generated will be available upon request to the NYCDEP and NYSDEC and submitted, on a monthly basis to the NYCDEP, and on an annual basis to the NYCDEP and NYSDEC as part of the Annual Site Management Report, as specified in the Section 5 of this SMP.

4.3.1 Routine Maintenance Reports

Checklists or forms (see Appendix N of this SMP) will be completed during each routine maintenance event. Checklists/forms will include, but not be limited to the following information:

- Date.
- Name, company, and position of person(s) conducting maintenance activities.
- Maintenance activities conducted.
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet).
- Other documentation such as copies of invoices for maintenance work, receipts for replacement equipment, etc., (attached to the checklist/form).

4.3.2 Non-Routine Maintenance Reports

During each non-routine maintenance event, a form will be completed that will include, but not be limited to, the following information:

- Date.
- Name, company, and position of person(s) conducting non-routine maintenance/repair activities.
- Presence of leaks.
- Date of leak repair.

- Other repairs or adjustments made to the system.
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents (included either on the form or on an attached sheet).
- Other documentation such as copies of invoices for repair work, receipts for replacement equipment, etc. (attached to the checklist/form).

4.4 Contingency Plan

Emergencies may include injury to personnel, fire or explosion, environmental release, or serious weather conditions.

Emergencies may include:

- Injury to personnel.
- Fire or explosion.
- Environmental release.
- Toxic substance exposure.
- Hazardous material spill.
- Serious weather conditions.

Other situations might occur at the Site that will require corrective actions to be implemented in an expedited manner. These situations include:

- Gas system shutdown.
- Excessive settlement of cap.
- High leachate levels along the cutoff wall.
- Power failure for an extended period of time.

- Broken force main.
- Sideslope failure.
- Stormwater system failure.
- Seepage from sideslopes.

Corrective action procedures for all the above-mentioned contingency situations are detailed in Section 6.0 of Volume I of the OM&M Manual (2005 – provided in Appendix K of this SMP).

4.4.1 Emergency Telephone Numbers

In the event of an environmentally related situation or unplanned occurrence requiring assistance, the Owner or Owner's representative(s) should contact the appropriate party from the contact list in Table 7. For emergencies, appropriate emergency response personnel should be contacted. Prompt contact should also be made to the qualified environmental professional at the ARCADIS Melville, NY Office. These emergency contact lists must be maintained in an easily accessible location at the Site.

4.4.2 Map and Directions to Nearest Health Facility

In case of an emergency, the O&M Contractor should be aware of the proper evacuation and/or medical treatment procedures outlined in the site-specific Health and Safety Plan. In the event of a medical emergency, the route to Jacobi Medical Center is detailed below:

Site Location Hospital: 301 Shore Road, Bronx, New York 10465

Nearest Hospital Name: Jacobi Medical Center

Hospital Location: 1400 Pelham Parkway South, Bronx, New York 10461

Hospital Telephone: (718) 918-5000

Directions to the Hospital:

1. Head northwest towards Shore Road

2. Turn left on Shore Road (approximately 0.2 miles)

3. Continue on Bronx and Pelham Parkway West (approximately 1.6 miles)

4. Make a U-Turn at Williamsbridge Road onto Bronx and Pelham Parkway East (approximately 0.4 miles)

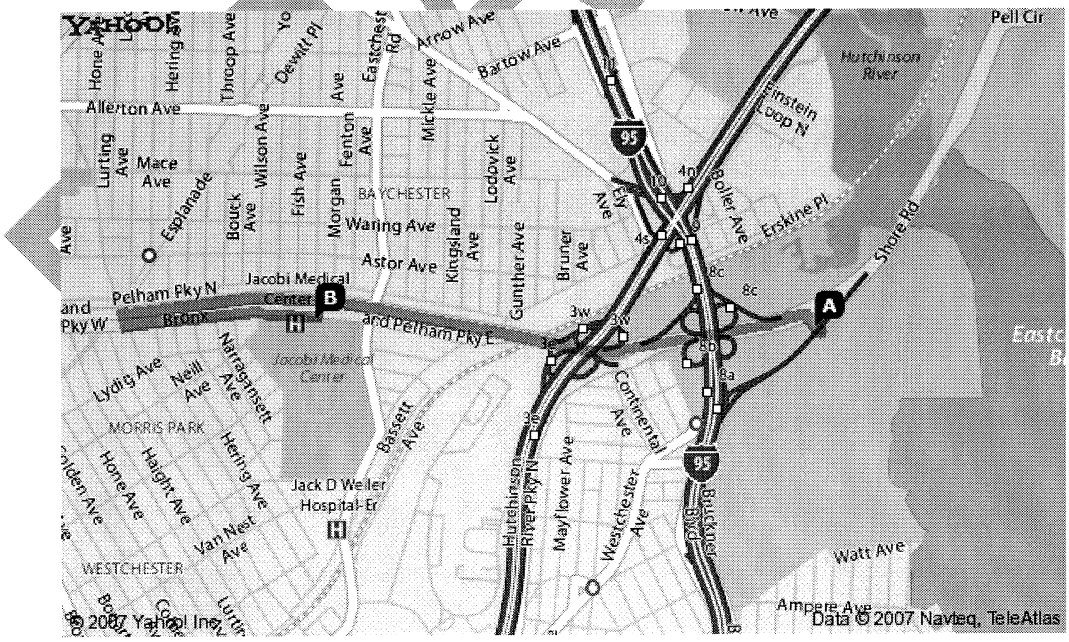
5. Continue on Pelham Parkway South (approximately 0.2 miles)

6. Arrive at Jacobi Medical Center, 1400 Pelham Parkway South, Bronx, New York on the right

Total Distance: Approximately 2.5 miles

Total Estimated Time: Approximately 6 minutes

Map Showing Route from the Site to the Hospital:



4.4.3 Response Procedures

4.4.3.1. Emergency Contacts/Notification System

As appropriate, the fire department and other emergency response group will be notified immediately by telephone of the emergency. The emergency telephone number list is found at the beginning of this Contingency Plan (Table 7). The list is also posted prominently at the Site and made readily available to all personnel at all times.

The on-site O&M Contractor shall take the following steps in case of an emergency:

1. Identify/verify the problem and its cause. If possible, the O&M Contractor shall make a preliminary assessment of the severity of the problem. Immediate steps shall be taken to contain the problem, if necessary.

2. Notify the proper authorities depending on the severity of the problem. At a minimum, the O&M Contractor shall notify the NYCDEP Project Manager and qualified environmental professional (ARCADIS). The NYSDEC shall be notified of any emergencies. The O&M Contractor shall initiate a decision-making process for a course of action. Appropriate local/state/federal agencies shall also be contacted, as necessary.

3. Make recommendations to the NYCDEP, as appropriate, for corrective actions and a schedule for implementation. If necessary, a more detailed assessment of the problem and evaluation of alternatives for corrective action shall be undertaken by the O&M Contractor, subject to the approvals of the NYCDEP.

4. Obtain authorization from the NYCDEP for the O&M Contractor to implement any corrective actions.

5. Implement a proper, safe and effective corrective action by the O&M Contractor at the direction of the NYCDEP.

5. Site Management Reporting Plan

5.1 Introduction

An Annual Site Management Report will be submitted to NYSDEC by March 31 of the calendar year following the reporting period. The Site Management Report will be prepared in accordance with NYSDEC Draft DER-10 Technical Guidance for Site Investigation and Remediation requirements. This Site Management Reporting Plan and its requirements are subject to revision by NYSDEC.

This Annual Site Management Report will include the following:

- Identification of all required ECs/ICs required by the ROD for the Site.
- An evaluation of the EC/IC Plan and the Monitoring Plan for adequacy in meeting remedial goals.
- Assessment of the continued effectiveness of all ICs and ECs for the Site.
- Certification of the ECs/ICs.
- Results of the required periodic Site Inspections.
- All deliverables generated during the reporting period, as specified in Section 2 EC/IC Plan, Section 3 Monitoring Plan, and Section 4 Operation and Maintenance Plan.

The Site Management Reporting Plan is subject to NYSDEC revision.

5.2 Certification of Engineering and Institutional Controls

Information of ECs/ICs can be found in the EC/IC Plan portion of this SMP. Inspection of the ECs/ICs will occur at a frequency described in Section 3 Monitoring Plan and Section 4 Operation and Maintenance Plan. After the last inspection of the reporting period, a Professional Engineer licensed to practice in New York State will sign and certify the document. The document will certify that:

- On-Site ECs/ICs are unchanged from the previous certification.

- The on-site ECs/ICs remain in-place and effective.
- The systems are performing as designed.
- Nothing has occurred that would impair the ability of the controls to protect public health and the environment.
- Nothing has occurred that would constitute a violation or failure to comply with any operation and maintenance plan for such controls.
- Access is available to the Site by NYSDEC and NYSDOH to evaluate continued maintenance of such controls.
- Site usage is compliant with the Deed Restriction.

The signed certification will be included in the Annual Site Management Report (see Section 5.3).

5.3 Site Inspections

5.3.1 Inspection Frequency

All inspections will be conducted at the frequency specified in the schedules provided in Section 3 Monitoring Plan and Section 4 Operation and Maintenance Plan of this SMP.

5.3.2 Inspection Forms, Sampling Data, and Maintenance Reports

All inspections and monitoring events will be recorded on the appropriate forms for their respective system (refer to Appendix N of this SMP). These forms are subject to NYSDEC revision.

All applicable inspection forms and other records (including all sampling data of any media at the Site and system maintenance reports) generated for the Site during the calendar year will be included in the Annual Site Management Report.

5.3.3 Evaluation of Records and Reporting

The results of the inspection and Site monitoring data will be evaluated as part of the EC/IC certification to confirm that the:

- ECs/ICs are in place, are performing properly, and remain effective.
- The Monitoring Plan is being implemented.
- Operation and maintenance activities are being conducted properly, and, based on the above items,
- The Site remedy continues to be protective of public health and the environment and is performing as designed.

5.4 Site Management Report

The Site Management Report will be submitted annually and will be submitted by March 31 of the calendar year following the reporting period. The report will include:

- EC/IC certification.
- All applicable inspection forms and other records generated for the Site during the reporting period.
- A summary of any discharge monitoring data and/or information generated during the reporting period with comments and conclusions.
- Cumulative data summary tables and/or graphical representations of contaminants of concern by media [groundwater], which include a listing of all compounds analyzed along with the applicable standards, with all exceedances highlighted.
- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables required for all points sampled during the calendar year (also to be submitted electronically in the NYSDEC-specified format).
- A performance summary for all systems at the Site during the calendar year, including information such as:
    - The number of days the system(s) were run for the reporting period.
    - The average, high, and low flows per day.

- A description of significant breakdowns and/or repairs along with an explanation for any significant downtime.
- A summary of the performance and/or effectiveness monitoring.
- Comments, conclusions, and recommendations based on data evaluation.
- Description of the resolution of performance problems.

- A Site evaluation, which will address the following:
  - The compliance of the remedy with the requirements of the Site-specific ROD.
  - The performance and effectiveness of the remedy.
  - The operation and the effectiveness of all treatment units, etc., including identification of any needed significant repairs or modifications.
  - Any new conclusions or observations regarding Site contamination based on inspections or data generated by the Monitoring Plan for the media being monitored.
  - Recommendations regarding any necessary changes to the remedy and/or Monitoring Plan.
- A figure showing sampling and well locations, and significant analytical values at sampling locations.
- Comments, conclusions, and recommendations, based on an evaluation of the information included in the report, regarding ECs/ICs at the Site.

The Site Management Report will be submitted, in hard-copy format, to the Region 2 NYSDEC offices, located at 47-40 21st Street, Long Island City, New York, and in electronic format to NYSDEC and NYSDOH.

6. References

New York Standards and Specifications for Erosion and Sediment Control. 2005.

New York State Department of Environmental Conservation (NYSDEC). 1990. Order on Consent, Index #2-03-001.

New York State Department of Environmental Conservation (NYSDEC). 1993. Pelham Bay Landfill, I.D. Number 203001, Bronx County, New York, Record of Decision.

New York State Department of Environmental Conservation (NYSDEC). 2002. Draft DER-10 Technical Guidance for Site Investigation and Remediation.

New York State Department of Environmental Conservation (NYSDEC). 2007. Generic Template for Site Management Plan Region 2 DER Managed Projects.

URS Corporation (URS). 2002. Pelham Bay Landfill Closure and Final Remediation Construction Certification Report.

Woodward-Clyde Consultants, Inc. (WCCI) 1993a. Final Remedial Investigation Report, Pelham Bay Landfill, Bronx, New York.

WCCI 1993b. Supplemental Remedial Investigation Report, Pelham Bay Landfill, Bronx, New York.

WCCI 1993c. Final Draft Feasibility Study Report, Pelham Bay Landfill, Bronx, New York

WCCI 1993d. Baseline Risk Assessment, Volume 1 - Human Health Evaluation and Volume 2 – Ecological Evaluation

WCCI 1996. Pelham Bay Landfill, Bronx, New York, Operation Maintenance & Monitoring Manual Volumes II and III.

WCCI 2005. Pelham Bay Landfill, Bronx, New York, Operation Maintenance & Monitoring Manual Volume I Revised.

ARCADIS

Table 1. Summary of Average Water-Level Elevations During the Period August 13 - 17, 2007, Pelham Bay Landfill, Bronx, New York.

Well ID	Average Water-Level Elevation (ft BD)	Tidal Affect
MW-104	2.38	Tidally Affected
MW-106	0.73	Tidally Affected
MW-109	5.89	Minimal Tidal Affect
MW-110	0.44	Tidally Affected
MW-113	1.53	Tidally Affected
MW-114	4.17	Minimal Tidal Affect
MW-115	4.16	Tidally Affected
MW-117	2.64	Tidally Affected
MW-118	-0.46	Tidally Affected
MW-119	-1.00	Tidally Affected
MW-120	-1.41	Tidally Affected
MW-122	-0.77	Tidally Affected
PZ-A	5.69	Minimal Tidal Affect
PZ-B	6.42	Minimal Tidal Affect
PZ-C	5.77	Minimal Tidal Affect
PZ-D	6.02	Minimal Tidal Affect
PZ-E	3.07	Tidally Affected
PZ-F	2.84	Tidally Affected

ft BD Feet relative to Bronx Highway Datum. (1)

Notes: (1) Bronx Highway Datum is 2.608 ft above mean sea level.

ARCADIS

Table 2. Monitoring/Inspection Schedule, Pelham Bay Landfill, Bronx, New York.

Monitoring Program	Frequency [a], [b]	Matrix	Analysis
Landfill Cover System	Monthly [c] (Forms FCS-1 and DP-1)	Landfill Cover	Inspection
Groundwater and Leachate Management System	(1) Inspections: Weekly (Forms GWL-1 and DP-1), Monthly (Forms GWL-2 and DP-1), and Semi-Annual (Forms GWL-3 and DP-1) (2) Sampling and Groundwater Elevation Measurements: Semi-Annual	Groundwater/Leachate	(1) Inspection (2) Laboratory Analysis for TCL VOCs, TCL SVOCs, TAL inorganics, Cyanide, TCL pesticides, and Conventional leachate parameters (3) Field Parameters (DO, ORP, pH, specific conductance, temperature, and turbidity)
Landfill Gas Management and Flare System	(1) Inspections: Weekly (Forms LFG-1 and DP-1), Monthly (Forms LFG-2 and DP-1), and Quarterly (Forms LFG-3 and DP-1) (2) Monitoring: Semi-Annual	Landfill Gas	(1) Inspection (2) Field Measurement of Methane, Oxygen, and Carbon Dioxide (Gas Monitoring Wells) (3) Field Measurement of Methane (Landfill Surface Gas)
Stormwater Management System	(1) Inspections: Monthly [c] (Forms SMS-1, SMS-2, SMS-3, and DP-1) (2) Sampling: Semi-Annual (Spring and Fall)	Stormwater	(1) Inspection (2) Laboratory Analysis for TCL VOCs, TCL SVOCs, TAL inorganics, Cyanide, TCL pesticides, and Conventional leachate parameters
Ancillary Systems	Quarterly (Forms AS-1 and DP-1)	Ancillary Systems	Inspection

See footnotes on last page.

Table 2. Monitoring/Inspection Schedule, Pelham Bay Landfill, Bronx, New York.

Footnotes:

TCL	Target Compound List
TAL	Target Analyte List
VOCs	Volatile Organic Compounds
SVOCs	Semi-Volatile Organic Compounds
DO	Dissolved Oxygen
ORP	Oxidation-Reduction Potential
SMP	Site Management Plan

(a) The frequency of events will be conducted as specified until otherwise approved by NYSDEC.

(b) Referenced Forms can be located in Appendix N of this SMP.

(c) Inspections are also required after each major rainfall event (i.e., 2.5 inches in 24 hours or larger).

ARCADIS

Table 3. Semi-Annual Groundwater Quality Monitoring Well Network, Pelham Bay Landfill, Bronx, New York.

