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November 18, 2005

Mr. Nathan Putnam
NYS Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway, 11th Floor
Albany, N.Y. 12233-7015

Re: Sub-Slab Vapor and Indoor Air Investigation Report – Former Penetrex Processing, Inc. Glenwood Landing, New York Site No. 1-30-034

Dear Mr. Putnam:

P.W. Grosser Consulting, Inc. (PWGC) has prepared the following Sub-Slab Vapor and Indoor Air Investigation Report to document the findings of the Sub-Slab Vapor and Indoor Air Investigation conducted at the above-referenced site in August 2005. Findings of this investigation confirm the existence of tetrachloroethene and trichloroethene vapors in the sub-slab of the on-site structures. Despite these elevated concentrations, vapor intrusion appears to be contained due to the thickness and integrity of the concrete slabs, and the existence of a vapor barrier.

Further investigation of subsurface soil and groundwater is recommended to determine if a source of the vapors still exists. Once the results of the subsurface investigation are received, a determination can be made regarding supplemental mitigation.

Please call if you have any questions or comments.

Very truly yours,
PWGC

James P. Rhodes, C.P.G.
Vice President

Cc: J. Nealon, NYSDOH
G. Bobersky, NYSDEC
W. Parrish, NYSDEC
David Yudelson, Esq.
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SUB-SLAB VAPOR AND INDOOR AIR INVESTIGATION REPORT

FORMER PENETREX PROCESSING FACILITY
GLENWOOD LANDING, NEW YORK
SITE # 1-30-034

Prepared for:
The New York State Department of Environmental Conservation
Division of Environmental Remediation
Albany, New York

Project No.: PEN0001

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NOVEMBER 2005

FORMER PENETREX PROCESSING FACILITY
Sub-Slab Vapor and Indoor Air Investigation Report

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1.0 INTRODUCTION AND OBJECTIVES

This Sub-Slab Vapor and Indoor Air Investigation Report has been prepared by P.W. Grosser Consulting, Inc. (PWGC) to document the sub-slab vapor and indoor air investigation that was conducted at and in the vicinity of 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.

The objectives of this report are to document the findings of the sub-slab vapor and indoor air investigation that was performed as part of the Remedial Investigation in response to a request by the NYSDEC to determine if volatile organic compound (VOC) vapors exist below the slabs of the on-site buildings and, if VOC vapors exist, what is their effect on the air quality within the buildings.

The Soil Boring/Underground Injection Control (UIC) Program, the Interim Groundwater Investigation, the Groundwater/Soil Gas Investigation, and this Sub-Slab Vapor and Indoor Air Investigation constitute the Remedial Investigation for the site.

1.1 Site Description

The subject site consists of an approximately one-acre parcel located on the east side of Shore Road (a.k.a. Glen Cove Roslyn Shore Road), in the 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 improved with a two-story brick industrial building, asphalt parking, communications tower and other ancillary improvements.

The property is bounded to the west by Glen Cove Roslyn Shore Road and to the east by West Street. The site is generally located north of Scudders Lane and is situated near and adjoining several major oil storage facilities, coastal terminals, and a municipal power station near Hempstead Harbor. Glenwood Oil Terminal Corp. is located northwest, diagonally across the property. A Site Location Map is included as **Figure 1**.

1.2 Site History

A former dry cleaning business, known as Penetrex Processing, Inc. (Penetrex) is reported to have operated at the site for several years prior to abandoning the facility in 1984. During its operation 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 manufacturer of adhesive nameplates known as the Nameplate Corporation also formerly occupied the site.

In 1984, the Nassau County Department of Health (NCDOH) sampled an on-site drywell associated with the former Penetrex facility and determined that constituents of dry-cleaning solvents (e.g., trichloroethene and tetrachloroethene - a.k.a. perchloroethylene (PCE)) were present in soils at the base of the structure. The impacted drywell was subsequently remediated in 1985 under a summary abatement order, completed by K&W Associates (property owner).

Additional testing and site characterization, which included the installation of six (6) soil borings and four (4) monitoring wells, soil and groundwater sampling, and air monitoring, were 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 (potentially responsible party) Study.

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 dissolved VOCs in on-site groundwater. 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."

The former Penetrex site is currently listed as a NYSDEC Class II Inactive Hazardous Waste Disposal Site facility identified as I.D. No.130034. The two-story building at the property is

currently occupied by a church/religious organization, Sunnyside Up Parties, Inc. (a party and event company), Landing Wholesale, and Parabit Manufacturing.

A remedial investigation was conducted at the site in November 2001 to obtain the information necessary to determine the need for a remediation at the site. The remedial investigation consisted of a file search (Town of North Hempstead Building Department), site reconnaissance, a soil boring program, the collection and analysis of soil samples, and the collection and analysis of groundwater samples from the existing on-site monitoring wells.

An underground injection control (UIC) investigation and remediation was performed in response to the results obtained from the soil boring program. This UIC program successfully dealt with soil issues identified during the investigation and the site has received closure regarding these UIC issues from the Nassau County Department of Health (NCDOH) and the United States Environmental Protection Agency (USEPA). Findings from the remedial investigation are presented in the Preliminary Remedial Investigation Report, PWGC, July 2002 and the September, 2003 Storm Drain and Sanitary Leaching Pool Remediation and Closure Report.

