New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 3
21 South Putt Corners Road, New Paltz, New York 12561-1696
Phone: (845) 256-3109 • **FAX:** (845) 255-2987
Website: www.dec.state.ny.us

Erin M. Crotty
Commissioner

March 12, 2002

RECEIVED
BUREAU OF CONSTRUCTION SERVICES

Michael D. Zarin
Zarin & Steinmetz
81 Main Street, Suite 415
White Plains NY 10601

Re: Spill # 0111227, Half Moon Bay, Croton on Hudson, Westchester Co.

Dear Mr. Zarin:

The Department has reviewed the Remedial Action Plan for the above site prepared by Galli Engineering, P.C., dated October 26 2001 and revised March 7, 2002. This plan proposes to remove both a layer of petroleum impacted soils and free phase petroleum product on the groundwater. The work is to be conducted at the Southerly section of the undeveloped portion of Half Moon Bay owned by Hudson Property Partners, LLC.

Please be advised that the Department approves the implementation of this plan. The report of endpoint sampling shall be submitted to the department within 45 days of the completion of the excavation work.

Your continued cooperation is appreciated.

Sincerely,

Peter J. DeCicco
Geologist 2
Region 3

cc: K. Timko, Metro North CRR, 347 Madison Avenue, NY, NY 10017-3739
R.Galli, Galli Engineering, P.C., 734 Walt Whitman Rd., Suite 402A, Melville, NY 11747
S. Goreau, WCHD
G. Burke, NYSDEC, Albany
C. Manfredi/P. Doshna
J. Hardy/T. Ghiosay

FAX TRANSMITTAL

Karen L. Timko
Director
MTA Metro-North Railroad
Department of Environmental Compliance & Services
347 Madison Avenue - 12th Floor
New York, NY 10017
Tel #: (212) 340-3322
Fax #: (212) 340-3460

Date: 3/8/02

To: Gerard Burke

Fax #: 518-402-9819

No. of pages including this page: 12

Gerard,

Here is the RAP. This "final" version was revised to reflect Pete DeCiccos comments. At our last discussion with him he indicated that he is satisfied with this version. Note also, that we have been in touch w/ West. Co. Dept. of Health & they are deferring to DEC (ie Pete) on this.

- Karen

REMEDIAL ACTION PLAN FOR PETROLEUM CONTAMINATION IN SOIL AND GROUNDWATER

TO BE CONDUCTED AT THE
SOUTHERLY SECTION OF THE UNDEVELOPED PORTION OF
HALF MOON BAY
Croton on Hudson, New York

PREPARED FOR:

HUDSON PROPERTY PARTNERS, LLC
115 Stevens Avenue
Valhalla, NY 10595

PREPARED BY:

Galli Engineering, P.C.
734 Walt Whitman Rd., Suite 402A
Melville, NY 11747

October 26, 2001
Revised March 7, 2002

03/08/2002 08:37 FAX 212 340 3460 ENVIR. COMPLIANCE & SRVC 002
MAR-07-2002 12:23 P.02/14

TABLE OF CONTENTS

03/08/2002 08:37 FAX 212 340 3460 ENVIR. COMPLIANCE & SRVC 003

MAR-07-2002 12:23 P.03/14

PURPOSE AND INTRODUCTION

This Remedial Action Plan ("RAP") is intended to provide an operational framework for the planned remediation of the petroleum contamination at the southwest corner of certain undeveloped property, which is part of a parcel of land commonly known Half Moon Bay. This workplan has been prepared on behalf of Hudson Property Partners, LLC ("Hudson"), 115 Stevens Avenue, Valhalla, NY 10595, the owner of the undeveloped portion of Half Moon Bay, upon which Hudson is to construct residential condominiums. Hudson plans to begin construction of the condominiums in this area of the property by the Spring of 2002; site work construction and construction of condominiums on other portions of the property has commenced. The undeveloped portion of Half Moon Bay is hereinafter referred to as the "Property".

Half Moon Bay is located in Croton-on-Hudson, Westchester County, New York. The active Croton Harmon Rail Yard, operated by Metro-North Commuter Railroad Company, borders Half Moon Bay on the east. The developed portion of Half Moon Bay, consisting of 120 residential condominiums, is on the northern end of the Property. The Westchester County Croton Point Park and the former County landfill, which is now closed, border the Property to the south. The Hudson River forms the western boundary of Half Moon Bay.

In preparation for development, extensive environmental investigations have been conducted on the undeveloped portion of Half Moon Bay, including test pit excavations, soil sampling, monitoring well installation and groundwater sampling. Petroleum contamination has been detected in monitoring wells and soil samples in the southwest corner of the Property only (the "Site"). The extent of the contaminated plume has been delineated and is shown on the map attached as Appendix B.

The contamination that is present on the Site is believed to have migrated onto the Site from the adjacent Metro-North Croton Harmon Railroad Yard or remains from the historic use of the Property for railroad purposes. The Half Moon Bay Site will be addressed and treated as a separate, discrete clean-up from the one presently occurring on the adjacent Metro-North property due to different ownership and characteristics (i.e., OUII as hereinafter described). Metro-North and Hudson are cooperating with each other in the remediation of the Site.

Hudson will begin the planned remediation by removing the first "cell" of contaminated product (as hereinafter described) from the Site for off-site disposal and then backfilling the first "cell". Metro-North will then install a sheeting wall near the property line separating the Site from Harmon Yard, as previously approved by the New York State Department of Environmental Conservation ("DEC"). Following the installation of the sheeting wall, Hudson will continue to remove the contaminated product from the Site for offsite treatment and disposal. Finally, in accordance with a recorded Declaration dated October 27, 1987, required by the Westchester County Health Department, clean fill material will be brought on the Property to serve as final cover for the top two feet of soil during construction of the condominiums.

The purpose of this RAP is to describe and document the technical approach, scope of work and remedial methodology to either eliminate the detected contamination or reduce it to an acceptable level deemed protective of public health and the environment. Hudson is not

MAR-07-2002 12:23
P.04/14
03/08/2002 08:37 FAX 212 340 3460 ENVIR. COMPLIANCE & SRVC 004

requesting that this remediation be included as part of the DEC's Voluntary Cleanup or other Program.

1.0 BACKGROUND AND SITE DESCRIPTION

The undeveloped portion of Half Moon Bay is approximately 14 acres and is generally flat. The western edge of the Property is approximately 15 feet above the Hudson River with a tiered drop off to the water. Riprap protects the shoreline of the Property. The vegetation on the Property is mostly grass and bushes as the Property has been cleared and grubbed recently. Roads, utilities and a basin for a man-made pond are present on the Property.

Environmental Conditions and Existing Remedial Measures

The existing Croton Harmon Railroad Yard ("Harmon Yard") borders the Property on the East. Harmon Yard was placed on the State Registry of Inactive Hazardous Waste Disposal Sites in 1985 because of the discovery of polychlorinated biphenyls (PCBs) at the old wastewater treatment plant and equalization lagoon. In December 1988, the DEC split the Harmon Yard into two sites. The old plant and lagoon were designated as one site, and the remainder of the Harmon Yard was removed from the State Registry of Inactive Hazardous Waste Disposal Sites and is being investigated as a petroleum-only site since no hazardous waste is present outside of the lagoon and plant area.

Metro-North initiated a Remedial Investigation/Feasibility Study (RI/FS) for the old plant and lagoon in 1988. After the RI/FS was completed, the DEC issued a Record of Decision ("ROD") in 1992. The ROD separated the old plant and lagoon area into two operable units designated OU-I and OU-II. The OU-I remedial action was for the dismantling of the old wastewater plant and the remediation of the lagoon itself. This remedial action was completed in May 1996.

In March 1998, the DEC issued a ROD for OU-II. OU-II consists of floating product including Non-Aqueous Phase Liquid ("NAPL") in the groundwater around the perimeter of the former lagoon. DEC has selected remedial measures for OU-II, which Metro-North is in the process of implementing. These measures include installing sheeting along the edge of the lagoon along the Half Moon Bay and County property lines to prevent migration of the NAPL to those sites.

The Westchester County Department of Health issued a Declaration dated October 27, 1987, covering the entire Half Moon Bay property, the portion that has since been developed and the current undeveloped portion. This Declaration was recorded in the Land Records for Westchester County and runs with the land. A copy of the Declaration is attached hereto. The Declaration sets forth certain conditions that must be fulfilled in order to construct the development. Certain of these conditions have been met, and a Release of these conditions has been duly executed and filed.

The remaining conditions from the Declaration applicable to the current undeveloped portion include as follows: (a) clean fill material will be brought on site to serve as final cover for the top two feet of soil up to grade level for the entire undeveloped portion of the Property; and (b) periodic groundwater sampling and analysis shall be undertaken at the monitoring wells along

MAR-07-2002 12:23
P.05/14
03/08/2002 08:38 FAX 212 340 3460 ENVIR. COMPLIANCE & SRVC 005

the southern and eastern borders of the property. Groundwater is not the source of drinking water for the development. Complying with this Declaration and the requirements of the Health Development is considered part of the remedial measures for the Property.

Summary of Environmental Investigations

Numerous investigations have been conducted on the Property for both the former and current owners prior to purchase and development. The investigations have included test pit excavation, soil sampling, monitoring well installation, and groundwater sampling. Petroleum contamination on the site was first identified in 1994. More recent additional investigations were conducted in November 2000, January, February and March 2001 to determine the extent of the petroleum contamination on the Property. This further investigation confirmed that some petroleum contamination was present and confined to the southwest corner of the Property in a localized area. There were no elevated levels of volatile organic compounds or PCB's in excess of the NYSDEC TAGM standards detected at the Property. Appendix A contains a copy of the site plan prepared by John Meyer Consulting, which shows proposed building footprints and the locations of the test pits, wells and borings that have been performed through March of 2001.

In July and August 2001, Metro-North and Hudson conducted additional joint sampling and subsequent forensic analysis of samples from monitoring wells and test pits on the Site and the adjacent portions of Harmon Yard. The forensic analysis determined that certain of the petroleum contamination on the Subject Site and Harmon Yard have similar characteristics and that no detectable levels of PCB's in excess of NYSDEC standards have been found at the Site. The results of this sampling were used to further delineate the plume on the Site, as shown on Appendix B.

The petroleum contamination is not expected to be found beyond this delineated plume based on test results, site hydrogeology and direction of known groundwater flow. The petroleum samples exhibited tar like viscosity. This further reinforces the conclusion that the petroleum contamination is very localized.

2.0 REMEDIATION ACTIVITIES

The scope of work described in the sections below is an outline of the process and steps that are to be used in the cleanup of the Site. The New York State Department of Environmental Conservation (NYSDEC) and Westchester County Health Department (WCHD) will both be notified at least 48 hours in advance of the excavation date so that arrangements can be made, if desired, for their representatives to be present to witness the excavation and obtain samples.

2.1 SCOPE OF WORK

The extent of the contaminant plume to be remediated is approximately 140' x 100'. To minimize seepage of water from the Hudson River into the excavation area, the contractor will, in a North/South direction (generally running parallel to the Hudson River) and starting at the easternmost point of the parcel, remediate the parcel in 25-30 foot strips or cells that will run the length of the project area (approximately 100 feet). The remediation will be conducted by operating

MAR-07-2002 12:24
P.06/14
006
03/08/2002 08:38 FAX 212 340 3460 ENVIR. COMPLIANCE & SRVC

in these 25' x 30' cells. The first cell will be remediated pursuant to the following scope of work. Immediately after the first cell is remediated, Metro-North will install the sheeting along the property line with Harmon Yard. The work on the remaining cells will be performed concurrently or subsequently to the installation of the sheeting wall.

The Scope of Work for each cell is summarized as follows:

1. Excavate and stockpile clean overburden;
2. Excavate and stockpile contaminated soil;
3. Pump and remove floating oil entering the excavation;
4. Load, transport, and dispose of petroleum contaminated soil; and
5. Backfill of overburden.

The goal of the scope of work is to remove the contaminated product (soil and liquid) from the Site for offsite treatment and disposal. The items in the scope of work are further detailed in the following paragraphs. The mobilization and demobilization of labor and equipment required to carry out the scope of work is considered part of items #1 and #5 (respectively) in the scope of work. Other activities such as endpoint sampling of the Northernmost and Southernmost points of each section and screening will occur concurrently with remedial actions.

Excavation and Removal Methodology

At each cell, the clean overburden will be excavated and set aside near both the current cell and the next one. The excavation and stockpiling of the clean overburden will consist of mobilization of equipment, layout of the stockpile area, excavation of the clean overburden, stockpiling of the clean overburden, air monitoring, and field-testing of soil to verify clean nature of the soil.

All overburden will be removed in this manner until proximity to the water table prevents further equipment accessibility. Whether the overburden is uncontaminated or not will be determined in the field using a PID meter. If odors, staining or PID readings of 20 ppm or greater are encountered, samples will be collected in accordance with the NYSDEC publication "Sampling Guidelines and Protocols". The overburden will be disposed of in accordance with applicable law. Absent the above indications, the overburden will be left on-site.

With the overburden from the entire cell excavated to within several feet of the water table, the contaminated soil will then be excavated for removal and disposal. A berm will be formed at the edge of the cell during excavation of the overburden to provide a pitched location for placement of the contaminated soil from near the water table. Since this material may be wet, it will be placed on top of a heavy plastic liner laid over the previously formed berm. The liner will divert any free liquid flowing off the pile back into the hole.