Well Designation [2]	Well Depth (ft)	Measuring Point Elevation (ft BD)	Screen Elevation Top (ft BD)	Screen Elevation Bottom (ft BD)
MW-104	15.35	19.132	4.20	-5.80
MW-106	17.47	18.388	2.39	-7.61
MW-109	16.75	23.952	10.21	0.21
MW-110	16.89	20.013	4.45	-5.55
MW-113	12.08	14.442	3.99	-1.01
MW-114	11.87	14.66	6.14	-3.86
MW-119	31.21	20.421	-7.43	-17.43
MW-120	55.58	18.838	-23.97	-43.97
MW-120B	79.70	19.296	-58.86	-68.86
MW-122	38.15	17.575	-16.47	-26.47

ft Feet.
ft BD Feet relative to Bronx Highway Datum. [1]

Sources: Well Depths and Screen Elevations
Remedial Investigation (RI) Report, Table 2-1, Well Data Summary.
RI Report Prepared by Woodward-Clyde Consultants, Inc., April 1993.

Measuring Point Elevations
Nelson & Pope Engineers & Surveyors - July 2006 Monitoring Well Survey

Notes:
(1) Bronx Highway Datum is 2.608 ft above mean sea level.
(2) Monitoring Well MW-121, which was previously part of the groundwater sampling monitoring well network, was abandoned, as approved by the NYSDEC, in June 2007.

ARCADIS

Table 4. Semi-Annual Groundwater Elevation Measurement Monitoring Well Network, Pelham Bay Landfill, Bronx, New York.

Well Designation	Well Depth (ft)	Measuring Point Elevation (ft BD)	Screen Elevation Top (ft BD)	Screen Elevation Bottom (ft BD)
Monitoring Wells [2], [3], [4]				
MW-104	15.35	19.132	4.20	-5.80
MW-106	17.47	18.388	2.39	-7.61
MW-109	16.75	23.952	10.21	0.21
MW-110	16.89	20.013	4.45	-5.55
MW-113	12.08	14.442	3.99	-1.01
MW-114	11.87	14.66	6.14	-3.86
MW-115	42.50	24.807	-2.16	-22.16
MW-115B	72.41	24.876 (a)	-33.89	-52.30
MW-117	19.66	8.077	-2.33	-12.33
MW-117B	79.13	8.319 (b)	-62.73	-72.73
MW-118	17.19	19.113	6.00	-4.00
MW-119	31.21	20.421	-7.43	-17.43
MW-120	55.58	18.838	-23.97	-43.97
MW-120B	79.70	19.296	-58.86	-68.86
MW-122	38.15	17.575	-16.47	-26.47
Piezometers				
PZ-A	NA	11.951	NA	NA
PZ-B	NA	14.254	NA	NA
PZ-C	NA	11.374	NA	NA
PZ-D	NA	12.411	NA	NA
PZ-E	NA	9.545	NA	NA
PZ-F	NA	9.645	NA	NA

ft Feet.
ft BD Feet relative to Bronx Highway Datum. [1]
NA Not available.
(a) Top of Steel Casing.
(b) Top of PVC Cap.

Sources: Well Depths and Screen Elevations
Remedial Investigation (RI) Report, Table 2-1, Well Data Summary.
RI Report Prepared by Woodward-Clyde Consultants, Inc., April 1993.

Measuring Point Elevations
Nelson & Pope Engineers & Surveyors - July 2006 Monitoring Well Survey

Notes:
(1) Bronx Highway Datum is 2.608 ft above mean sea level.
(2) Monitoring Wells MW-121 and MW-126, which were previously part of the groundwater elevation measurement monitoring well network, were abandoned, as approved by the NYSDEC, in June 2007.
(3) Monitoring Wells MW-124 and MW-124B, which were previously part of the groundwater elevation measurement monitoring well network, cannot be located.
(4) Monitoring Well MW-117B, which was surveyed in July 2006, cannot be located.

Table 5. Groundwater, Leachate, and Stormwater Sample Analytical Protocols, Pelham Bay Landfill, Bronx, New York.

Parameter	Analytical Method
TCL VOCs	EPA Method 8260
TCL SVOCs	EPA Method 8270
TCL Pesticides	EPA Method 8081
TAL Inorganics	EPA Methods 200.7 and 245.1
Cyanide	EPA Method 335.4
Alkalinity as Bicarbonate	SM 2320 B
Alkalinity as Carbonate	SM 2320 B
Ammonia	SM 4500-NH_3 C and D
Chemical Oxygen Demand	EPA Method 410.1
Chloride	SM 4500-Cl^- B
Nitrate	EPA Method 353.2
Sulfate	ASTM D516-90, 02
Total Dissolved Solids	SM 2540 C
Total Kjeldahl Nitrogen	SM 4500 B

ASTM	ASTM International (formerly American Society for Testing and Materials).
EPA	Environmental Protection Agency.
SM	Standard Method.
TCL	Target Compound List.
TAL	Target Analyte List.
VOCs	Volatile Organic Compounds.
SVOCs	Semi-Volatile Organic Compounds.

ARCADIS

Table 6. Monitoring/Inspection Deliverables, Pelham Bay Landfill, Bronx, New York.

Task	Frequency [a]	Quarterly Reporting Requirement	Annual Reporting Requirement
Landfill Cover System Inspections	See Table 2	60 Days Following Subject Quarterly Report Period	By March 31 of the Calendar Year Following the Reporting Period
Groundwater and Leachate Management System Inspections and Monitoring	See Table 2	60 Days Following Subject Quarterly Report Period	By March 31 of the Calendar Year Following the Reporting Period
Landfill Gas Management and Flare System Inspections and Monitoring	See Table 2	60 Days Following Subject Quarterly Report Period	By March 31 of the Calendar Year Following the Reporting Period
Stormwater Management System Inspections and Monitoring	See Table 2	60 Days Following Subject Quarterly Report Period	By March 31 of the Calendar Year Following the Reporting Period
Ancillary Systems Inspections	See Table 2	60 Days Following Subject Quarterly Report Period	By March 31 of the Calendar Year Following the Reporting Period

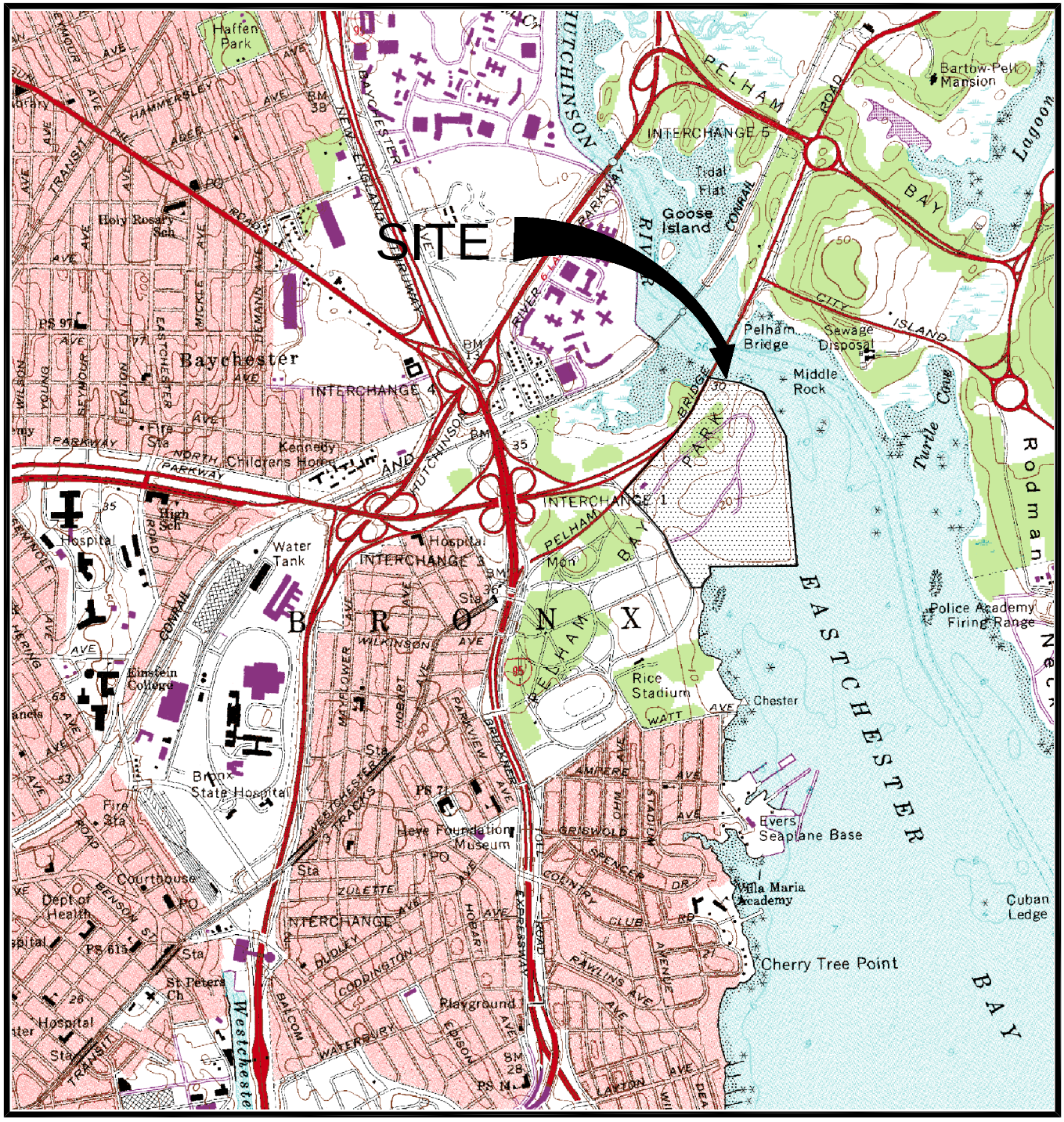
(a) The frequency of events will be conducted as specified until otherwise approved by NYSDEC.

ARCADIS

Table 7. Emergency Contact Numbers, Pelham Bay Landfill, Bronx, New York.

Contact	Phone Number
Medical, Fire, and Police:	911
Police Department	(718) 822-5411
Fire Department	(718) 862-1456
Jacobi Medical Center	(718) 918-5000
One Call Center:	(800) 272-4480
	(3-Day Notice Required for Utility Markout)
Poison Control Center:	(800) 222-1222
Pollution Toxic Chemical Oil Spills:	(800) 424-8802
NYSDEC Spills Hotline	(800) 457-7362
NYCDEP Rupak Raha - Project Manager	(718) 595-6210
Qualified Environmental Professional: ARCADIS - Melville, NY Office Carlo San Giovanni Kyriacos Pierides	(631) 249-7600
National Response Center: (All Spills in Reportable Quantities)	(800) 424-8802
U.S. Coast Guard (Spills to Water)	(800) 441-3516
Severn Trent Environmental Services On-Site O&M Contractor Thomas Varley	(516) 674-6032

Note: Contact numbers subject to change and should be updated as necessary.



LOCATION MAP

MAP SOURCE: USGS 7.5 MINUTE QUADRANGLE 1979
FLUSHING, NEW YORK

SCALE 1:24000

1 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

NEW YORK

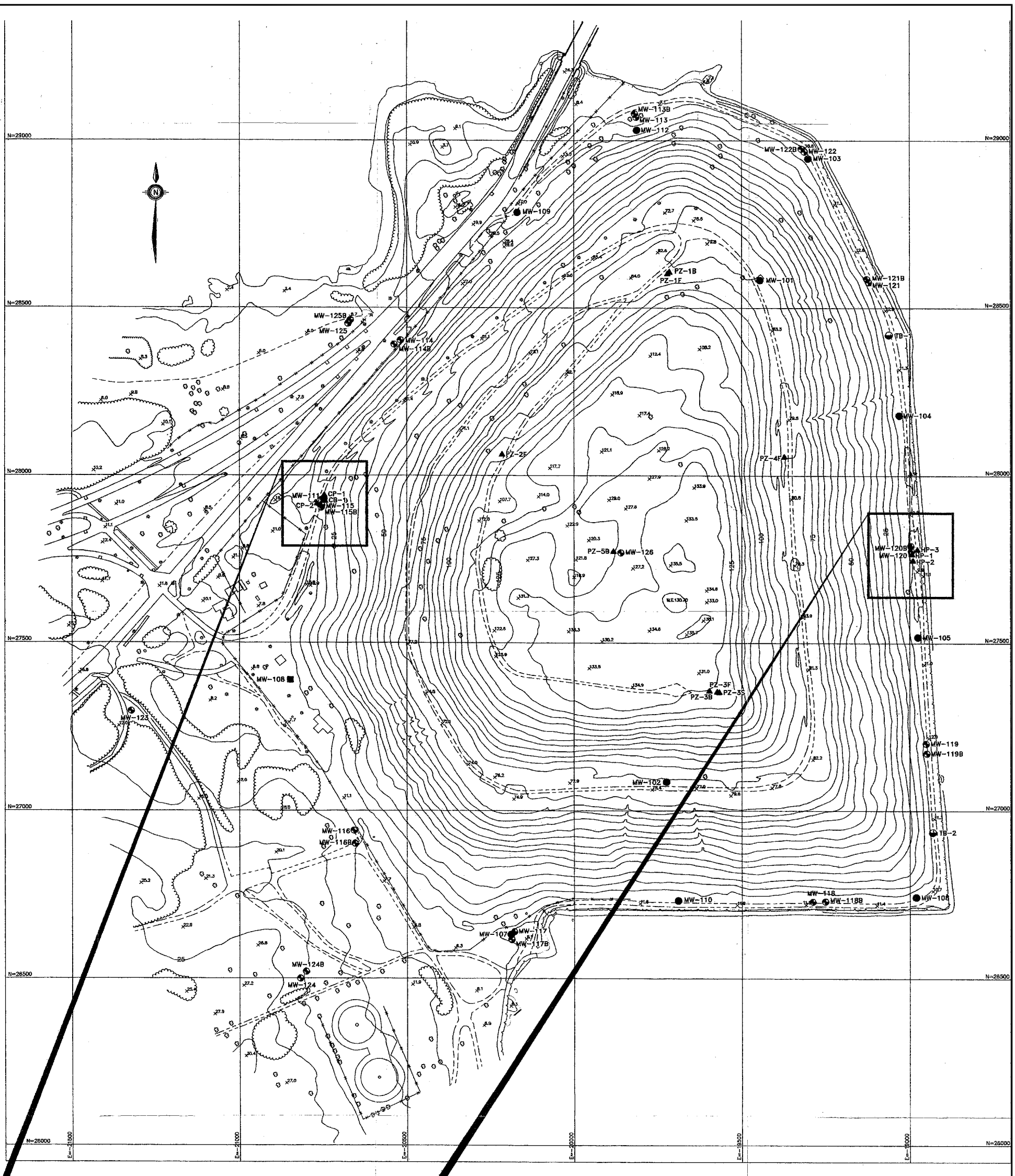
MN GN
12° 213 MILS
0°47' 14 MILS
UTM GRID AND 1979
MAGNETIC NORTH

ARCADIS OF NEW YORK, INC.
Two Huntington Quadrangle
Suite 1S10, Melville, NY 11747
Tel: 631-249-7600 Fax: 631-249-7610
www.arcadis-us.com

PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
C. SAN GIOVANNI	M. WOLFERT	K. PIERIDES	C. KEEN
SHEET TITLE: SITE LOCATION MAP PELHAM BAY LANDFILL BRONX, NEW YORK		TASK/PHASE NUMBER: 00013	DRAWN BY: A. SANCHEZ
		PROJECT NUMBER: NY001443.0003	DRAWING NUMBER: 1

Acad Version : R17.0s (LMS Tech) Date\Time : Fri, 28 Mar 2008 - 6:38pm
User Name : alsanchez Path\Name : G:\APROJECT\NYCDEP\Pelham Bay Landfill\NY001443.XXX\CADD\SMP\Fig 01_Site Location Map.dwg
Current Plotstyle : ByColor Layout Tab: LocalMap

FIGURE 2
TO BE PROVIDED FOLLOWING THE PERFORMANCE OF THE METES AND BOUNDS SURVEY



LEGEND:

- MW-103 ● MONITORING WELLS INSTALLED 1989
- MW-108 ■ MONITORING WELL DESTROYED DURING IRM
- PZ-3B ▲ PIEZOMETERS INSTALLED 1992
- MW-113 ⊕ MONITORING WELLS INSTALLED 1992
- MW-116B ⊕ BEDROCK WELLS INSTALLED 1992
- TB-1 ◒ TEST BORING ADVANCED 1992

NOTES:

1. COORDINATES AND BEARINGS IN BRONX HIGHWAY DATUM.
2. ELEVATIONS ABOVE BRONX DATUM = 2.608 FT ABOVE MEAN SEA LEVEL.
3. CONTOUR INTERVAL = 5 FEET

MAP SOURCE:
ETTLINGER & ETTLINGER DRAWING NUMBER 87541
ETTLINGER & ETTLINGER SITE SURVEY 1992.

WOODWARD-CLYDE CONSULTANTS, INC.
FINAL REMEDIAL INVESTIGATION REPORT,
PELHAM BAY LANDFILL, BRONX, NEW YORK, 1993.

