collection Date | 7/14/97 | 9/9/97 | 11/21/97 | 1/8/99 |
| Volatile Organic Compounds | | | | | |
| Chlorobenzene | ND | ND | ND | ND | ND |
| Chloroethane | ND | 14 | 10.8 | ND | ND |
| Chloroform | ND | ND | ND | ND | ND |
| 1,2-Dichlorobenzene | ND | ND | ND | ND | ND |
| 1,3-Dichlorobenzene | ND | ND | ND | ND | ND |
| 1,4-Dichlorobenzene | ND | ND | ND | 0.99 | ND |
| Dichlorodifluoromethane | ND | ND | ND | ND | 2.7 |
| 1,1-Dichloroethane | 11.8 | 14.5 | 9.1 | 12.5 | 5.6 |
| 1,2-Dichloroethane | ND | ND | ND | ND | ND |
| 1,1-Dichloroethene | ND | 1.7 | ND | 25 | 10.9 |
| 1,2-Dichloroethene | ND | ND | ND | ND | ND |
| <i>cis</i> -1,2-Dichloroethene | ND | ND | ND | ND | ND |
| <i>trans</i> -1,2-Dichloroethene | ND | ND | ND | ND | ND |
| Methylene Chloride | ND | ND | ND | ND | ND |
| Tetrachloroethene | 1.0 | 1.3 | ND | 12 | 7.5 |
| Toluene | ND | ND | ND | ND | ND |
| 1,1,1-Trichloroethane | 8.1 | 6.6 | 12.2 | 86.1 | 38 |
| 1,1,2-Trichloroethane | ND | ND | ND | ND | ND |
| Trichloroethene | 2.4 | 21.6 | 7 | 80.6 | 11.1 |
| Trichlorofluoromethane | ND | ND | ND | 679 | ND |
| Vinyl Chloride | ND | ND | ND | ND | ND |

Notes:

1. All concentrations are reported in micrograms per liter ($\mu\text{g/L}$) (parts per billion [ppb]).
2. Only Priority Pollutant compounds detected in one or more samples are listed in this table.
3. Abbreviation:
 ND = Not Detected.
 NA = Not Analyzed.

has selected no further remedial action for the Site with ground water monitoring for a period of two years. NYSDEC has also determined that the Site will be reclassified from a Class 2 site to a Class 4 site on the New York State Registry of Inactive Hazardous Waste Disposal Sites. Class 4 sites represent sites which have been properly closed but require continued management.

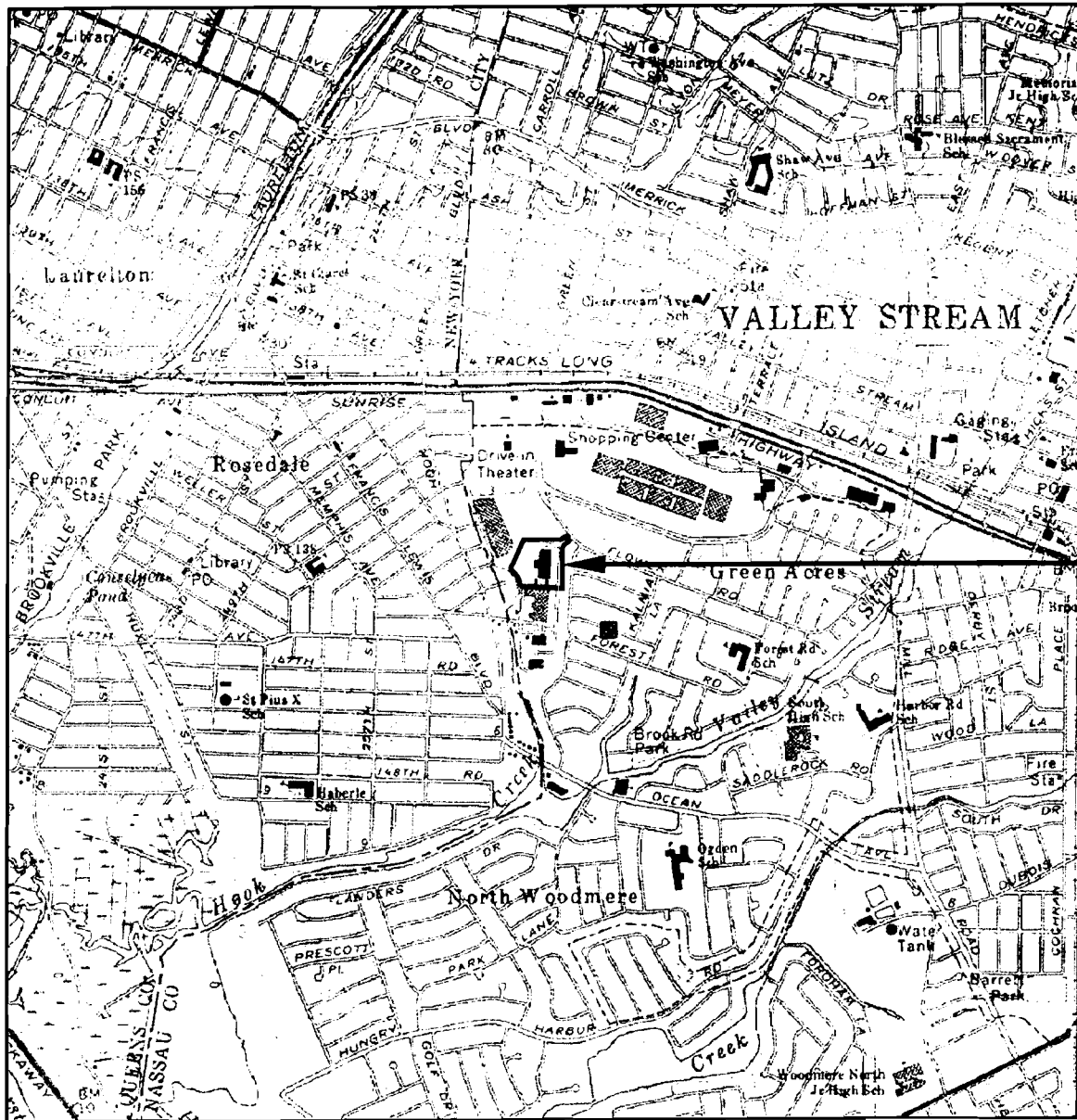
ENVIRON has prepared this report to serve as the Operation and Maintenance Plan to monitor ground water quality at and in the vicinity of the Site. The initial scope of work for the Operation and Maintenance Plan was developed to monitor decreasing VOC concentrations in monitoring wells MW-HD4 and MW-HD6, as outlined in ENVIRON's *Remedial Investigation Results Report* dated June 15, 1999. During ENVIRON's December 21, 1999 meeting with the NYSDEC, NCDOH, and NYSDOH, the NCDOH requested that an off-site monitoring well be included in the proposed sampling plan to serve as a "sentinel" well, and that MW-HD2 be included in the proposed sampling plan to monitor upgradient ground water quality. The following sections detail the scope of work and the field procedures associated with the proposed well installation and ground water monitoring program.

II. WELL INSTALLATION


A. Proposed Well Installation

The NCDOH has requested that an off-site monitoring well be included in the proposed monitoring plan to serve as a "sentinel" point downgradient of the Site. Although ENVIRON and Bulova believe that the investigation data do not support a request for further off-site sampling, ENVIRON and Bulova propose to install one shallow off-site monitoring well to address NCDOH's request.

