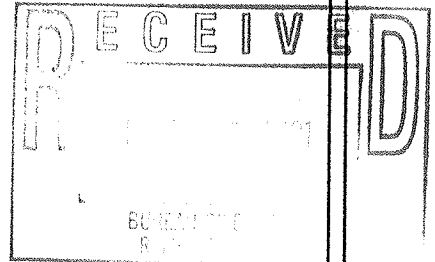


WORKPLAN
FOR
FOCUSED REMEDIAL INVESTIGATION/ FEASIBILITY STUDY
At
FORMER PENTREX PROCESSING INC.
GLENWOOD LANDING, NEW YORK

Site No. 1-30-034

Revised 3/21/2001



Submitted to: Sive, Paget & Riesel. P.C.
460 Park Avenue
New York, NY 10022

Submitted For: New York State Department of
Environmental Conservation
50 Wolf Road
Albany, NY 12233



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FIGURE 3	Hospital Route Map
FIGURE 4	Schedule

ADDENDUM

NO.1	Correspondence Related to Groundwater Investigation
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1.0 INTRODUCTION AND OBJECTIVES

This remedial investigation/feasibility study (RI/FS) work plan has been prepared by P.W. Grosser Consulting Engineer and Hydrogeologist, P.C. (PWGC) to describe and document the work that will be performed at the former Penetrex Processing Inc. facility (the Site). The site is currently listed on the New York State Department of Environmental Conservation (NYSDEC) Registry as a Class II Inactive Hazardous Waste Disposal Site. Given the potential for impacted soils to still exist in on-site leaching structures and the previous remediation documented at the site, PWGC has developed this work plan to obtain additional information to successfully, define and complete an IRM at the Site. Quality assurance and health and safety issues have been incorporated into this single document.

The objectives of this phase of the investigation is to determine if residually impacted soils exist within on-site leaching structures. If impacted soils exist, the vertical extent of impact will be delineated so that the soils can be characterized and, if warranted, removed as part an IRM. In addition, the four existing on-site monitoring wells will be sampled to determine the current groundwater quality beneath the Site. The objective of the IRM is to eliminate impacted soils that may be acting as a continuing source of groundwater contamination as determined through the monitoring well sampling.

2.0 BACKGROUND

2.1 Site Description

The subject site is comprised of a reported one acre parcel developed with a two-story brick industrial building, asphalt parking, communications tower and other ancillary improvements located at One Shore Road (a.k.a. Glen Cove Roslyn Shore Road), Hamlet of Glenwood Landing, Town of North Hempstead, Nassau County, New York. The property is identified in Nassau County Tax maps as Section 20 - Block K - Lots 10 through 12.

The property is bound at its western boundary by Glen Cove Roslyn Shore Road and at



its eastern boundary by West Street (see Figure 1). The site is generally located north of Scudders Lane and is situated near and adjoining several major oil storage facilities, coastal terminals and municipal power stations near Hempstead Harbor. Including Glenwood Oil Terminal Corp. located northwest, diagonally across the property.

2.2 Site History

A former dry cleaning business known as Penetrex Processing (Penetrex) is reported to have operated at the site for several years prior to abandoning the facility in 1984. During the time of its operating at the site, Penetrex is reported to have discharged dry cleaning chemicals to an on-site sanitary system and/or drywells at the property. A former tenant at the building is also known to have included a manufacturer of adhesive nameplates known as the Nameplate Corporation.

In 1984 the Nassau County Department of Health (NCDH) sampled an on-site drywell at the former dry cleaning facility believed to be either DW-2 or DW-3 and determined that constituents of dry-cleaning compounds (e.g. Trichloroethylene and Tetrachloroethene - a.k.a. Perchloroethylene (PCE)) were present at soils contained in the base of the structure. The impacted drywell was subsequently remediated in 1985 under a summary abatement order with then property owner K&W Associates.

Additional Phase II testing and site characterization, which included the installation of six (6) soil borings and four (4) monitoring wells and subsequent soil and groundwater sampling and air monitoring, was performed at the property in 1989 and 1990 by Blasland and Bouck Engineers under purview of the New York State Department of Conservation (NYSDEC) as part of a PRP Study (potentially responsible party).

In 1993, Lawler, Matusky and Skelly Engineers (LMS) installed two additional monitoring wells at the site (at the direction of the NYSDEC) and performed additional groundwater sampling at the facility in an effort to confirm the direction of groundwater flow underlying the property and the extent of on-site groundwater contamination. LMS had concluded



in their 1993 NYSDEC Inactive Hazardous Waste Site (IHWS) report for the Penetrex Processing site that "an ongoing discharge or continued release from residual waste in the soils . . . from several contaminant source locations on the site . . . appear to remain as a continuing source of groundwater contamination."

To date, the former Penetrex site is listed as a NYSDEC IHWS facility identified as I.D. No.130034. Portions of the two-story building at the property are currently occupied by an autobody shop and woodworking shop.

3.0 HYDROGEOLOGIC SETTING

The hydrogeologic setting of Long Island is well documented and consists of bedrock composed of schist and gneiss, that is overlain by a series of unconsolidated deposits.

The surface of the bedrock beneath the Site occurs at an approximate depth of 475 feet below land surface (Kilburn & Krulik, 1980). Due to its crystalline nature, there is little or no groundwater flow in the bedrock.

Immediately overlying the bedrock is the Raritan formation, consisting of the Lloyd Aquifer confined by the Raritan Clay Member. The depth to the top of the Lloyd Aquifer at the Site is approximately 350 feet below land surface (Kilburn & Krulik, 1980). The Raritan Clay occurs at approximately 300 feet below land surface. Therefore, the corresponding thicknesses of these units are 125 feet and 50 feet, respectively. The Raritan Clay, overlying the Lloyd is an extremely effective confining unit and hydraulically isolates the Lloyd Aquifer from overlying aquifers.

Typically, above the Raritan Clay lies the Magothy Aquifer. However, based on Kilburn & Krulik, 1980, it appears that the Magothy has been removed in the vicinity of the Site through glacial scouring. Replacing the Magothy is the Port Washington Aquifer and Port Washington Confining Unit. The depth to the Port Washington Aquifer is approximately



150 feet below land surface and is about 150 feet thick. The Port Washington Confining Unit, which confines the groundwater in underlying aquifers, occurs at 100 feet below land surface and is approximately 50 feet thick beneath the Site.