NO.	ISSUED DATE	REVISION DESCRIPTION	BY/CKD

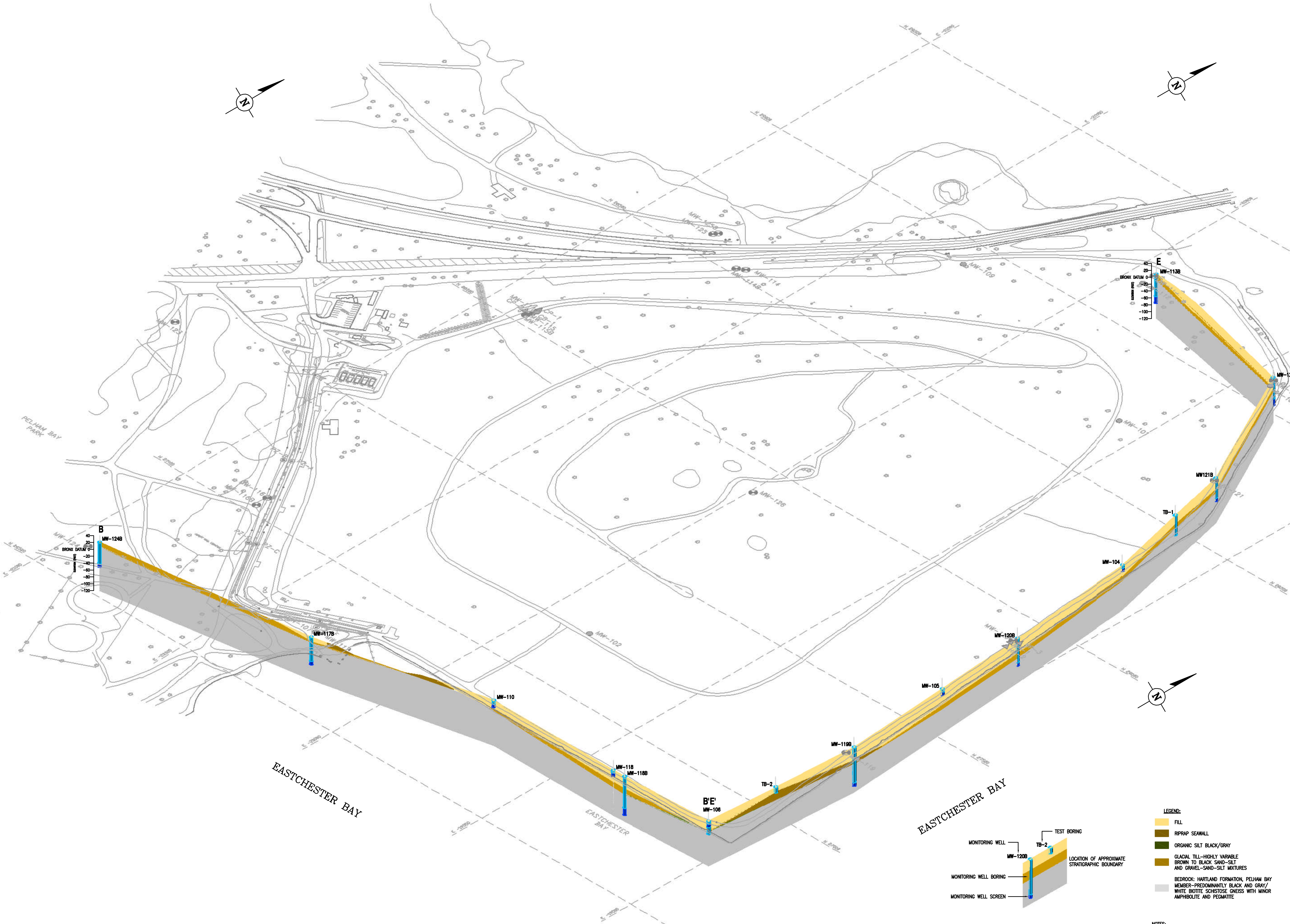
ARCADIS OF NEW YORK, INC.
Two Huntington Quadrangle
Suite 1S10
Melville, NY 11747
Tel: 631-249-7600 Fax: 631-249-7610
www.arcadis-us.com

PROJECT TITLE
PELHAM BAY LANDFILL
BRONX, NEW YORK

PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
C. SAN GIOVANNI	M. WOLFERT		C. KEEN

SHEET TITLE
MONITORING WELL AND PIEZOMETER LOCATION MAP

TASK/PHASE NUMBER	DRAWN BY
00013	A. SANCHEZ
PROJECT NUMBER	DRAWING NUMBER
NY001443.0003	3

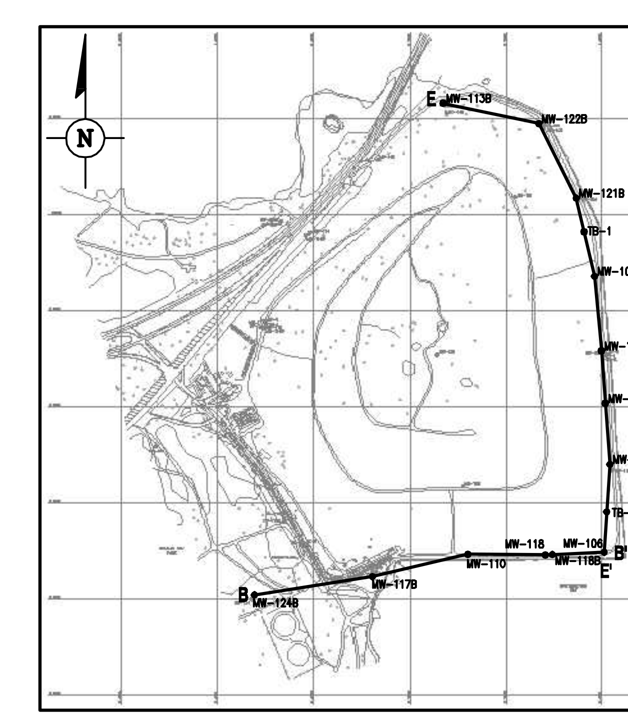


LEGEND:

- FILL
- RIPRAP SEAWALL
- ORGANIC SILT BLACK/GRAY
- GLACIAL TILL–HIGHLY VARIABLE BROWN TO BLACK SAND–SILT AND GRAVEL–SAND–SILT MIXTURES
- BEDROCK: HARTLAND FORMATION, PELHAM BAY MEMBER–PREDOMINANTLY BLACK AND GRAY/WHITE BIOTITE SCHISTOSE GNEISS WITH MINOR AMPHIBOLITE AND PEGMATITE

NOTES:

1. THE SOURCE OF THE GEOLOGIC INFORMATION SHOWN ON THIS FIGURE ARE THE GEOLOGIC CROSS–SECTIONS (CROSS–SECTIONS E–E' AND B–B') THAT ARE PROVIDED IN THE FINAL REMEDIAL INVESTIGATION REPORT (1993) THAT WAS PREPARED BY WOODWARD–CLYDE CONSULTANTS, INC.
2. BRONX DATUM = 2.608 FEET ABOVE MEAN SEA LEVEL
3. INFERRED BEDROCK ELEVATIONS BASED ON BEDROCK ELEVATION MAP.
4. THE GEOLOGIC FENCE DIAGRAM SHOWS THE STRATIGRAPHIC UNITS ALONG THE SOUTHERN AND EASTERN PERIMETERS OF THE SITE (i.e., ALONG EASTCHESTER BAY), WHICH IS THE PRIMARY GROUNDWATER DISCHARGE BOUNDARY FOR THE SITE. AS SUCH, THE INTENT OF THIS DIAGRAM IS TO PRESENT THE PRIMARY STRATIGRAPHIC UNITS ALONG EASTCHESTER BAY FOR VISUALIZATION PURPOSES. DETAILED INFORMATION IS AVAILABLE IN THE RI REPORT CROSS–SECTIONS.



PLAN VIEW

0 500' 1000'
SCALE IN FEET

Current Plotsyle : ByColor
Layout Tab: fence

Acad Version : R17.0s (LMS Tech) Date\Time : Fri, 28 Mar 2008 – 7:01pm
User Name : alsanchez Path\Name : G:\APROJECT\NYCDEP\Pelham Bay Landfill\NY001443.XXX\CADD\SMP\Fig 04_Fence Diagram.dwg

NO.	ISSUED DATE	REVISION DESCRIPTION	BY/CKD

KEYPLAN

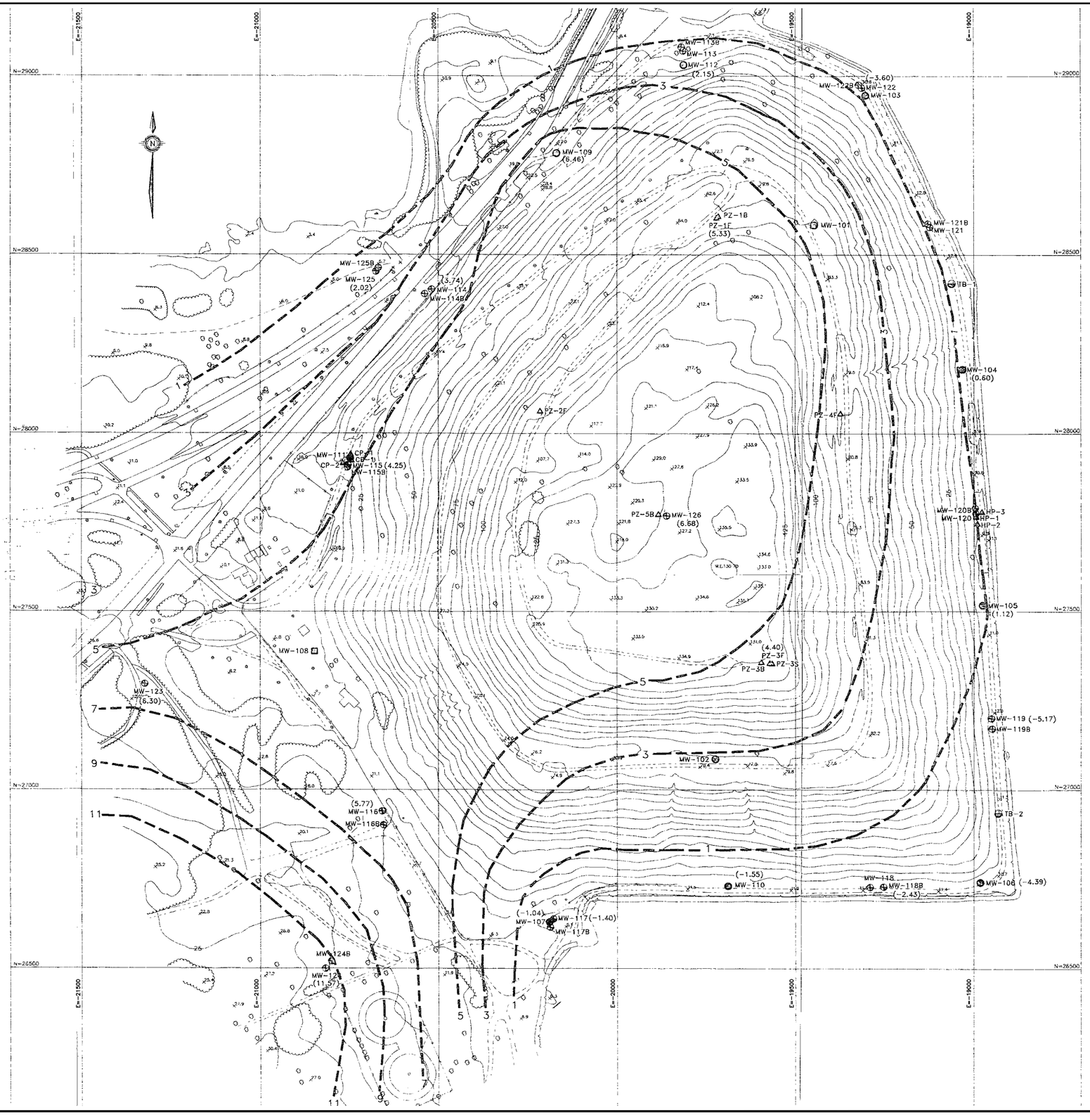
SEAL

SEAL

ARCADIS OF NEW YORK, INC.
Two Huntington Quadrangle
Suite 1S10
Melville, NY 11747
Tel: 631-249-7600 Fax: 631-249-7610
www.arcadis-us.com

PROJECT TITLE
PELHAM BAY LANDFILL
BRONX, NEW YORK

PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
C. SAN GIOVANNI	M. WOLFERT	K. PIERIDES	C. KEEN
SHEET TITLE		TASK/PHASE NUMBER	DRAWN BY
GEOLOGIC FENCE DIAGRAM VIEW FACING NORTHWEST		00013	A. SANCHEZ
		PROJECT NUMBER	DRAWING NUMBER
		NY001443.0003	4



LEGEND:

MW-103	MONITORING WELLS INSTALLED 1989
MW-108	MONITORING WELL DESTROYED DURING IRM
PZ-3B	PIEZOMETER INSTALLED 1992
MW-113	MONITORING WELLS INSTALLED 1992
MW-116B	BEDROCK WELLS INSTALLED 1992
TB-1	TEST BORING ADVANCED 1992
(2.68)	GROUNDWATER ELEVATIONS, AUGUST 4, 1992
5	GROUNDWATER ELEVATION CONTOURS – LOW TIDE

NOTES:

1. COORDINATES AND BEARINGS IN BRONX HIGHWAY DATUM.
2. ELEVATIONS ABOVE BRONX DATUM – 2.608 FT ABOVE MEAN SEA LEVEL.
3. CONTOUR INTERVAL – 5 FEET.

0 150' 300'
SCALE IN FEET

MAP SOURCE:
ETTLINGER & ETTLINGER DRAWNG NUMBER 87541
ETTLINGER & ETTLINGER SITE SURVEY 1992.
WOODWARD–CLYDE CONSULTANTS, INC.
FINAL REMEDIAL INVESTIGATION REPORT,
PELHAM BAY LANDFILL, BRONX, NEW YORK, 1993.

NO.	ISSUED DATE	REVISION DESCRIPTION	BY/CKD

KEY PLAN

PROJECT TITLE

PELHAM BAY LANDFILL
BRONX, NEW YORK

SHEET TITLE

GROUNDWATER ELEVATIONS IN THE FILL/TILL WELLS – LOW TIDE, AUGUST 4, 1992

ARCADIS
OF NEW YORK, INC.

Two Huntington Quadrangle
Suite 1S10
Melville, NY 11747
Tel: 631-249-7600 Fax: 631-249-7610
www.arcadis-us.com

SEAL	SEAL

PROJECT MANAGER	DEPARTMENT MANAGER
C. SAN GIOVANNI	M. WOLFERT
LEAD DESIGN PROF.	CHECKED BY
	C. KEEN
TASK/PHASE NUMBER	DRAWN BY
00013	A. SANCHEZ
PROJECT NUMBER	DRAWING NUMBER
NY001443.0003	5

Current Plotstyle : ByColor
Layout Tab: 06

Acad Version : R17.0s (LMS Tech) Date\Time : Sat, 29 Mar 2008 - 7:45am
User Name : dsanchez Path\Name : G:\APROJECT\NYCDEP\Pelham Bay Landfill\NY001443.XXX\CADD\SMP\Fig 05_06_07.dwg

LEGEND:

- MW-103 — MONITORING WELLS INSTALLED 1989
- MW-109 — MONITORING WELL DESTROYED DURING IRM
- PZ-5B — PIEZOMETER INSTALLED 1992
- MW-113 — MONITORING WELLS INSTALLED 1992
- MW-116B — BEDROCK WELLS INSTALLED 1992
- TB-1 — TEST BORING ADVANCED 1992
- (2.68) — GROUNDWATER ELEVATIONS, AUGUST 12, 1992
- — 5 — GROUNDWATER ELEVATION CONTOURS – HIGH TIDE

NOTES:

1. COORDINATES AND BEARINGS IN BRONX HIGHWAY DATUM.
2. ELEVATIONS ABOVE BRONX DATUM – 2.608 FT ABOVE MEAN SEA LEVEL.
3. CONTOUR INTERVAL – 5 FEET.

0 150' 300'
SCALE IN FEET

MAP SOURCE:
ETTLINGER & ETTLINGER DRAWING NUMBER 87541
ETTLINGER & ETTLINGER SITE SURVEY 1992.
WOODWARD-CLYDE CONSULTANTS, INC.
FINAL REMEDIAL INVESTIGATION REPORT,
PELHAM BAY LANDFILL, BRONX, NEW YORK, 1993.

NO.	ISSUED DATE	REVISION DESCRIPTION	BY/CKD

KEY PLAN

PROJECT TITLE

PELHAM BAY LANDFILL
BRONX, NEW YORK

SHEET TITLE

GROUNDWATER ELEVATIONS IN THE FILL/TILL WELLS – HIGH TIDE, AUGUST 12, 1992

ARCADIS
OF NEW YORK, INC.

Two Huntington Quadrangle
Suite 1S10
Melville, NY 11747
Tel: 631-249-7600 Fax: 631-249-7610
www.arcadis-us.com

SEAL	SEAL
PROJECT MANAGER: C. SAN GIOVANNI	DEPARTMENT MANAGER: M. WOLFERT
LEAD DESIGN PROF.	CHECKED BY: C. KEEN
TASK/PHASE NUMBER: 00013	DRAWN BY: A. SANCHEZ
PROJECT NUMBER: NY001443.0003	DRAWING NUMBER: 6

LEGEND:

- MW-103 — MONITORING WELLS INSTALLED 1989
- MW-108 — MONITORING WELL DESTROYED DURING IRM
- PZ-5B — PIEZOMETER INSTALLED 1992
- MW-115 — MONITORING WELLS INSTALLED 1992
- MW-116B — BEDROCK WELLS INSTALLED 1992
- TB-1 — TEST BORING ADVANCED 1992
- (-1.98) — GROUNDWATER ELEVATIONS, NOVEMBER 5, 1992
- 5 — GROUNDWATER ELEVATION CONTOURS – LOW TIDE

NOTES:

1. COORDINATES AND BEARINGS IN BRONX HIGHWAY DATUM.
2. ELEVATIONS ABOVE BRONX DATUM – 2.608 FT ABOVE MEAN SEA LEVEL.
3. CONTOUR INTERVAL – 5 FEET.