As detailed in ENVIRON's correspondence to NYSDEC dated February 2, 2000, the proposed monitoring well location will be positioned approximately 850 feet downgradient of the Site on Brentwood Lane. The proposed drilling location, as depicted on Figure 7, has been selected based on the ground water flow direction at the Site and within a reasonable vicinity of the Site to minimize the potential for detecting contamination unrelated to the Site. The proposed drilling location on Brentwood lane will also position the well between the Site and the Long Island Water Corporation's Mill Road well field, located approximately 1 mile southeast of the Site. Based on the results of prior investigations, ENVIRON and Bulova believe that the VOC concentrations at the Site do not represent a threat to the Mill Road well field. As mentioned above, ground water sampling immediately downgradient of the Site did not detect Site-related constituents. In addition, impacted ground water beneath the Site is present only in the upper glacial aquifer. Supply wells at the Mill Road well field are screened in a lower aquifer which is separated from the upper glacial aquifer by a regional hydrogeologic confining unit.



LEGEND

-  PROPOSED MONITORING WELL LOCATION

SOURCE: 40°39'35" N, 73°43'28" W WGS84 TOPO! map printed on 01/20/00 from "NYC.tpo"

ENVIRON

**PROPOSED OFF-SITE MONITORING WELL LOCATION
FORMER BULOVA CORPORATION FACILITY
VALLEY STREAM, NEW YORK**

**FIGURE
7**

DRAFTED BY: KPM

DATE: 2/18/00

1961AJ51

B. Field Procedures

1. Drilling and Sampling

Proposed monitoring well MW-HD7 will be installed by a truck-mounted drill rig using 4.25-inch I.D. hollow-stem augers. Split-spoon samples will be collected at continuous intervals from 30 – 40 feet bgs to characterize soils within the proposed well screen interval. Soil cores obtained from split-spoon samples will be screened over 6-inch intervals using a photoionization detector (PID) to identify the potential presence of volatile organic compounds. All drilling will be performed by Advanced Drilling of Pittstown, New Jersey, under direct supervision of an ENVIRON field geologist.

2. Soil Logging

The ENVIRON field geologist will log soils to assess hydrogeologic characteristics. Unconsolidated material will be logged and described in accordance with the Unified Soil Classification System (USCS).

3. Well Construction

All items and materials used in well construction will be properly protected by the driller so that no damage, deterioration, or contamination occurs from the time of shipment until installation is complete. No solvents/cleaners or lubricants will be permitted to be used in construction of the monitoring well. Proposed monitoring well MW-HD7 will be installed to a depth of approximately 40 feet bgs and will be screened from approximately 30 to 40 feet bgs. The well will be constructed with 2-inch diameter, Schedule 40 PVC casing and screen.

4. Well Development

Following installation, MW-HD7 will be developed by pumping using a submersible pump until a non-turbid discharge is produced. Additionally, a water quality meter will be used to monitor pH, conductivity, temperature, dissolved oxygen, turbidity, and oxidation-reduction potential to determine the completeness of development. Development will be considered complete when these parameters have stabilized such that the pH, conductivity,

dissolved oxygen, oxidation-reduction potential, and turbidity values are within approximately 10 percent of the previous reading, and the water is, to the extent reasonably possible, visibly clear and free of turbidity and sediment during active development. Well development water will be containerized, characterized, and disposed of appropriately.

5. Decontamination Procedures

All down-hole drilling equipment (e.g., augers, split-spoons, drill rods) will be steam-cleaned prior to the initial use on-site and after monitoring well installation. Water to be used during steam cleaning will be obtained from a potable water source. Soil sampling equipment used to collect samples of the drill cuttings will be decontaminated before the initial use on-site. The ground water purge pump will also be decontaminated prior to well development. The decontamination procedure will consist of an Alconox (detergent) and tap water wash, tap water rinse, and final distilled/deionized water rinse. Decontamination fluids will be containerized, characterized, and disposed of appropriately.

6. Management of Investigation-Derived Wastes

Soil cuttings generated during drilling activities associated with MW-HD7 well installation will be containerized in 55-gallon drums and temporarily staged on site. A waste classification sample will be collected to aid in characterizing the soil for appropriate off-site disposal.

III. MONITORING PROGRAM

A. Ground Water Sampling Program

As detailed in Section I, ground water sampling activities have been conducted at the Site since 1991, including quarterly ground water monitoring between 1995 and 1998. Contaminant concentration trends at the southeast corner of the Site, with the exception of Freon compounds, have displayed an overall decreasing trend and reported VOC concentrations have decreased by as much as approximately two orders of magnitude since a September 1995 sampling event.

Based on the results of the investigations at the Site, ENVIRON and Bulova proposed to conduct semi-annual ground water sampling at the Site to further monitor the decreasing constituent concentrations. The *Remedial Investigation Results Report* recommended semi-annual sample collection at monitoring wells MW-HD4 and MW-HD6. Based on discussions during the December 21, 1999 meeting between ENVIRON, Bulova, NYSDEC, NCDOH, and NYSDOH, the semi-annual monitoring program was revised to include upgradient monitoring well MW-HD2 and a downgradient monitoring point (MW-HD7). Sampling procedures associated with semi-annual ground water sampling are discussed in detail below.

B. Sampling Procedures

1. Ground Water Level Measurements

Ground water level measurements will be collected at each monitoring well (*i.e.*, MW-HD1 through MW-HD7) at the beginning of each semi-annual sampling event. Ground water level measurements will be taken using an electric water level indicator. The tape on the electronic meter will have gradations to the nearest 0.02 foot, and interpolation will be used to measure the level of the ground water to the nearest 0.01 foot. Measurements will be made until two consecutive readings are within 0.01 foot of each other. The last measurement will be recorded.

2. Monitoring Well Purging

Each monitoring well included in the semi-annual sampling events will be purged prior to sampling to ensure that the water samples collected will be representative of formation ground water. Prior to purging, the standing water volume within each monitoring well will be calculated to estimate the purge volume. Monitoring wells will be purged using a peristaltic pump with dedicated, disposable tubing.

The dedicated tubing will be gently lowered into the monitoring well to minimize disturbance to the standing water column, as well as any sediment that may have settled to the bottom of the monitoring well. The tubing intake will be set as close to the top of the water column as possible and the purge rate will be set at an even, sustainable flow rate. These procedures are intended to minimize turbulence in the monitoring well and prevent fine solids at the bottom of the monitoring well and in the surrounding gravel pack from being mixed into the water column. Purged ground water will be temporarily containerized in 55-gallon drums and appropriately disposed of upon review of analytical data.

Samples of ground water will be collected periodically during monitoring well purging and tested for select indicator parameters (*i.e.*, pH, conductivity, temperature, dissolved oxygen, turbidity, and oxidation-reduction potential) to assess when formation water flowing into the well has stabilized. These measurements will be collected using a water quality meter equipped with a flow through cell. Prior to use each day, the water quality meter will be calibrated according to the manufacturer's recommended procedures. Calibration information will be recorded in the field log book. Field equipment calibration frequencies are provided below.

Purging of monitoring wells will continue until at least three casing volumes have been evacuated and indicator parameters indicate steady-state conditions (*i.e.*, ± 10 percent of the previous reading). If steady-state conditions are not attained after the minimum volume has been removed, purging will continue until field parameters are consistent.

All data relating to the monitoring well purging, including date and time of activity, monitoring well number, ground water purge volume, estimated pumping rate, field parameter measurements, and purging method will be carefully recorded in a bound field logbook.

3. Ground Water Sample Collection

Ground water samples will be collected using standard sampling techniques and equipment to ensure that samples are representative of aquifer conditions. Disposable Teflon™ bailers will be used to minimize potential reactions with ground water samples.