As soon as the contaminated soil is removed, a vac truck will be used to suck up any floating product layer. Upon completion of the remediation of each cell, that cell will be filled in immediately with clean overburden in order to prevent the migration of contaminants from any adjacent sections. As an additional measure, a solution of oil-consuming bacteria will be sprayed liberally into the hole, particularly near the water table. The process will then be repeated for

MAR-07-2002 12:24
P.07/14
007
03/08/2002 08:39 FAX 212 340 3460 ENVIR. COMPLIANCE & SRVC

each cell.

In order to control the amount of water infiltrating the excavation from the Hudson River, the contractor will keep as much soil as possible between the river and the pit as a buffer. To further reduce the amount of liquids drawn off during this remedial activity phase, the contractor will perform the pumping of the liquid material at the most advantageous cycle of the estuarial tidal fluctuation.

As stated above, a two-foot thick layer of clean fill material will be brought on-site and placed over the Property to raise the Property as well as encapsulate the existing on-site soils during construction of the condominiums.

Excavation will proceed cell by cell as described above in rows starting along the Metro-North property line. Upon excavating the first cell, a sample of the end (north and south) walls will be analyzed by PID. Based upon the results of the PID, one of the two following courses of action will be taken: 1) If the PID reading is <10ppm, an endpoint sample will be collected. This will consist of three grab samples from along the wall composited into one. The grab samples will be collected at a distance approximately one third up from the bottom of the layer or zone of soil contamination, and will be collected on the northern face of the excavation cell to establish the north limit of the petroleum contamination and from the southern face of the excavation cell to establish the southern limit of the petroleum contamination. All grab samples shall be taken no less than six inches from the exposed surface into the wall; or 2) If the PID reading is equal to or >10ppm, or there is obvious visible staining, excavation will continue until a PID reading of <10ppm is encountered and grab samples can be taken. Several random grab samples will be collected to form one composite sample from the bottom of the pit along each row of excavation. A spill containment boom shall be maintained on site during excavation.

The end point samples shall be analyzed for the parameters specified in the RAP as well as for Total Organic Carbon (TOC) USEPA Method 9060. In the event the results of the endpoint samples are within acceptable ranges in the NYSDEC guidelines established in Technical and Administrative Guidance Memorandum #4046, no further excavation will be required. If some or all of the results are at levels above those guidelines further excavation will occur or, in the alternative there will be additional discussion with the NYSDEC as to whether, based upon the limited exposure pathways that will remain at the site following construction, further excavation is not warranted.

No end point samples will be collected on the east or west walls of the excavation. The east wall of the excavation shall be the property boundary line with Metro-North, while the west wall of the excavation will itself be removed in subsequent steps to the location where the rip rap area bordering the Hudson River begins.

2.2 DISPOSAL OF CONTAMINATED SOIL AND LIQUIDS

The soil excavated from the areas of known contamination will be stockpiled, as necessary, on and under polyethylene sheeting. This will allow for soil disposal testing and more efficient loading for transport to the disposal site. The actual volume of stockpiled soil may vary based upon actual field

MAR-07-2002 12:25
03/08/2002 08:39 FAX 212 340 3460 ENVIR. COMPLIANCE & SRVC 008
P.08/14

conditions encountered. In the event that certain contaminated soils are saturated and free draining the use of roll-off containers with built-in sumps will be used to collect leachate and will be utilized to transport the petroleum contaminated soils to the final disposal facility.

The contaminated soil will be transported for disposal or treatment to an appropriately permitted facility. The disposal facility has not been determined as of the time of this report. Based on the known nature of the soil contamination, disposal facilities and options are readily available.

Disposal of the liquid product generated in the course of the remediation may involve transport to a local disposal facility. Facilities in the immediate area can readily process petroleum-contaminated liquid product. Final decision on a disposal facility has not been reached at this point in time.

The final disposition of the contaminated materials will be in accordance with all applicable federal, state, and local regulations. Disposal facilities will be decided based on the results of laboratory analysis for disposal parameters, distances to facility and cost of disposal. The NYSDEC will be notified in writing five (5) days prior to the removal any contaminated soils or groundwater with the names of the waste transporters and disposal facilities and their respective licenses and permits for its review.

2.3 EQUIPMENT DECONTAMINATION

The excavating equipment will be visually cleaned before excavating contaminated areas. The excavation equipment will be visually brush cleaned upon completing excavation of the contaminated area. This is being done to minimize the wash water generated at the Site and requiring offsite disposal.

3.0 AIR MONITORING

Air Monitoring will be conducted using dust monitors and a Photo Ionization Detector (PID) to ensure that flammable vapors are not present and that particulate matter is not migrating from the Site. Air monitoring will take place in accordance with the New York State Department of Health guidance values. Monitoring for background levels will take place at the start of each workday. The monitors will then be moved to the downwind side of any ongoing work to monitor for excessive levels of dust or flammable gases.

Detection of excessive dust is unlikely based on the nature of the material being excavated. Dust suppression activities will be implemented if conditions indicate that dust may become problematic. The PID will be used to monitor for explosive vapors. Detection of levels in excess of 5 ppm above background levels will result in a stoppage of work until the levels have dropped back to within 5 ppm of background.

4.0 LAB ANALYSIS

Laboratory analysis of contaminated soil will be performed to satisfy disposal facility requirements. It is anticipated that the petroleum contaminated soil will be analyzed for semi-volatile organic compounds, total petroleum hydrocarbons (TPH), Toxicity Characteristic Leaching Procedure

MAR-07-2002 12:25
P.09/14
03/08/2002 08:40 FAX 212 340 3460 ENVIR. COMPLIANCE & SRVC 009

(TCLP) and other methods as required by the disposal facility. The endpoint samples for the excavation will be analyzed for semi-volatile organic compounds and TPH to ensure that the residual contamination, if present, is within NYSDEC guidelines.

Field testing using a PID or other methods will be used to determine when endpoint samples will be taken. This field testing will supplement field observations, photographic documentation, and laboratory analysis. All laboratory analysis will be performed by a NYSDOH ELAP certified lab. The laboratory will provide all sample containers. The endpoint samples for the excavation will be analyzed via EPA Method 8270 (BN) and EPA Method 418.1. The laboratory will provide trip and lab blanks if requested.

MAR-07-2002 12:25
03/08/2002 08:40 FAX 212 340 3460 ENVIR. COMPLIANCE & SRVC 010
P.10/14

APPENDIX A

SITE MAP WITH TEST PITS, WELLS AND BORINGS TO MARCH 2001

03/08/2002 08:40 FAX 212 340 3460 ENVIR. COMPLIANCE & SRVC 011
MAR-07-2002 12:25 P.11/14

APPENDIX B

MAPS FOR SOUTHWEST CORNER

APPENDIX C

ESTIMATED REMEDIATION COSTS

The following estimated costs are for an area measuring 140' x 100'.

Excavation Contractor

Excavator and operator, 25 days @ $20,000/month	$ 25,000
Dump Truck, 25 days @ $650/day	$ 16,250
Vac truck, 25 days @ $1,000/day	$ 25,000

Contaminated Soil Disposal

1100 cubic yards x 1.5 tons/yard = 1,650 tons
1,650 tons x $45/ton (T&D) = $74,250

Contaminated Liquid Disposal

10,000 gallons @ $0.50/gal = $5,000

Health and Safety Plan Implementation

Field Technician, 25 days x 8 hrs/day x $70/hr = $14,000
Project Engineer, 64 hrs x $95/hr = $6,080
PID rental, 1 month @ $900 = $900

Sampling and Analysis

For Soil Characterization:

Priority Pollutant VOC's, w/ library search
Priority Pollutant SVOC's, w/ library search
PCB's
20 samples (est) @ $435 = $8,700

For Waste Disposal Acceptance:

Full TCLP
PCB's
Ignitability
Corrosivity
Reactivity

3 samples (est) @ $825 = $2,475

Biological Agents	
Purchase of agents and rental of spray equipment	$ 10,000
Expenses	
Consumables, sampling equipment	$ 500
Summary Report	$ 5,000
Contingency (25%)	$47,040
ESTIMATED TOTAL (140' x 100' area)	**$235,195**

This price does not include any provision for protection of utility lines that may need to remain in service, particularly the water main beneath the roadway.

The volume of liquid to be removed may vary based on site conditions. The actual cost will be dependent on the actual quantity of liquid pumped from the excavation and the method used for its disposal.

RECEIVED
APR 23 2002
BUREAU OF CONSTRUCTION SERVICES

FAX TRANSMITTAL

Karen L. Timko
Director
MTA Metro-North Railroad
Department of Environmental Compliance & Services
347 Madison Avenue - 12th Floor
New York, NY 10017
Tel #: (212) 340-3322
Fax #: (212) 340-3460

Date: 4/19/02

To: G. Burke

Fax #: 518-402-9819

No. of pages including this page: 22

Gerard,

We have not heard from you concerning the attached submittal. We would like to proceed with procurement of a "Spill Buddy" system to recover petroleum at P6W-. We know we already have your verbal go ahead for this approach based on the minimal amount of product found, but feel we should get a written concurrence before we proceed with the procurement of the Spill Buddy.

Also is there a manner in which Envirotrac or my department should proceed with that procurement? Can we get three quotes or do we have to do something more onerous?

Thanks, Karen

Memorandum

Environmental Resources Management

475 Park Avenue South
New York, NY
(212) 447-1900
(212) 447-1904 (fax)

ERM

TO:	Gerard Burke (NYSDEC) w/attachment
FROM:	Carla Weinpahl (ERM) Cathy Weber (ERM)
Cc:	Karen Timko (Metro-North) w/o attachment Mukesh Mehta (Metro-North) w/o attachment Brian Morrissey (ERM) w/ attachment John Iannone (Cody-Ehlers) w/ attachment
SUBJECT:	Metro-North Commuter Railroad OU-II NAPL Delineation in the Vicinity of PGW-2
DATE:	14 March, 2002

As you are aware, ERM recently supervised NAPL delineation activities in the vicinity of monitoring well PGW-2 at the request of Metro-North.

Monitoring well PGW-2 was installed in July 2001 during construction of the Harmon Yard OU-II remedy. The boring log for this well is provided as Attachment A. On 9 January 2002, monitoring well PGW-2 was inspected by LMS and found to contain approximately four (4) feet of NAPL. NAPL had not been observed in this area of the Yard prior to this time. As documented in the Harmon Yard OU-II Remedial Investigation (RI) Report, dated 24 January 1997, one well, MW-2S, was previously located in this area. NAPL was never observed in well MW-2S.

On 18 January 2002, ERM removed the NAPL from monitoring well PGW-2. The purpose of this exercise was to determine if the NAPL would recharge into the well. The recovered NAPL was containerized and a sample was collected. The NAPL sample was subsequently submitted for PCB and petroleum fingerprint analysis. ERM returned to the Yard on 28 January 2002 to measure the NAPL thickness in monitoring well PGW-2. The measured NAPL thickness on that day was approximately 2.5 feet. Based on this observation, a decision was made to conduct NAPL delineation activities around PGW-2.

Prior to delineation activities, Metro-North transmitted the proposed locations of the NAPL delineation points to Gerard Burke, NYSDEC for approval. On 12 and 13 February 2002, ERM supervised NAPL

delineation activities around PGW-2. Fleet Environmental installed a total of nine (9) temporary wells, TW-1 through TW-9 in the vicinity of PGW-2. The locations of these wells are provided in Figure A. Well logs for these locations are provided in Attachment A.

An oil-water interface probe was used to detect the presence of NAPL. A summary of the NAPL measurements collected immediately following well construction is included in Table 1. The NAPL depth in PGW-2 was recorded during the site visit and is reported in Table 1. The site wells FA4-1 and FA4-2 were also gauged to check for the presence of NAPL in these NAPL Area L4 border wells and to confirm the site depth to water.