0 150' 300'
SCALE IN FEET

MAP SOURCE:
ETTLINGER & ETTLINGER DRAWING NUMBER: 87541
ETTLINGER & ETTLINGER SITE SURVEY 1992.
WOODWARD–CLYDE CONSULTANTS, INC.
FINAL REMEDIAL INVESTIGATION REPORT,
PELHAM BAY LANDFILL, BRONX, NEW YORK, 1993.

NO.	ISSUED DATE	REVISION DESCRIPTION	BY/CKD

KEY PLAN

PROJECT TITLE

PELHAM BAY LANDFILL
BRONX, NEW YORK

SHEET TITLE

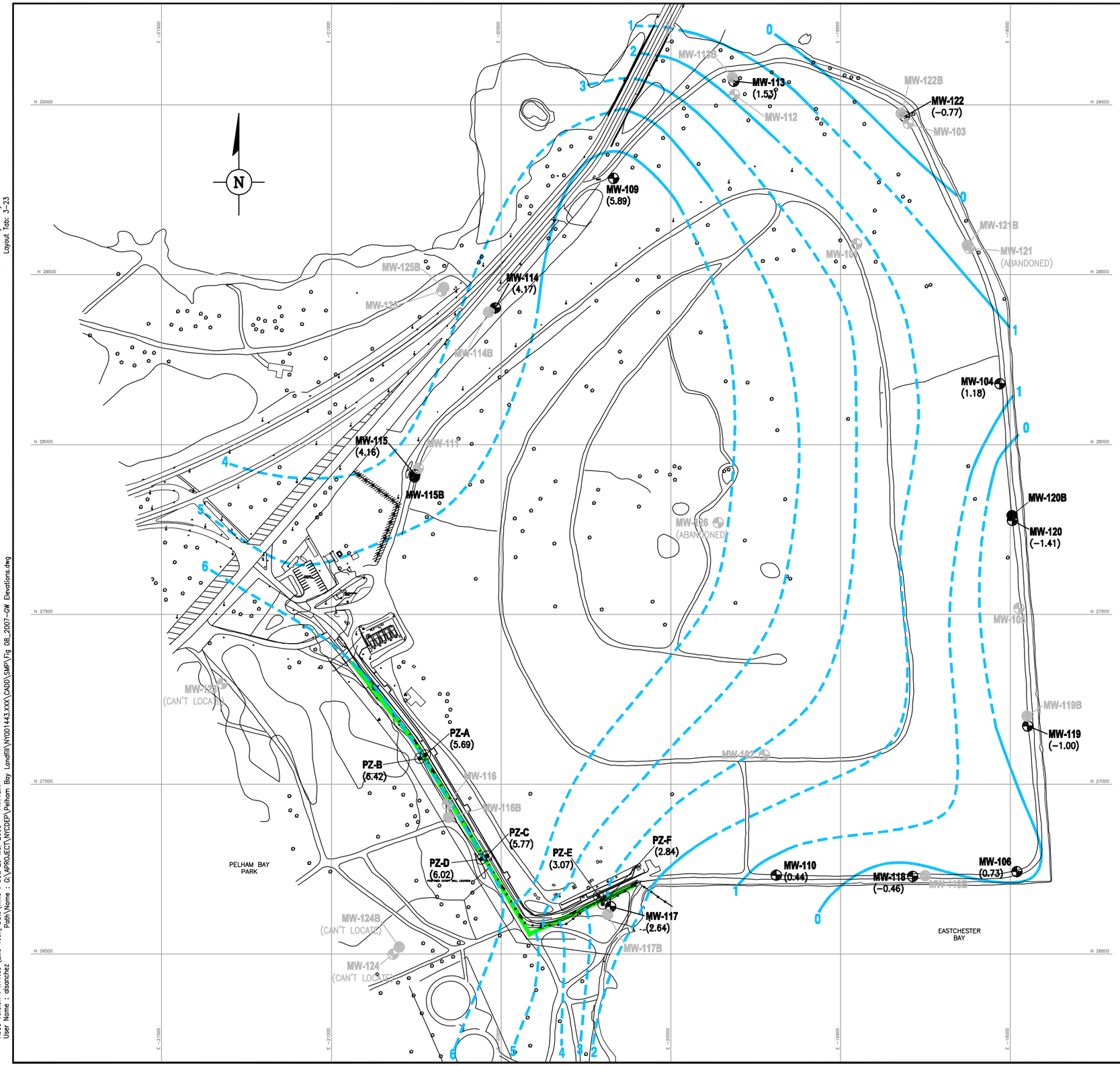
GROUNDWATER ELEVATIONS
IN THE FILL/TILL WELLS –
LOW TIDE,
NOVEMBER 5, 1992

ARCADIS
OF NEW YORK, INC.

Two Huntington Quadrangle
Suite 1S10
Melville, NY 11747
Tel: 631-249-7600 Fax: 631-249-7610
www.arcadis-us.com

SEAL	SEAL
PROJECT MANAGER: C. SAN GIOVANNI	DEPARTMENT MANAGER: M. WOLFERT
LEAD DESIGN PROF.	CHECKED BY: C. KEEN
TASK/PHASE NUMBER: 00013	DRAWN BY: A. SANCHEZ
PROJECT NUMBER: NY001443.0003	DRAWING NUMBER: 7

Current Plotstyle : ByColor
Layout Tab: 07"
Acad Version : R17.0s (LMS Tech) Date\Time : Sat, 29 Mar 2008 – 7:45am
User Name : dsanchez Path\Name : G:\APROJECT\NYCDEP\Pelham Bay Landfill\NY001443.XXX\CADD\SMP\Fig 05_06_07.dwg



LEGEND:

- MW-103 — MONITORING WELL
- MW-120B — BEDROCK MONITORING WELL
- PZ-A — PIEZOMETER
- FORMER MONITORING WELLS
- 2 — LINE OF EQUAL GROUNDWATER ELEVATION (DASHED WHERE INFERRED)
- (−1.41) — GROUNDWATER ELEVATION
- SLURRY WALL

NOTE:

AVERAGE GROUNDWATER LEVEL ELEVATIONS BASED ON CONTINUOUS WATER-LEVEL ELEVATION MEASUREMENTS COLLECTED AUGUST 13–17, 2007.

0 150' 300'
SCALE IN FEET

NO.	ISSUED DATE	REVISION DESCRIPTION	BY/CKD

KEY PLAN

PROJECT TITLE

PELHAM BAY LANDFILL
BRONX, NEW YORK

SHEET TITLE

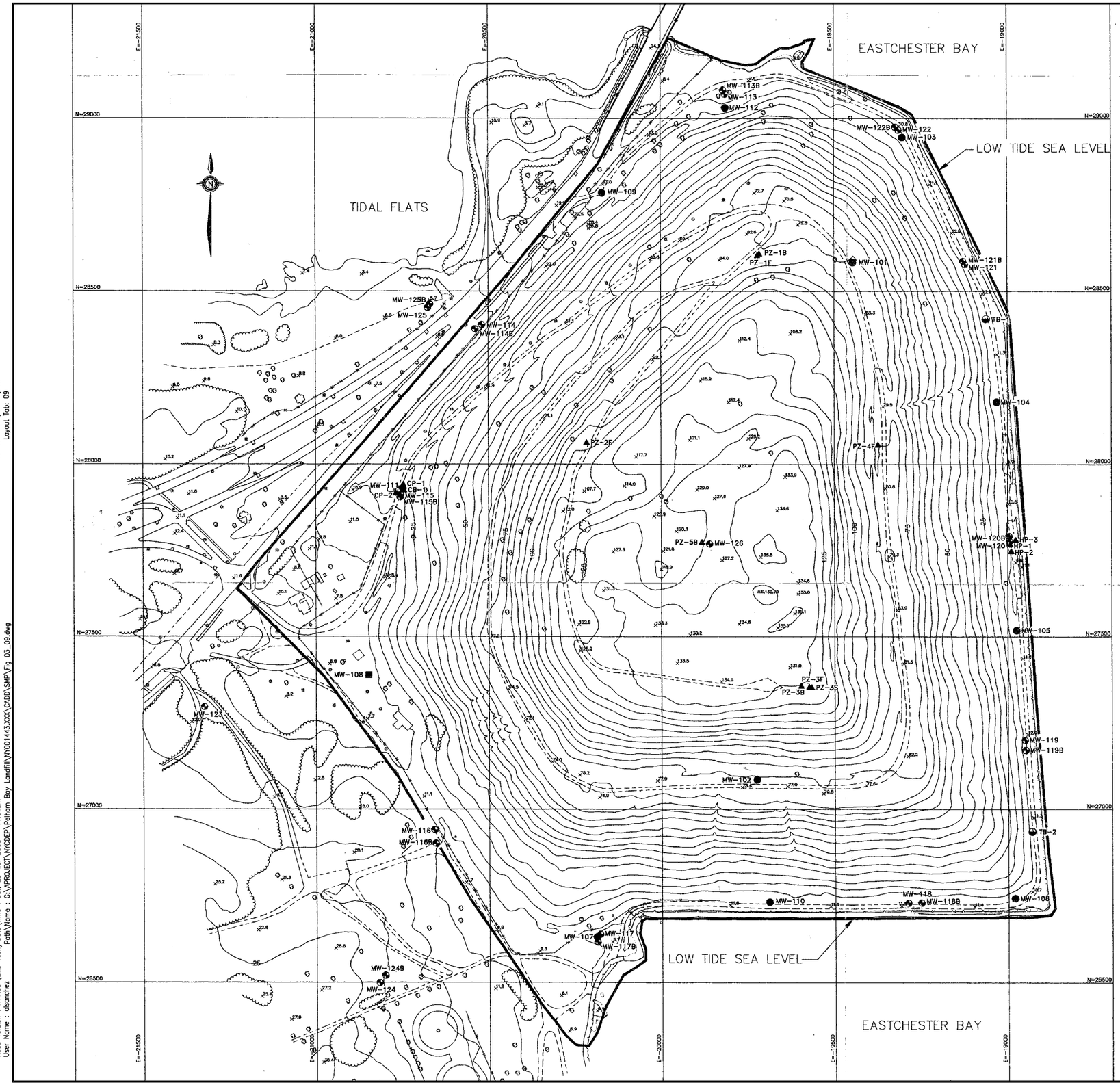
AVERAGE GROUNDWATER ELEVATIONS
AUGUST 13 – 17, 2007

ARCADIS
OF NEW YORK, INC.

Two Huntington Quadrangle
Suite 1S10
Melville, NY 11747
Tel: 631-249-7600 Fax: 631-249-7610
www.arcadis-us.com

SEAL	SEAL
PROJECT MANAGER: C. SAN GIOVANNI	DEPARTMENT MANAGER: M. WOLFERT
LEAD DESIGN PROF.	CHECKED BY: A. NEMICKAS
TASK/PHASE NUMBER: 00013	DRAWN BY: A. SANCHEZ
PROJECT NUMBER: NY001443.0003	DRAWING NUMBER: 8

Current Plotstyle : ByColor
Layout Tab: 3-23
Acad Version : R17.0s (LMS Tech) Date\Time : Sat, 29 Mar 2008 - 11:11am
User Name : dsanchez Path\Name : G:\APROJECT\NYCOBP\Pelham Bay Landfill\NY001443.XXX\CADD\SMP\Fig 08_2007-GW Elevations.dwg



KEY

FENCE

SITE BOUNDARY

LEGEND:

MW-103 ● MONITORING WELLS INSTALLED 1989

MW-108 ■ MONITORING WELL DESTROYED DURING IRM

PZ-3B ▲ PIEZOMETERS INSTALLED 1992

MW-113 ◓ MONITORING WELLS INSTALLED 1992

MW-116B ◓ BEDROCK WELLS INSTALLED 1992

TB-1 ◒ TEST BORING ADVANCED 1992

NOTES:

1. COORDINATES AND BEARINGS IN BRONX HIGHWAY DATUM.
2. ELEVATIONS ABOVE BRONX DATUM = 2.608 FT ABOVE MEAN SEA LEVEL.
3. CONTOUR INTERVAL = 5 FEET

0 150' 300'

SCALE IN FEET

MAP SOURCE:

ETTLINGER & ETTLINGER DRAWING NUMBER 87541
ETTLINGER & ETTLINGER SITE SURVEY 1992.
WOODWARD-CLYDE CONSULTANTS, INC.
FINAL REMEDIAL INVESTIGATION REPORT,
PELHAM BAY LANDFILL, BRONX, NEW YORK, 1993.

NO.	ISSUED DATE	REVISION DESCRIPTION	BY/CKD

KEY PLAN

PROJECT TITLE

PELHAM BAY LANDFILL
BRONX, NEW YORK

SHEET TITLE

RESIDUAL WASTE MATERIALS
ZONE MAP

ARCADIS
OF NEW YORK, INC.

Two Huntington Quadrangle
Suite 1S10
Melville, NY 11747
Tel: 631-249-7600 Fax: 631-249-7610
www.arcadis-us.com

SEAL	SEAL
PROJECT MANAGER C. SAN GIOVANNI	DEPARTMENT MANAGER M. WOLFERT
LEAD DESIGN PROF.	CHECKED BY C. KEEN
TASK/PHASE NUMBER 00013	DRAWN BY A. SANCHEZ
PROJECT NUMBER NY001443.0003	DRAWING NUMBER 9

Current Plotstyle : ByColor
Layout Tab: 09
Acad Version : R17.0s (LMS Tech) Date\Time : Sat, 29 Mar 2008 - 11:04am
User Name : dsanchez Path\Name : G:\APROJECT\NYC0EP\Pelham Bay Landfill\NY001443.XXX\CADD\SMP\Fig 03_09.dwg

LEGEND:

PROPOSED SILT STOCKPILE STAGING AREAS

SLURRY WALL

NO.	ISSUED DATE	REVISION DESCRIPTION	BY/CKD

KEY PLAN

PROJECT TITLE

PELHAM BAY LANDFILL
BRONX, NEW YORK

SHEET TITLE

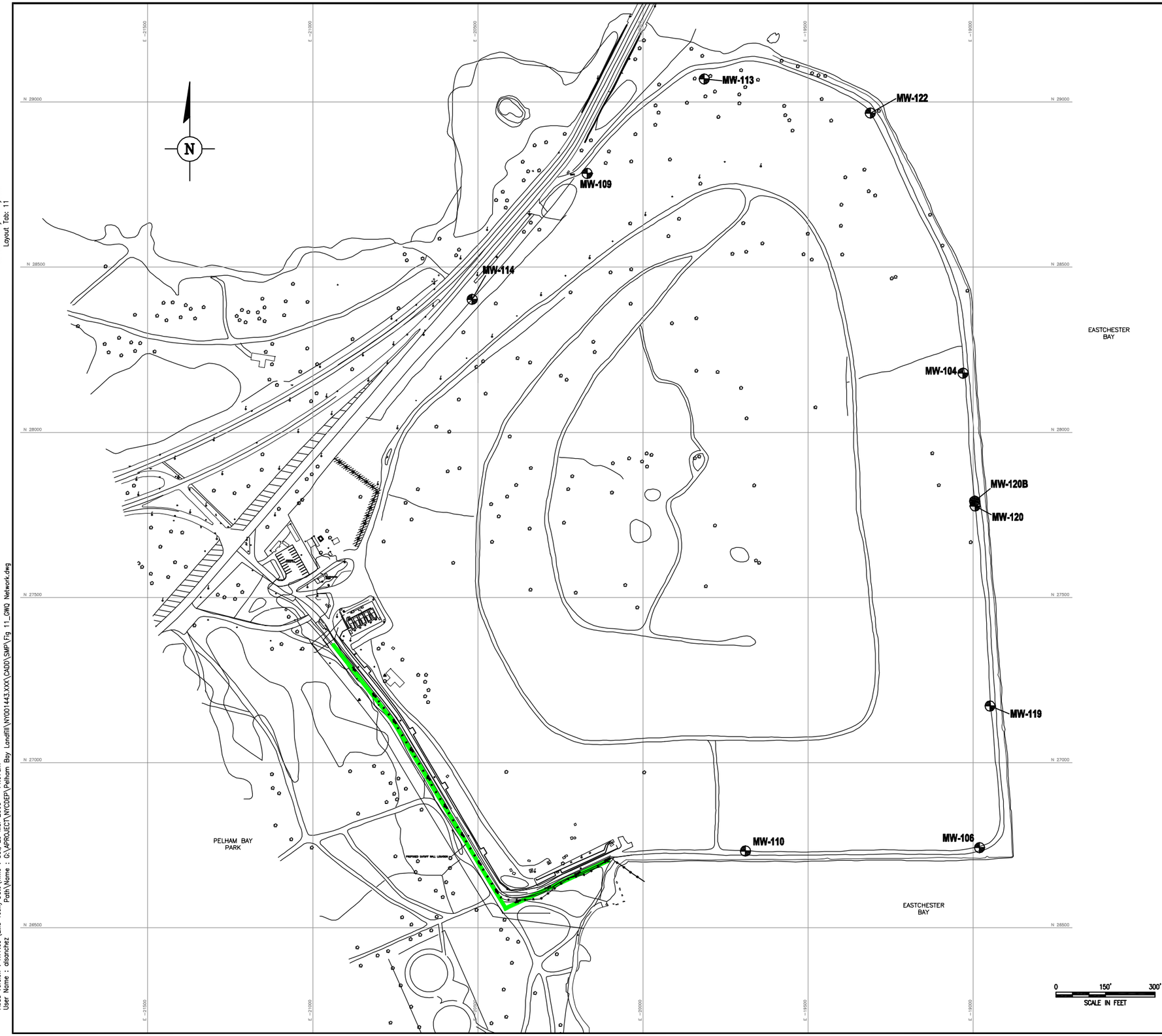
PROPOSED SILT
STOCKPILE STAGING AREAS

ARCADIS
OF NEW YORK, INC.