Samples will be collected in containers supplied by Accutest Laboratory of Dayton, New Jersey, a NYSDOH ELAP CLP-certified laboratory. Sample containers will be filled slowly until a positive meniscus is achieved, minimizing the possibility of aeration during sample collection and transport. Once full, sample bottles will be capped, inverted, and tapped to ensure no air bubbles are present. In accordance with prior requests from NYSDEC, sample containers will be unpreserved. Ground water samples will be analyzed for Priority Pollutant Volatile Organic Compounds plus a 15-Compound Forward Library Search (VOC+15). Laboratory deliverables will be provided in a NYSDEC ASP Category B format.

4. Field Equipment Calibration

Each item of equipment used in field activities will be calibrated at a frequency and to the specifications presented in owner/operator manuals provided by the manufacturer. If the calibration schedule is not adequately maintained, or if accuracy as required in the operations manual cannot be attained, that instrument will be identified and will be unavailable for use until repaired so the specifications are attained. Calibration information will be recorded by ENVIRON field personnel in bound field logbooks. Calibration frequencies for field equipment to be used are presented below.

Organic Vapor Meter

Thermo Environmental OVM 580B: Factory-calibrated at least annually. Field calibrated at beginning of each day and after field operations have been completed for the day following manufacturer's directions.

Water Level Measurements

Electronic depth-to-water meter: Factory calibrated. No re-calibration required.

Ground Water Field Parameters

Horiba U-22 Monitoring System: Field calibrated at the beginning of each day. A 2-point calibration will be performed for pH, conductivity, dissolved oxygen, turbidity (calibration of oxidation-reduction potential is included as part of the pH calibration). The temperature probe is factory calibrated and no re-calibration is required.

5. Equipment Decontamination

All equipment used during sampling will be decontaminated prior to use on-site. Decontamination water will be containerized in 55-gallon drums and characterized for appropriate disposal. Decontamination procedures are outlined below.

Water Level Indicator

Ground water levels in monitoring wells will be measured using an electronic water level indicator. Prior to use, all parts of the water level indicator that may come into contact with ground water inside the well casing, including the measurement probe and permanent line/cable, will be rinsed with non-phosphate detergent solution, rinsed with tap water to remove detergent, and air dried.

Field Parameter Measurement Equipment

Measurements of previously specified field parameters will be taken during purging of monitoring wells. Prior to use, all parts of the water quality meter and flow through cell that may come into contact with extracted ground water will be rinsed with non-phosphate detergent solution, rinsed with tap water to remove detergent, and air dried. Between measurements at sampling points, all parts of the equipment that come into contact with extracted ground water will be rinsed (or spray cleaned) with deionized water.

Purging Equipment

Dedicated, disposable polyethylene discharge tubing will be used at each monitoring well.

C. Sample Custody Procedures

1. Field Documentation

Sample identification documents will be carefully prepared to maintain sample identification and chain-of-custody, and to control sample disposition. Sample identification documents are detailed below.

a) Sample Labels

Sample tags are necessary to prevent misidentification of samples. Sample labels will be affixed to the sample bottles either before sampling activities or immediately following sample collection. At a minimum, sample labels will contain the following information:

- Sample identification number;
- Project code, an assigned ENVIRON project number;
- Name and initials of collector;
- Date;
- Time;
- Preservative; and
- Analysis requested.

b) Field Logbook

Information pertinent to the semi-annual monitoring program, measurements, and /or sampling will be recorded in a bound logbook. Entries in the logbook will contain:

- Name and title of author, date and time of entry, and physical/environmental conditions during field activity;

- Location of sampling or measurement activity;
- Name(s) and title(s) of site visitors;
- Type of sampled or measured medium (surface water, ground water, etc);
- Sample collection or measurement method(s);
- Number and volume of sample(s) taken;
- Description of sampling point(s);
- Date and time of collection or measurement;
- Sample identification number(s);
- Sample preservative;
- Sample distribution (e.g., laboratory);
- Field observations/comments;
- Field measurement data; and
- Sample documentation including dates and methods of sample shipment.

c) Chain-of-Custody Form

The Chain-of-Custody Form for each sample will originate at the Site, where samples will be prepared for shipment to the laboratory. This form will be completed to establish the documentation necessary to trace sample possession from sample collection through sample analysis. ENVIRON will be responsible for completion of the Chain-of-Custody Form throughout the sampling program until the samples have been picked up by the laboratory personnel or delivered to the laboratory. The Chain-of-Custody Form will contain:

- Project name;
- List of sampling team members;
- Sample identification number (which includes a project/site-specific identifier);
- Date and time of sample collection;
- Total number of containers per sample;
- Sample type (grab, composite);
- Medium type;
- Analyses requested;

- Remarks (if applicable);
- Turnaround time requested;
- Data package requirements;
- Signature of sampler; and
- Signatures of persons involved in the chain of possessions.

2. Sample Packaging and Shipping

Samples will be packaged, labeled and placed in coolers with ice as indicated below. All samples will be shipped via overnight carrier or by courier to reduce processing time, unless otherwise determined. The following procedures shall be followed for packing samples for shipment to the laboratory:

- Make sure all sample container caps are tight.
- Place the sample containers in the cooler, allowing sufficient space for the addition of packing material between the sample containers.
- Place blue ice packs (or equivalent) on top of and between the samples.
- Place a copy of the Chain-of-Custody Form in a sealed clear plastic envelope and place in the cooler.

Immediately upon arrival of the samples at the laboratory, the laboratory will record the condition of the shipping container and sample containers. The original Chain-of-Custody Form will be returned from the laboratory as part of the final analytical report. This record will be used to document sample custody transfers from the sampler to the laboratory and will become a permanent part of the project file.

3. Corrections and Documentation

Original data recorded in the field logbook, Chain-of-Custody Forms, and other forms will be written in ink. None of these documents will be altered, destroyed, or discarded even if they are illegible or contain inaccuracies that require a replacement document.

If an error is made on a document, the individual responsible for the error will make the correction by drawing a line through the error, entering the correct information, and initialing and dating the change. The erroneous information will not be obliterated. Any additional error(s) discovered on a document will be corrected by the person who made the entry. All corrections will be initialed and dated by the author in permanent ink.

D. Quality Assurance/Quality Control Samples

To evaluate laboratory performance and matrix variability, duplicate samples will be collected during the ground water sampling events at a frequency of no less than 1 per 20 samples.

To determine the effectiveness of the decontamination procedures, equipment rinsate blank samples will be collected during the ground water sampling events. Rinsate blanks will be collected at a frequency of no less than 1 per 20 samples. These samples will be obtained by pouring laboratory-supplied deionized water over or through the sampling equipment into the appropriate sample containers. The rinsate blank samples will be analyzed for VOC+15.

To identify possible VOC contamination during sample handling, transportation, or storage, one trip blank sample will accompany each sample shipment. The laboratory will prepare the trip blanks by placing deionized water in appropriate sample containers. The trip blank samples will be transported to the field and placed with the sample collected. The blanks will be handled in the same manner as samples collected in the field. Trip blank samples will be analyzed for VOC+15.

IV. HEALTH AND SAFETY

Health and safety issues associated with the proposed well installation and ground water sampling program will be addressed as per ENVIRON's June 1998 *Health and Safety Plan* (HASP). ENVIRON field personnel will take all responsible precautions to ensure worker safety and protection, and to prevent injury or loss, and will comply with the requirements of the HASP.