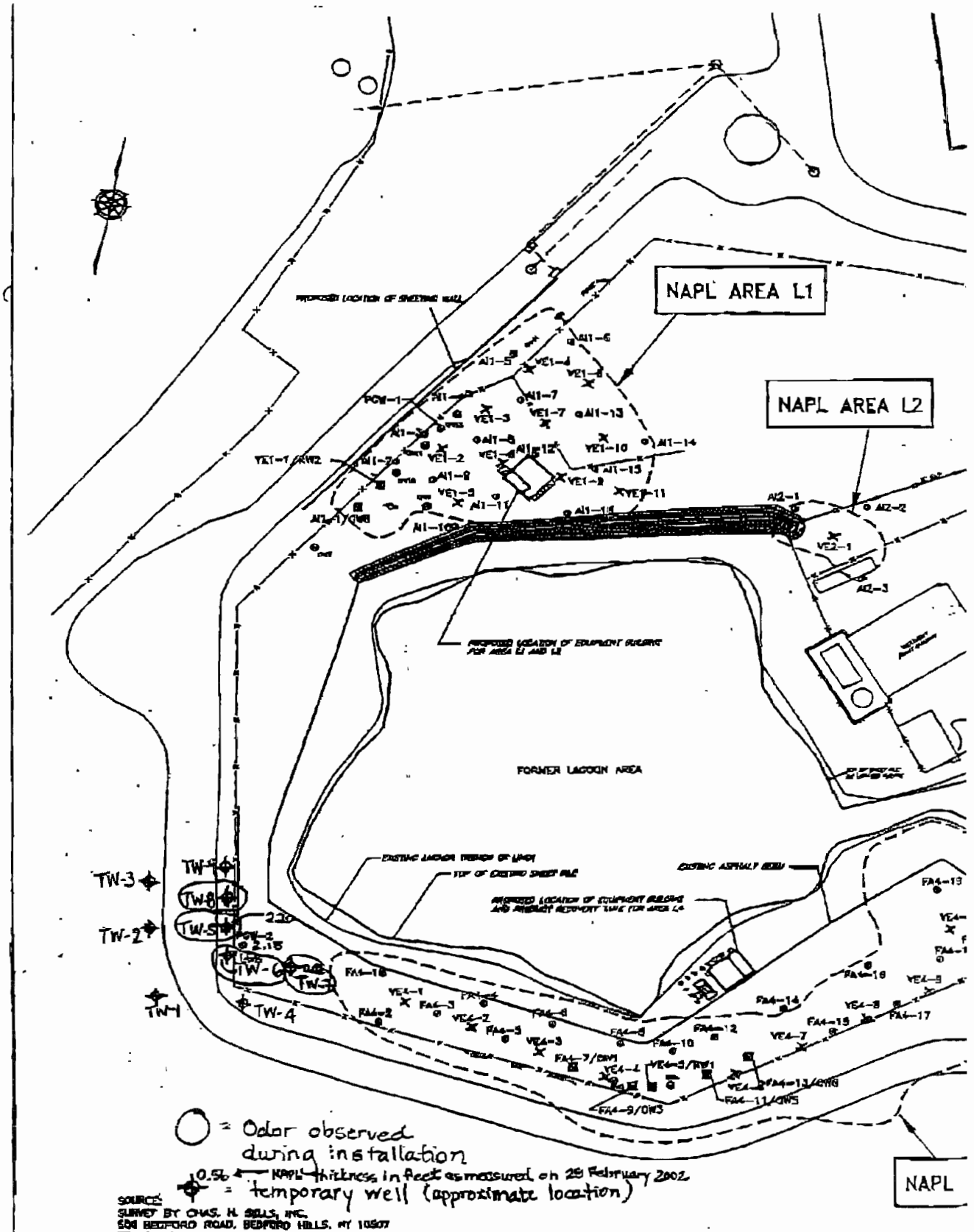
On 28 February 2002, ERM returned to the Yard and recorded additional NAPL measurements from the temporary wells. The measurements were recorded two weeks after the temporary well installation to allow for NAPL to equilibrate and for residual NAPL to form on the water table surface. Figure A also includes whether odors were observed during installation of the temporary wells and the NAPL thickness measurements on 28 February 2002. These measurements are summarized in Table 2.

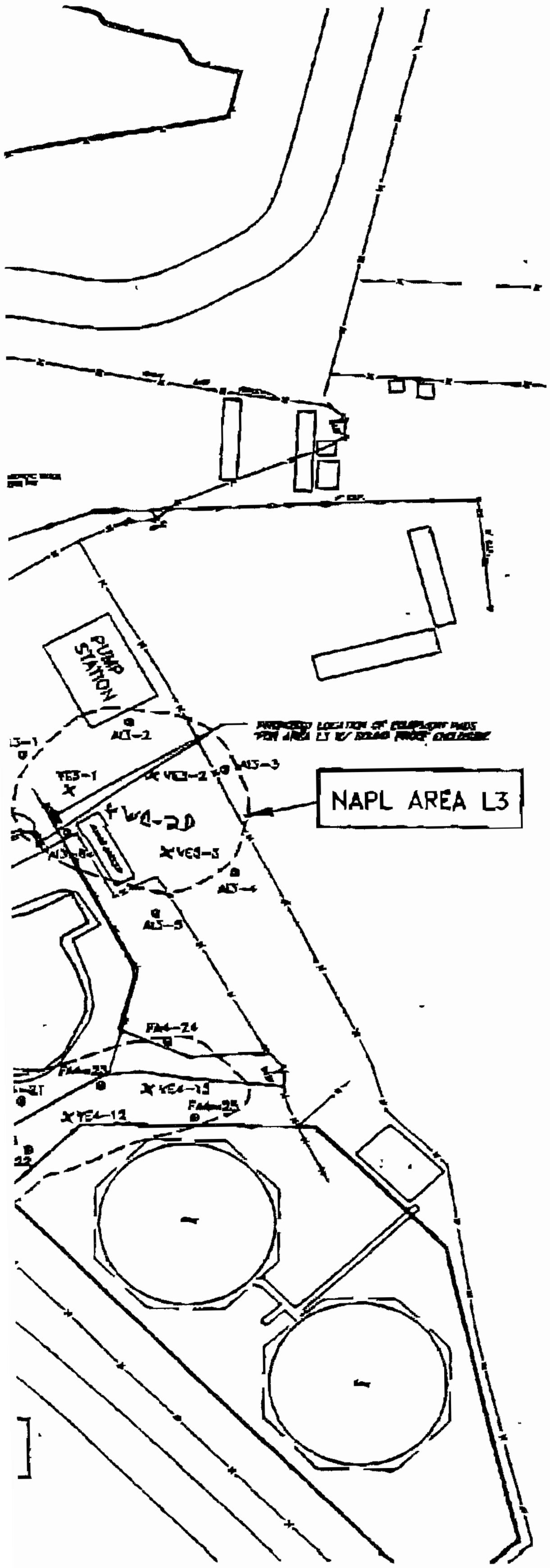
As shown in Figure B, the NAPL is limited to the area immediately surrounding PGW-2. NAPL was definitively identified by the oil-water interface meter in TW-8 at the northern limit, and in TW-6 and TW-7 at the southern limit. NAPL was only detected in temporary wells along the fence of the Metro-North property. The interface probe did not detect NAPL in any of the wells, TW-1, TW-2, and TW-3, on the western side of the county access roadway. The depth of NAPL in the temporary wells varied from no measurable thickness at TW-8 to 2.2 feet measured in TW-5.

The analysis of the NAPL sample indicates that the material is a degraded fuel oil, over 10 years in age with a PCB content of approximately 7 ppm. This is consistent with the other OU-II NAPL. A copy of this analysis is provided in Attachment B.

In conclusion, the NAPL delineation activities indicate that the NAPL in

the vicinity of PGW-2 is localized and does not appear to be contiguous with NAPL Area L4. As there is sheeting in place around the perimeter of the Lagoon, the amount of NAPL in the vicinity of PGW-2 is finite in nature. As such, extension of the soon to be completed NAPL remedial system in NAPL Area L4 is not warranted. Rather, use of a dedicated NAPL recovery system (e.g., a SpillBuddy system) at PGW-2 would be appropriate to address this limited area of NAPL. Operation of this system could be incorporated into the overall OU-II operations and maintenance program. Due to the nature of the investigation, the temporary wells installed for the delineation are not firmly fixed in place. These temporary wells should be abandoned and filled in.


NAPL AREA L1
NAPL AREA L2
FORMER LAGOON AREA
TW-1
TW-2
TW-3
TW-4
TW-5
TW-6
TW-7
TW-8
NAPL
○ = Odor observed during installation
0.5 = NAPL thickness in feet as measured on 28 February 2002
= temporary well (approximate location)
SOURCE:
SURVEY BY CHAS. H. SELLS, INC.
508 BEDFORD ROAD, BEDFORD HILLS, NY 10507
TEL. (914)241-4944
DWG. NO. CRR-8-99-ERM DATED 9/27/99



NOTES:

1. CONTAMINATED MATERIALS WERE REMOVED FROM THE FORMER LAGOON AREA IN 1995 AND 1996. THE AREA WAS DEWATERED AND FILLED. AN HDPE LINER WAS INSTALLED AND STEEL SHEET PILES WERE INSTALLED AROUND THE PERIMETER OF THE FORMER LAGOON AREA. THE AREA IS PRESENTLY OVERLAYED BY ASPHALT.
2. THIS SITE PLAN SHOWS FOUR (4) AREAS WHERE NON-AQUEOUS PHASE LIQUIDS (NAPL) PRODUCT HAS BEEN DETECTED. REMEDIAL SYSTEMS ARE TO BE INSTALLED BY THE CONTRACTOR FOR EACH OF THE NAPL AREAS L1, L2, L3 AND L4.
3. ALL WORK PERFORMED AT THE SITE SHALL BE IN ACCORDANCE WITH OSHA SAFETY STANDARDS, SITE-SPECIFIC HEALTH AND SAFETY PLAN AND METRO-NORTH'S TERMS AND CONDITIONS.
4. LOCATIONS OF KNOWN SUBSURFACE UTILITIES ARE SHOWN ON DRAWINGS C-3 AND C-4. NO GUARANTEE IS MADE AS TO THE ACCURACY OR COMPLETENESS OF THE UTILITY INFORMATION. CONTRACTOR SHALL CONFIRM LOCATIONS OF THE SUBSURFACE UTILITIES PRIOR TO CONDUCTING INTRUSIVE WORK.
5. UTILITY INFORMATION IS BASED UPON PREVIOUS SURVEYS PERFORMED BY CHAS. H. SELLS, INC. OF BEDFORD HILLS, NEW YORK AND ALSO UPON AS-BUILT DRAWINGS PREPARED BY OGDEN REMEDIATION SERVICES COMPANY, INC. OF NEW JERSEY DATED MAY 3, 1996.
6. CONTRACTOR SHALL PROPOSE SPECIFIC LOCATIONS AND SCHEDULE FOR STAGING OF CONSTRUCTION MATERIALS AND EQUIPMENT AND LOCATIONS FOR STOCKPILING OF DRILL CUTTINGS, TRENCH SPOILS, AND WELL DEVELOPMENT WATER PRIOR TO SITE MOBILIZATION.
7. ALL UNDERGROUND YARD PIPING SHALL BE PVC SCH 40 UNLESS OTHERWISE NOTED ON THE DRAWINGS.
8. ALL NEW YARD PIPING SHALL BE PRESSURE TESTED BY CONTRACTOR IN ACCORDANCE WITH THE SPECIFICATIONS PRIOR TO BACKFILLING.
9. CONTRACTOR SHALL RESTORE ALL AREAS OF THE SITE DISTURBED BY CONSTRUCTION ACTIVITIES PRIOR TO DEMOBILIZATION.

GRAPHIC SCALE

PROPOSED WELL LOCATIONS		
WELL	NORTHING	EASTING
NAPL AREA L1		
AI1-2	659513.10	660144.89
AI1-3	659523.74	660142.14
AI1-4	659581.34	660128.03
AI1-5	659549.86	660154.73
AI1-6	[illegible]	[illegible]
AI1-7	[illegible]	[illegible]
AI1-8	659554.38	660183.92
AI1-9	659509.88	660107.28
AI1-10	659480.88	[illegible]
AI1-11	[illegible]	[illegible]
AI1-12	[illegible]	660219.43
AI1-13	[illegible]	[illegible]
AI1-14	[illegible]	660278.37
AI1-15	[illegible]	[illegible]
AI1-16	[illegible]	[illegible]
VE1-2	[illegible]	[illegible]
VE1-3	[illegible]	[illegible]
VE1-4	[illegible]	[illegible]
VE1-5	[illegible]	[illegible]
VE1-6	[illegible]	[illegible]
VE1-7	659552.1	660210.69
VE1-8	[illegible]	660236.54
VE1-9	659521.71	[illegible]
VE1-10	659530.1	660254.79
VE1-11	[illegible]	[illegible]
NAPL AREA L2		
AI2-1	[illegible]	[illegible]
AI2-2	[illegible]	[illegible]
AI2-3	[illegible]	660442.69
VE2-1	[illegible]	[illegible]
NAPL AREA L3		
AI3-1	[illegible]	[illegible]
AI3-2	[illegible]	[illegible]
AI3-3	[illegible]	[illegible]
AI3-4	[illegible]	[illegible]
AI3-5	[illegible]	[illegible]
AI3-6	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
NAPL AREA L4		
FA4-1	[illegible]	[illegible]
FA4-2	[illegible]	[illegible]
FA4-3	[illegible]	[illegible]
FA4-4	[illegible]	[illegible]
FA4-5	[illegible]	[illegible]
FA4-6	[illegible]	[illegible]
FA4-8	[illegible]	[illegible]
FA4-10	[illegible]	[illegible]
FA4-12	[illegible]	[illegible]
FA4-13	[illegible]	[illegible]
FA4-15	[illegible]	[illegible]
FA4-16	[illegible]	[illegible]
FA4-17	[illegible]	[illegible]
FA4-18	[illegible]	[illegible]
FA4-19	[illegible]	[illegible]
FA4-20	[illegible]	[illegible]
FA4-21	[illegible]	[illegible]
FA4-22	[illegible]	[illegible]
FA4-23	[illegible]	[illegible]
FA4-24	[illegible]	[illegible]
FA4-25	[illegible]	[illegible]
VE4-1	[illegible]	[illegible]
VE4-2	[illegible]	[illegible]
VE4-3	[illegible]	[illegible]
VE4-4	[illegible]	[illegible]
VE4-6	[illegible]	[illegible]
VE4-7	[illegible]	[illegible]
VE4-8	[illegible]	[illegible]
VE4-9	[illegible]	[illegible]
VE4-10	[illegible]	[illegible]
VE4-11	[illegible]	[illegible]
VE4-12	[illegible]	[illegible]
VE4-13	[illegible]	[illegible]
PERIMETER G.W. MONITORING WELLS		
PGW-1	[illegible]	[illegible]
PGW-2	[illegible]	[illegible]

NOTE: FOR LOCATION OF EXISTING WELLS TO BE MODIFIED UNDER THIS CONTRACT (AI1-1/OW8, VE1-1/RW2, FA4-7/OW1, FA4-9/OW3, FA4-11/OW9, FA4-13/OW6, VE4-5/RW1) SEE DRAWING C-1