The Upper Glacial Aquifer overlies the Port Washington Confining Unit. The Upper Glacial Aquifer is the water table aquifer and exists from land surface to a depth of approximately 100 feet, in the vicinity of the Site. The groundwater quality results in relation to the Site represent shallow groundwater conditions in this aquifer.

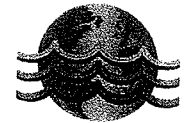
3.1 Groundwater Flow and Elevation

As ascertained from examination of a Nassau County Water Table Elevation map, NCDPW, 1998, the regional direction of groundwater flow in the Upper Glacial Aquifer in the vicinity of the Penetrex site is westerly towards Hempstead Harbor. Groundwater contour mapping performed by LMS Engineers in 1992/1993 indicates that groundwater flow underlying the site is in a west/ northwesterly direction.

Comparison of topographic and water table mapping indicates depth to groundwater at the Penetrex site ranges from an estimated 5± feet below grade surface (bgs) at the property's western boundary near Glen Cove Roslyn Shore Road to 15± feet bgs at the property's eastern boundary near West Street. Groundwater elevations performed by LMS Engineers confirmed groundwater elevations at the site ranged from 7.5 feet bgs near the western portion of the property to nearly 11 feet bgs at an easterly portion of the site. It is also notable in LMS reporting that groundwater elevation at the western portion of the site is tidally influenced by one (1) foot.

4.0 BUILDING DEPARTMENT FILE REVIEW and SITE RECONNAISSANCE

Prior to initiating field work, a review of the building department records for the Site will be conducted. The objective of the file review is to determine if there are additional overflow pools, floor drains, or other leaching structures which may have received improper



discharges that have not been previously identified. Following review of the building department records, a site reconnaissance will be performed to field verify the condition of the existing structures and to locate structures that are identified through the file review.

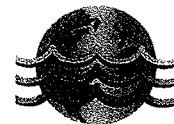
5.0 SOIL BORINGS and SAMPLE ANALYSIS

A total of five vertical profile soil boring will be advanced within the identified leaching structures located south of the building (see Figure 2). These structures have been identified as DW-1 through DW-5. It has been documented in previous reports that at least one of these structures received discharges of chlorinated solvents from the former activities of Penetrex Processing and was cleaned out under a summary abatement order in 1985. It is believed that the structure that has been referred to corresponds with either DW-2 or DW-3.

The purpose of the soil borings are to identify the distribution and concentration of residual contamination (if any) in the leaching structures identified above. Soil quality within these structures both above and extending approximately five feet below the water table will be characterized so that the removal of impacted soils can potentially be conducted as an IRM. Soil samples will be collected continuously from the top of sediment within the leaching structures to approximately five feet below the existing water table using push-probe sampling equipment such as a Geoprobe or it's equivalent.

The Geoprobe system utilizes a hydraulically powered percussion hammer mounted on a light truck or ATV to drive a hollow stainless steel sampler to a predetermined depth. At the predetermined depth, the sampler is opened to allow an undisturbed soil sample to enter as the rods are driven down. The sampler extracts a 2-foot long by 1½-inch diameter soil-core and is lined with an acetate liner to preserve sample integrity and prevent cross contamination.

Collected samples will be screened for total volatile organic compounds (VOC's) with a photoionization detector (PID), logged for lithology and physical evidence of contamination,



and stored in labeled re-sealable plastic bags by an on-site PWGC geologist. At a minimum, soil samples will be retained for laboratory analysis at five foot intervals in order to provide a complete vertical profile of soil quality. If possible, two samples retained for laboratory analysis will correspond to the one considered to represent the greatest concentration of contamination (based on PID readings and physical observation) and the one believed to be clean, thereby bracketing the vertical extent of impact. The samples will be submitted to an ELAP-certified laboratory for analysis of VOCs -Target Compound List (TCL) according to EPA method 8260. The first sample determined to be clean will be used as an endpoint sample and the target depth of remediation, if appropriate. In addition, at the worst case boring location as determined through PID response and visual observation, total 8 RCRA metals will be analyzed from both samples submitted to the laboratory to confirm that metals are not a concern at the Site. Non-disposable equipment will be decontaminated prior to use in accordance with procedures outlined in Section 6.0

5.1 Soil Sampling QA/QC

One field blank and one trip blank will be collected during the soil boring program. The field blank will be prepared with laboratory-supplied distilled or deionized water. The field blank will be collected by pouring the laboratory-supplied water over an acetate liner and decontaminated sampling rod and collecting the rinsate into laboratory-prepared bottles. The field blank will be analyzed for TCL VOC's to document that the decontamination procedures followed are effective. One laboratory prepared trip blank will accompany the glassware and will also be analyzed for TCL VOCs. Samples will be properly identified, packed on ice in coolers, logged and delivered under full chain-of-custody procedures. In addition, PWGC will review the Laboratory QC Summary Package for the sample batch in which the project samples are included so that an appropriate data usability summary can be prepared.



6.0 GROUNDWATER SAMPLING and ANALYSIS

A complete rounds of groundwater samples will be collected from the four monitoring wells (PX-MW-1 through PX-MW-4) existing on site. Groundwater samples will be collected by a representative of PWGC who will be responsible for the implementation of sampling programs and the maintenance of related chain-of-custody, quality control and documentation.

Prior to sampling the wells, a round of water level measurements will be collected so that the volume required to be purged in each well may be calculated. Three to five casing well volumes will be removed from each well prior to the collection of groundwater samples. The wells will be purged by use of a submersible pump at a flow rate not to exceed five gallons per minute (GPMs). Non-disposable equipment will be decontaminated prior to use in accordance with procedures outlined in Section 7.0

Field readings will be collected from the purge water for pH, temperature and conductivity to ensure that water from the formation is flowing into the well. The purge water will be drummed, and properly disposed based on the groundwater sample results. The groundwater sample will be collected with a dedicated, disposable high-density polyethylene bailer suspended by a polypropylene cord. The samples will be poured directly from the bailer into laboratory-supplied bottles, and will be stored on ice in a cooler. The coolers will be delivered to ELAP-certified for analysis of TCL- VOCs according to EPA method 8260.