V. REPORT PREPARATION

Upon completion of proposed off-site well installation, ENVIRON will provide NYSDEC with a letter report detailing the monitoring well installation procedure, as well as updated well logs and maps. Analytical tables will be provided to the NYSDEC following receipt and review of the data associated with each semi-annual ground water sampling event. ENVIRON will prepare a report detailing the methods, results, conclusions, and recommendations following the two-year monitoring period.

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ATTACHMENT A

Phase III Sampling Data

| TABLE 3 Summarized Soil Sampling Results Bulova Technologies, Inc., Valley Stream, New York | | | | | | |
|---|-----------------|-------------------|----------|------------|---------|--------------------------|
| SOIL AREA | SAMPLE LOCATION | Ethyl- benzene | m-Xylene | o,p-Xylene | Toluene | OTHERS |
| SA1 | 1961-B001-SB01 | 760 | 2,300 | 2,200 | ND | 860 Methylene Chloride |
| SA1 | 1961-B002-SB01 | ND | ND | ND | ND | 230JB Methylene Chloride |
| SA1 | 1961-B003-SB01 | ND | ND | ND | ND | 250JB Methylene Chloride |
| SA1 | 1961-B004-SB01 | 960 | 2,700 | 2,700 | ND | |
| SA1 | 1961-B025-SB01 | ND | ND | 4.9J | 2.1J | 9.4 Methylene Chloride |
| SA1 | 1961-B025-SB02 | ND | ND | ND | ND | 17.0B Methylene Chloride |
| SA1 | 1961-B026-SB01 | ND | 2.1J | ND | 3.4J | 18.0B Methylene Chloride |
| SA1 | 1961-B026-SB02 | ND | 5.2J | ND | ND | 18.0B Methylene Chloride |
| SA1 | 1961-B027-SB01 | ND | ND | ND | ND | 8.1 Methylene Chloride |
| SA1 | 1961-B027-SB02 | ND | ND | ND | ND | |
| SA1 | 1961-B028-SB01 | ND | ND | ND | 3.5J | 29 PCE |
| SA1 | 1961-B028-SB02 | ND | ND | ND | ND | |
| SA1 | 1961-MW05-SB01 | ND | 5.6J | 6.8 | 3.5J | |
| SA1 | 1961-MW05-SB02 | ND | ND | ND | ND | |
| SA2 | 1961-B008-SB01 | ND | 340 | 300 | ND | 300J Methylene Chloride |
| SA2 | 1961-B009-SB01 | ND | ND | ND | ND | |
| SA2 | 1961-B010-SB01 | ND | ND | ND | ND | 460 Methylene Chloride |
| SA2 | 1961-B012-SB01 | ND | ND | ND | ND | |

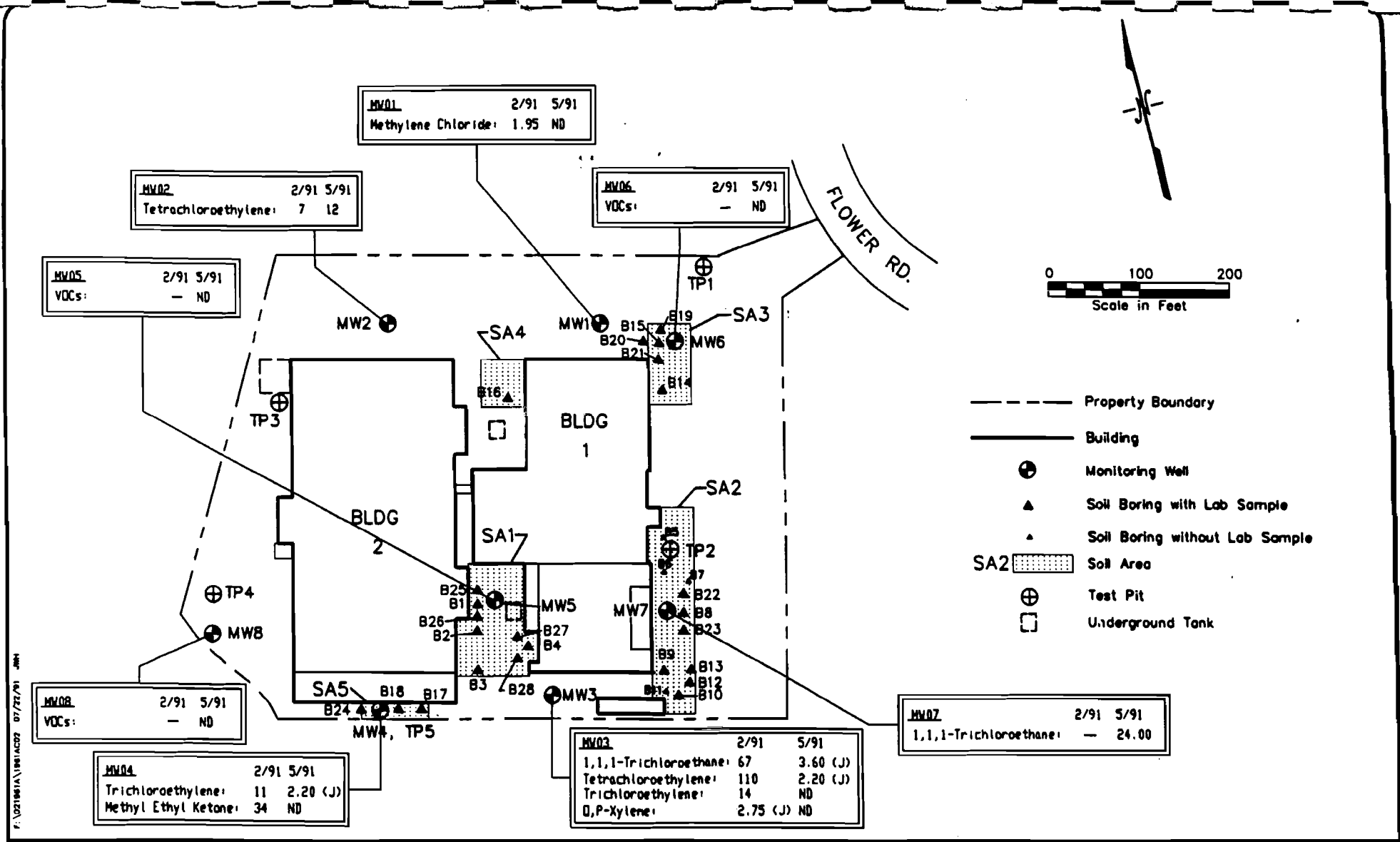
TABLE 3
Summarized Soil Sampling Results
Bulova Technologies, Inc., Valley Stream, New York

| SOIL AREA | SAMPLE LOCATION | Ethyl- benzene | m-Xylene | o-p-Xylene | To luene | OTHERS |
|-----------|-----------------|-------------------|----------|------------|----------|---|
| SA2 | 1961-B013-SB01 | ND | ND | ND | ND | |
| SA2 | 1961-B022-SB01 | ND | ND | ND | ND | |
| SA2 | 1961-B022-SB02 | ND | ND | ND | ND | |
| SA2 | 1961-B023-SB01 | ND | ND | ND | 9.4 | 13 TCA, 8.2 Methylene Chloride |
| SA2 | 1961-B023-SB02 | ND | ND | ND | ND | 9.5 TCA |
| SA2 | 1961-MW07-SB01 | ND | ND | ND | ND | |
| SA2 | 1961-MW07-SB02 | ND | ND | ND | ND | |
| SA3 | 1961-B014-SB01 | ND | ND | ND | ND | 140J Methylene Chloride |
| SA3 | 1961-B015-SB01 | 1,100 | 2,900 | 2,700 | ND | 1,900 Methylene Chloride, 4,900 MEK, 11,000 Acetone |
| SA3 | 1961-B019-SB01 | ND | ND | ND | ND | 18.0B Methylene Chloride |
| SA3 | 1961-B019-SB02 | ND | ND | ND | ND | |
| SA3 | 1961-B019-SB22 | ND | ND | ND | ND | 14.0B Methylene Chloride |
| SA3 | 1961-B020-SB01 | ND | ND | ND | ND | |
| SA3 | 1961-B020-SB02 | ND | ND | ND | ND | |
| SA3 | 1961-B021-SB01 | ND | ND | ND | ND | 9.9 Methylene Chloride |
| SA3 | 1961-B021-SB02 | ND | ND | ND | ND | 27.0B Methylene Chloride |
| SA3 | 1961-MW06-SB01 | ND | ND | ND | ND | |
| SA3 | 1961-MW06-SB02 | ND | ND | ND | ND | |