LEGEND

- PERIMETER GROUND WATER MONITORING WELL
- OW — EXISTING OBSERVATION WELL
- AI — AIR INLET WELL
- AI/OW — EXISTING OBSERVATION WELL TO BE MODIFIED TO AIR INLET WELL
- FA — FORCED AIR INJECTION WELL
- FA/OW — EXISTING OBSERVATION WELL TO BE MODIFIED TO FORCED AIR INJECTION WELL
- VE — SOIL GAS VAPOR EXTRACTION WELL
- VE/RW — EXISTING VENT PILOT WELL TO BE MODIFIED TO SOIL GAS VAPOR EXTRACTION WELL
- ESTIMATED NAPL CONTOUR
- CHAIN LINK FENCE
- EXISTING UNDERGROUND CAST IRON PIPE (STORMWATER SEWER)

NAPL REMOVAL SYSTEM AT OU-II

RAILROAD-HARMON YARD, CROTON, NY

Environmental Resources Management

FGW-2 NAPL DELINEATION

FIGURE A

2/28/02

Table 1
Groundwater Depth Measurements and NAPL Thicknesses Following Temporary Well Installation
PGW-2 Delineation
12 and 13 February 2002
Metro-North Harmon Yard OU-II
Croton-on-Hudson, NY

Well	Depth to NAPL btoc (ft)	Depth to Water btoc (ft)	Depth to Bottom btoc (ft)	NAPL Thickness (ft)
PGW-2	7.60	9.86	14.93	2.26
TW-1	–	7.23	13.60	Not present
TW-2	–	6.02	13.50	Not present
TW-3	–	6.31	13.84	Not present
TW-4	–	7.15	13.73	Not present
TW-5	–	6.98	14.0	Not present
TW-6	7.06	7.98	13.50	0.92
TW-7	--	11.41**	18.8 bgs	Not present
TW-8	–	7.35**	11.87 bgs	Not present
TW-9	–	7.35**	12.36 bgs	Not present
FA4-1	–	15.05	17.64	Not present
FA4-2	–	6.89	10.97	Not present

** = depth to water and depth to bottom measured below ground surface since the well wa
left as a stickup until Fleet returned to the site and installed curb boxes
bgs = below ground surface
btoc = below top of casing
NM = not measured

Note: Well elevations were not surveyed; the casing is generally one to two inches below the ground surface. The wells PGW-2 and all temporary wells except TW-7 are located within a flat area with less than three feet of relief approximately.

F:/data/projects/MNOUII/construction/NAPL measurements 2-28-02.xls

Table 2
Groundwater Depth Measurements and NAPL Thicknesses
PGW-2 Delineation
28 February 2002
Metro-North Harmon Yard OU-II
Croton-on-Hudson, NY

Well	Depth to NAPL btoc (ft)	Depth to Water btoc (ft)	NAPL Thickness (ft)	Notes
PGW-2	7.65	9.80	2.15	
TW-1	--	7.28	Not present	
TW-2	--	6.10	Not present	
TW-3	--	6.44	Not present	
TW-4	--	7.14	see note	unsustainable NAPL indication sound - NAPL not clearly indicated - no odor on probe
TW-5	6.80	9.00	2.20	
TW-6	7.00	8.58	1.58	
TW-7	11.00	11.02	0.02	
TW-8	--	7.22	not measurable	indicator sounded at the presence of NAPL but no thickness could be measured - odor on probe
TW-9	--	7.15	see note	unsustainable NAPL indication sound - NAPL not clearly indicated - no odor on probe
FA4-1	--	15.02	Not present	
FA4-2	--	6.90	Not present	

btoc = below top of casing

Note: Well elevations were not surveyed; the casing is generally one to two inches below the ground surface. All measurements noted are below top of casing. The wells PGW-2 and all temporary wells except TW-7 are located within a flat area with less than three feet of relief approximately.

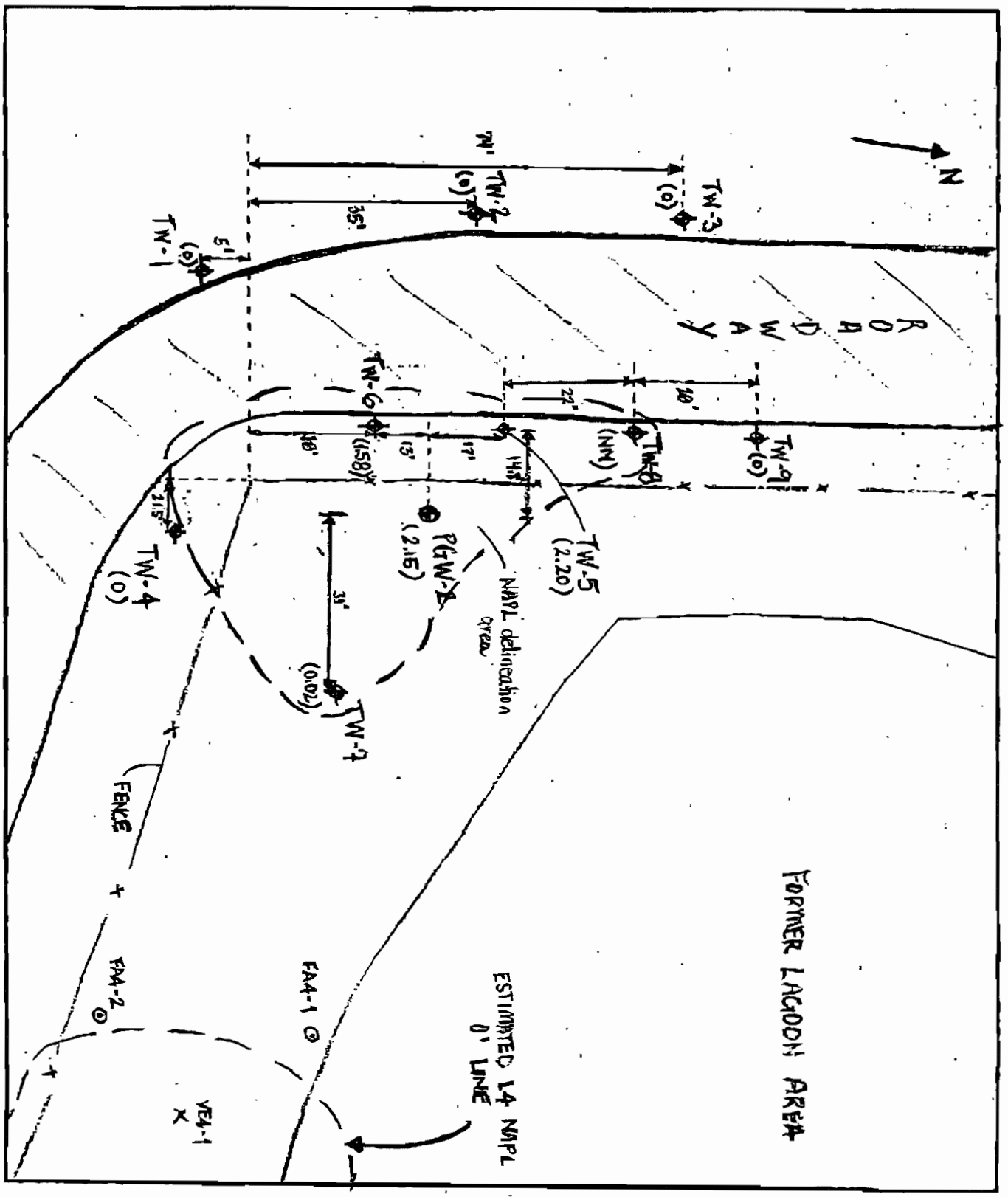
F:/data/projects/MNOUII/construction/NAPL measurements 2-28-02.xls

ERM

Project METRO-NORTH HARTSDALE YARD W.O. No. X7602.06 Sheet B

Subject NAPL DELINEATION SURROUNDING PGW-2 By CLW Date 3/6/02

FEBRUARY 2002 Chkd. by Date



NOT TO SCALE. ALL LOCATIONS ARE APPROXIMATE. DISTANCES SHOWN AS MEASURED IN THE FIELD

◆ temporary well (approximate location)
(0.01) NAPL thickness in feet as measured on 26 February 24
—x— fence

ATTACHMENT A

WELL LOGS

Attachment 2

Geologic Log and Well Construction Details
Well ID: PGW-2

ENVIROTRAC LTD.
55 B Air Park Drive, Ronkonkoma, NY 11779

Client: Metro-North Railroad	Contract No.: 6464	Coupling Interpretation (ft. from measuring pt.)	Site Elevation Datum
Site Name: Harlem Lagoon Area OU-II	Address: Croton-on-Hudson, NY	Date 01/29/02	
Drilling Company: Aquifer Drilling and Testing, Inc.	Method: Soil Sampling: Geoprobe Well Installation: Hollow Stem Augers	DTP 7.11	
Date Started: Soil Sampling: 07/09/01	Date Completed: Well Installation: 07/19/01	DTW 11.05	Measuring Point Elevation
Completion Depth: 15'	ENVIROTRAC Geologist: Tom Seaklant	DTB 14.83	

MONITORING WELL CONSTRUCTION (NTS)	DEPTH (ft below grade)	SAMPLES: Recovery (in.)	SAMPLES: Blow per 6 in.	SAMPLES: OVM (ppm)	SOIL DESCRIPTION (Soil Samples Collected Using Geoprobe 4' Continuous Sampler)
	0				Cover: Natural Vegetation
		42	NA	6	0-4': Medium to fine grained, brown sand; dry, no odor.
	5	41	NA	13	4-8': Medium to fine grained, brown sand; gray staining throughout sample starting at approximately 4.5', wet at approximately 5', slight petroleum-like odor.
	10				
	15				

LEGEND:
- Cement
- Bentonite Seal
- Gravel pack (stone #1)
- Screen
- Bottom Cap

Well Construction Details

Elevation of Well:	15'
Screen Zone:	5'-15'
Casing material:	2" SCH 40
Screen material:	2" 10 slot
SAND Pack:	#1/2
Amount Sand:	3 Bags #1
Bentonite Seal:	1'-4'
Amount Bentonite:	1 Bag
Cement Surface:	Flush Mount Curb Box
Remarks:	Breathing Zone PID – 0 ppm.

Well Development Details

Date: 01/29/02 - Not Developed
Method:
Volume of water removed:
T (°C), Conductivity (us), pH, Turbidity (NTU)
Before:
During:
After:
Comments: Product encountered.

NTS - Not to Scale NA - Not Applicable NM - Not Measured DTP - Depth to Product DTW - Depth to Water DTB - Depth to Bottom

ERM, INC.

WELL: TW-1

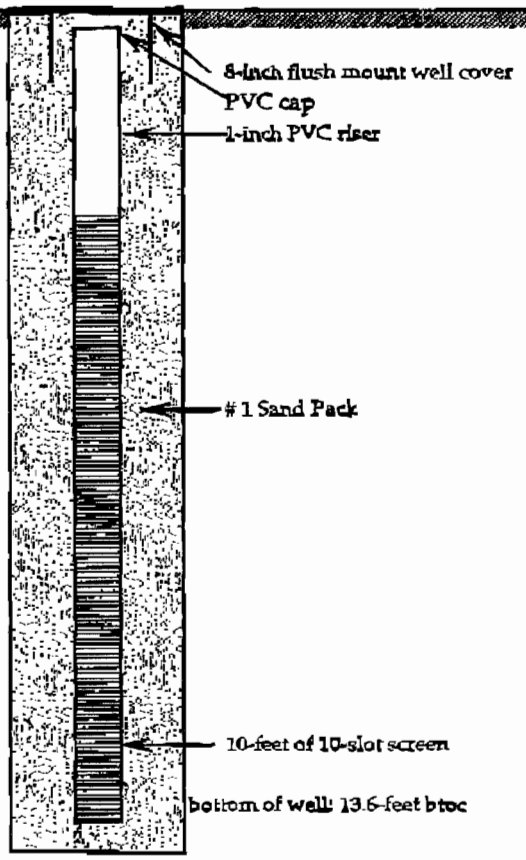
475 Park Avenue South, New York, NY 10016

MONITORING WELL CONSTRUCTION

Project Name & Location	Project No.	Water Level(s) (ft below top of PVC casing)			Method of Installation
Metro North - Harmon Yard	X7602.06				Geoprobe
Drilling Company	Foreman	Date	Time	Level (feet)	Sampler Size
Fleet Environmental	Mike Lemoine				3-foot sleeve
Surveyor		2/12/02	1005	7.23	Top of Protective Steel Cap Elevation
NA					–
Date and Time of Completion	Geologist	2/28/02	1110	7.28	Top of Riser Pipe Elevation
2/12/2002 @ 1000	C. Weber				–

Generalized Soil Description	**Depth
	0.0
Top soil and grass	1.0
	2.0
	3.0
	4.0
	5.0
Grayish-greenish brown CLAY (moist) no odor, no product recovery = 100% PID = 0 ppm	6.0
	7.0
	8.0
	9.0
	10.0
	11.0
	12.0
	13.0
	14.0
	15.0

CONSTRUCTION DETAILS



BOTTOM OF BOREHOLE

REMARKS: DTW recorded from top of PVC casing unless otherwise noted

The sand was poured down around the PVC after the geoprobe casings were removed

only a limited amount of sand was able to be poured into the annular space

** Depth in feet below grade

F:/data3/projects/MNOU1/construction/Temp well logs and 2 delineation.xls –TW-1

ERM, INC.