6.1 Groundwater Sampling QA/QC

One field blank and one trip blank will also be collected during the round of groundwater sampling. The field blank will be prepared with laboratory-supplied distilled or deionized water. The water will be poured into a new bailer and transferred into laboratory-prepared bottles and analyzed for TCL VOC's. One laboratory prepared trip blank will accompany the glassware and will also be analyzed for TCL VOCs. Samples will be properly



identified, packed on ice in coolers, logged and delivered under full chain-of-custody procedures. Again, PWGC will review the Laboratory QC Summary Package for the sample batch in which the project samples are included so that an appropriate data usability summary can be prepared.

7.0 DECONTAMINATION METHODOLOGIES

To prevent cross-contamination between soil sampling intervals and soil boring locations, a new acetate liner will be used between intervals and the sampler will be decontaminated according to the following procedure:

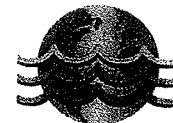
- Wash with a non-phosphate detergent solution
- Rinse with distilled water
- Air dry

The submersible pump used during groundwater sampling will be decontaminated by running a non-phosphate detergent solution through the pump, followed by a tap water rinse. The outside of the pump will be scrubbed with a non-phosphate detergent solution, followed by deionized or distilled water rinse.

8.0 HEALTH and SAFETY

Based on the previous investigative and remedial phases performed, PWGC believes that the conditions of the Site have been fairly well documented. The focus of the investigation is to document the degree and distribution of residually impacted soils within on-site leaching structures and the current impact to groundwater from existing or former contaminated soils removed from the Site. Therefore, exposure concerns from potential constituents in soil and groundwater are briefly addressed in this section.

The primary concern in soil and groundwater is VOCs. Tetrachloroethylene (PCE), trichloroethylene (TCE), 1,2-Dichloroethylene (DCE), and 1,1-Dichloroethane (DCA) are the most likely VOCs to be detected in the soil and groundwater at the Site. Chemical



characteristics and health and safety information about these compounds are kept on file in the PWGC's offices and will be reviewed prior to initiating field activities at the Site.

To minimize the potential exposure to these compounds, engineering controls, site monitoring, protective clothing and good work practices will be used during this project. Protective equipment will be selected based on the type(s), concentration(s), and routes of exposure of the substances at the Site.

8.1 Engineering Controls

Good field practices include the use of engineering controls to reduce environmental concentrations to the permissible exposure levels. For this project, these controls may include good ventilation and restricting the possibility of confined situations.

8.2 Site Monitoring

The compounds of concern at the former Penetrex site are VOC's. Personnel may be exposed to VOCs in the breathing space during field investigative activities. The volatiles may be in the form of mists, vapors, dusts or fumes, that may enter the body through ingestion, inhalation, absorption and direct contact. Air monitoring and good site work practices will be used during the field activities to ensure that appropriate personal protection is used and to minimized potential exposure.

Total organic vapor concentrations will be monitored routinely in the breathing space with a Photoionization Detector. Total organic vapor concentrations will be used as an action level criteria for determining protective equipment and implementation of additional precautions and procedures.

Site monitoring will be conducted by the PWGC representative. Readings obtained will be recorded in a dedicated site notebook. PWGC will maintain the PID and other potential monitoring instruments throughout the investigation to ensure their reliability and proper operation.



8.3 Action Levels

Based upon the exposure limits of the compounds of concern, the following action levels were developed for determining protective equipment and implementation of additional precautions and procedures:

AIR MONITORING ACTION LEVELS

<u>Compounds</u>	<u>Monitoring Device</u>	<u>Action Level (ppm)</u>	<u>Level of Protection</u>
Volatile Organic Compounds	PID	0 to 50	Level D Personal Protection
		50 to 250	Level C Personal Protection
		>250	Stop work and evaluate situation

Based upon the action levels, the PWGC representative will be responsible for determining when activity cessation, site evacuation, emergency response, and the appropriate upgrade of levels of personal protection shall occur.

8.4 Personal Protective Equipment

Personal protective equipment will be in conformance with EPA criteria for level C and D protection. Respiratory protective equipment used at the Site will be approved by NIOSH/MSHA. The PWGC representative will determine the level of personal protection. The level of protection and changes or modifications made will be recorded in the site field book along with a rationale.

Level D protection may be used for those activities that do not pose a threat of exposure to toxic or hazardous substances. It is anticipated that Level D protection will be used through the field effort of this project, with Level C protective equipment readily available.

8.5 Site Access and Control

Access to site activities will be limited to authorized personnel. Such personnel include PWGC employees, designated subcontractors, and agency representatives.



During outdoor field work, the work area site will be partitioned off with cones or caution tape to deter pedestrians and unauthorized personnel from entering the work space.

8.6 Emergency Response

In the event of an emergency, the PWGC representative will coordinate response activities. Appropriate authorities will be immediately notified of the nature and extent of the emergency. A list of emergency telephone numbers will be contained in the dedicated field book that will be used for the project. Figure 3 provides the best route to the nearest hospital, Community Hospital at Glen Cove.

9.0 SCHEDULE

The proposed schedule for the investigation activities is illustrated on Figure 4. Once approval is received for the work plan, building department file review and a site reconnaissance will be scheduled within two weeks. After data is received, the IRM investigation report will be prepared and submitted for NYSDEC's review.