TABLE 3
Summarized Soil Sampling Results
Bulova Technologies, Inc., Valley Stream, New York

| SOIL AREA | SAMPLE LOCATION | Ethyl-benzene | m-Xylene | o,p-Xylene | Toluene | OTHERS |
|---|-----------------|---------------|----------|------------|---------|---|
| SA4 | 1961-B016-SB01 | ND | ND | ND | ND | 160J Methylene Chloride |
| SA4 | 1961-B016-SB02 | ND | ND | ND | ND | 400 Methylene Chloride |
| SA5 | 1961-B017-SB01 | ND | ND | ND | ND | 360 Methylene Chloride |
| SA5 | 1961-B018-SB01 | ND | ND | ND | ND | 1,500 Methylene Chloride, 660 TCE, 130J PCE |
| SA5 | 1961-B018-SB02 | ND | ND | ND | ND | 240JB Methylene Chloride |
| SA5 | 1961-B024-SB01 | ND | ND | ND | ND | |
| SA5 | 1961-B024-SB02 | ND | ND | ND | 49 | 11.0B Methylene Chloride, 9.1 1,1-DCA, 13 TCA |
| <p>Notes: All concentrations in ug/kg (ppb). ND - Not detected. J - Estimated concentration below method detection limit. B - Compound detected in corresponding method blanks. PCE - Tetrachloroethylene TCE - Trichloroethylene TCA - 1,1,1-Trichloroethane 1,1-DCA - 1,1-Dichloroethane</p> | | | | | | |

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TABLE 4
Summarized Soil Gas Sampling Results
Bulova Technologies, Inc., Valley Stream, New York

| Sample | TCA | TCE | PCE | Benzene | Toluene | Ethyl Benzene | Xylenes | TVHC |
|--------|------|-------|-------|---------|---------|---------------|---------|------|
| SG-1 | 4 | 0.7 | 0.2 | <0.01 | 0.1 | <0.07 | 0.08 | 0.7 |
| SG-2 | 4 | 13 | 6 | <0.01 | 0.2 | <0.07 | 0.1 | 1 |
| SG-3 | 3 | 7 | 5 | <0.01 | 0.8 | <0.07 | 1 | 3 |
| SG-4 | 3 | 0.7 | 0.1 | <0.01 | <0.03 | <0.07 | <0.09 | 0.5 |
| SG-5 | 7 | 30 | 10 | <0.01 | <0.03 | <0.07 | <0.09 | 2 |
| SG-6 | 5 | 21 | 14 | <0.01 | <0.03 | <0.07 | <0.09 | 2 |
| SG-7 | 1 | 0.01 | 0.02 | <0.01 | 0.3 | <0.07 | 0.6 | 0.9 |
| SG-8 | 660 | <0.3 | <0.1 | <0.01 | <0.03 | <0.07 | <0.09 | 11 |
| SG-9 | 28 | 0.03 | 0.2 | <0.01 | 0.7 | <0.07 | 0.8 | 3 |
| SG-10 | 0.3 | 0.2 | 0.5 | <0.01 | 0.7 | <0.07 | 0.5 | 2 |
| SG-11 | 1 | 9 | 0.3 | <0.01 | <0.03 | <0.07 | <0.09 | 5 |
| SG-12 | 0.9 | 7 | 0.4 | <0.01 | <0.03 | <0.07 | <0.09 | 2 |
| SG-13 | 2 | 0.2 | 0.5 | <0.01 | 0.05 | <0.06 | <0.08 | |
| SG-14 | 3700 | <5 | 4 | <0.1 | <0.3 | <0.6 | <0.8 | 0.7 |
| SG-15 | 0.4 | 0.004 | 0.005 | <0.01 | 0.06 | <0.06 | <0.8 | <0.2 |
| SG-16 | 21 | 21 | 0.3 | <0.01 | <0.03 | <0.06 | <0.08 | 3 |
| SG-17 | 130 | 1 | 2 | <0.01 | <0.03 | <0.06 | <0.08 | 6 |

TABLE 4
Summarized Soil Gas Sampling Results
Bulova Technologies, Inc., Valley Stream, New York

| Sample | TCA | TCE | PCE | Benzene | Toluene | Ethyl Benzene | Xylenes | TVHC |
|--------|-----|-------|------|---------|---------|---------------|---------|-------|
| SG-18 | 0.3 | 1 | 0.1 | <0.01 | <0.03 | <0.06 | <0.08 | <0.08 |
| SG-19 | 5 | 34 | 9 | <0.01 | <0.03 | <0.06 | <0.08 | 1 |
| SG-20 | 4 | 22 | 16 | <0.01 | 0.4 | <0.06 | 0.2 | 2 |
| SG-21 | 3 | 20 | 13 | <0.01 | 0.04 | <0.06 | <0.08 | 0.5 |
| SG-22 | 2 | 4 | 2 | <0.01 | 0.07 | <0.06 | <0.08 | 0.5 |
| SG-23 | 7 | <0.05 | 0.3 | <0.01 | <0.03 | <0.06 | <0.08 | 0.3 |
| SG-24 | 8 | 0.6 | 2 | <0.01 | <0.03 | <0.06 | <0.08 | 0.2 |
| SG-25 | 10 | 0.1 | 1 | <0.01 | <0.03 | <0.06 | <0.08 | 0.3 |
| SG-26 | 5 | 0.6 | 0.2 | <0.01 | <0.03 | <0.06 | <0.08 | 0.2 |
| SG-27 | 0.5 | 0.09 | 0.02 | <0.01 | <0.03 | <0.06 | <0.08 | <0.08 |
| SG-28 | 1 | 0.06 | 0.02 | <0.01 | 0.06 | <0.06 | <0.08 | 0.06 |
| SG-29 | 0.4 | 0.01 | 0.02 | <0.01 | 0.06 | <0.06 | 0.07 | 0.4 |

Notes:

All concentrations in $\mu\text{g/l}$
TCA: 1,1,1-Trichloroethane
TCE: Trichloroethylene
PCE: Tetrachloroethylene
TVHC: Total Volatile Hydrocarbons