Two Huntington Quadrangle
Suite 1S10
Melville, NY 11747
Tel: 631-249-7600 Fax: 631-249-7610
www.arcadis-us.com

SEAL	SEAL
PROJECT MANAGER C. SAN GIOVANNI	DEPARTMENT MANAGER M. WOLFERT
LEAD DESIGN PROF.	CHECKED BY C. KEEN
TASK/PHASE NUMBER 00013	DRAWN BY A. SANCHEZ
PROJECT NUMBER NY001443.0003	DRAWING NUMBER 10

Current Plotstyle : ByColor
Layout Tab: 10
Acad Version : R17.0s (LMS Tech) Date\Time : Mon, 31 Mar 2008 - 12:12pm
User Name : dsanchez Path\Name : G:\APROJECT\NYCDEP\Pelham Bay Landfill\NY001443.XXX\CADD\SMP\Fig 10_Stockpile Staging Areas.dwg



LEGEND:

- MW-103 — MONITORING WELL
- MW-120B — BEDROCK MONITORING WELL
- SLURRY WALL

NO.	ISSUED DATE	REVISION DESCRIPTION	BY/CKD

KEY PLAN

PROJECT TITLE

PELHAM BAY LANDFILL
BRONX, NEW YORK

SHEET TITLE

GROUNDWATER QUALITY
MONITORING NETWORK

ARCADIS
OF NEW YORK, INC.

Two Huntington Quadrangle
Suite 1S10
Melville, NY 11747
Tel: 631-249-7600 Fax: 631-249-7610
www.arcadis-us.com

SEAL	SEAL
PROJECT MANAGER C. SAN GIOVANNI	DEPARTMENT MANAGER M. WOLFERT
LEAD DESIGN PROF.	CHECKED BY C. KEEN
TASK/PHASE NUMBER 00013	DRAWN BY A. SANCHEZ
PROJECT NUMBER NY001443.0003	DRAWING NUMBER 11

LEGEND:

- MW-103 — MONITORING WELL
- MW-120B — BEDROCK MONITORING WELL
- PZ-A — PIEZOMETERS
- FORMER MONITORING WELLS
- SLURRY WALL

NO.	ISSUED DATE	REVISION DESCRIPTION	BY/CKD

KEY PLAN

PROJECT TITLE

PELHAM BAY LANDFILL
BRONX, NEW YORK

SHEET TITLE

GROUNDWATER ELEVATION MONITORING NETWORK

ARCADIS
OF NEW YORK, INC.

Two Huntington Quadrangle
Suite 1S10
Melville, NY 11747
Tel: 631-249-7600 Fax: 631-249-7610
www.arcadis-us.com

SEAL	SEAL
PROJECT MANAGER: C. SAN GIOVANNI	DEPARTMENT MANAGER: M. WOLFERT
LEAD DESIGN PROF.	CHECKED BY: C. KEEN
TASK/PHASE NUMBER: 00013	DRAWN BY: A. SANCHEZ
PROJECT NUMBER: NY001443.0003	DRAWING NUMBER: 12

Current Plotstyle : ByColor
Layout Tab: 12

Acad Version : R17.0s (LMS Tech) Date\Time : Sat, 29 Mar 2008 - 11:06am
User Name : dsanchez Path\Name : G:\APROJECT\NYC\EP\Pelham Bay Landfill\NY001443.XXX\CADD\SMP\Fig 12_GWE Network.dwg

Appendix A

Metes and Bounds

TO BE PROVIDED

Appendix B

Remedial Investigation Report –
Geologic Cross-Sections B-B'
and E-E'

WEST
B

EAST
B'

MW-124B | MW-117B | MW-110 | MW-118 | MW-118B | MW-106

ROADS

EASTCHESTER BAY

ROAD

40
20
5
0
-20
-40
-60
-80
-100
-120

ELEVATION (FEET)

0 BRONX DATUM

SM
F
OH

LEGEND

- F — FILL
- RIPRAP SEAWALL
- OH — ORGANIC SILT BLACK/GRAY
- SM — GLACIAL TILL—HIGHLY VARIABLE BROWN TO BLACK SAND—SILT AND GRAVEL—SAND—SILT MIXTURES
- BEDROCK: HARTLAND FORMATION, PELHAM BAY MEMBER—PREDOMINANTLY BLACK AND GRAY/WHITE BIOTITE SCHISTOSE GNEISS WITH MINOR AMPHIBOLITE AND PEGMATITE

MW-117B

F

SM

- LOCATION OF APPROXIMATE STATIGRAPHIC BOUNDARY DASHED WHERE INFERRED
- MONITORING WELL/ PIEZOMETER WITH SCREEN

NOTES:

1. BRONX DATUM = 2.608 FEET ABOVE MEAN SEA LEVEL
2. INFERRED BEDROCK ELEVATIONS BASED ON BEDROCK ELEVATION MAP.

0 150 300 FT
HORIZONTAL SCALE

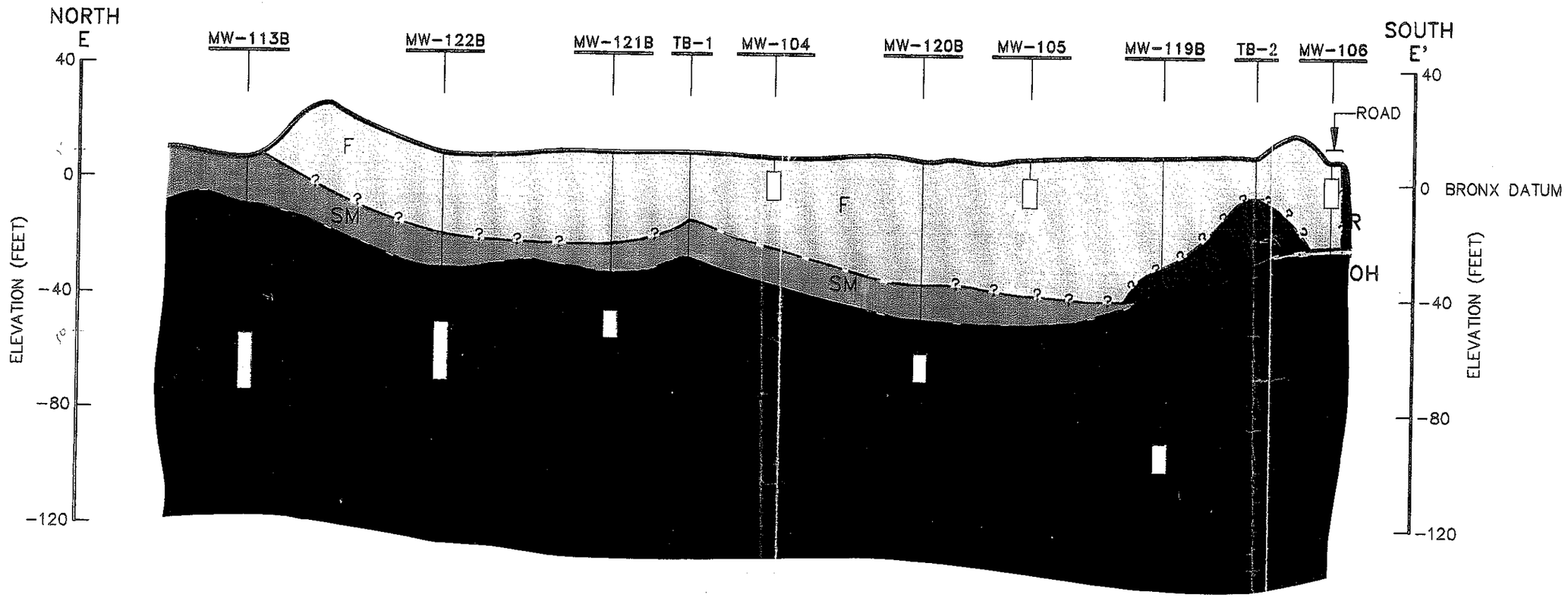
0 20 40 FT
VERTICAL SCALE

File name: J:\92C4087\SOUTH-S.DWG Last edited: 92/11/18 @ 14:60

GEOLOGIC CROSS-SECTION B-B'
PELHAM BAY LANDFILL
BRONX, NEW YORK

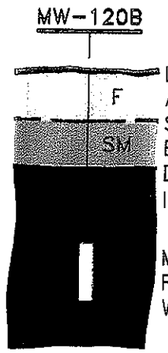
WOODWARD-CLYDE CONSULTANTS, INC.
CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS
NEW YORK, NEW YORK

DR. BY:	MG	SCALE:	AS SHOWN	PROJ. NO.:	92C4087
CK'D BY:	REC	DATE:	OCT. 27, 1992	FIG. NO.:	3-4



LEGEND

- F — FILL
- RIPRAP SEAWALL
- OH — ORGANIC SILT BLACK/GRAY
- SM — GLACIAL TILL–HIGHLY VARIABLE BROWN TO BLACK SAND–SILT AND GRAVEL–SAND–SILT MIXTURES
- BEDROCK: HARTLAND FORMATION, PELHAM BAY MEMBER–PREDOMINANTLY BLACK AND GRAY/WHITE BIOTITE SCHISTOSE GNEISS WITH MINOR AMPHIBOLITE AND PEGMATITE



LOCATION OF APPROXIMATE STATIGRAPHIC BOUNDARY DASHED WHERE INFERRED

MONITORING WELL/ PIEZOMETER WITH SCREEN

TB-1

TEST BORING

NOTES:

1. BRONX DATUM = 2.608 FEET ABOVE MEAN SEA LEVEL
2. INFERRED BEDROCK ELEVATIONS BASED ON BEDROCK ELEVATION MAP.

0 300 600 FT

HORIZONTAL SCALE

0 40 80 FT

VERTICAL SCALE

GEOLOGIC CROSS–SECTION E–E'
PELHAM BAY LANDFILL
BRONX, NEW YORK

WOODWARD–CLYDE CONSULTANTS, INC.

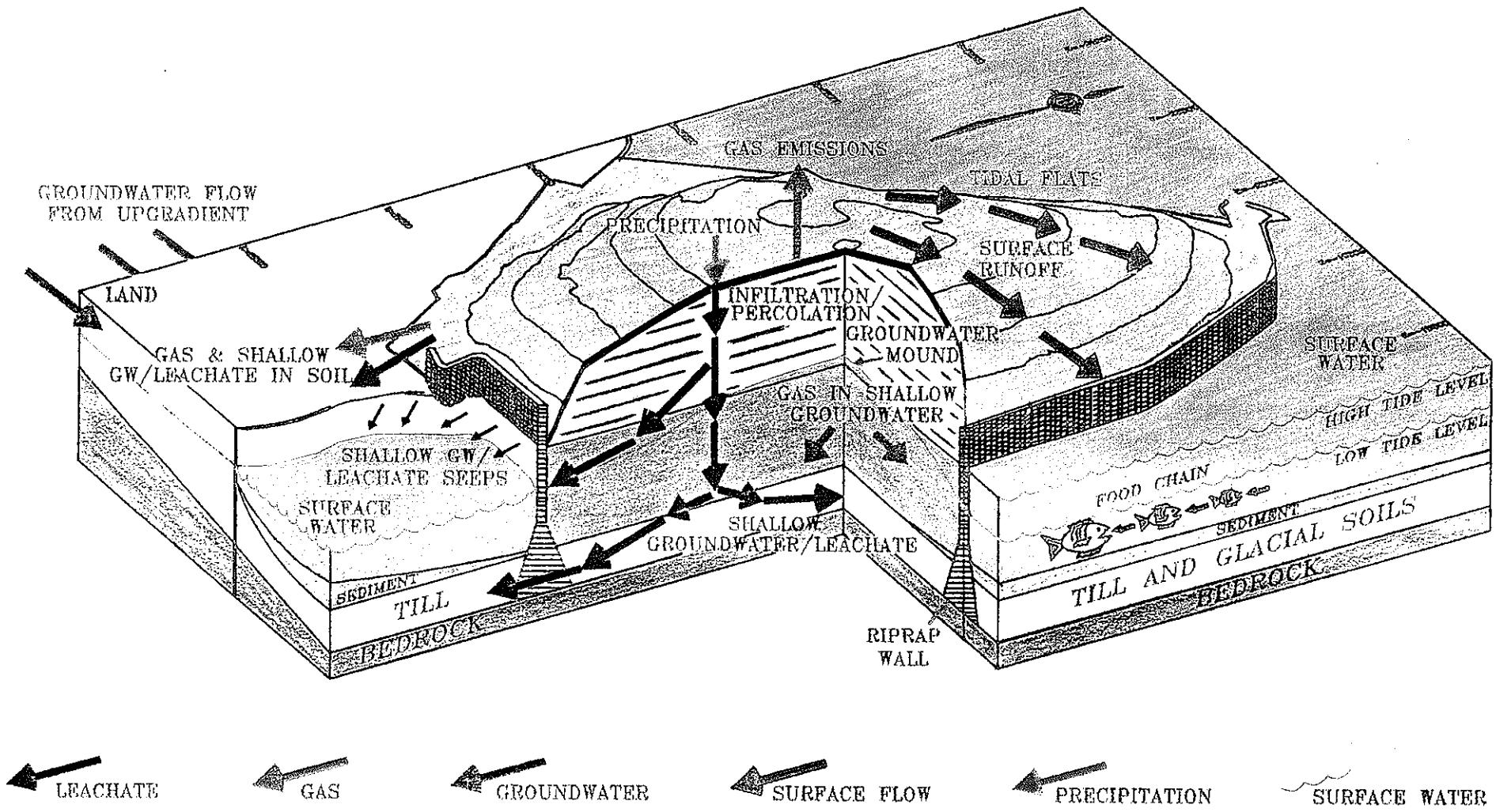
CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS
NEW YORK, NEW YORK

DR. BY:	MG	SCALE:	AS SHOWN	PROJ. NO.:	92C4087
CK'D BY:	REC	DATE:	OCT. 23, 1992	FIG. NO.:	3–7

File name: J:\92C4087\E-E.DWG Last edited: 92/11/18 @ 17:31

Appendix C

Remedial Investigation Report –
Conceptual Site Model Figure



TRANSPORT PATHWAYS MODEL
PELHAM BAY LANDFILL
BRONX, NEW YORK

WOODWARD – CLYDE CONSULTANTS, INC.

CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS
NEW YORK, NEW YORK

DR. BY:	BTM	SCALE:	NONE	PROJ. NO.:	92C4087
CK'D BY:	REC	DATE:	JAN. 25, 1992	FIG. NO.:	5 – 1

Appendix D

Remedial Investigation Report and
Supplemental Remedial Investigation
Report - Soil Tables and Figures

Table 4-1
Soil - Borings - Volatile Organic Compounds Data Summary
Pelham Bay Landfill
Bronx, New York

	SB-113S1	SB-113S2	SB-114S1	SB-116S1 RE	SB-117S1	SB-118S1	SB-118S2	SB-119S1	SB-119S2	SB-120S1	SB-120S2	SB-121S1
date:	11-Jun-92	11-Jun-92	7-Jul-92	10-Aug-92	10-Aug-92	25-Jun-92	25-Jun-92	25-Jun-92	25-Jun-92	9-Jun-92	9-Jun-92	28-May-92
depth (ft):	0-0.5	5-7	0-0.75	0-0.5	0-0.5	0-0.5	8-12	0-0.5	8-12	0-0.8	45-46	0-2
Halogenated Aliphatic Compounds												
Methylene chloride		2 JR#	4 BJR#	12 BJR#	11 BJR#	19 BJR#	63 BJR#	10 BJR#	72 BJR#		4 BJR#	9 BJR#
Total												
Ketones												
2-Propanone	4 BJR#	15 BR#					1400 BEJ	7 BJR#	3700 BEJ	13 BR#	1200 BJ	22 J
Total							1400		3700		1200	22
Monocyclic Aromatic Hydrocarbons												
Benzene									13 J			
Chlorobenzene							26 J					
Toluene											3 J	1 J
Total							26		13		3	1
Miscellaneous												
Carbon Disulfide											7 J	
Total											7	
Grand Total							1426		3713		1210	23

	SB-121S2	SB-122S1	SB-122S2	SB-123S1	SB-123S2	SB-124S1	SB-124S2	SB-125S1	SB-CB1S1	SB-CB1S2	SB-P3BS2	SB-PZ3BS1
date:	28-May-92	2-Jun-92	2-Jun-92	7-Jul-92	1-Jul-92	7-Jul-92	7-Jul-92	7-Jul-92	23-Jun-92	23-Jun-92	4-Jun-92	29-May-92
depth (ft):	22-24	0-2	30-32	0-0.5	10-12	0-1	8-10	0-1	0-0.5	16-18	147-149	0-2
Halogenated Aliphatic Compounds												
Methylene chloride	10 BR#	4 BJR#	6 BJR#	29 BJR#	11 BJR#	28 BJR#	31 BJR#	22 BJR#	2 BJR#	2 BJR#	6 BJR#	
Total												
Ketones												
2-Propanone	160 J	11 BJR#	34 BJR#	11 BJR#	13 BJR#		8 BJR#	20 BJR#		16	110 BJR#	110 J
Total	160									16		110
Monocyclic Aromatic Hydrocarbons												
Benzene								9				6 J
Chlorobenzene												1 J
Toluene								2 J				
Total								11				7
Miscellaneous												
Carbon Disulfide	2 J											
Total	2											
Grand Total	162							11		16		117

Notes:

All concentrations in micrograms per kilogram (ppb)
Blank indicates compound was not detected
Totals do not include compounds with "R#" qualifier
B = Blank contaminant

E = Estimated value (reported concentration exceeded calibration range)
J = Estimated value
RE = Reanalysis
R# = Negated result

Prepared by: SMM
Checked by: REC
92C4087

Table 4-2
Soil - Borings - Semi-volatile Organic Compounds Data Summary
Pelham Bay Landfill
Bronx, New York

	SB-113S1	SB-113S2	SB-114S1	SB-116S1	SB-117S1	SB-118S1 RE	SB-118S2 DL	SB-119S1	SB-119S2	SB-120S1	SB-120S2	SB-121S1	SB-121S2	SB-122S1	SB-122S2	SB-123S1 RE	SB-123S2	SB-124S1	SB-124S2	SB-125S1	SB-CB1S1	SB-CB1S2	SB-P3BS2	SB-PZ3BS1
date:	11-Jun-92	11-Jun-92	7-Jul-92	10-Aug-92	10-Aug-92	25-Jun-92	25-Jun-92	25-Jun-92	25-Jun-92	9-Jun-92	9-Jun-92	28-May-92	28-May-92	2-Jun-92	2-Jun-92	7-Jul-92	1-Jul-92	7-Jul-92	7-Jul-92	7-Jul-92	23-Jun-92	23-Jun-92	4-Jun-92	29-May-92
depth (ft):	0-0.5	5-7	0-0.75	0-0.5	0-0.5	0-0.5	8-12	0-0.5	8-12	0-0.8	45-46	0-2	22-24	0-2	30-32	0-0.5	10-12	0-1	8-10	0-1	0-0.5	16-18	147-149	0-2
PAHs																								
2-Methylnaphthalene							1800 DJ		19 J				62 J							39 J				
Acenaphthene					99 J	37 J	5100 DJ		59 J				190 J			75 J	69 J			120 J				
Acenaphthylene				150 J									78 J	51 J		570	1200	53 J		750 J				
Anthracene				180 J	270 J	46 J	8600 DJ	130 J	100 J			100 J	590	62 J		460 J	900	41 J		950 J	40 J		53 J	40 J
Benzo(a) anthracene	91 J		210 J	760 J	1000	670 J	20000 D	410	180 J	56		240 J	1300	300 J		1500	3100	150 J		2700	160 J		140 J	110 J
Benzo(a) pyrene			230 J	790	930		23000 D	520				300 J	1500	360 J		1600	4000	160 J		2000	250 J		210 J	110 J
Benzo(b) fluoranthene	140 J		260 J	740 J	790		19000 D	410	190 J			300 J	1300	420		2400	5200	169 J		3000			200 J	110 J
Benzo(g,h,i) perylene	80 J			460 J	350 J							180 J	530	240 J		660	1100	98 J		960 J			140 J	
Benzo(k) fluoranthene	100 J		200 J	790	820		18000 D	510	200 J	45 J		190 J	1200	290 J		1400	2700	178		2500	240 J		180 J	110 J
Chrysene	130 J		250 J	960	1000	850	21000 D	580	250 J	57 J		250 J	1100	340 J		1500	3700	220 J		3000	250 J		160 J	130 J
Dibenzo(a,h) anthracene				130 J	100 J							42 J	170 J			200 J	420			460 J				
Dibenzofuran						21 J	3900 DJ	18 J	43 J				110 J				54 J			110 J				
Fluoranthene	220 J		350 J	1500	1900	530 J	30000 DJ	1100	590	200 J	56 JR#	560	2600	500		2300 J	850 J	390		4100 J	450 J	55 J	180 J	230 J
Fluorene					110 J		5900 DJ					45 J	250 J			130 J	230 J			310 J				
Indeno(1,2,3-c,d) pyrene	89 J			510 J	490 J							170 J	610	290 J		730	1300	120 J		1400 J			180 J	
Naphthalene							3000 DJ						110 J				39 J			50 J				93 J
Phenanthrene	91 J			720 J	1200	480 J	34000 D	660	520	44 J		380	2000	230 J		1200 J	3000	190 J		2000 J	240 J		140 J	170 J
Pyrene	180 J		340 J	1200	1600	720 J	31000 DJ	880	430	160 J	45 J	440	2500	480		2600	5000	290 J		4200	370 J	71 J	170 J	250 J
Total	1121		1340	8890	10659	3354	224300	5218	2581	562	45	3197	16200	3563		17325	32862	2059		28649	2000	126	1753	1333
Phenols																								
4-Methylphenol																						140 J	150 J	
4-Nitrophenol																								61 J
Total																						140	150	61
Phthalates																								
Bis(2-Ethylhexyl) Phthalate	110 J	58 J		100 J	180 J	4900 BJ		610 BJR#	360 BJR#	130 J		73 J	82 J	1600	74 J	1400	650			96 J	670 J	2800 J	3000 JR#	950 JR#
Butyl benzyl phthalate								130 J						64 J		170 J				43 J				
Di-n-butyl phthalate	44 J	57 J		85 J	83 J	670 J	1400 DJ	1300	1400				290 J	43 BJR#	79 BJR#	79 BJR#	44 J	41 BJR#		53 BJR#	1000 J	820	100 JR#	48 BJ
Di-n-octyl phthalate																							370 J	110 J
Total	154	115		185	263	5570	1400	1430	1400	130		73	372	1664	74	1570	694			139	1670	3620	370	158
Chlorinated Hydrocarbons																								
1,4-Dichlorobenzene							1600 DJ																	
Total							1600																	
Grand Total	1275	115	1340	9075	10922	8924	227300	6648	3981	692	45	3270	16572	5227	74	18895	33556	2059		28788	3670	3886	2273	1572

Notes:

All concentrations in micrograms per kilogram (ppb)
Blank indicates compound was not detected
Totals do not include compounds with "R#" qualifier
B = Blank contaminant
D = Results reported from a diluted sample or sample extract
DL = Diluted sample
J = Estimated value
RE = Reanalysis
R# = Negated result

Prepared by: SMM
Checked by: REC
92C4087

Table 4-3
Soil - Borings - Pesticides and PCBs Data Summary
Pelham Bay Landfill
Bronx, New York

	SB-113S1	SB-113S2	SB-114S1	SB-116S1	SB-117S1	SB-118S1	SB-118S2 DL	SB-119S1	SB-119S2	SB-120S1	SB-120S2	SB-121S1
date:	11-Jun-92	11-Jun-92	7-Jul-92	10-Aug-92	10-Aug-92	25-Jun-92	25-Jun-92	25-Jun-92	25-Jun-92	9-Jun-92	9-Jun-92	28-May-92
depth (ft):	0-0.5	5-7	0-0.75	0-0.5	0-0.5	0-0.5	8-12	0-0.5	8-12	0-0.8	45-46	0-2
4,4'-DDD			12 J				410					
4,4'-DDE	44 J		7.7 J				190 J		24 J			
4,4'-DDT	100		18 J	14 J								16 J
alpha-Chlordane			5.1 J					23 J				
delta-BHC					7.4 J							
Dieldrin												
Endosulfan sulfate			8.2 JR#	27 J	17 J							
Endrin ketone												
gamma-Chlordane												3.1 J
Heptachlor epoxide												
PCB-1242												
PCB-1254						200 J		310 J				
PCB-1260			130 J									

	SB-121S2	SB-122S1	SB-122S2	SB-123S1	SB-123S2	SB-124S1	SB-124S2	SB-125S1	SB-CB1S1	SB-CB1S2	SB-P3BS2	SB-PZ3BS1
date:	28-May-92	2-Jun-92	2-Jun-92	7-Jul-92	1-Jul-92	7-Jul-92	7-Jul-92	7-Jul-92	23-Jun-92	23-Jun-92	4-Jun-92	29-May-92
depth (ft):	22-24	0-2	30-32	0-0.5	7-12	0-1	8-10	0-1	0-0.5	16-18	147-149	0-2
4,4'-DDD	9.4 J			420	18			66 J				
4,4'-DDE	7.4 J	10 J		750	307	1.1 J		40 J				
4,4'-DDT				1400	530			85 J				
alpha-Chlordane				11 J					17 J			
delta-BHC												
Dieldrin				45 J				55 J				
Endosulfan sulfate				30 J	2.2 J	0.82 JR#	0.81 JR#					
Endrin ketone					42			37 J				
gamma-Chlordane												
Heptachlor epoxide				20 J								
PCB-1242											150 J	
PCB-1254		140 J							270			130 J
PCB-1260				430 J							99 J	

Notes:
All concentrations in micrograms per kilogram (ppb)
Blank indicates compound was not detected
DL = Diluted sample
J = Estimated value
R# = Negated result

Prepared by: SMM
Checked by: REC
92C4087

Table 4-4
Soil - Borings - Inorganics Data Summary
Pelham Bay Landfill
Bronx, New York

	SB-113S1	SB-113S2	SB-114S1	SB-116S1	SB-117S1	SB-118S1	SB-118S2	SB-119S1	SB-119S2	SB-120S1	SB-120S2	SB-121S1
date:	11-Jun-92	11-Jun-92	7-Jul-92	10-Aug-92	10-Aug-92	25-Jun-92	25-Jun-92	25-Jun-92	25-Jun-92	9-Jun-92	9-Jun-92	28-May-92
depth (ft):	0-0.5	5-7	0-0.75	0-0.5	0-0.5	0-0.5	8-12	0-0.5	8-12	0-0.8	45-46	0-2
Aluminum	9690	11800	7600	12700	6040	11100	8830	8380	12000	3210	7990	5590
Antimony												
Arsenic	8.8	1.6 B	5.9	3.7	4.8	3.5 N	4.3 N	2.6 N	4.2 N	1.7 B	1.1 B	2 B
Barium	57.2	120	67.9	111	120	136 N*	236 N*	94.7 N*	140 N*	31.1 B	51.6	55
Beryllium				0.45 B	0.27 B			0.2 B				
Cadmium			1.2					0.88 B	2.6			
Calcium	2190	1620	34500 E	3460	4710	6910 *	40100 *	5320 *	10400 *	3160	1490	3200
Chromium	19.8	93.7	16.9	29.3	22.1	27.5	21.4	23.6	34.7	24.4	37.2	13.8
Cobalt	5.6 B	17.5	3.9 B	8.7 B	6.4 B	8.4 B	6.2 B	6 B	8.1 B	5.3 B	9.4 B	6.2 B
Copper	30.7	27.4	53	21.1	126	45.8 *	62.5 *	33.1 *	41.9 *	10.9	23.1	37.4
Iron	15200	26900	18100	16500	21100	23100	24400	22600	28700	16700	15600	15200
Lead	91.2	6.4	90.7	72	161	119 N*R	285 N*R	86.8 N*R	87.5 N*R	26.7	10.8	35.5
Magnesium	2620	8150	10700	3800	2780	6140 *	10100 *	4500 *	5620 *	2420	5800	2380
Manganese	261 NR	295 NR	224 E	549	218	316	302	294	345	159 NR	151 NR	199
Mercury	0.19 *J	0.19 *J	0.29	0.25	0.24	0.46 *J	0.34 *J	0.36 *J	0.2 *J			
Nickel	22.6	123	17.5	37.1	15.3	22.9	22.5	22	27.5	36.7	53.4	20.2
Potassium	1390	5760	1380	901 B	1010	2600	2060	1240	3110	514 B	3210	862 B
Selenium								0.48 BW				
Sodium	69.1 B	280 B	149 B	51.8 B	262 B	157 B	417 B	322 B	2050	194 B	2040	320 B
Thallium	0.49 B				0.63 BW	0.53 BW						0.47 B
Vanadium	27.6	33.8	40	27.2	20	38.7	46.3	28.9	61.5	15.5	26.3	21.7
Zinc	67.7 E	37.4 E	107	95.4	500	164 N*	205 N*	144 N*	158 N*	29.6 E	35 E	81.1

Notes:
All concentrations in milligrams per kilogram (ppm)
Blank indicates compound was not detected
B = Reported value is acceptable (reported value less than the CRDL (Contract Required Detection Limit) but greater than the IDL (Instrument Detection Limit))
E = Estimated value due to matrix interference
J = Estimated value
N = Estimated value (spiked sample recovery not within quality control limits)
R = Rejected result
R# = Negated result
W = Estimated value (post-digestion spike sample results reported outside quality control limits, while sample absorbance is less than 50% of spike absorbance)
* = Estimated value (duplicate analysis result not within quality control limits)

Prepared by: SMM
Checked by: REC
92C4087

Table 4-4
Soil - Borings - Inorganics Data Summary
Pelham Bay Landfill
Bronx, New York

	SB-121S2	SB-122S1	SB-122S2	SB-123S1	SB-123S2	SB-124S1	SB-124S2	SB-125S1	SB-CB1S1	SB-CB1S2	SB-P3BS2	SB-PZ3BS1
date:	28-May-92	2-Jun-92	2-Jun-92	7-Jul-92	1-Jul-92	7-Jul-92	7-Jul-92	7-Jul-92	23-Jun-92	23-Jun-92	4-Jun-92	29-May-92
depth (ft):	22-24	0-2	30-32	0-0.5	10-12	0-1	8-10	0-1	0-0.5	16-18	147-149	0-2
Aluminum	9590	12100	6490	12500	9360	16800	10100	13900	4880	9700	8590	7060
Antimony						9.1 BN						
Arsenic	3.1	5.6	0.42 B	11	10.9	4.4	2 B	4.9	2.9 N	1.8 BN	0.48 B	5
Barium	125	371	77.2	136	77.2	76.3	45	174	326 N*	53.7 N*	82.3	36.6 B
Beryllium		0.33 B			0.24 B	0.39 B			0.19 B	0.29 B		
Cadmium								1				
Calcium	13200	14100	1700	17000 E	2550	473 BE	1340 E	3640 E	20000 *	3530 *	2510	17100
Chromium	27.1	35.4	37	32.3	25.3	30.8	31.4	32	17.8	26.6	33.2	15.7
Cobalt	9.5 B	11.3	9.6 B	5.9 B	8.3 B	8.7 B	10.5	13	3.5 B	7.5 B	8.5 B	5 B
Copper	28.5	97.8	18	66.5	34.8 *	18.2	24.6	51.5	21 *	18.4 *	25.5	13.1
Iron	19300	30400	16100	18700	14200 E	19900	16300	30200	14200	19600	17200	14100
Lead	69.2	211	2.1	411 *	96.5	36.8 *J	24.75 *J	151 *	287 R	21.5 R	9.3	49.1
Magnesium	10300	7060	7380	10000	2930	3310	3810	6450	5810 *	4280 *	6570	8050
Manganese	230	450	149	392 E	224	479 E	272 E	374 E	199	206	158	252
Mercury	0.12 N	0.57	1.3	0.39	0.58 N*	0.22	0.39	0.51	0.96 *J			0.11 N
Nickel	23.2	30.6	84.1	24.5	39.4 *	33.3	49.5	54.9	10.3	18.7	40.4	18.1
Potassium	4540	2470	3090	1200	1490	574 B	1180	5120	786 B	2240	3560	761 B
Selenium												
Sodium	1540	281 B	617 B	134 B	163 B	27.1 B	121 B	544 B	164 B	8270	1200	162 B
Thallium			0.55 BJR#			0.5 BW				0.57 B		
Vanadium	31.8	83.2	22.2	49.1	28.9	34.4	26.4	58.2	21.1	36.3	31.2	45.5
Zinc	105	351	23.9	320	76 E	48.8	21.8	132	321 N*	40.4 N*	31.5	32.4

Notes:

All concentrations in milligrams per kilogram (ppm)

Blank indicates compound was not detected

B = Reported value is acceptable (reported value less than the CRDL (Contract Required Detection Limit) but greater than the IDL (Instrument Detection Limit))

E = Estimated value due to matrix interference

J = Estimated value

N = Estimated value (spiked sample recovery not within quality control limits)