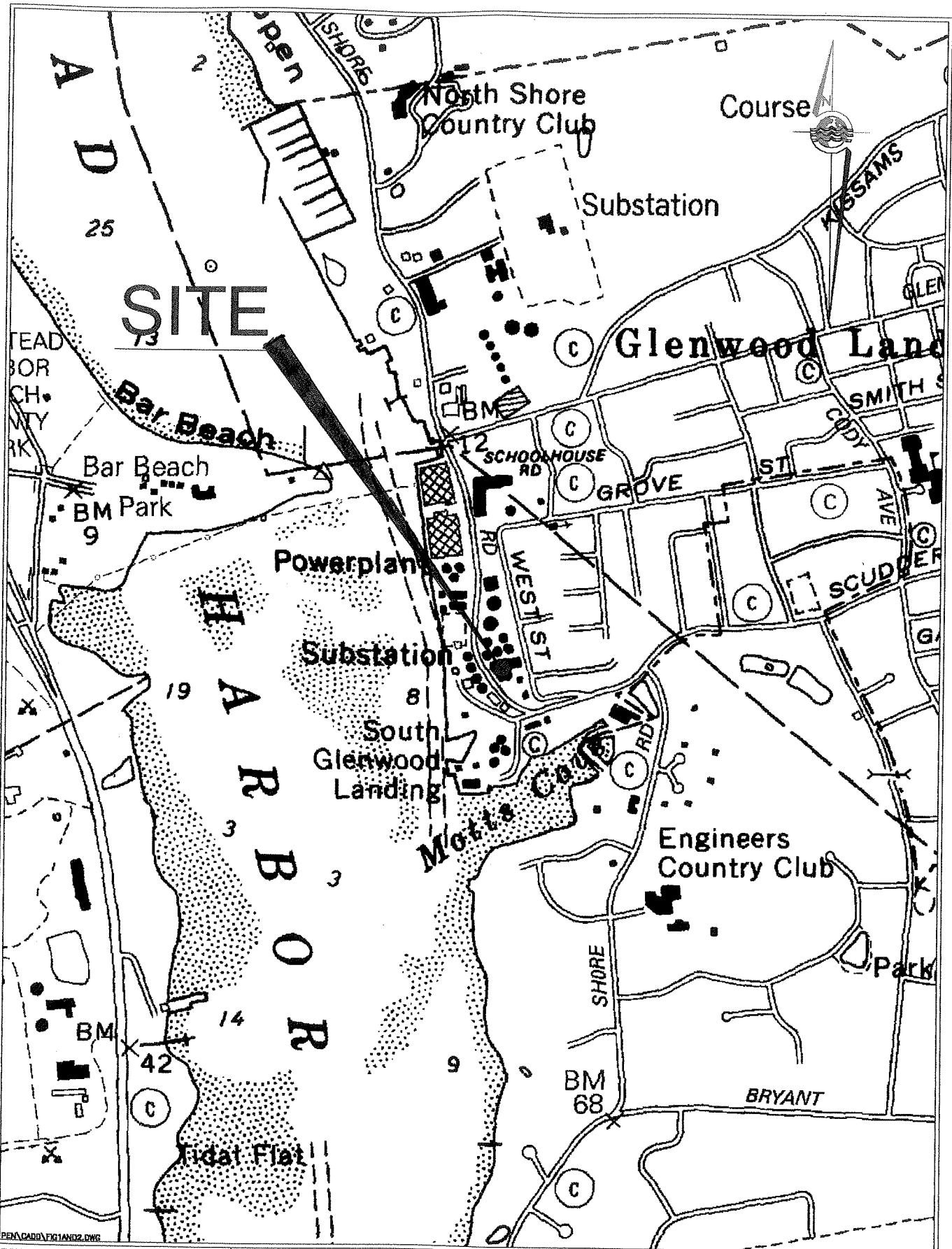
10.0 REPORTING

At the completion of field activities, a review of data will be conducted and an IRM investigation report will be prepared for submittal to the NYSDEC. Figures, tables and appendices will be included to describe the findings of the investigation and to present data in a readily understandable form. The report will also include a discussion of activities that were performed relative to the investigation, interpretation of soil data and groundwater analysis, and a data usability summary. Paul W. Grosser, Ph.D., P.E. will be responsible for preparing the data usability summary section of the report. A copy of Dr. Grosser's resume is attached to this work plan. The appropriate conclusions and recommendations will focus on the distribution of soil contamination within the existing leaching structures and a remedial work plan to remove impacted soil where appropriate will be presented.

In addition, the IRM report will include a proposed work plan for NYSDEC review and approval for additional on-site and off-site groundwater sampling. Information gained



during work performed pursuant to this work plan will be used to more effectively determine an appropriate scope of work for this upcoming phase. The groundwater investigation will be performed in accordance with Addendum No. 1 attached to this workplan.



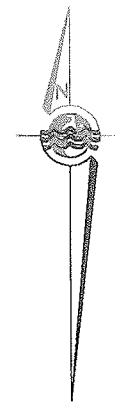
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Site Location Map

Project:	PEN0001	Figure No:	1
Designed by:	JPR		
Approved by:	JPR		
Drawn by:	JAK	Date:	9/20/00



Take soil samples for everything
PW - send sample from SB-1 although highest reading in SB-5

GLEN

COVE

STONE WALL

ROSLYN

SHORE

ROAD

(NO OCCUPANT)