WELL : TW-2

475 Park Avenue South, New York, NY 10016

MONITORING WELL CONSTRUCTION

Project Name & Location	Project No.	Water Level(s) (ft below top of PVC casing)			Method of Installation
Metro North - Harmon Yard	X7602.06				Geoprobe
Drilling Company	Foreman			Level	Sampler Size
Fleet Environmental	Mike Lemoire	Date	Time	(feet)	3-foot sleeve
Surveyor					Top of Protective Steel Cap Elevation
NA		2/12/02	1105	6.02	--
Date and Time of Completion	Geologist				Top of Riser Pipe Elevation
2/12/2002 – 1035	C. Weber	2/28/02	1115	6.1	--

Generalized Soil Description	**Depth	CONSTRUCTION DETAILS
	0.0	
Top soil and grass	1.0	8-inch flush mount well cover
	2.0	PVC cap
	3.0	1-inch PVC riser
	4.0	
	5.0	
Dark grayish-brown f-m SAND, trace silt (wet)	6.0	
no odor, no product	7.0	# 1 Sand Pack
recovery = 100%	8.0	
PID = 0 ppm	9.0	
	10.0	
	11.0	
	12.0	10-feet of 10-slot screen
	13.0	bottom of well = 13.5-feet bgs
	14.0	
	15.0	

BOTTOM OF BOREHOLE

REMARKS DTW recorded from top of PVC casing unless otherwise noted

The sand was poured down around the PVC after the geoprobe casings were removed

** Depth in feet below grade

F:/data/projects/MNOU1/construction/Temp well logs pgw-2 delineation.xls -TW-2

ERM, INC.

WELL: TW-3

475 Park Avenue South, New York, NY 10016

MONITORING WELL CONSTRUCTION

Project Name & Location	Project No.	Water Level(s) (ft below top of PVC casing)			Method of Installation
Metro North - Harmon Yard	X7602.06				Geoprobe
Drilling Company	Foreman	Date	Time	Level (feet)	Sampler Size
Fleet Environmental	Mike Lemoine				3-foot sleeve
Surveyor		2/12/02	1140	6.31	Top of Protective Steel Cap Elevation
NA					–
Date and Time of Completion	Geologist	2/28/02	1120	6.44	Top of Riser Pipe Elevation
2/12/2002 --1135	C. Weber				–

Generalized Soil Description	**Depth	CONSTRUCTION DETAILS
	0.0	
Top soil and grass	1.0	6-inch flush mount well cover
	2.0	PVC cap
	3.0	1-inch PVC riser
	4.0	
	5.0	
Dark grayish-brown fine SAND, trace silt (wet) no odor, no product recovery = 75% PID = 0ppm	6.0	# 1 Sand Pack
	7.0	
	8.0	
	9.0	
	10.0	
	11.0	
	12.0	10-feet of 10-slot screen
	13.0	bottom of well: 13.84-feet btoc
	14.0	
	15.0	

BOTTOM OF BOREHOLE

REMARKS DTW recorded from top of PVC casing unless otherwise noted

The sand was poured down around the PVC after the geoprobe casings were removed

** Depth in feet below grade

F:/data/projects/MNDUM/construction/Temp well logs pgw-2 delineation.xls – TW-3

ERM, INC.

WELL: TW-4

475 Park Avenue South, New York, NY 10016

MONITORING WELL CONSTRUCTION

Project Name & Location	Project No.	Water Level(s) (ft below top of PVC casing)			Method of Installation
Metro North - Harmon Yard	X7602.06				Geoprobe
Drilling Company	Foreman	Date	Time	Level (feet)	Sampler Size
Fleet Environmental	Mike Lamoine				3-foot sleeve
Surveyor		2/12/02	1105	7.15	Top of Protective Steel Cap Elevation
NA					–
Date and Time of Completion	Geologist	2/28/02	1130	7.14	Top of Riser Pipe Elevation
2/12/2002 – 1220	C. Weber				–

Generalized Soil Description	**Depth	CONSTRUCTION DETAILS
	0.0	
Top soil and grass	1.0	8-inch flush mount well cover
	2.0	PVC cap
	3.0	1-inch PVC riser
	4.0	
	5.0	
Brown f-m SAND, trace silt (moist from 6-7 feet, wet from 7-9 feet) recovery = 100% no odor, no product PID = 0 ppm	6.0	# 1 Sand Pack
	7.0	
	8.0	
	9.0	
	10.0	
	11.0	
	12.0	10-feet of 10-slot screen
	13.0	bottom of well: 13.73-feet btoc
	14.0	
	15.0	

BOTTOM OF BOREHOLE

REMARKS: DTW recorded from top of PVC casing unless otherwise noted

The sand was poured down around the PVC after the geoprobe casings were removed

** Depth in feet below grade

F:/data/projects/MNOU/Construction/Temp well logs pg=2 delineation.xls – TW-4

ERM, INC.

WELL: TW-5

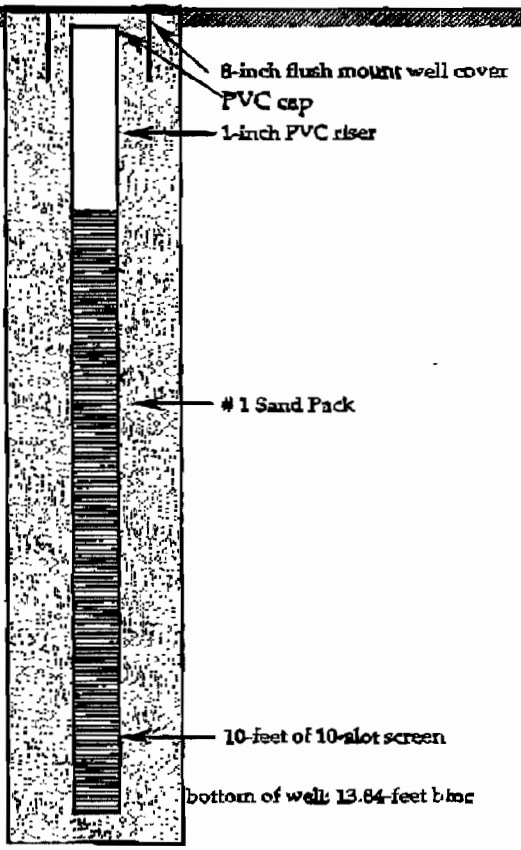
475 Park Avenue South, New York, NY 10016

MONITORING WELL CONSTRUCTION

Project Name & Location	Project No.	Water Level(s) (ft below top of PVC casing)					Method of Installation
Metro North - Harmon Yard	X7602.06						Geoprobe
Drilling Company	Foreman	Date	Time	(ft)	DTW (ft)	NAPL Thickness (ft)	Sampler Size
Fleet Environmental	Mike Lemoine						3-foot sleeve
Surveyor		2/12/02	1330	–	6.96	0	Top of Protective Steel Cap Elevation
NA							–
Date and Time of Completion	Geologist	2/28/02	1145	6.80	9.00	2.20	Top of Riser Pipe Elevation
2/12/2002 – 1320	C. Weber						–

Generalized Soil Description	**Depth
	0.0
Top soil and grass	1.0
	2.0
	3.0
	4.0
	5.0
Gray f-m SAND, trace to some silt (moist from 6-7 feet, wet from 7-9 feet) light brown thin product observed from 7-8 feet with petroleum odor PID = 40 ppm	6.0
	7.0
	8.0
	9.0
	10.0
	11.0
	12.0
	13.0
	14.0
	15.0

CONSTRUCTION DETAILS



BOTTOM OF BOREHOLE

REMARKS: DTW recorded from top of PVC casing unless otherwise noted

The sand was poured down around the PVC after the geoprobe casings were removed

DTW = Depth to NAPL ** Depth in feet below grade NAPL = non-aqueous phase liquid

F:\data\projects\MNO\Illustration\Temp well logs pgw-2 delineation.xls - TW-5

ERM, INC.

WELL: TW-6

475 Park Avenue South, New York, NY 10016

MONITORING WELL CONSTRUCTION

Project Name & Location	Project No.	Water Level(s) (ft below top of PVC casing)					Method of Installation
Metro North - Harmon Yard	X7602.06						Geoprobe
Drilling Company	Foreman	Date	Time	DTW (ft)	DTW (ft)	NAPL Thickness (ft)	Sampler Size
Fleet Environmental	Mike Lemoine						3-foot sleeve
Surveyor		2/13/02	1030	7.06	7.98	0.92	Top of Protective Steel Cap Elevation
NA							–
Date and Time of Completion	Geologist	2/28/02	1140	7.00	8.58	1.58	Top of Riser Pipe Elevation
2/12/2002 -- 1355	C. Weber						–

Generalized Soil Description	**Depth	CONSTRUCTION DETAILS
	0.0	
Top soil and grass	1.0	8-inch flush mount well cover
	2.0	PVC cap; 1-inch PVC riser
	3.0	
	4.0	
	5.0	
Gray f-m SAND, trace silt (moist from 6-7.5 feet, wet from 7.5-9 feet) slight sheen observed inside the plastic sample sleeve; petroleum odor PID = 32 ppm	6.0	#1 Sand Pack
	7.0	
	8.0	
	9.0	
	10.0	
	11.0	
	12.0	10-feet of 10-slot screen
	13.0	bottom of well: 13.5-feet btoc
	14.0	
	15.0	

BOTTOM OF BOREHOLE

REMARKS: DTW recorded from top of PVC casing unless otherwise noted

The sand was poured down around the PVC after the geoprobe casings were removed

** Depth in feet below grade

F:/data/projects/MNGU/construction/Temp well logs pgw-2 delineation.xls - Tw-6

ERM, INC.

WELL: TW-7

475 Park Avenue South, New York, NY 10016

MONITORING WELL CONSTRUCTION

Project Name & Location	Project No.	Water Level(s) (ft below top of PVC casing)					Method of Installation
Metro North - Harmon Yard	X7602.06						Geoprobe
Drilling Company	Foreman	Date	Time	DTN (ft)	DTW (ft)	NAPL Thickness (ft)	Sampler Size
Fleet Environmental	Mike Lemaine						3-foot sleeve
Surveyor		2/13/02	1300	–	11.41**	–	Top of Protective Steel Cap Elevation
NA							–
Date and Time of Completion	Geologist	2/28/02	1225	11.00	11.02	0.02	Top of Riser Pipe Elevation
2/13/2002 – 1010	C. Weber						–

Generalized Soil Description	**Depth	CONSTRUCTION DETAILS
	0.0	
Top soil and grass	1.0	
	2.0	8-inch flush mount well cover
	3.0	PVC cap
	4.0	1-inch PVC riser
	5.0	
	6.0	
	7.0	
	8.0	
	9.0	
Gray f-m SAND, trace silt (moist)	10.0	
slight petroleum odor, PID = 24 ppm	11.0	
recovery = 75%	12.0	#1 Sand Pack
	13.0	
	14.0	
	15.0	
	16.0	
	17.0	
	18.0	15-feet of 10-slot screen
	19.0	
	20.0	bottom of well: 18.8-feet bgs
		BOTTOM OF BOREHOLE

REMARKS: DTW recorded from top of PVC casing unless otherwise noted

The sand was poured down around the PVC after the geoprobe casings were removed

DTN = Depth to NAPL ** Depth in feet below grade NAPL = non-aqueous phase liquid

F:/data/projects/MNOU3/construction/Temp well logs pgw-2 delineation.xls –TW-7

ERM, INC.

WELL: TW-8

475 Park Avenue South, New York, NY 10016

MONITORING WELL CONSTRUCTION

Project Name & Location	Project No.	Water Level(s) (ft below top of PVC casing)					Method of Installation
Metro North - Harmon Yard	X7602.06						Geoprobe
Drilling Company	Foreman	Date	Time	DTN (ft)	DTW (ft)	NAPL Thickness (ft)	Sampler Size
Fleet Environmental	Mike Lemoine						3-foot sleeve
Surveyor		2/13/02	1145	–	7.35**	–	Top of Protective Steel Cap Elevation
NA							–
Date and Time of Completion	Geologist	2/28/02	1135	present	7.22	–	Top of Riser Pipe Elevation
2/13/2002 – 1140	C. Weber						–

Generalized Soil Description	**Depth	CONSTRUCTION DETAILS
	0.0	
Top soil and grass	1.0	6-inch flush mount well cover
	2.0	PVC cap
	3.0	1-inch PVC riser
	4.0	
	5.0	
Gray f-m SAND, trace silt (moist) recovery = 100% slight petroleum odor, no sheen or product PID – 1 ppm	6.0	
	7.0	# 1 Sand Pack
	8.0	
	9.0	
	10.0	10-feet of 10-slot screen
	11.0	bottom of well: 11.87-feet btoc
refusal at 12-feet bgs	12.0	
	13.0	
	14.0	
	15.0	

BOTTOM OF BOREHOLE

REMARKS DTW recorded from top of PVC casing unless otherwise noted

The sand was poured down around the PVC after the geoprobe casings were removed

DTN = Depth to NAPL ** Depth in feet below grade NAPL = non-aqueous phase liquid

F:\data\projects\MNOU\\construction\Temp well logs pgw-2 delineation.xls – TW-8

ERM, INC.