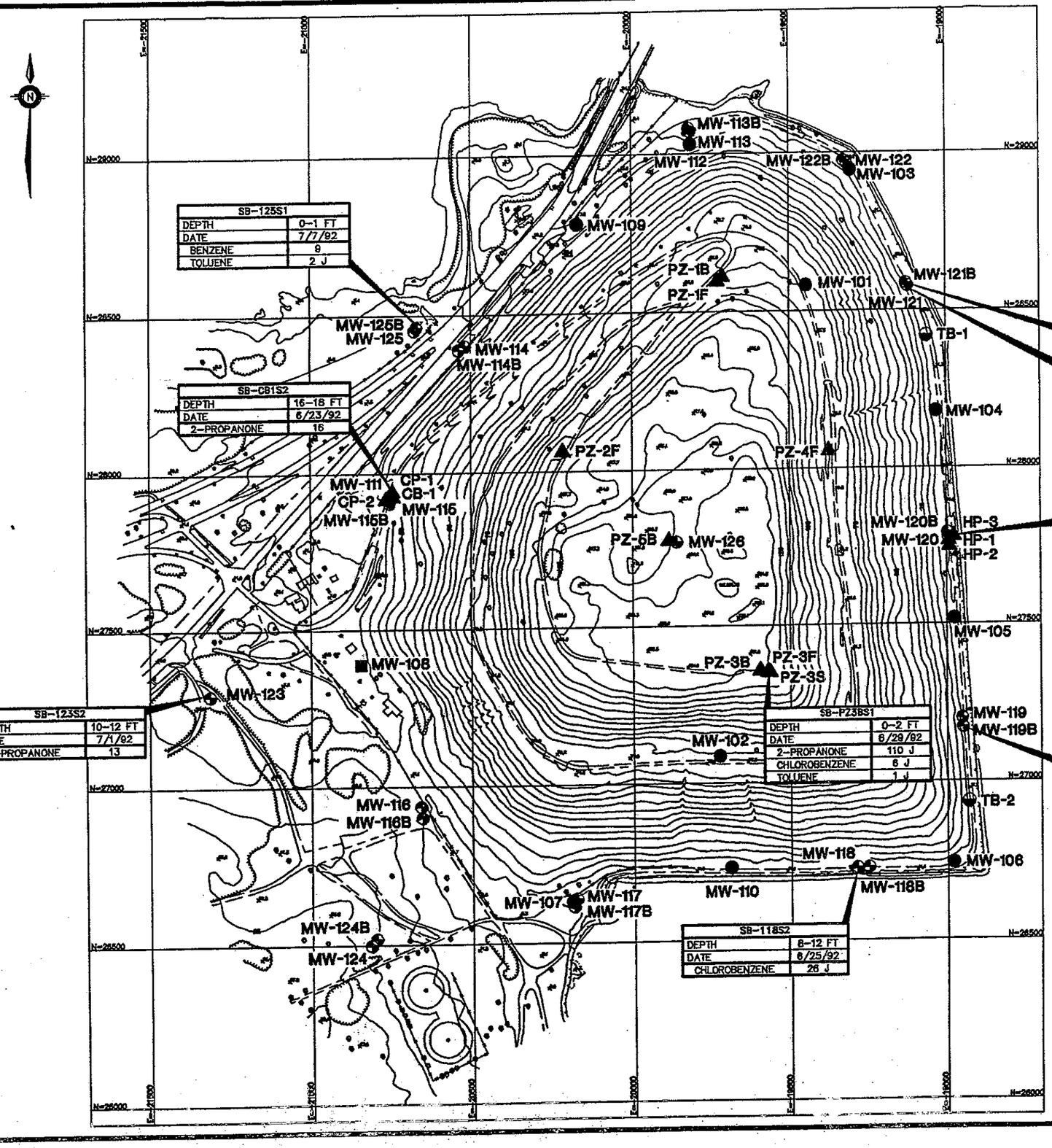
R = Rejected result

R# = Negated result

W = Estimated value (post-digestion spike sample results reported outside quality control limits, while sample absorbance is less than 50% of spike absorbance)

* = Estimated value (duplicate analysis result not within quality control limits)

Prepared by: SMM
Checked by: REC
92C4087



LEGEND:

MW-103	●	MONITORING WELLS INSTALLED 1989
MW-108	■	MONITORING WELL DESTROYED DURING IRM
PZ-3B	▲	PIEZOMETERS INSTALLED 1992
MW-113	◓	MONITORING WELLS INSTALLED 1992
MW-116B	◓	BEDROCK WELLS INSTALLED 1992
TB-1	◒	TEST BORING ADVANCED 1992

NOTES:

1. COORDINATES AND BEARINGS IN BRONX HIGHWAY DATUM.
2. ELEVATIONS ABOVE BRONX DATUM = 2.608 FT ABOVE MEAN SEA LEVEL.
3. CONTOUR INTERVAL = 5 FEET.
4. ALL CONCENTRATIONS ARE IN ug/kg (ppb). J = ESTIMATED VALUE.
5. REFER TO TABLE 4-1 FOR ALL SOIL BORING SAMPLE VOLATILE ORGANIC COMPOUND ANALYTICAL RESULTS.

MAP SOURCE:

ETTLINGER & ETTLINGER DRAWING NUMBER 87541.
ETTLINGER & ETTLINGER SITE SURVEY 1992.

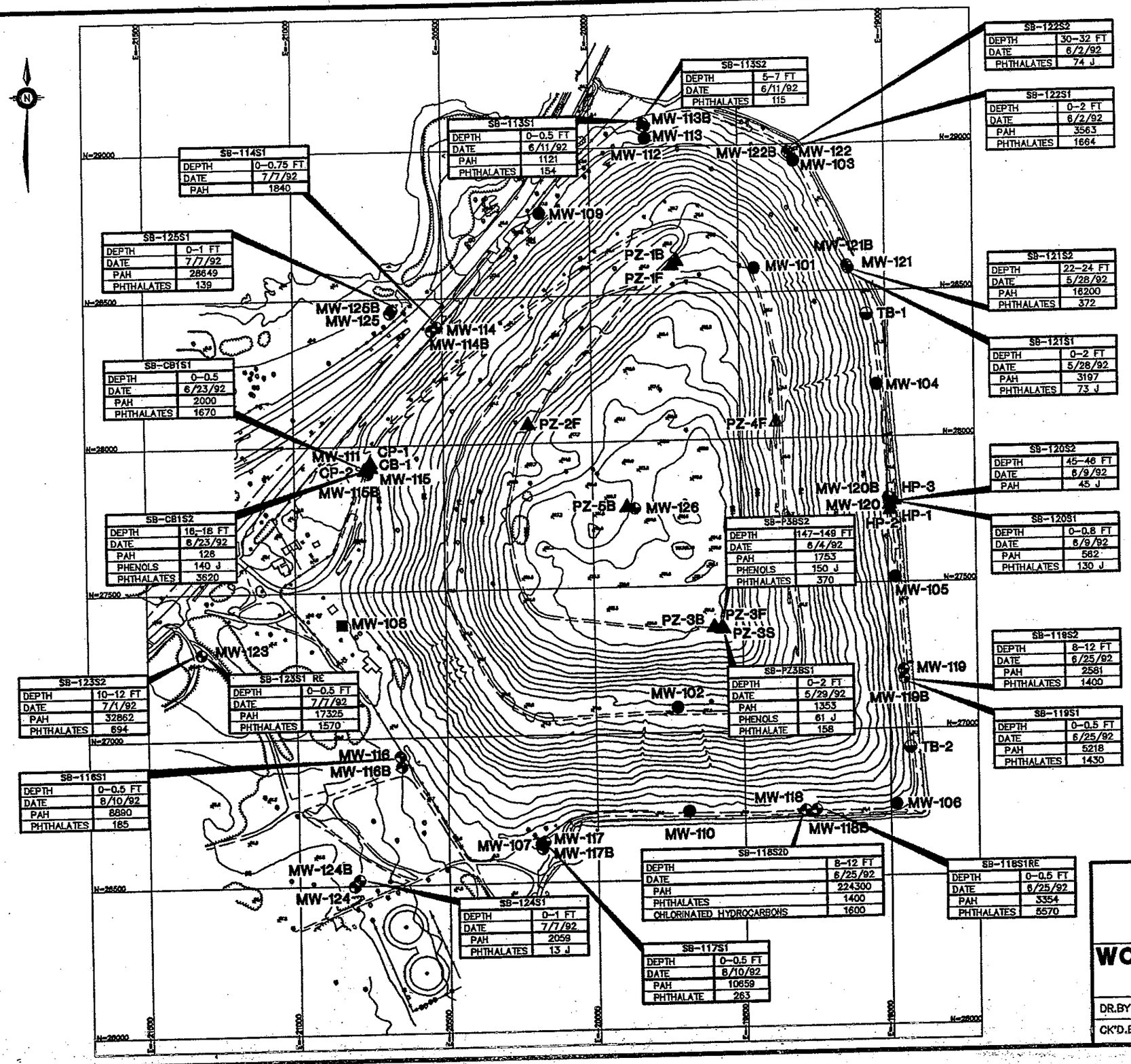
0 350 700 FT
SCALE

SOIL BORING SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS
PELHAM BAY LANDFILL
BRONX, NEW YORK

WOODWARD-CLYDE CONSULTANTS, INC.
CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS
NEW YORK, NEW YORK

DR.BY	MG	SCALE	AS SHOWN	PROJ.	92C4087
CK'D.BY	REC	DATE	DEC. 14, 1992	FIG.NO.	4-1

File name: C:\92C4087\S-B-S-R.DWG Last edited: 93/02/09 @ 15:09



LEGEND:

MW-103	●	MONITORING WELLS INSTALLED 1989
MW-108	■	MONITORING WELL DESTROYED DURING IRM
PZ-3B	▲	PIEZOMETERS INSTALLED 1992
MW-113	◒	MONITORING WELLS INSTALLED 1992
MW-116B	◒	BEDROCK WELLS INSTALLED 1992
TB-1	◒	TEST BORING ADVANCED 1992

NOTES:

1. COORDINATES AND BEARINGS IN BRONX HIGHWAY DATUM.
2. ELEVATIONS ABOVE BRONX DATUM = 2.608 FT ABOVE MEAN SEA LEVEL.
3. CONTOUR INTERVAL = 5 FEET.
4. ALL CONCENTRATIONS ARE IN ug/kg (ppb). J = ESTIMATED VALUE.
5. REFER TO TABLE 4-2 FOR ALL SOIL BORING SAMPLE SEMI-VOLATILE ORGANIC COMPOUND ANALYTICAL RESULTS.

MAP SOURCE:

ETTLINGER & ETTLINGER DRAWING NUMBER 87541.
ETTLINGER & ETTLINGER SITE SURVEY 1992.

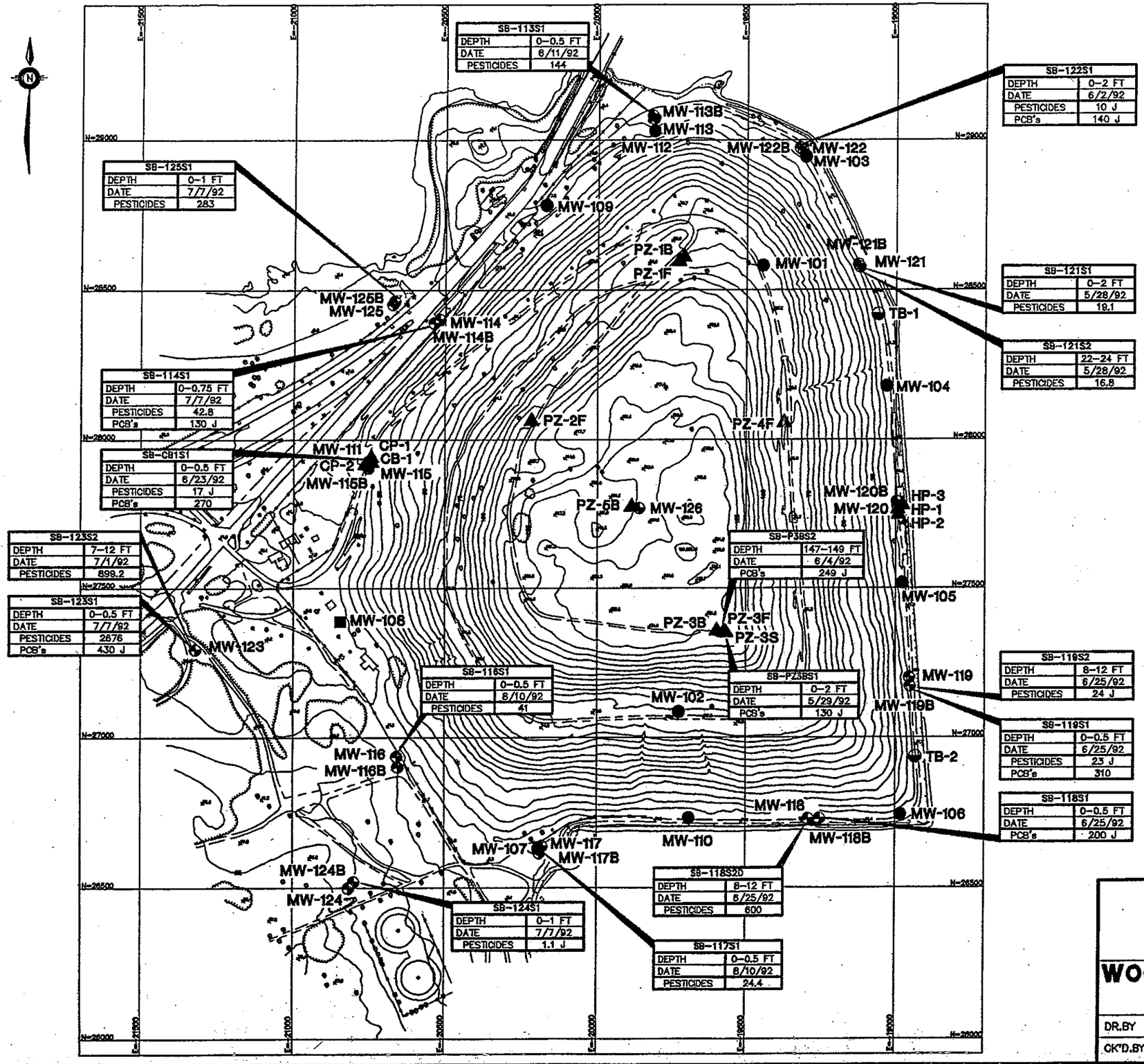
0 350 700 FT
SCALE

SOIL BORING SAMPLE ANALYTICAL RESULTS
SEMI-VOLATILE ORGANIC COMPOUNDS
PELHAM BAY LANDFILL
BRONX, NEW YORK

WOODWARD-CLYDE CONSULTANTS, INC.
CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS
NEW YORK, NEW YORK

DR.BY	MG	SCALE	AS SHOWN	PROJ.	92C4087
CK'D.BY	REC	DATE	DEC. 14, 1992	FIG.NO.	4-2

File name= C:\92C4087\S-V-0.DWG Last edited: 03/02/93 @ 16:16



LEGEND:

MW-103	●	MONITORING WELLS INSTALLED 1989
MW-108	■	MONITORING WELL DESTROYED DURING IRM
PZ-3B	▲	PIEZOMETERS INSTALLED 1992
MW-113	⊕	MONITORING WELLS INSTALLED 1992
MW-116B	⊕	BEDROCK WELLS INSTALLED 1992
TB-1	⊖	TEST BORING ADVANCED 1992

NOTES:

1. COORDINATES AND BEARINGS IN BRONX HIGHWAY DATUM.
2. ELEVATIONS ABOVE BRONX DATUM = 2.608 FT ABOVE MEAN SEA LEVEL.
3. CONTOUR INTERVAL = 5 FEET.
4. ALL CONCENTRATIONS ARE IN ug/kg (ppb). J = ESTIMATED VALUE.
5. REFER TO TABLE 4-3 FOR ALL SOIL BORING SAMPLE PESTICIDE AND PCB ANALYTICAL RESULTS.

MAP SOURCE:

ETTLINGER & ETTLINGER DRAWING NUMBER 87541.
ETTLINGER & ETTLINGER SITE SURVEY 1992.