BRICK MULTI LEVEL BUILDING

SYMMETRICS BODY SHOP

ARMSTRONG WOOD WORKING

CONCRETE PLATFORM

SIDEWALK

WEST STREET

VIKING ROAD

APPROXIMATE DIRECTION OF GROUNDWATER FLOW

PX MW-2

DW-2 *Pen*
SB-2

DW-5 *Pen*
SB-5

SB-1
DW-1

PX MW-1

PX MW-3
SB-3

DW-3
SB-3

FORMER DRUM STORAGE

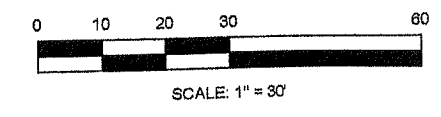
PX MW-4

Name plate
DW-4
SB-4

SB-5

LEGEND

- MONITORING WELL
- DRY WELL / LEACHING STRUCTURE
- SB-1 PROPOSED BORING LOCATION



SITE PLAN AND PROPOSED BORING LOCATIONS
FORMER PENETREX PROCESSING
NYSDEC I.D. No. 130034

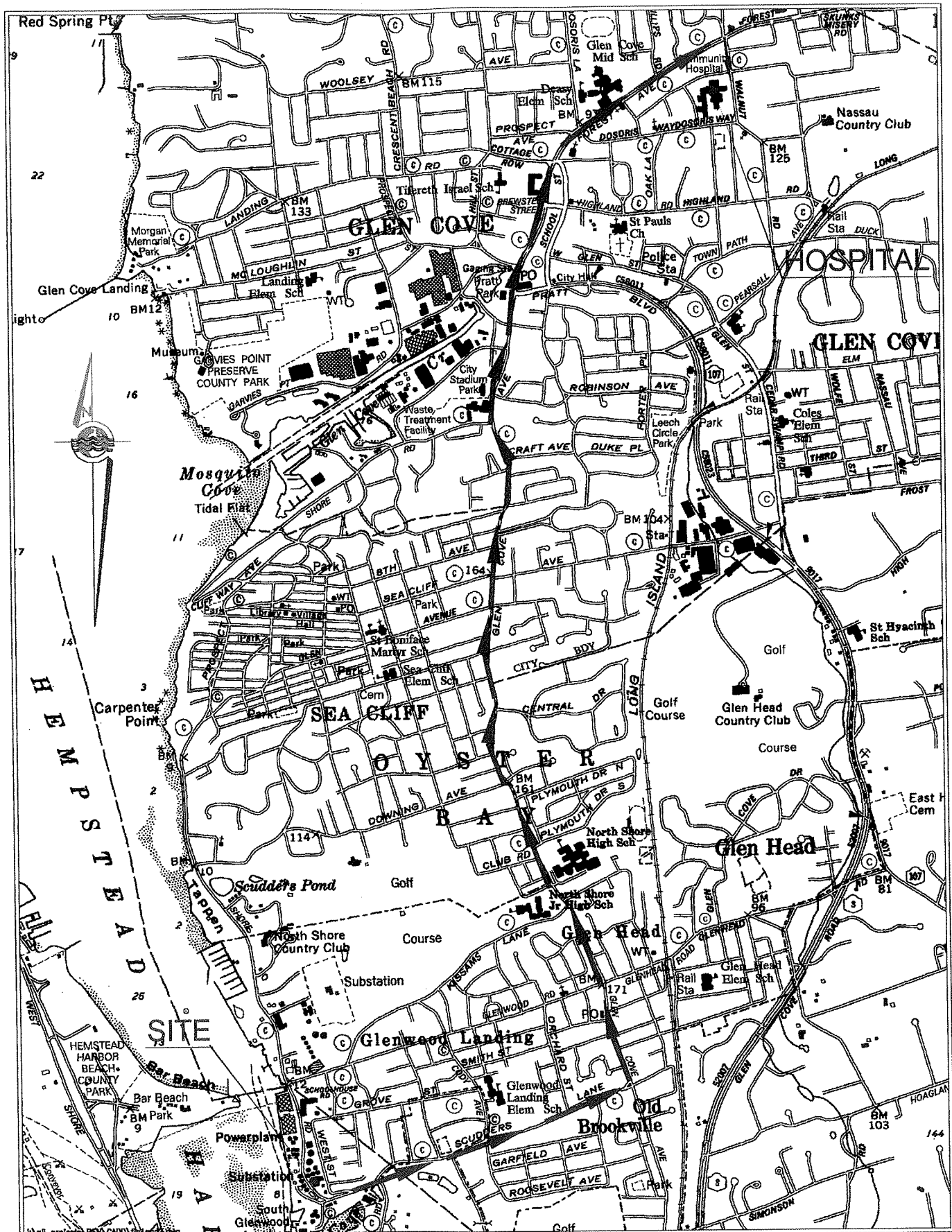
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Project: PEN0001	Designed By: JPR	Figure No: 2
QA/QC Operator: JAK	Approved By: JPR	Date: 9/20/00

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SOURCE: YEC, INC., SURVEY MAP 10, JULY 1992



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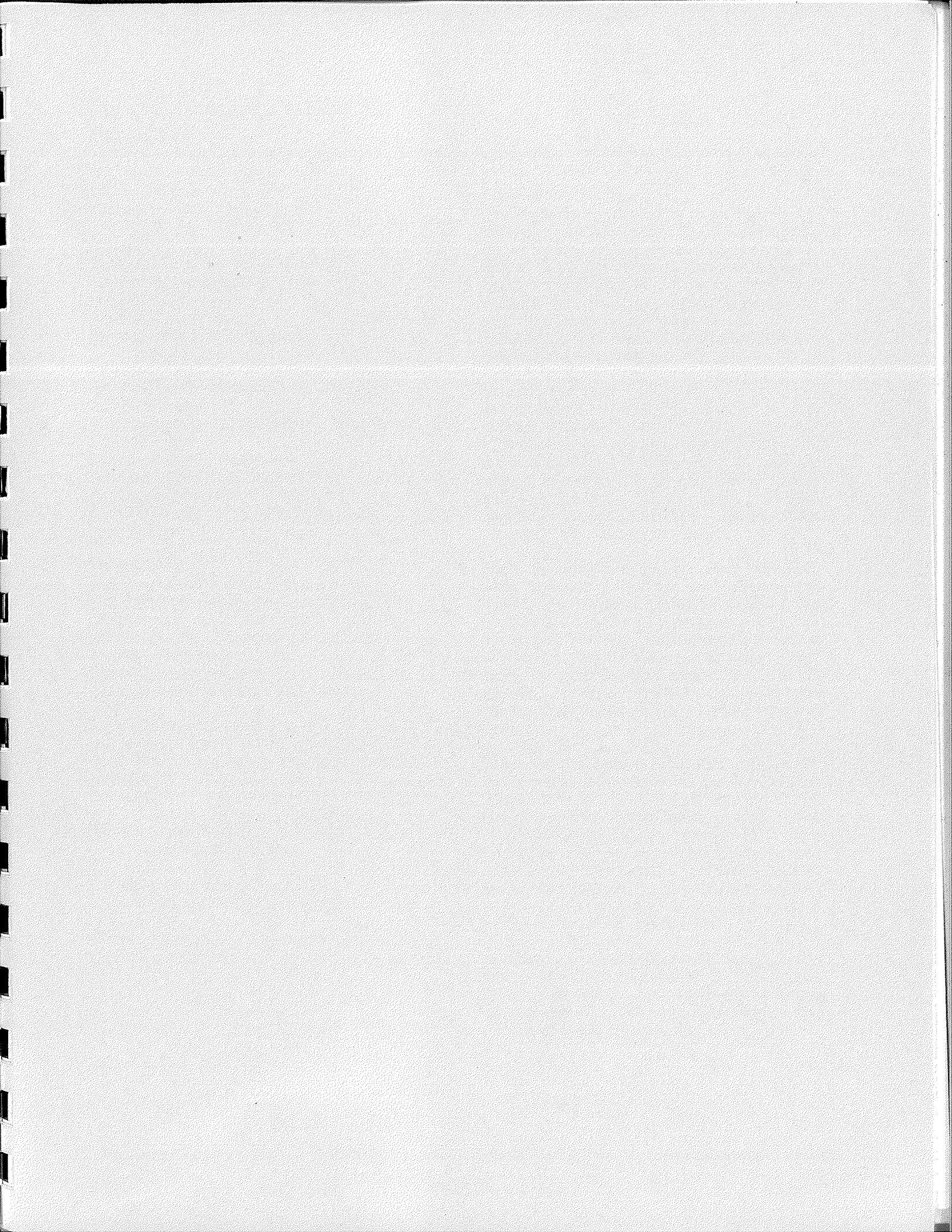
Hospital Route Map
North Shore Community Hospital
Glen Cove, New York