1961A:PAA01685.W51

ATTACHMENT B

Supplemental Soil Gas Survey Data

TRACER RESEARCH CORPORATION -ANALYTICAL RESULTS
 STORB ENVIRONMENTAL/BULLOVA TECHNOLOGIES/HEMPSTEAD, NEW YORK/JOB#2-92-368-S
 05/26/92

| SAMPLE | TCA ug/l | TCE ug/l | PCE ug/l | BENZENE ug/l | TOLUENE ug/l | ETHYL BENZENE ug/l | XYLENES ug/l | TVHC ug/l |
|-----------|-------------|-------------|-------------|-----------------|-----------------|--------------------------|-----------------|--------------|
| AIR | 0.003 | 0.0002 | 0.0009 | 0.6 | 0.8 | <0.06 | 0.6 | 8 |
| SG-2-5' | 0.2 | 0.4 | 3 | 0.1 | 0.2 | <0.06 | <0.07 | 1 |
| SG-3-5' | 0.7 | 0.6 | 4 | 0.2 | 1 | <0.6 | <0.7 | 11 |
| SG-4-3.5' | 0.7 | <0.04 | 0.6 | 0.05 | 0.09 | <0.06 | 0.4 | 0.7 |
| SG-5-4' | 0.04 | 0.009 | 0.01 | 0.3 | 0.5 | <0.1 | <0.1 | 2 |
| SG-6-4' | 0.6 | 0.08 | 0.6 | 0.04 | 0.08 | <0.06 | <0.07 | 0.2 |
| SG-7-4' | 0.002 | <0.002 | 0.005 | 0.2 | 0.3 | <0.06 | 0.6 | 2 |
| SG-8-4' | <0.09 | 2 | 4 | <0.2 | <0.3 | 4 | 8 | 52 |
| SG-9-4' | 1 | 22 | 44 | 0.03 | <0.03 | <0.06 | <0.07 | 2 |
| SG-10-4' | 1 | <0.2 | 1 | <0.03 | <0.06 | <0.1 | <0.1 | 0.3 |
| SG-11-4' | 8 | <0.2 | 0.3 | <0.2 | <0.3 | <0.6 | <0.7 | 2 |
| AIR | 0.0006 | <0.0002 | 0.0005 | <0.02 | <0.03 | <0.06 | <0.07 | 0.1 |

Analyzed by: Mike Gervasini
 Proofed by: W. J. H. H.



TRACER RESEARCH CORPORATION - ANALYTICAL RESULTS
 STORB ENVIRONMENTAL/BULLOVA INDUSTRIES/HEMPSTEAD, NEW YORK/JOB#2-92-368-S
 05/27/92

| SAMPLE | TCA ug/l | TCE ug/l | PCE ug/l | BENZENE ug/l | TOLUENE ug/l | ETHYL | | XYLENES ug/l | TVHC ug/l |
|------------|-------------|-------------|-------------|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|
| | | | | | | BENZENB ug/l | BENZENB ug/l | | |
| AIR | 0.001 | <0.0002 | 0.001 | 0.04 | 0.01 | <0.06 | <0.06 | <0.08 | 0.6 |
| SG-12-4' | 0.08 | 0.002 | 0.002 | 0.1 | 0.1 | <0.06 | <0.06 | <0.08 | 0.6 |
| SG-13-4' | 2 | <0.003 | 0.03 | <0.02 | 0.05 | <0.06 | <0.06 | <0.08 | 0.6 |
| SG-14-4' | 0.5 | <0.03 | 0.2 | 0.08 | 0.2 | <0.06 | <0.06 | 0.08 | 0.7 |
| SG-15-4' | 0.3 | 0.2 | 0.4 | 0.03 | 0.02 | <0.06 | <0.06 | <0.08 | 0.1 |
| SG-16-4' | 0.3 | 0.02 | 0.04 | 0.04 | 0.1 | <0.06 | <0.06 | <0.08 | 0.5 |
| SG-17-4' | 0.2 | 0.1 | 0.03 | 0.05 | 0.2 | <0.06 | 0.8 | 0.8 | 3 |
| SG-18-4' | 1 | 0.6 | 0.06 | <0.02 | 0.02 | <0.06 | <0.06 | <0.08 | 2 |
| SG-19-4 | 0.04 | 0.02 | 0.01 | 0.3 | 2 | 4 | 5 | 5 | 9 |
| SG-20-4' | 8 | 0.7 | 96 | <0.2 | 0.5 | <0.6 | <0.8 | <0.8 | 11 |
| SG-21-4' | 0.5 | <0.2 | 0.8 | 0.03 | 0.05 | <0.06 | <0.08 | <0.08 | 0.2 |
| AIR | 0.004 | <0.0002 | 0.002 | <0.02 | <0.02 | <0.06 | <0.06 | <0.08 | <0.08 |
| SG-22-4' | 2 | 0.09 | 2 | <0.02 | 0.03 | <0.06 | <0.06 | <0.08 | 0.9 |
| SG-23-4' | 8 | 140 | 4 | <0.2 | <0.2 | <0.7 | <0.8 | <0.8 | 30 |
| SG-24-4' | 2 | 6 | 0.3 | <0.02 | <0.03 | <0.07 | <0.08 | <0.08 | 3 |
| SG-25-4' | 0.06 | 0.08 | 0.005 | 0.06 | 0.2 | <0.07 | <0.08 | <0.08 | 0.4 |
| SG-26-5' | 2 | 0.6 | 0.4 | <0.2 | <0.2 | <0.7 | <0.8 | <0.8 | 7 |
| SG-27-3.5' | 3 | 0.07 | 0.2 | <0.02 | 0.03 | <0.07 | <0.08 | <0.08 | 2 |
| SG-28-4' | 12 | 2 | 0.2 | <0.02 | 0.02 | <0.07 | <0.08 | <0.08 | 4 |
| SG-29-4' | 6 | 0.07 | 0.2 | <0.02 | <0.02 | <0.07 | <0.08 | <0.08 | 1 |
| SG-30-5' | 4 | <0.04 | 0.08 | <0.02 | <0.02 | <0.07 | <0.08 | <0.08 | 0.5 |
| SG-31-4' | 7 | 0.07 | 0.2 | <0.02 | <0.02 | <0.07 | <0.08 | <0.08 | 1 |
| AIR | 0.002 | <0.0002 | 0.002 | <0.02 | <0.02 | <0.07 | <0.08 | <0.08 | <0.08 |

Analyzed by: Mike Gervasini
 Proofed by: *[Signature]*

ATTACHMENT C

Post-Demolition Sampling Data

TABLE 2
Summary of Sampling Results

| Compound | Soil Sample Location | | | | | | | | | | | | Ground Water Sample Location |
|------------------------------|----------------------|------|------|------|------|--------|--------|------|------|--------|------|--------|------------------------------|
| | PD01 | PD02 | PD03 | PD04 | PD05 | PD06 | PD07 | PD08 | PD09 | PD10 | PD11 | PD12 | |
| 1,2-Dichloroethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,1-Dichloroethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,1,1-Trichloroethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Benzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| trans-dichloroethane | ND | ND | ND | ND | ND | 940 | ND | ND | ND | ND | ND | ND | ND |
| 1,1-Dichloroethane | ND | ND | ND | ND | ND | 337 | ND | ND | ND | ND | ND | ND | ND |
| 1,1,1-Trichloroethane | ND | ND | ND | ND | ND | 327 | ND | ND | ND | ND | ND | ND | 7.2 |
| ethylene Chloride | ND | ND | ND | ND | ND | ND | 88.6 | ND | ND | ND | ND | ND | ND |
| 1,2-Dichloroethane | ND | ND | ND | ND | ND | 941 | 322 | ND | ND | 1,170 | ND | ND | ND |
| Total Petroleum Hydrocarbons | 3,250 | BMDL | NA | NA | NA | 18,900 | 18,400 | NA | 41.6 | 19,500 | 32.4 | 116/75 | NA |

Notes:
) - Not Detected
)DL - Below Method Detection Limit
) - Not Analyzed
) - Not Detected, except total petroleum hydrocarbons which are in parts per million.