WELL: TW-9

475 Park Avenue South, New York, NY 10016

MONITORING WELL CONSTRUCTION

Project Name & Location	Project No.	Water Level(s) (ft below top of PVC casing)			Method of Installation
Metro North - Harmon Yard	X7602.06				Geoprobe
Drilling Company	Foreman	Date	Time	Level (feet)	Sampler Size
Fleet Environmental	Mike Lemoine				3-foot sleeve
Surveyor		2/13/02	1145	7.35**	Top of Protective Steel Cap Elevation
NA					–
Date and Time of Completion	Geologist	2/28/02	1125	7.22	Top of Riser Pipe Elevation
2/12/2002 -- 1320	C. Weber				–

Generalized Soil Description	**Depth	CONSTRUCTION DETAILS
	0.0	
Top soil and grass	1.0	6-inch flush mount well cover
	2.0	PVC cap
	3.0	1-inch PVC riser
	4.0	
	5.0	
Gray fine SAND, some silt (moist from 6-7 feet, wet from 7-9 feet) no odor, no sheen or product PID = 0 ppm	6.0	
	7.0	# 1 Sand Pack
	8.0	
	9.0	
	10.0	
	11.0	
	12.0	10-feet of 10-slot screen
	13.0	bottom of well: 12.36-feet bgs
	14.0	
	15.0	

BOTTOM OF BOREHOLE

REMARKS

DTW recorded from top of PVC casing unless otherwise noted

The sand was poured down around the PVC after the geoprobe casings were removed

A film of NAPL may have been present on the water surface

** Depth in feet below grade NAPL = non-aqueous phase liquid

F:/data/projects/MNOU1/construction/Temp well logs pgw-2 delineation.xls -Tw-9

ATTACHMENT B

NAPL ANALYSIS

Report Date: 1/31/2002
Client Project ID: MN Harmon
York Project No.: 02010437

Metro North Commuter Railroad
Safety Dept. c/o Yardmaster
Fisher Lane
White Plains, New York 10603
Mr. Ken McHale, Assistant Director

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on 01/23/02. The project was identifed as your project "MN Harmon ".

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables .

All samples were received in proper condition meeting the NELAC acceptance requirements for environmental samples except those indicated under the Notes section of this report.

All the analyses met the method and laboratory standard operating procedure requirements except as indicated under the Notes section of this report, or as indicated by any data flags, the meaning of which is explained in the attachment to this report, if applicable.

The results of the analyses, which are all reported on an as-received basis unless otherwise noted, are summarized in the following table(s).

Analysis Results

Client Sample ID			Well #PGW2	
York Sample ID			02010437-01	
Matrix			OIL	
Parameter	Method	Units	Results	MDL
PCB	SW846/EPA	mg/KG	---	---
PCB 1016			Not detected	1.0
PCB 1221			Not detected	1.0
PCB 1232			Not detected	1.0
PCB 1242			Not detected	1.0
PCB 1248			Not detected	1.0
PCB 1254			Not detected	1.0
PCB 1260			7.0	1.0
PCB, Total			7.0	1.0
Oil Age	---	---	Note*	---
Oil Identification	GC/FID	---	Fuel Oil #2 or Heating Oil	---

*Note: The oil is highly weathered and is estimated to be 10 years or older.

Units Key: For Waters/Liquids: mg/L = ppm ; ug/L = ppb For Soils/Solids: mg/kg = ppm ; ug/kg = ppb

YORK

** TOTAL PAGE.22 **

New York State Department of Environmental Conservation **SPEED MEMO**

Region 3 Phone: 914- Fax: 914-

TO: GERARD BURKE **DATE:** 3/12/01

FROM: PETE DECICCO **REPLY REQUIRED BY:**

SUBJECT: HALFMOON BAY **DATE RETURNED:**

SPILL # 0111227 **REPLY AT BOTTOM OF THIS FORM**

AS PER OUR RECENT DISCUSSION I AM FORWARDING SOME EXCERPTS OF DATA SUBMITTED TO REG. 3 SPILLS TO SUPPORT A RAP. THE RAP IS FOR THE AREA JUST DOWNGRADIENT OF THE AREA OF OU11 ON METRO NO. PROP. AT CROTON/HARMONYARD. THE DATA PERTAINS TO PCB ANALYSIS IN THE PRESENCE OF PETROLEUM CONTAMINATION. NO PCBs ARE DETECTED.

IF YOU HAVE QUESTION OR NEED MORE DATA GIVE ME A CALL

P.D.C.

BUREAU OF CONSTRUCTION SERVICES

SUMMARY OF ANALYTICAL RESULTS
Samples Collected By Carlin-Simpson Associates
March 2001

Sample Location	**A-16**	**A-17**	**MW-A**	**MW-B**
Sample Depth	**13'-14'**	**13'-14'**	**Well**	**Well**
Reason	Product	Product	Product	Product
Sample Date	3/29/2001	3/29/2001	3/29/2001	3/29/2001
Polychlorinated Biphenyls (PCBs, ug/kg)				
Aroclor-1016	ND	ND	ND	ND
1221	ND	ND	ND	ND
1232	ND	ND	ND	ND
1242	ND	ND	ND	ND
1248	ND	ND	ND	ND
1254	ND	ND	ND	ND
1260	ND	ND	ND	ND
1262	ND	ND	ND	ND
1268	ND	ND	ND	ND
Fingerprint Analysis	Degraded Diesel / #2 Fuel Oil			

Notes:
ND - Not detected

SUMMARY OF ANALYTICAL RESULTS
Samples Collected By Carlin-Simpson Associates
February 2001

Sample Location	NYSDEC	A-9	A-10	A-12	A-12	B-1	B-2	B-5	B-6	B-6
Sample Depth	TAGM	10'-10.5'	10'10.5'	14'-15'	9'-11'	10.5'-11'	11.5'-12.5'	10'-10.5'	2'-4'	9'-10'
Reason	Cleanup	Delin.	Delin	Contam.	Fill	Contam.	Delin.	Delin.	Fill	Contam.
Sample Date	Standards	2/22/01	2/22/01	2/23/01	2/26/01	2/23/01	2/26/01	2/26/01	2/26/01	2/26/01
Dilution Factor	(1994)	1.0	1.0	50.0	1.0	1.0	1.0	1.0	1.0	1.0
Volatile Organic Compounds (VO+10, ug/kg)										
Methylene Chloride	100	1.5 J	1.7 J	ND	1.4 J	1.9 J	1.3 J	ND	2.0 J	210
Trichlorofluoromethane	NS	ND	ND	ND	ND	ND	ND	ND	ND	7.6
Tetrachloroethene	1,400	ND	ND	ND	ND	ND	ND	ND	ND	1.2
Toluene	1,500	ND	ND	ND	ND	1.2 J	ND	ND	ND	3.0 J
Ethylbenzene	500	ND	ND	ND	ND	ND	ND	ND	ND	2.0 J
Xylene (Total)	1,200	ND	ND	ND	ND	ND	ND	ND	ND	11
Tentatively Idenitified Compounds	--	0	0	130,800	0	674	0	0	0	6780
Total VO+10 (Confident+Estimated)	10,000	0	0	130,800	0	674	0	0	0	7009.8
Dilution Factor		1.0	1.0	50.0	1.0	10.0	1.0	1.0	2.0	50.0
Semivolatile Organic Compounds (BN+15, ug/kg)										
Naphthalene	13,000	ND	11 J	1100 J	1500	ND	ND	ND	880	ND
Acenaphthylene	41,000	ND	ND	2700 J	72 J	ND	ND	ND	4200	ND
Acenaphthene	50,000	ND	ND	11000 J	39 J	ND	ND	ND	110 J	1300 J
Fluorene	50,000	ND	ND	22000 J	44 J	85 J	ND	ND	190 J	3300 J
Phenanthrene	50,000	8.2 J	55 J	7200 J	1300	ND	ND	ND	1600	ND
Anthracene	50,000	ND	13 J	ND	120 J	ND	ND	ND	3600	ND
Fluoranthene	50,000	15 J	88 J	2900 J	360 J	270 J	ND	ND	4500	2100 J
Pyrene	50,000	12 J	63 J	6400 J	350 J	280 J	ND	ND	5100	2000 J
Benzo(a)anthracene	224	ND	48	ND	160	ND	ND	ND	2500	ND
Chrysene	400	10 J	73 J	ND	360 J	ND	ND	ND	3900	1500 J
Benzo(b)fluoranthene	1,100	18 J	87	ND	310	ND	ND	ND	8200	ND
Benzo(k)fluoranthene	1,100	ND	39 J	ND	98	ND	ND	ND	2800	ND
Benzo(a)pyrene	61	9.7 J	53	ND	130	ND	ND	ND	5100	ND
Indeno(1,2,3-cd)pyrene	3,200	10 J	41 J	ND	89	ND	ND	ND	3800	ND
Dibenz(a,h)anthracene	14	ND	12 J	ND	33 J	ND	ND	ND	1000	ND
Benzo(g,h,i)perylene	50,000	9.7 J	39 J	ND	88 J	ND	ND	ND	3100	ND
Tentatively Idenitified Compounds	--	0	340	1,616,000	24,200	325,900	ND	ND	31,100	1,614,000
Total BN+15 (Confident+Estimated)	500,000	0	528	1,616,000	27,787	325,900	ND	ND	81,380	1,614,000

Area of Concern

TEST PIT FIELD LOG

Galli Engineering, P.C.
734 Walt Whitman Road, Suite 402-A
Melville, NY 11747

Site: Half moon Bay Job No.: _____

Date: 1/12/01 Time: 1:00 Weather: Sunny / 46°F

Location: SW see map. Test Pit Number: 7

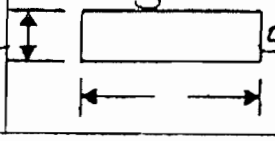
Excavator: _____ Equipment: _____

Galli Inspector: M.C. Other People Present: W.F.

DEPTH	COLOR	LOG	DESCRIPTION OF SOIL	REMARKS
0.00	Surface:			
6.00		▽	G.W. @ 5' 6"	Pure (Cross) Contamination
4.00			PCS from ~~surface~~ to GW.	of area.
3.00			All Soil Contaminated w/ Petro.	
2.00			Strong odors	
5.00			Contamination below G.W.	
1.00			Thick product	
7.00				Adj. to lg. Stock
8.00				pile of material
9.00				known origin ??

NOTES: Soil Sample taken Approx 30' from Surface water. Visual Stain of Snow adj. to surface Water. Contamination
▽ - Denotes Groundwater

TEST PIT PLAN



NORTH ARROW

Spreading to Hudson River
-Visual Inspection-
Floating product on Hudson. Sheen detected on surface water.

Client: Galli	Client ID: Half Moon Bay (T-7)
Date received: 1/15/01	Laboratory ID: 0110230
Date extracted: 1/17/01	Matrix: Soil
Date analyzed: 1/17/01	ELAP #: 11693

EPA METHOD 8270

Parameter	CAS No.	Results ug/kg
3-NITROANILINE	99-09-2	<400
2,4-DINITROPHENOL	51-28-5	<400
DIBENZOFURAN	132-64-9	<400
2,4-DINTROTOLUENE	121-14-2	<400
4-NITROPHENOL	100-02-7	<400
FLUORENE	86-73-7	6,572
4-CHLOROPHENYL PHENYL ETHER	7005-72-3	<400
DIETHYLPHTHALATE	84-66-2	<400
4-NITROANILINE	100-01-6	<400
4,6-DINITRO-2-METHYLPHENOL	534-52-1	<400
N-NITROSODIPHENYLAMINE	86-30-6	<400
4-BROMOPHENYL-PHENYL ETHER	101-55-3	<400
HEXACHLOROBENZENE	118-74-1	<400
PENTACHLORPHENOL	87-86-5	<400
PHENANTHRENE	85-01-8	11,911
ANTHRACENE	120-12-7	718
Di-n-BUTYLPHTHALATE	84-74-2	<400
FLUORANTHENE	206-44-0	1,309
PYRENE	129-00-0	2,682
BUTYLBENZYLPHTHALATE	85-68-7	<400
3,3-DICHLOROBENZIDINE	91-94-1	<400
BENZO-a-ANTHRACENE	56-55-3	<400
CHRYSENE	218-01-9	592
Bis(2-ETHYLEXYL)PHTALATE	117-81-7	<400
DI-n-OCTYLPHTHALATE	117-84-0	<400
BENZO-b-FLUOROANTHENE	205-99-2	<400
BENZO-k- FLUOROANTHENE	207-08-9	<400
BENZO-a-PYRENE	50-32-8	<400
INDENO(1,2,3-c,d)PYRENE	193-39-5	<400
DIBENZO-a,h-ANTHRACENE	53-70-3	<400
BENZO-g,h,i-PERYLENE	191-24-2	<400

Note: MDL's are raised due to matrix interference.