Project: PEN0001	Figure No: 3
Client: JPR	
Prepared by: JPR	
Checked by: JAK	Date: 9/26/00

Figure 4

**SCHEDULE OF WORK PLAN FOR FOCUSED REMEDIAL INVESTIGATION/ FEASIBILITY STUDY
AT FORMER PENETREX PROCESSING INC.**

Task No.	Task	Month																			
		Month NO. 1				Month NO. 2				Month NO. 3				Month NO. 4				Month NO. 5			
1	NYSDEC Acceptance of Work Plan					■	■	■	■												
2	Building Dept. File Review and Site Reconnaissance									■	■	■	■								
3	Scheduling of Borings and Groundwater Sampling													■	■	■	■				
4	Soil Borings and Groundwater Sampling																	■	■	■	■
5	Laboratory Analysis																				
6	Report Preparation With Client Review																				
7	NYSDEC Submittal of IRM Report																				



Paul W. Grosser, Ph.D., P.E.
President

Years with this firm: 11

Years with other firms: 14

Education:

Ph.D., Civil Engineering,
Polytechnic Institute of New York
M.E., Civil Engineering,
B.E., Civil Engineering,
Stevens Institute of Technology

Areas of Expertise:

Groundwater Resources
Remedial Design
Risk Assessment and Solid Waste Management

Registrations/Certificates:

Licensed Professional Engineer in NY, NJ, MD,
IN, NH, and MA (NYS #58694)
NJDEPE-Certified UST Closure, Testing,
Investigation

Memberships:

American Society of Civil Engineers
American Water Works Association
Long Island Water Conference
National Society of Professional Engineers
American Geophysical Union
National Water Well Association
American Consulting Engineers Council

Awards & Recognition:

"Achievement Award" from Engineers Joint
Committee of Long Island (Engineers Week)
"New Principal of the Year" 1988
Consulting Engineers Council of New York State

"Golden Faucet Award"
Long Island Water Conference

President Long Island Chapter
Consulting Engineers Council of New York State

President-Elect New York Association of
Consulting Engineers

Professional Profile:

Dr. Grosser is responsible for business and technical operations of the firm. Since founding the firm in 1990 he has served as the principal for almost 1,000 projects. Dr. Grosser is a well-respected expert in the fields of groundwater/soil contamination including surface/groundwater modeling, petroleum investigations, risk assessments, remediation design, and water supply/water resources.

Selected Projects:

Brookhaven National Laboratory - Dr. Grosser works with PWGC's staff of hydrogeologists and engineers to conduct groundwater/soil investigations, remedial actions, as well as prepare engineering designs and specifications. Dr. Grosser has been providing engineering and environmental services to BNL for over 15 years.

Ross School Development, East Hampton, New York - Dr. Grosser is actively involved in working with the client, architects, planners, and other engineering firms to prepare a DEIS for this project. Working with Senior Engineers at PWGC, Dr. Grosser manages all water supply issues related to the development of the site. In addition, Dr. Grosser also reviewed designs relative to the installation of several geothermal wells.

Dutchess Terminal - Dr. Grosser completed this petroleum investigation for the NYSDEC. It involved the identification of spilled product from five different bulk oil storage companies. The hydrogeologic investigation was crucial in order to identify the sources of contamination and evaluate the effectiveness of a groundwater remediation system. By investigating the site, the NYSDEC identified potential responsible parties and obtained cost recovery.

Southampton Hospital - Dr. Grosser used a model to simulate the transport of viruses in the groundwater environment. The model evaluated the potential impact of a proposed medical arts building on public supply wells.

Water Authority of Great Neck North - Dr. Grosser provided various consulting services including a subsurface investigation being conducted at one of the WAGNN's well fields, and a well impact investigation conducted to assess the impact of proposed Great Neck North wells, located off the peninsula, on surrounding wells. He has provided expert testimony and prepared an aquifer management plan to identify the most effective way to manage the groundwater resources of the service area.

IBM, Sands Point - Dr. Grosser prepared an independent analysis of the impact of upzoning this property based on data relative to water use for golf courses and densities of single family dwellings. An analysis of both groundwater quality and quantity impacts was included. His responsibilities also included community relations, attendance at public meetings, and preparation of an engineering and hydrogeologic report to support a well permit application.

Minmilt Realty - Dr. Grosser served as principal-in-charge for an RI/FS at this manufacturing plant to determine the on-site source and extent of soil and groundwater contamination beneath the site. As part of the design team, he reviewed the final design of a pump and treat system, which was installed as an interim remedial measure and is now operating successfully. Dr. Grosser also supervised an extensive fate and transport evaluation at this site to support that an off-site investigation is not necessary.

Clarkstown and Croton Landfills - Under a subcontract, Dr. Grosser served as project manager for a risk assessment at these sites. The projects involved contaminant transport modeling, study of general site ecology, and evaluation of potential health risks.

Town of Huntington - Dr. Grosser provided a hydrogeologic evaluation of the Town landfill and expert testimony in NYSDEC hearings relative to the fate and transport of leachate from the landfill.

Town of Islip, Brentwood Water District - Dr. Grosser was the principal-in-charge of a water supply design project. This design project is the result of a contamination investigation that revealed a potential for volatile organic compounds (VOC) and nitrate contamination in

two of Brentwood's water supply wells. In order to prevent contamination, an air stripper system was designed and implemented which includes a 2,600 gpm air stripping tower and 100,000 gallon clearwell.

Village of Bayville - Dr. Grosser provided expert testimony for NYSDEC and the Village of Bayville to determine the compliance of a well maintained by the defendant. His testimony resulted in a favorable verdict for the client.

Village of Freeport - Dr. Grosser served as principal-in-charge for this secondary containment project. His responsibilities included meeting with NYSDEC and the Nassau County Fire Marshal to review design criteria and requirements for the site. He completed necessary applications, prepared site design drawings of the proposed containment system, evaluated soil conditions and provided construction administration and inspection services.