0 350 700 FT

SCALE

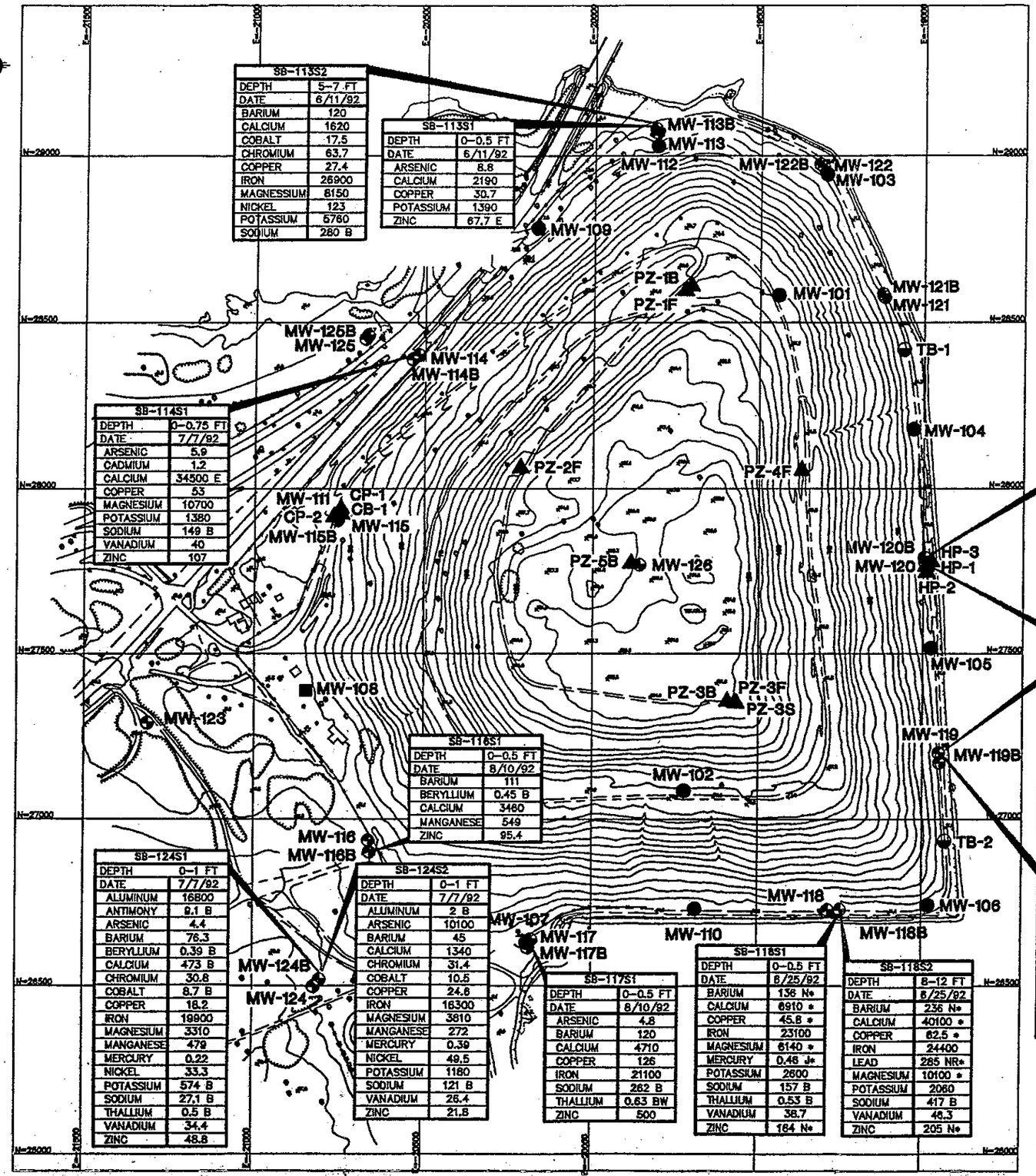
SOIL BORING SAMPLE ANALYTICAL RESULTS
PESTICIDES AND PCBs
PELHAM BAY LANDFILL
BRONX, NEW YORK

WOODWARD-CLYDE CONSULTANTS, INC.

CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS
NEW YORK, NEW YORK

DR.BY	MG	SCALE	AS SHOWN	PROJ.	92C4087
CK'D.BY	REC	DATE	DEC. 14, 1992	FIG.NO.	4-3

file name: C:\92C4087\P-PCB.DWG Last edited: 93/02/09 @ 18:25



SB-113S2	
DEPTH	5-7 FT
DATE	6/11/92
BARIUM	120
CALCIUM	1620
COBALT	17.5
CHROMIUM	63.7
COPPER	27.4
IRON	26900
MAGNESSIUM	6150
NICKEL	123
POTASSIUM	5760
SODIUM	280 B

SB-113S1	
DEPTH	0-0.5 FT
DATE	6/11/92
ARSENIC	8.8
CALCIUM	2190
COPPER	30.7
POTASSIUM	1390
ZINC	67.7 E

SB-114S1	
DEPTH	0-0.75 FT
DATE	7/7/92
ARSENIC	5.9
CADMIUM	1.2
CALCIUM	34500 E
COPPER	53
MAGNESIUM	10700
POTASSIUM	1380
SODIUM	149 B
VANADIUM	40
ZINC	107

SB-120S2	
DEPTH	45-46 FT
DATE	6/9/92
CALCIUM	1490
CHROMIUM	37.2
MAGNESIUM	5800
NICKEL	53.4
POTASSIUM	3210
SODIUM	2040

SB-120S1	
DEPTH	0-0.8 FT
DATE	6/9/92
CALCIUM	3160
SODIUM	194 B

SB-119S2	
DEPTH	0-0.5 FT
DATE	6/25/92
BARIUM	140 N*
CADMIUM	2.6
CALCIUM	10400 *
CHROMIUM	34.7
COPPER	41.8 *
IRON	28700
MAGNESSIUM	5620 *
POTASSIUM	3110
SODIUM	2050
VANADIUM	61.5
ZINC	158 N*

SB-119S1	
DEPTH	0-0.5 FT
DATE	6/25/92
BARIUM	94.7 N*
CADMIUM	0.88 B
CALCIUM	5320 *
COPPER	33.1 *
IRON	22600
MAGNESIUM	4500 *
POTASSIUM	1240
SELENIUM	0.48 BW
SODIUM	322 B
ZINC	144 N*

SB-116S1	
DEPTH	0-0.5 FT
DATE	8/10/92
BARIUM	111
BERYLLIUM	0.45 B
CALCIUM	3480
MANGANESE	549
ZINC	95.4

SB-124S1	
DEPTH	0-1 FT
DATE	7/7/92
ALUMINUM	16800
ANTIMONY	9.1 B
ARSENIC	4.4
BARIUM	76.3
BERYLLIUM	0.39 B
CALCIUM	473 B
CHROMIUM	30.8
COBALT	8.7 B
COPPER	18.2
IRON	19900
MAGNESIUM	3310
MANGANESE	479
MERCURY	0.22
NICKEL	33.3
POTASSIUM	574 B
SODIUM	27.1 B
THALLIUM	0.5 B
VANADIUM	34.4
ZINC	48.8

SB-124S2	
DEPTH	0-1 FT
DATE	7/7/92
ALUMINUM	2 B
ARSENIC	10100
BARIUM	45
CALCIUM	1340
CHROMIUM	31.4
COBALT	10.5
COPPER	24.6
IRON	16300
MAGNESIUM	3810
MANGANESE	272
MERCURY	0.39
NICKEL	49.5
POTASSIUM	1180
SODIUM	121 B
VANADIUM	26.4
ZINC	21.8

SB-117S1	
DEPTH	0-0.5 FT
DATE	8/10/92
ARSENIC	4.8
BARIUM	120
CALCIUM	4710
COPPER	126
IRON	21100
SODIUM	262 B
THALLIUM	0.63 BW
ZINC	500

SB-118S1	
DEPTH	0-0.5 FT
DATE	8/25/92
BARIUM	136 N*
CALCIUM	6910 *
COPPER	45.8 *
IRON	23100
MAGNESIUM	6140 *
MERCURY	0.48 J*
POTASSIUM	2600
SODIUM	157 B
THALLIUM	0.53 B
VANADIUM	38.7
ZINC	184 N*

SB-118S2	
DEPTH	8-12 FT
DATE	8/25/92
BARIUM	236 N*
CALCIUM	40100 *
COPPER	62.5 *
IRON	24400
LEAD	285 NR*
MAGNESIUM	10100 *
POTASSIUM	2060
SODIUM	417 B
VANADIUM	46.3
ZINC	205 N*

LEGEND:

- MW-103 ● MONITORING WELLS INSTALLED 1989
- MW-108 ■ MONITORING WELL DESTROYED DURING IRM
- PZ-3B ▲ PIEZOMETERS INSTALLED 1992
- MW-113 ◔ MONITORING WELLS INSTALLED 1992
- MW-116B ◔ BEDROCK WELLS INSTALLED 1992
- TB-1 ◒ TEST BORING ADVANCED 1992

NOTES:

1. COORDINATES AND BEARINGS IN BRONX HIGHWAY DATUM.
2. ELEVATIONS ABOVE BRONX DATUM = 2.608 FT ABOVE MEAN SEA LEVEL.
3. CONTOUR INTERVAL = 5 FEET.
4. ALL CONCENTRATIONS IN mg/kg (ppm).
   - * = ESTIMATED VALUE (DUPLICATE ANALYSIS RESULT NOT WITHIN QUALITY CONTROL LIMITS).
   - B = REPORTED VALUE IS ACCEPTABLE (REPORTED VALUE LESS THAN THE CRDL (CONTRACT REQUIRED DETECTION LIMIT) BUT GREATER THAN THE IDL (INSTRUMENT DETECTION LIMIT)).
   - N = ESTIMATED VALUE (SPIKED SAMPLE RECOVERY NOT WITHIN QUALITY CONTROL LIMITS).
   - R = REJECTED RESULT.
   - W = ESTIMATED VALUE (POST-DIGESTION SPIKE SAMPLE RESULTS REPORTED OUTSIDE QUALITY CONTROL LIMITS, WHILE SAMPLE ABSORBANCE IS LESS THAN 50% OF SPIKE ABSORBANCE).
5. SOIL BORING SAMPLES SB-124S1 AND SB-124S2 ARE REFERENCE CONCENTRATIONS.
6. ONLY SAMPLE CONCENTRATIONS WHICH EXCEED THE MAXIMUM REFERENCE CONCENTRATIONS FROM SOIL BORINGS SB-124S1 AND SB-124S2 (TABLE 4-4) ARE INCLUDED.
7. ONLY VALUES >200 ppm WERE REPORTED FOR LEAD.
8. REFER TO TABLE 4-4 FOR ALL SOIL BORING SAMPLE INORGANIC COMPOUND ANALYTICAL RESULTS.
9. SHEET 1 OF 2.

MAP SOURCE:

ETTLINGER & ETTLINGER DRAWING NUMBER 87541.
ETTLINGER & ETTLINGER SITE SURVEY 1992.

0 350 700 FT

SCALE

SOIL BORING SAMPLE ANALYTICAL RESULTS
INORGANIC COMPOUNDS
PELHAM BAY LANDFILL
BRONX, NEW YORK

WOODWARD-CLYDE CONSULTANTS, INC.

CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS
NEW YORK, NEW YORK

DR.BY	MG	SCALE	AS SHOWN	PROJ.	92C4087
CK'D.BY	REC	DATE	DEC. 14, 1992	FIG.NO.	4-4

File name: C:\92C4087\M-S-INOR.DWG Last edited: 93/02/15 @ 11:42

TABLE 2
PELHAM BAY SRI
SOIL - VOLATILE ORGANIC COMPOUND DATA SUMMARY
92C4987

Location:	AREA 1			
Sample ID:	SRI-1	SRI-2	SRI-3	SRI-4
Date:	4/1/93	4/1/93	4/1/93	4/1/93
Matrix:	soil	soil	soil	soil
Units:	ug/kg	ug/kg	ug/kg	ug/kg
Depth:	0-4"	0-4"	0-4"	0-4"
Acetone				
Total:				
Tentatively Identified Compounds				
Unknown				
Total:				

Location:	AREA 2													
Sample ID:	SR1-5A	SR1-5ARE	SRI-5B	SRI-6A	SRI-6B	SRI-7A	SRI-7B	SRI-8A	SRI-8ARE	SRI-8B	SRI-9A	SRI-9B	SRI-DUP	SRI-DUPRE
Date:	3/31/93	3/31/93	3/31/93	3/31/93	3/31/93	3/31/93	3/31/93	3/31/93	3/31/93	3/31/93	3/31/93	3/31/93	4/1/93	4/1/93
Matrix:	soil	soil	soil	soil	soil	soil	soil	soil	soil	soil	soil	soil	soil	soil
Units:	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Depth:	0-4"	0-4"	0-4"	0-4"	0-4"	0-4"	0-4"	0-4"	0-4"	0-4"	0-4"	0-4"	0-4"	0-4"
Acetone												91 J		
Total:												91		
Tentatively Identified Compounds														
Unknown	16 J						52 J					38.20 J	8.20 J	
Total:	16						52					38.20	8.20	

Location:	BACKGROUND			
Sample ID:	SRI-10	SRI-11	SRI-12	SRI-13
Date:	3/31/93	4/1/93	4/1/93	4/1/93
Matrix:	soil	soil	soil	soil
Units:	ug/kg	ug/kg	ug/kg	ug/kg
Depth:	0-4"	0-4"	0-4"	0-4"
Acetone				
Total:				
Tentatively Identified Compounds				
Unknown				
Total:				

Notes: J = Detected below the reporting limit

Prepared by: DAJ
Checked by: PGN

TABLE 3
SOIL - SEMI-VOLATILE ORGANIC DATA SUMMARY
PELHAM BAY SRI
92C4087

Location:	AREA 1				AREA 2										
Sample ID:	SRI-1	SRI-2	SRI-3	SRI-4	SR1-5A	SRI-5B	SRI-6A	SRI-6B	SRI-7A	SRI-7B	SRI-8A	SRI-8B	SRI-9A	SRI-9B	SRI-DUP
Date:	4/1/93	4/1/93	4/1/93	4/1/93	3/31/93	3/31/93	3/31/93	3/31/93	3/31/93	3/31/93	3/31/93	3/31/93	3/31/93	3/31/93	4/1/93
Matrix:	soil	soil	soil	soil	soil	soil	soil	soil	soil	soil	soil	soil	soil	soil	soil
Units:	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Depth:	0-4"	0-4"	0-4"	0-4"	0-4"	0-4"	0-4"	0-4"	0-4"	0-4"	0-4"	0-4"	0-4"	0-4"	0-4"
PAHs															
Acenaphthylene						260 J				240 J					
Acenaphthene											80 J				
Fluorene										160 J	80 J				
Phenanthrene				130 J	600	1200			220 J	2200	900	350 J	300 J	880	280 J
Anthracene						280 J				390 J	120 J		90 J	220 J	
Fluoranthene	100 J		510	200 J	840	2400	130 J		320 J	4600	1300	900	700	1100	400 J
Pyrene			610	210 J	1150	2600	150 J		360 J	4800	1300	650	630	920	270 J
Benzo(a)anthracene					370 J	1200			130 J	1800	460		320 J	390 J	130 J
Chrysene					460	1300			160 J	2200	500	370 J	360 J	390 J	130 J
Benzo(b)fluoranthene					900 J	1700 J	110 J		490 J	2500 J	1000 J	540 J	580 J	680 J	160 J
Benzo(k)fluoranthene					800 J	2000 J			420 J	3800	850	620	540	670 J	200 J
Benzo(a)pyrene					230 J	1400 J			100 J	1900	420	350 J	470	540 J	160 J
Ideno(1,2,3-cd) pyrene					230 J	480 J			110 J	660	200 J		140 J	120 J	
Dibenzo(a,h)anthracene										120 J					
Benzo(g,h,i)perylene						420 J									
Total:	100	0	1,120	540	5,580	15,240	390	0	2,310	25,370	7,210	3,780	4,130	5,910	1,730
Phthalates															
Di-n-butylphthalate		160 J		430 J	90 J	160 J	110 J			100 J	80 J		160 J		
Butylbenzylphthalate										120 J					
Bis (2-Ethylhexyl) phthalate				1000	350 J	240 J					550	120 J			
Total:	0	160	0	1,430	440	400	110	0	0	220	630	120	160	0	0
Phenols															
2-Chlorophenol															
4-Chloro-3-methylphenol															
4-Nitrophenol															
Pentachlorophenol															
Total:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other SVOs															
N-Nitrosodi-n-propylamine															
Total:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL SVOs	100	160	1,120	1,970	6,020	15,640	500	0	2,310	25,590	7,840	3,900	4,290	5,910	1,730

TABLE 3
SOIL - SEMI-VOLATILE ORGANIC DATA SUMMARY
PELHAM BAY SRI
92C4087

Location:	BACKGROUND			
Sample ID:	SRI-10	SRI-11	SRI-12	SRI-13
Date:	3/31/93	4/1/93	4/1/93	4/1/93
Matrix:	soil	soil	soil	soil
Units:	ug/kg	ug/kg	ug/kg	ug/kg
Depth:	0-4"	0-4"	0-4"	0-4"
PAHs				
Acenaphthylene	610		200 J	
Acenaphthene				
Fluorene				
Phenanthrene	870		600	
Anthracene	180 J		160 J	
Fluoranthene	2700	100 J	1300	
Pyrene	2100	100 J	1100	
Benzo(a)anthracene	1400		580	
Chrysene	1800		710	
Benzo(b)fluoranthene	690 J		1300 J	
Benzo(k)fluoranthene	4100		1400	
Benzo(a)pyrene	1900		1000	
Ideno(1,2,3-cd) pyrene			360 J	
Dibenzo(a,h)anthracene	160 J			
Benzo(g,h,i)perylene	120 J		360 J	
Total:	16,630	200	9,070	0
Phthalates				
Di-n-butylphthalate		140 J	130 J	
Butylbenzylphthalate	220 J			
Bis (2-Ethylhexyl) phthalate	130 J		330 J	
Total:	350	140	460	0
Phenols				
2-Chlorophenol	310 J			
4-Chloro-3-methylphenol	310 J			
4-Nitrophenol	310 J			
Pentachlorophenol	270 J			
Total:	1,200	0	0	0
Other SVOs				
N-Nitrosodi-n-propylamine			650	
Total:	0	0	650	0
TOTAL SVOs	18,180	340	9,530	0