Laboratory Director

LONG ISLAND ANALYTICAL LABORATORIES INC.
"TOMORROWS ANALYTICAL SOLUTIONS TODAY"
101-4 Colin Drive • Holbrook, New York 11741
Phone (631) 472-3400 • Fax (631) 472-8505 • Email: LIAL@lialinc.com

Client: Galli	Client ID: Half Moon Bay (T-7)
Date received: 1/15/01	Laboratory ID: 0110230
Date extracted: 1/17/01	Matrix: Soil
Date analyzed: 1/17/01	ELAP #: 11693

PESTICIDES EPA METHOD 8080

COMPOUND	CAS No.	RESULTS ug/kg
Aldrin	309-00-2	<5
α - BHC	319-84-6	<5
β - BHC	319-85-7	<5
δ - BHC	319-86-8	<5
γ - BHC (Lindane)	58-89-9	<5
Chlordane	12789-03-6	<5
4,4'- DDD	72-54-8	<5
4,4'-DDE	72-55-9	<5
4,4'-DDT	50-29-3	<5
Dieldrin	60-57-1	<5
Endosulfan I	959-98-8	<5
Endosulfan II	33212-65-9	<5
Endosulfan sulfate	1031-07-8	<5
Endrin	72-20-8	<5
Endrin aldehyde	7421-93-4	<5
Heptachlor	76-44-8	<5
Heptachlor epoxide	1024-57-3	<5
4,4'-Methoxychlor	72-43-5	<5
Toxaphene	8001-35-2	<500
Endrin ketone	53494-70-5	<5
Arochlor 1016	12674-11-2	<200
Arochlor 1221	1104-28-2	<200
Arochlor 1232	11141-16-5	<200
Arochlor 1242	53469-21-9	<200
Arochlor 1248	12672-29-6	<200
Arochlor 1254	11097-69-1	<200
Arochlor 1260	11096-82-5	<200

Laboratory Director

LONG ISLAND ANALYTICAL LABORATORIES INC.
"TOMORROWS ANALYTICAL SOLUTIONS TODAY"
101-4 Colin Drive • Holbrook, New York 11741
Phone (631) 472-3400 • Fax (631) 472-8505 • Email: LIAL@lialinc.com

SEVERN TRENT SERVICES

STL Edison
777 New Durham Road
Edison, NJ 08817

Tel: 732-549-3900
Fax: 732-549-3679
www.stl-inc.com

April 10, 2001

Carlin, Simpson and Associates
875 Route 9
South Amboy, NJ 08879-1480

Attention: Ms. Meredith Roessner

Re: J428 - 97-104 Half Moon Bay

Dear Ms. Roessner:

Enclosed are the results you requested for the following sample(s) received at our laboratory on March 29, 2001:

Lab No.	Client ID	Analysis Required
265845	A-16_13-14	GC Fingerprint PCBs
265846	A-17_13-14	GC Fingerprint PCBs
265847	MW-A_Product	GC Fingerprint PCBs
265848	MW-B_Product	GC Fingerprint PCBs

An invoice for our services is also enclosed. If you have any questions please contact your Project Manager, Randy Wolfe, at (732) 549-3900.

Very truly yours,

Michael J. Urban
Laboratory Manager

SEVERN TRENT SERVICES

TABLE OF CONTENTS

SEVERN TRENT SERVICES

Client ID: A-16_13-14
Site: 97-104 HalfMoon Bay

Lab Sample ID: 265845
Lab Job No: J428

Date Sampled: 03/29/01
Date Received: 03/29/01
Date Extracted: 03/30/01
Date Analyzed: 04/03/01
GC Front Column: DB-5
GC Rear Column: DB-608
Instrument ID: PESTGC5.i
Front File ID: pf030006.d
Rear File ID: pr030006.d

Matrix: OIL
Level: HIGH
Sample Weight: 1 g
Extract Final Volume: 10.0 ml
Dilution Factor: 1.0

ORGANOCHLORINE PCBs - GC/ECD
METHOD 8082

Parameter	Analytical Results Units: ug/kg	Quantitation Limit Units: ug/kg	Column
Aroclor-1016	ND	1000	R
Aroclor-1221	ND	1000	R
Aroclor-1232	ND	1000	R
Aroclor-1242	ND	1000	R
Aroclor-1248	ND	1000	R
Aroclor-1254	ND	1000	R
Aroclor-1260	ND	1000	R
Aroclor-1262	ND	1000	R
Aroclor-1268	ND	1000	R

Client ID: A-17_13-14
Site: 97-104 HalfMoon Bay

Lab Sample ID: 265846
Lab Job No: J428

Date Sampled: 03/29/01
Date Received: 03/29/01
Date Extracted: 03/30/01
Date Analyzed: 04/03/01
GC Front Column: DB-5
GC Rear Column: DB-608
Instrument ID: PESTGC5.i
Front File ID: pf030002.d
Rear File ID: pr030002.d

Matrix: OIL
Level: HIGH
Sample Weight: 1 g
Extract Final Volume: 10.0 ml
Dilution Factor: 1.0

ORGANOCHLORINE PCBs - GC/ECD
METHOD 8082

Parameter	Analytical Results Units: ug/kg	Quantitation Limit Units: ug/kg	Column
Aroclor-1016	ND	1000	R
Aroclor-1221	ND	1000	R
Aroclor-1232	ND	1000	R
Aroclor-1242	ND	1000	R
Aroclor-1248	ND	1000	R
Aroclor-1254	ND	1000	R
Aroclor-1260	ND	1000	R
Aroclor-1262	ND	1000	R
Aroclor-1268	ND	1000	R

SEVERN TRENT SERVICES

Site: 104 HalfMoon Bay

Lab Job No: J428

Date Sampled: 03/29/01
Date Received: 03/29/01
Matrix: Solid

Date Extracted: 04/02/01
Date Analyzed: 04/02/01

GC/FID FINGERPRINT

Envirotech Sample #	Client ID	Product I.D.
265845	A-16_13-14	Most closely resembles a degraded Diesel/#2 Fuel oil.
265846	A-17_13-14	Most closely resembles a degraded Diesel/#2 Fuel oil.

SEVERN TRENT SERVICES

Client ID: MW-A Product
Site: 97-104 HalfMoon Bay

Lab Sample ID: 265847
Lab Job No: J428

Date Sampled: 03/29/01
Date Received: 03/29/01
Date Extracted: 03/30/01
Date Analyzed: 04/03/01
GC Front Column: DB-5
GC Rear Column: DB-608
Instrument ID: PESTGC5.i
Front File ID: pf030003.d
Rear File ID: pr030003.d

Matrix: OIL
Level: HIGH
Sample Weight: 1 g
Extract Final Volume: 10.0 ml
Dilution Factor: 1.0

ORGANOCHLORINE PCBs - GC/ECD
METHOD 8082

Parameter	Analytical Results Units: ug/kg	Quantitation Limit Units: ug/kg	Column
Aroclor-1016	ND	1000	R
Aroclor-1221	ND	1000	R
Aroclor-1232	ND	1000	R
Aroclor-1242	ND	1000	R
Aroclor-1248	ND	1000	R
Aroclor-1254	ND	1000	R
Aroclor-1260	ND	1000	R
Aroclor-1262	ND	1000	R
Aroclor-1268	ND	1000	R

SEVERN TRENT SERVICES

↑ Metro-North Designation
This well as MW-C

Client ID: MW-B_Product
Site: 97-104 HalfMoon Bay

Lab Sample ID: 265848
Lab Job No: J428

Date Sampled: 03/29/01
Date Received: 03/29/01
Date Extracted: 03/30/01
Date Analyzed: 04/03/01
GC Front Column: DB-5
GC Rear Column: DB-608
Instrument ID: PESTGC5.i
Front File ID: pf030004.d
Rear File ID: pr030004.d

Matrix: OIL
Level: HIGH
Sample Weight: 1 g
Extract Final Volume: 10.0 ml
Dilution Factor: 1.0

ORGANOCHLORINE PCBs - GC/ECD
METHOD 8082

Parameter	Analytical Results Units: ug/kg	Quantitation Limit Units: ug/kg	Column
Aroclor-1016	ND	1000	R
Aroclor-1221	ND	1000	R
Aroclor-1232	ND	1000	R
Aroclor-1242	ND	1000	R
Aroclor-1248	ND	1000	R
Aroclor-1254	ND	1000	R
Aroclor-1260	ND	1000	R
Aroclor-1262	ND	1000	R
Aroclor-1268	ND	1000	R

STL Edison is a part of Severn Trent Laboratories, Inc.

SEVERN TRENT SERVICES

Site: 104 HalfMoon Bay

Lab Job No: J428

Date Sampled: 03/29/01
Date Received: 03/29/01
Matrix: Organic

Date Extracted: 04/02/01
Date Analyzed: 04/02/01

GC/FID FINGERPRINT

Envirotech Sample #	Client ID	Product I.D.
265847	MW-A_Product	Most closely resembles a degraded Diesel/#2 Fuel oil.
265848	MS-B_Product (Metro-North MW-C)	Most closely resembles a degraded Diesel/#2 Fuel oil.

STL EDISON
777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

PAGE 1 OF 1

Name (for report and invoice): Meredith Roessler	Samplers Name (Printed): M. Roessler	Site/Project Identification: 97-104, Half Moon Bay
Company: Carlin-Simpson & Assoc.	P.O. #: 97-104E	State (Location of site): NJ: ☐ NY: ☒ Other:
Address: 915 Route 9	Analysis Turnaround Time: Standard ☐	Regulatory Program: —
City: South Amboy State: NJ	Rush Charges Authorized For: 2 Week ☐ 1 Week ☒ Other ☐	
Phone: 732-721-0550 Fax: 721-0117		

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

LAB USE ONLY
Project No:
Job No: J428

Sample Identification	Date	Time	Matrix	No. of Cont.	PCBs (1)	Fingerprint	Sample Numbers
A-16 (13'-14')	3/27/01	1345	S	1	X	X	265845
A-17 (13'-14')	3/27/01	1430	S	1	X	X	265846
MW-A (Product)	3/29/01	1300	W	1	X	X	265847
MW-B (Product)	3/29/01	1340	W	1	X	X	265848

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH, 6 = Other _____, 7 = Other _____

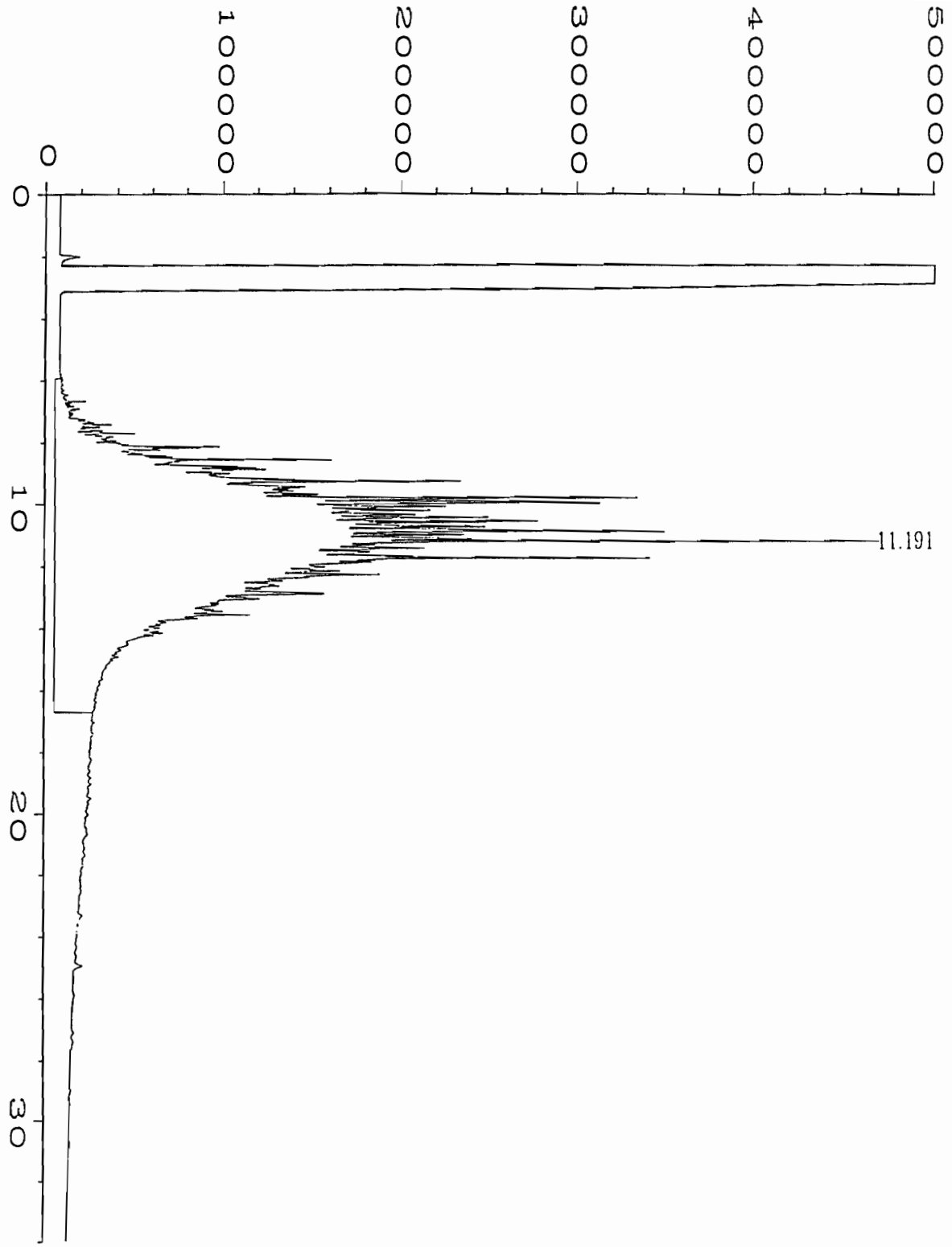
Soil:	1	1
Water:	1	1

Special Instructions: Results only, 1wk TAT requested. (1) Please use lowest possible detection limit for PCB analysis. Water Metals Filtered (Yes/No)? —

Relinquished by	Company	Date / Time	Received by	Company
1) M. Roessler	CSA	3/29/01 5:40 pm	1) [signature]	STL Edison Howard Schulze
Relinquished by 2)	Company	Date / Time	Received by 2) [signature]	Company STL
Relinquished by 3)	Company	Date / Time	Received by 3)	Company
Relinquished by 4)	Company	Date / Time	Received by 4)	Company