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ENVIRON

TRACER RESEARCH CORPORATION - ANALYTICAL RESULTS
STORB ENVIRONMENTAL/BULOVA INDUSTRIES/HEMPSTEAD, NEW YORK/JOB#2-92-368-S
05/28/92

| SAMPLE | TCA ug/l | TCE ug/l | PCE ug/l | BENZENE ug/l | TOLUENE ug/l | ETHYL BENZENE ug/l | XYLENES ug/l | TVHC ug/l |
|----------|-------------|-------------|-------------|-----------------|-----------------|--------------------------|-----------------|--------------|
| AIR | 0.001 | 0.0002 | 0.002 | 0.04 | 0.04 | <0.08 | <0.1 | 0.08 |
| SG-32-5' | 0.8 | 0.0006 | 0.01 | <0.02 | 0.07 | <0.08 | <0.1 | 2 |
| SG-33-5' | 0.03 | <0.004 | 0.007 | 0.02 | 0.04 | <0.08 | <0.1 | 0.1 |
| SG-34-5' | 5 | 0.1 | 0.4 | <0.02 | 0.04 | <0.08 | <0.1 | 3 |
| SG-35-5' | 2 | 0.4 | 0.4 | <0.02 | <0.04 | <0.08 | <0.1 | 0.6 |
| SG-36-5' | 0.9 | 0.3 | 0.5 | <0.02 | <0.04 | <0.08 | <0.1 | 0.4 |
| SG-37-5' | 5 | 1 | 2 | <0.02 | <0.04 | <0.08 | <0.1 | 2 |
| SG-38-5' | 4 | 0.5 | 0.4 | <0.02 | <0.04 | <0.08 | <0.1 | 0.8 |
| SG-39-5' | 14 | 0.2 | 0.5 | <0.02 | <0.04 | <0.08 | <0.1 | 2 |
| SG-40-5' | 2 | 0.04 | 0.1 | <0.02 | <0.04 | <0.08 | <0.1 | 0.3 |
| SG-1-5' | 0.003 | <0.004 | 0.007 | <0.02 | <0.04 | <0.08 | <0.1 | <0.1 |
| AIR | 0.001 | <0.0002 | 0.004 | 0.02 | 0.04 | <0.08 | <0.1 | 0.2 |

Analyzed by: Mike Gervasini
 Proofed by: Walt



ATTACHMENT D

Soil Mechanics Sampling Data

TABLE # 1 - VOC'S (EPA 601/602)
MW-1

| Parameter | 3/1/96 | 6/2/96 | 9/23/96 | 12/6/96 | 3/9/97 | 6/9/97 | 9/3/97 | 12/1/97 | 3/23/98 | 6/22/98 | 9/21/98 | 12/10/98 | Available |
|---------------------------|--------|--------|---------|---------|--------|--------|--------|---------|---------|---------|---------|----------|-----------|
| Chloromethane | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | 4 | - |
| Bromomethane | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | - | - |
| Dichlorodifluoromethane | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | - | 5.0 |
| Vinyl Chloride | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | 2 | 2.0 |
| Chloroethane | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | - | - |
| Methylene Chloride | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | - | - |
| Trichlorofluoromethane | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | - | - |
| 1,1 Dichloroethene | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | - | - |
| 1,1 Dichloroethane | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | 1 | 5.0 |
| 1,2 Dichloroethene | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | - | - |
| Chloroform | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | - | - |
| 1,2 Dichloroethane | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | - | - |
| 1,1,1 Trichloroethane | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | - | 5.0 |
| Carbon Tetrachloride | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | - | - |
| Bromochloromethane | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | - | - |
| 1,2 Dichloropropane | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | - | - |
| 1,1,3,3 Dichloropropene | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | - | - |
| Trichloroethylene | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | - | - |
| Chlorodibromomethane | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | - | - |
| 1,1,2 Trichloroethane | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | - | - |
| c-1,3 Dichloropropene | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | - | - |
| 2-chloroethoxyethyl ether | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | - | - |
| Bromoform | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | - | - |
| 1,1,2,2 Tetrachloroethane | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | - | - |
| Tetrachloroethene | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | - | - |
| Chlorobenzene | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | - | - |
| 1,3 Dichlorobenzene | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | - | - |
| 1,2 Dichlorobenzene | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | - | 4.7 |
| 1,4 Dichlorobenzene | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | - | - |
| Benzene | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | - | 0.7 |
| Toluene | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | - | - |
| Ethyl Benzene | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | - | - |
| m-Xylene | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | - | - |
| ter-Butylmethylether | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | - | - |

SMES # 93-006 All Concentrations in ug/L * = No Data Available

TABLE # 2 - VOC'S (EPA 601/602)
MW-2

| Parameter | 3/14/96 | 6/7/96 | 9/23/96 | 12/26/96 | 3/19/97 | 6/9/97 | 9/3/97 | 12/11/97 | 3/7/98 | 6/2/98 | 9/24/98 | 12/10/98 | Allowable |
|------------------------|---------|--------|---------|----------|---------|--------|--------|----------|--------|--------|---------|----------|-----------|
| Chloroethane | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | ND | - |
| Bromomethane | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | ND | - |
| Dichlorofluoromethane | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | ND | - |
| Vinyl Chloride | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | ND | - |
| Chloroethane | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | ND | - |
| Methylene Chloride | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | ND | - |
| Trichlorofluoromethane | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | ND | - |
| 1,1 Dichloroethene | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | ND | - |
| 1,1 Dichloroethane | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | ND | - |
| 1,2 Dichloroethene | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | ND | - |
| Chloroform | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | ND | - |
| 1,2 Dichloroethane | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | ND | - |
| 111 Trichloroethane | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | ND | - |
| Carbon Tetrachloride | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | ND | - |
| Bromedichloromethane | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | ND | - |
| 1,2 Dichloropropane | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | ND | - |
| 1-1,3Dichloropropene | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | ND | - |
| Trichloroethylene | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | ND | - |
| Chlorodibromomethane | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | ND | - |
| 112 Trichloroethane | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | ND | - |
| c-1,3Dichloropropene | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | ND | - |
| 1,2-Dichloroethane | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | ND | - |
| Bromoform | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | ND | - |
| 1122Tetrachloroethane | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | ND | - |
| Tetrachloroethene | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | ND | - |
| Chlorobenzene | 2 | 2 | 2 | 2 | 2 | 2 | 2 | * | ND | ND | ND | ND | 5.0 |
| 1,2 Dichlorobenzene | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | ND | 5.0 |
| 1,4 Dichlorobenzene | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | ND | 4.7 |
| Benzene | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | ND | 5.0 |
| Toluene | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | ND | - |
| Ethyl Benzene | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | ND | - |
| m Xylene | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | ND | - |
| ter-Butylmethylether | ND | ND | ND | ND | ND | ND | ND | * | ND | ND | ND | ND | - |