Izumi Corporation - Dr. Grosser reviewed this client's hazardous waste management program to ensure environmental compliance. He conducted a general review of current procedures/processes and recommended alternative methods. This review encompassed many different areas, including permit applications/procedures, and safety and health programs. Dr. Grosser developed a program for Izumi that met OSHA regulations and provided employees with a thorough understanding of the minimizing hazards on site.

Sive, Paget & Riesel - Dr. Grosser provides expert witness testimony and engineering oversight of a number of remedial projects. He works to determine those responsible for contamination.

Amoco Station - Dr. Grosser supervised a groundwater investigation and the design of a remedial system. The system was continuously monitored and quarterly reports were prepared for NYSDEC's review. This site is now closed and the remediation is complete.

RAD Bulk Oil Station - Dr. Grosser was contracted by a third party to remediate a gasoline plume in the area of the site. A groundwater pump and treat system was designed and groundwater quality data is evaluated quarterly.

Town of North Hempstead, Port Washington Golf Course - Dr. Grosser handled the irrigation issues for the design of this golf course. An environmental impact investigation was completed and it was determined that the most effective irrigation system would be computer controlled and would closely monitor atmospheric and turf conditions to determine the most efficient means of irrigating the course.

Colonial Springs Golf Course - Dr. Grosser evaluated soil conditions and provided design services for the construction of this 225-acre golf course. A liner was selected by PWGC and installed for a 12.5-acre lake. Electrical and mechanical designs of the irrigation pump station and well house as well as structural details for foundations and floor slabs for housing structures were also prepared.

Bethpage Water District - Dr. Grosser prepared a water resources planning report that using various groundwater flow and transport models to identify potential areas of groundwater development as well as sources of contamination of water supply wells.

Town of Riverhead - Dr. Grosser developed a plan for the expansion of the Riverhead Water District (RWD) west along Sound Avenue to Wildwood State Park and Wading River connecting a number of existing suppliers. The RWD followed this plan, greatly increasing its service area and constructing additional storage facilities and wells. He was also responsible for directing the design of wells, storage facilities, and water main installation for expansion within the RWD. Residents previously obtained drinking water by private wells or poorly maintained public water supply. In the past, a high percentage of drinking water was impacted by agricultural chemicals.

Redevelopment at Grumman - As part of this planning project, Dr. Grosser is studying current water supply and wastewater availability. In addition he is evaluating different development scenarios and their environmental impacts.

Town of Southampton - As principal in-charge, Dr. Grosser supervises data relative to the generation, collection, and removal of leachate at North Sea Landfill. He works closely with the Project Manager evaluating data obtained from gas monitoring wells to determine possible areas of concern.

Village of Sands Point - Dr. Grosser prepared sections of an Environmental Impact Statement for the expansion of the Village's golf course from 9 holes to 18 holes. Sections prepared were specific to water resources issues relative to the expansion.

South Fork Water Resources Study - Dr. Grosser was the project manager for this study of the groundwater of the South Fork of Long Island. The study included groundwater modeling of the area to determine the impact of expected development and the evaluation of groundwater quality as it related to land use in the area.

Nassau County Master Water Supply Plan - Dr. Grosser was responsible for writing the Nassau County Master Water Supply Plan that included an evaluation of the permissive sustained yield of the aquifers utilizing the USGS three-dimensional groundwater model of L.I. Areas of groundwater contamination were identified and trend analysis of water quality data performed for many wells. The study investigated various water supply alternatives available to Nassau County to meet its needs.

Nassau Suffolk 208 Study - Dr. Grosser served as staff engineer on the Nassau-Suffolk 208 Study with responsibilities in project review, virus studies, groundwater modeling and particularly trace organic research. He developed/utilized computer programs to record and analyze water quality data, evaluate trends, plot data, and perform multiple regression analysis. After completion of the 208 Study, his duties involved inspection and monitoring of county owned sewage treatment plants and solid waste disposal facilities.

Long Island Development Center - At this facility in Dix Hills on Long Island, Dr. Grosser evaluated the water supply system. Dr. Grosser also designed a water treatment system to meet the client's needs.

Tanger Factory Outlet Center - Dr. Grosser conducted an impact investigation of this outlet shopping center located on a sensitive environmental area. He helped prepare the site development plans for two phases of development of the outlet center.

Publications:

"Design of High Capacity Public Water Supply Wells in Contaminated Aquifer Systems", Presented at the American Society of Civil Eng. Nat'l Specialty Conf., Florida, March 1983.

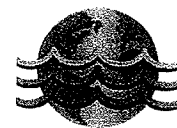
"A Rational Approach to the Design of Groundwater Monitoring Systems, Using Bayesian Decision Theory", Presented at the National Water Well Association, Ohio, May 1983

"Design of Groundwater Monitoring Systems at Hazardous Waste Disposal Sites", Presented at the 1983 Spill Control and Hazardous Waste Conference, Connecticut, September 1983.

"Determination of Groundwater Sampling Frequencies through Bayesian Decision Theory", Civil Engineering Systems, Vol. 2, No. 4, December 1985.

"Selection of Cost-Effective Organic Removal Systems for Water Supply", with S. McLendon and J. Molloy, ASCE National Conference on Environmental Engineering, Massachusetts, 1985.

"Use of Granular Activated Carbon Filters for the Removal of Pesticides from Ground Water", Presented at the Third Annual Groundwater Technology Meeting, Sept. 1987, CUNY. Published in Pollution, Risk Assessment and Remediation in Groundwater Systems, ed. Khanbilvardi/Fillos.



ADDENDUM NO.1

James Rhodes

From: Chittibabu Vasudevan [cxvasude@gw.dec.state.ny.us]
Sent: Thursday, December 07, 2000 2:58 PM
To: jimr@pwgrosser.com
Cc: Champanine Saviengvong; Deborah Christian; Sal Ervolina
Subject: RE: Penetrex - Site ID: 1-30-034

Dear Jim: The letter looks ok. Please note that the final letter will be appended to and become a part of the work plan. The work plan and the letter are approvable subject to the execution of the consent order. Please let me know of your tentative schedule to start the field work.

Thanks for your cooperation in finalizing the work plan.

With regards to your telephone message about Computer Circuits site, I am not in-charge of the site. Please contact Marsden Chen at 457-3979.