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

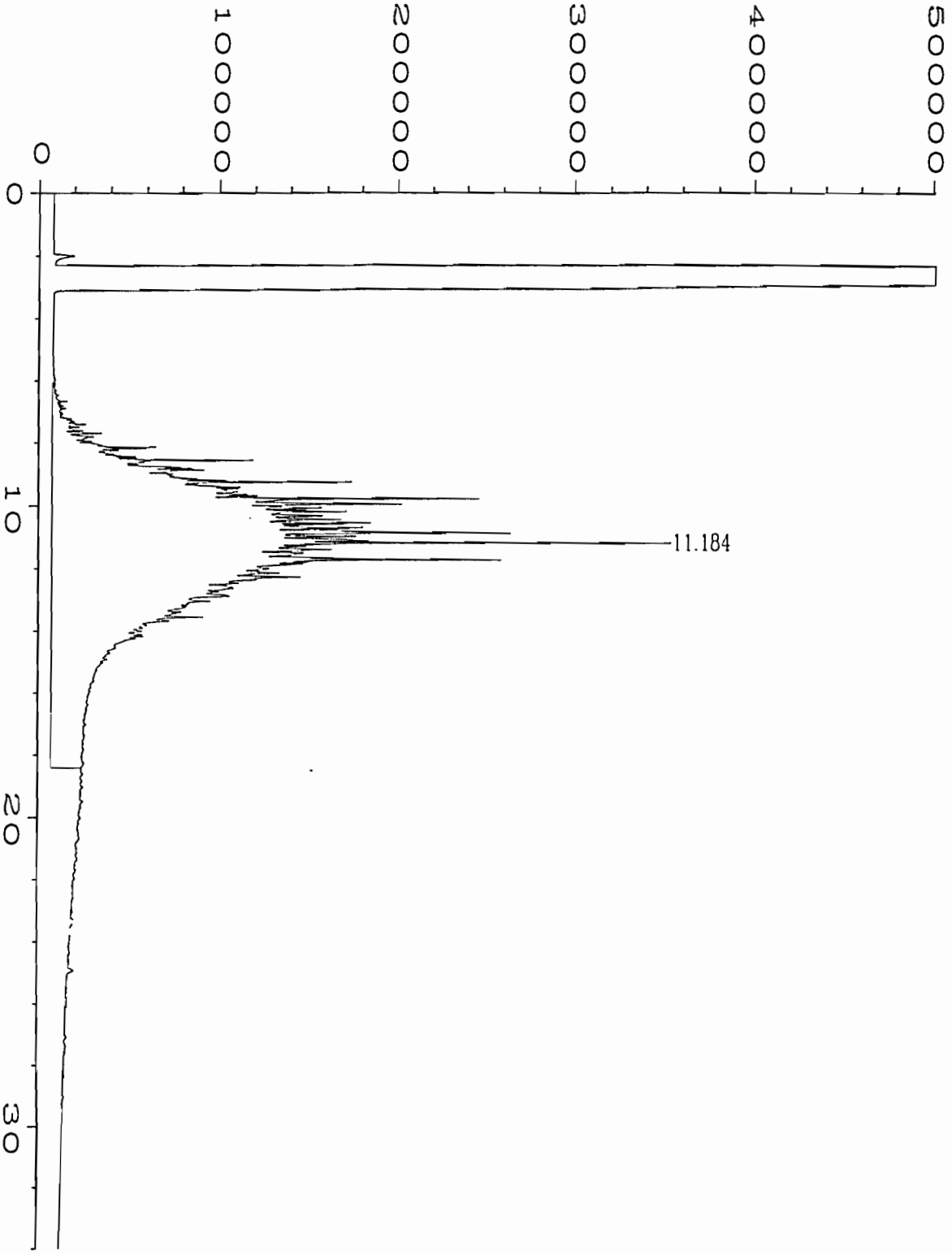
Lowest possible detection limits



J408. 265845. Carlin, Simpson. A-16 13-14
10X. 80→10°/
user modified

Data File Name : C:\HPCHEM\1\DATA\040201\GC2R6632.D
Operator : BNAGC2
Instrument : BNAGC2
Sample Name : 265845 10ML 10X
Run Time Bar Code:
Acquired on : 02 Apr 01 09:02 PM
Report Created on: 03 Apr 01 10:26 AM

Page Number : 1
Vial Number : 60
Injection Number : 1
Sequence Line : 1
Instrument Method: SCREEN2.MTH
Analysis Method : SCREEN2.MTH

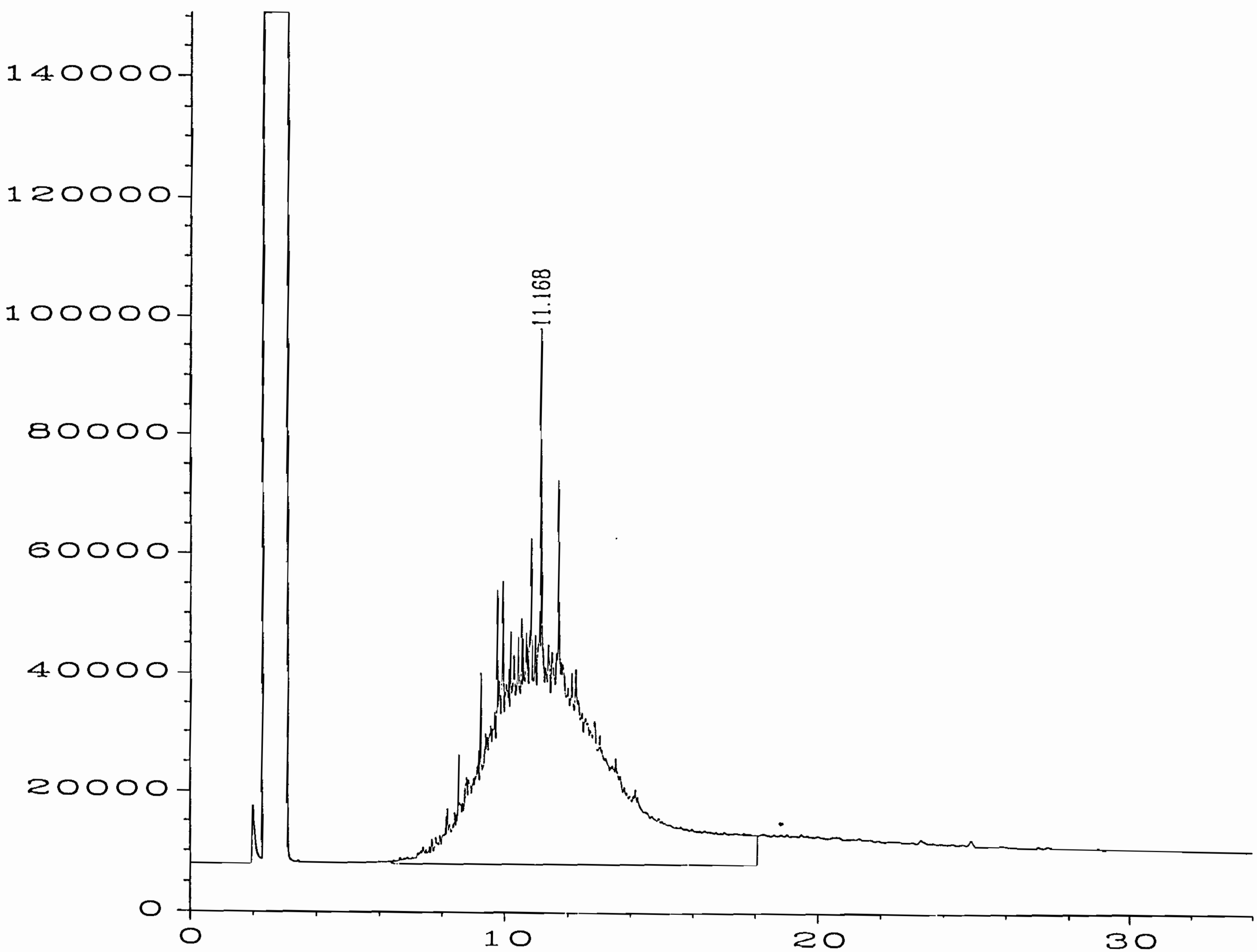


JH28. 265846. Carlin Simpson. A-1 / 13-14
10x. 30s → 10s
user modified

Data File Name : C:\HPCHEM\1\DATA\040201\GC2R6633.D
Operator : BNAGC2
Instrument : BNAGC2
Sample Name : 265846 10ML 10X
Run Time Bar Code:
Acquired on : 02 Apr 01 09:44 PM
Report Created on: 03 Apr 01 09:59 AM

Page Number : 1
Vial Number : 61
Injection Number : 1
Sequence Line : 1
Instrument Method: SCREEN2.MTH
Analysis Method : SCREEN2.MTH

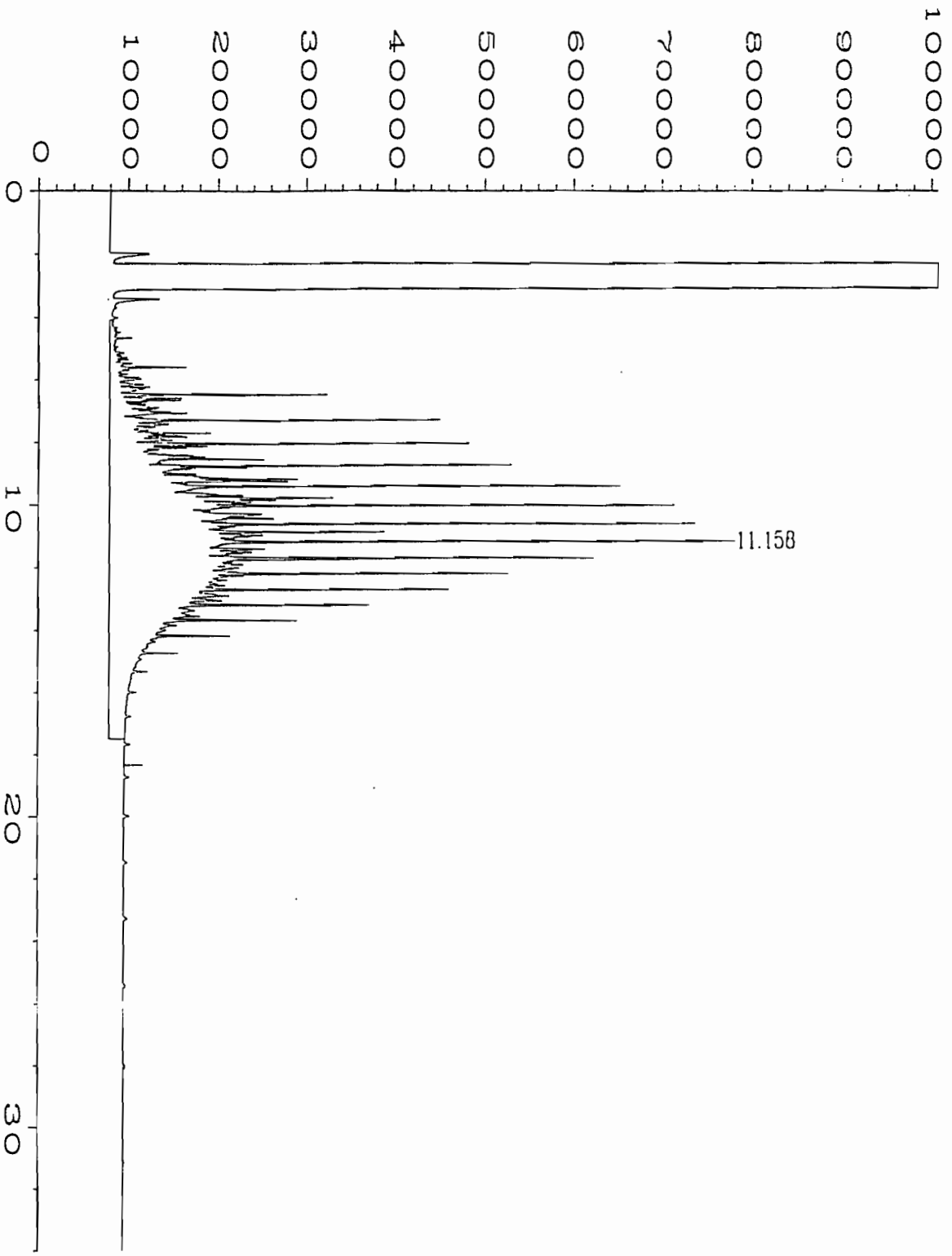
J428 · 265847 · Carlin, Simpson · MW-H Product
10X · 1g->10ml
user modified



Data File Name : C:\HPCHEM\1\DATA\040201\GC2R6628.D
Operator : BNAGC2
Instrument : BNAGC2
Sample Name : 265847 10X
Run Time Bar Code:
Acquired on : 02 Apr 01 06:13 PM
Report Created on: 03 Apr 01 09:57 AM
Page Number : 1
Vial Number : 56
Injection Number : 1
Sequence Line : 1
Instrument Method: SCREEN2.MTH
Analysis Method : SCREEN2.MTH

J408 · 265848 · Carlin, Simpson · MW-B Product
10X · 1g→10ml
user modified
(MW-C on site plans)

Data File Name : C:\HPCHEM\1\DATA\040201\GC2R6629.D
Operator : BNAGC2 Page Number : 1
Instrument : BNAGC2 Vial Number : 57
Sample Name : 265848 10X Injection Number : 1
Run Time Bar Code: Sequence Line : 1
Acquired on : 02 Apr 01 06:56 PM Instrument Method: SCREEN2.MTH
Report Created on: 03 Apr 01 09:57 AM Analysis Method : SCREEN2.MTH



DIESEL
user modified

Data File Name : C:\HPCHEM\1\DATA\040201\GC2R6624.D
Operator : BNAGC2
Instrument : BNAGC2
Sample Name : DIESEL
Run Time Bar Code:
Acquired on : 02 Apr 01 03:25 PM
Report Created on: 03 Apr 01 09:56 AM

Page Number : 1
Vial Number : 52
Injection Number : 1
Sequence Line : 1
Instrument Method: SCREEN2.MTH
Analysis Method : SCREEN2.MTH