* - NO DATA AVAILABLE CONCENTRATIONS IN ug/L

sms # 93-006

TABLE # 3 - VOC'S (EPA 601/601)
MW-3

| Parameter | 3/1/96 | 6/2/96 | 9/23/96 | 12/28/96 | 3/19/97 | 6/19/97 | 9/30/97 | 12/1/97 | 3/2/98 | 6/2/98 | 9/7/98 | 12/0/98 | Allowable |
|---------------------------|--------|--------|---------|----------|---------|---------|---------|---------|--------|--------|--------|---------|-----------|
| Chloromethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| Bromomethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| Dichlorofluoromethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| Vinyl Chloride | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| Chloroethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| Methylene Chloride | ND | ND | ND | ND | 1 | ND | ND | ND | ND | ND | ND | ND | 5 |
| Trichlorofluoromethane | ND | ND | ND | ND | ND | 1 | ND | ND | ND | ND | ND | ND | - |
| 1,1 Dichloroethane | ND | ND | ND | ND | ND | 1 | ND | ND | ND | ND | ND | ND | - |
| 1,1 Dichloroethane | ND | ND | ND | ND | ND | 1 | ND | ND | 1 | ND | ND | ND | 5.0 |
| 1,2 Dichloroethane | 2 | 4 | 3 | 3 | 5 | 3 | 3 | ND | 2 | 3 | 3 | 3 | 5.0 |
| Chloroform | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| 1,2 Dichloroethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| 1,1 Trichloroethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| Carbon Tetrachloride | ND | ND | ND | ND | ND | 3 | ND | ND | ND | ND | ND | ND | 5 |
| Bromodichloromethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| 1,2 Dichloropropane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| 1,1,3 Dichloropropene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| Trichloroethylene | 3 | 5 | 3 | 3 | 4 | 6 | 5 | ND | ND | 1 | 4 | 4 | 5.0 |
| Chlorodibromomethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| 1,1,2 Trichloroethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| c-1,3 Dichloropropene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| 2 Chloroethyl ether | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| Bromoform | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| 1,1,2,2 Tetrachloroethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| Tetrachloroethene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| Chlorobenzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| 1,3 Dichlorobenzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| 1,2 Dichlorobenzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| 1,4 Dichlorobenzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| Benzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| Toluene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| Ethyl Benzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| m Xylene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| ter. Butylmethyl ether | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |

CONCENTRATIONS IN ug/L

SMES # 93-106

TABLE # 4 - VOC'S (EPA 601/602)
MW-4

| Parameter | 3/1/96 | 6/2/96 | 9/2/96 | 12/8/96 | 3/19/97 | 6/9/97 | 9/3/97 | 12/1/97 | 3/23/98 | 6/22/98 | 9/2/98 | 12/1/98 | Allowance |
|---------------------------|--------|--------|--------|---------|---------|--------|--------|---------|---------|---------|--------|---------|-----------|
| Chloroethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| Bromomethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| Dichlorodifluoromethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| Vinyl Chloride | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 2.0 |
| Chloroethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| Methylene Chloride | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| Trichlorofluoromethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| 1,1 Dichloroethene | 270 | 330 | 330 | 190 | 250 | 330 | 330 | 330 | 330 | 330 | 450 | 450 | 5.0 |
| 1,2 Dichloroethane | 24 | 36 | 20 | 24 | 110 | 12 | 12 | 12 | 12 | 57 | 61 | 61 | 5.0 |
| 1,2 Dichloroethene | 9 | 6 | 7 | 2 | 26 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 5.0 |
| Chloroform | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| 1,2 Dichloroethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| 1,1 Trichloroethane | 780 | 690 | 730 | 390 | 360 | 360 | 360 | 360 | 360 | 360 | 360 | 360 | 5.0 |
| Carbon Tetrachloride | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| Bromodichloromethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| 1,2 Dichloropropane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| 1,1,1,1-Tetrachloroethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| Trichloroethylene | 51 | 48 | 41 | 33 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | - |
| Chlorodibromomethane | 5 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 5 |
| 1,1,2 Trichloroethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 5.0 |
| c-1, 3-Dichloropropene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| 2-chloroethylmethyl ether | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| Bromoform | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| 1,1,2,2-Tetrachloroethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| Tetrachloroethene | 1 | 2 | 3 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 5.0 |
| Chlorobenzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| 1,3-Dichlorobenzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| 1,2-Dichlorobenzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| 1,4-Dichlorobenzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| Benzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| Toluene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| Ethyl Benzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| m-Xylene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| tert-Butylmethyl ether | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 50.0 |

CONCENTRATIONS IN ug/L

SMES # 93-006

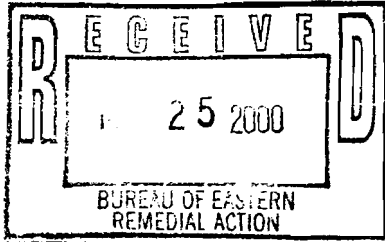
ENVIRON

May 24, 2000

Federal Express

Crystal Montroy
New York State Department of Environmental Conservation
Bureau of Eastern Remedial Action
50 Wolf Road
Albany, New York 12233-7010

Re: Operation and Maintenance Plan Addendum
Former Bulova Corporation Facility
Valley Stream, New York
NYSDEC Site No. 1-30-084



Dear Ms. Montroy:

ENVIRON International Corporation (ENVIRON) has prepared this letter, on behalf of Bulova Corporation (Bulova), to serve as an addendum to the *Operation and Maintenance Plan* for the proposed remedial action at the former Bulova facility in Valley Stream, New York (the "Site"). The *Operation and Maintenance Plan* (ENVIRON, March 2000) was prepared based on the *Proposed Remedial Action Plan* (PRAP) developed by the New York State Department of Environmental Conservation (NYSDEC) and in anticipation of the *Record of Decision*. The *Record of Decision* was issued on March 31, 2000 and NYSDEC provided comments related to the *Operation and Maintenance Plan* in a letter dated May 4, 2000.

This addendum letter has been prepared to address comments provided in NYSDEC's May 4, 2000 correspondence. In addition, as detailed in NYSDEC's May 4, 2000 letter, ENVIRON and Bulova note that none of the primary constituents of concern related to the Site were identified in the indoor air samples collected by the New York State and Nassau County Health Departments in homes adjacent to the Site.

Well Installation

ENVIRON and Bulova have proposed to install one off-site monitoring well to serve as a "sentinel" point downgradient of the Site. As requested by NYSDEC, the well installation activities will be revised to include field screening of soil cores collected from the water table to approximately 40 feet below ground surface (bgs). Soil cores at the proposed monitoring well location will be collected on approximately 5-foot intervals. As requested by NYSDEC, the photo-ionization detector will be re-checked against the calibrant gas prior to re-calibration at the end of each field day. The result will be recorded and used as an indication of instrument drift. ENVIRON and Bulova anticipate that the proposed monitoring well will be installed during June 2000 and that the new monitoring well will be included in the initial ground water monitoring event.

Monitoring Program

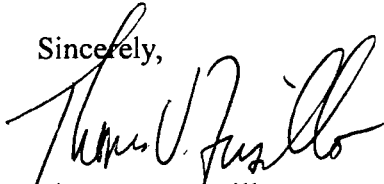
As requested by NYSDEC, the proposed ground water monitoring activities will be completed on a quarterly basis for a period of two years and the events will be scheduled to include sampling events during the month of September. As such, the quarterly sampling events will be completed during the months of June, September, December, and March. The need for additional ground water sampling activities, subsequent to the two year monitoring period, will be evaluated based on results of the proposed sampling activities, as described in the *Record of Decision*.

Report Preparation

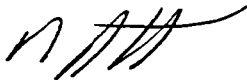
As detailed in Section V of the *Operation and Maintenance Plan*, analytical data tables will be provided to NYSDEC following receipt and review of the data associated with each quarterly ground water sampling event. The quarterly data submission will also include a ground water elevation map to characterize ground water flow patterns during the sampling event.

Please contact us at your earliest convenience to discuss any questions or comments regarding the *Operation and Maintenance Plan* or this addendum.

Sincerely,



Thomas V. Fusillo
Principal



Michael J. Potts
Manager

TVF\MJP:srh
02-1961A:PRIN_WPA13291v1.DOC

cc: B. Weber