James Rhodes <jimr@pwgrosser.com> Wednesday, December 06, 2000 >>>

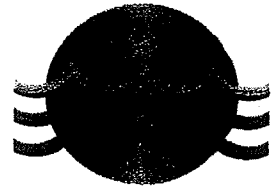
Dear Vasu:

Prior to mailing you the final copy, I wanted to send you this draft to make sure the wording is ok.

Please let me know.

Thanks Jim R. <<groundwatersampling.wpd>>

P. W. GROSSER
CONSULTING
ENGINEER &
HYDROGEOLOGIST, P.C.



December 8, 2000

Mr. Chittibabu Vasudevan, Ph.D., P.E.
New York State Department
of Environmental Conservation
Bureau of Eastern Remedial Action
50 Wolf Road
Albany, New York 12233



630
JOHNSON
AVENUE
SUITE 7

Re: Penetrex Processing - Site Code 1-30-034
Glenwood Landing, Nassau County

BOHEMIA

Dear Mr. Vasudevan:

NEW YORK
11716-2618

P.W. Grosser Consulting Engineer & Hydrogeologist, P.C. (PWGC) is in receipt of your November 30, 2000 letter and have prepared this letter in response to your Department's request. It is the intent of PWGC to append this letter to our October 25, 2000 work plan previously submitted to you Department for review.

PHONE:
631-589-6353

PWGC will conduct a groundwater investigation at the above referenced site to delineate the horizontal and vertical extent of groundwater contamination emanating from the site. PWGC will conduct the groundwater investigation regardless of the findings of the soil investigation. To reiterate our discussions, your Department has agreed to let PWGC complete the soil investigation and IRM, if necessary, prior to conducting the groundwater investigation.

FAX:
631-589-8705

VISIT US AT:
www.pwgrosser.com

As previously discussed, PWGC intends on utilizing the information gained from the soil investigation to "fine tune" the scope of the groundwater investigation. PWGC intends on using a Geoprobe or other appropriate sampling equipment to collect groundwater samples at no more than 10 locations (as shown on the Figure attached to your Department's November 30th letter) at 10 foot intervals from the water table to 60 feet below grade. Upon review of the groundwater data, no more than five monitoring wells will be installed at locations and depths approved by the NYSDEC.



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1990



The number and location of groundwater samples will be finalized after the completion of the soil investigation.

Should you have any questions or need any further information, please do not hesitate to contact this office.

Very truly yours,

James P. Rhodes
James P. Rhodes, C.P.G.
Sr. Hydrogeologist

cc: Dave Yudelson, Esq.

GLEN

CONE

ROSLYN

SHORE

ROAD

(NO OCCUPANT)

BRICK
MULTI LEVEL
BUILDING

SYMMETRICS
BODY SHOP

ARMSTRONG
WOOD
WORKING

DW-5

PX MW-1

PX MW-2

DW-2

PX MW-3

DW-3




PX MW-4

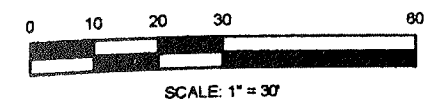
DW-4


FORMER
DRUM
STORAGE



LEGEND

-  MONITORING WELL
-  DRY WELL / LEACHING STRUCTURE
-  SB-1 PROPOSED BORING LOCATION



 Tentative Geoprobe
Groundwater
Sampling Location
(Total of Ten)

SITE PLAN AND PROPOSED BORING LOCATIONS
FORMER PENETREX PROCESSING
NYSDEC I.D. No. 130034

**P.W. GROSSER CONSULTING
ENGINEER & HYDROGEOLOGIST, P.C.**

630 Johnson Ave., Suite 7
Bohemia, N.Y. 11716-2618
Ph: 631 588-6533 Fax: 631 588-6700
E-mail: www.pwgrosser.com

Project: PEN0001	Designed by: JPR	Figure No: 2
Client: JAK	Approved by: JPR	Date: 9/20/00

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS AND ELEVATIONS ARE IN FEET AND DECIMALS THEREOF.

SOURCE: YEC, INC., SURVEY MAP 10, JULY 1992

New York State Department of Environmental Conservation
Division of Environmental Remediation
Bureau of Eastern Remedial Action
Remedial Section A, Room 242
50 Wolf Road, Albany, New York 12233-7010
Phone: (518) 457-1708 • Fax: (518) 457-4198
Website: www.dec.state.ny.us



Via e-mail and mail

November 30, 2000

James P. Rhodes
P. W. Grosser Consulting Engineer & Hydrogeologist, P.C.
630 Johnson Ave., Suite 7
Bohemia, NY 11716

Dear Mr. Rhodes:

Re: Penetrex Processing - Site Code 1-30-034
Glenwood Landing, Nassau County

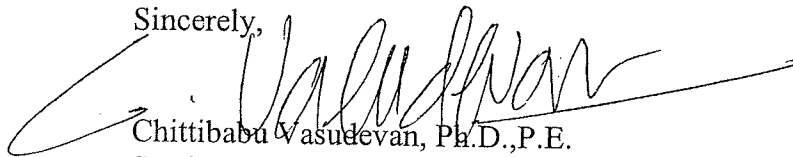
As we discussed over the phone on November 27th, the scope of the Remedial Investigation should be to determine the areal and vertical extent of contamination at the site. The groundwater investigation should be carried out regardless of the findings of the soil investigation. However, we have agreed to wait until completion of the soil investigation and any IRM, if necessary. The groundwater investigation would provide data to determine if any groundwater remediation is necessary or whether the site should be reclassified or delisted.

Per your request, I am providing you the following paragraph to be included in your letter to me which will be appended to and become a part of the October 25, 2000 work plan.

“Using a Geoprobe or other appropriate sampling equipment, groundwater samples will be collected at no more than ten (10) locations (tentatively identified in the enclosed figure) at ten (10) foot intervals from the water table to sixty (60) feet below grade surface. After the completion of the soil investigation, the number and locations of Geoprobe sampling will be finalized and approved by the NYSDEC. Upon review of the groundwater data, no more than five monitoring wells will be installed at locations and depths approved by the NYSDEC.”

If you have any questions, please feel free to contact Ms. Champanine Saviengvong (“Nin”) or me. We both can be reached at (518) 457-1708.

Sincerely,



Chittibabu Vasudevan, Ph.D., P.E.
Section Chief

Enclosure

cc: D. Christian, DEE

RECEIVED DEC 06 2000