On November 11, 2001, PWGC conducted well gauging and collected groundwater from the four existing on-site monitoring wells.

Tetrachloroethene (PCE) was detected in each of the four groundwater samples at concentrations above the groundwater standard. Trichloroethene (TCE) and 1,2-dichloroethane (1,2-DCE) were detected in two of the monitoring well samples at concentrations slightly above the groundwater standard. Vinyl chloride was detected in one of the samples at a concentration slightly above the groundwater standard. A summary of the analytical results, as well as copies of the laboratory data reports are included in the Preliminary Remedial Investigation Report, PWGC, July 2002, previously submitted under separate cover.

An additional groundwater investigation was performed at the site from October 2003 through January 2004 at the request of the NYSDEC and as part of the Remedial Investigation to

delineate the horizontal and vertical extent of the dissolved VOCs and to determine if additional investigation/remediation is warranted. Based on the results of the soil boring investigation and monitoring well sampling that was performed as part of the remedial investigation, and correspondence with the NYSDEC, eight locations were chosen for groundwater sampling. These vertical profiles were also performed to confirm the location and the depths of additional permanent monitoring wells. The samples were collected in accordance with the protocol established in the Preliminary Remedial Investigation Report, PWGC, July 2002, previously submitted under separate cover.

From October 2003 through January 2004, eight temporary vertical profile wells were installed. Sample locations were selected to be representative of groundwater conditions up-gradient and down-gradient of the site, as well as to investigate suspected former source areas.

Concentrations of 1,1-Dichloroethene (1,1-DCE), 1,2-DCE, 1,1,1-Trichloroethane (1,1,1-TCA), PCE, TCE, and Toluene were detected in at least one sample from each location. Detections above the NYSDEC standards were noted at or just below the water table at five locations. One location had detections above the NYSDEC standards at all depths sampled.

The highest concentrations of VOCs, as high as 82,000 ug/L of PCE, were detected at one of the locations at approximately ten feet below the water table. This concentration was significantly different from the concentrations detected at other depths in the same well, and at other locations. Typically, the greatest concentrations of VOCs detected in the groundwater across the site were found at the water table. Complete copies of the laboratory data reports are included in the Interim Groundwater Investigation Report, PWGC, March 2004, previously submitted under separate cover.

Based on the results of the October 2003 vertical profile groundwater investigation results, one additional temporary groundwater vertical profile well and three permanent groundwater monitoring wells were installed at the site. In addition, four soil gas points were installed as a result of a request by the NYSDEC to address concerns regarding soil vapor intrusion.

Concentrations of VOCs well above the NYSDEC standards were detected throughout the initial groundwater profile conducted at GW-7. As previously indicated, the highest VOC concentration was detected in the sample collected from ten feet below the groundwater table at the GW-7 location. To further delineate the groundwater contamination at this location, and to confirm the results from the Interim Groundwater Investigation performed in October 2003-January 2004, an additional temporary vertical profile was installed and sampled in accordance with the protocol established in the Interim Groundwater Investigation Report, PWGC, March 2004.

On October 12, 2004, groundwater samples were collected in ten foot intervals from the water table to a total depth of eighty-five feet below grade. VOCs were not detected above the laboratory detection limits in the seven samples collected, with two exceptions. Freon 113 was detected at a concentration of 3 ug/L in the sample collected from the 31'-35' interval. In addition, PCE was detected at a concentration of 7 ug/L in the sample collected from the 21'-25'(water table) interval. PCE was detected above the NYSDEC Groundwater Standard of 5 ug/L.

Three permanent monitoring wells were constructed on December 28, 2004 to supplement the four monitoring wells which already existed for the monitoring of the groundwater beneath the site. Following installation and development, sampling of the new and existing wells was performed. Groundwater sampling was performed on January 19, 2005.

VOCs were detected above the NYSDEC Groundwater Standards in six of the seven monitoring well samples. PCE was detected above the NYSDEC Groundwater Standards in the samples collected from four of the monitoring wells. TCE was detected at concentrations above the NYSDEC Groundwater Standard in the samples collected from two of the monitoring wells. A summary of the analytical results, as well as copies of the laboratory data reports are included in the Groundwater / Soil Gas Investigation Report, PWGC, revised October 2005, previously submitted under separate cover.

1.3 October 2004 – Soil Gas Sampling

To address the NYSDEC's concerns regarding soil vapor intrusion into the adjacent buildings, PWGC conducted soil gas sampling at the following locations:

- SG-1 - 10 feet from the former Nameplate building;
- SG-2 - 10 feet from the former Penetrex building and to the north of GW-7;
- SG-3 - conducted at the property boundary between GW-7 and the residence to the South;
- SG-4 - 10 feet from the residence.

Soil gas sampling points were conducted 10 feet away from the buildings to reduce the effects of the building foundations. Soil gas sampling locations are shown in **Figure 2**.

Prior to installing the soil gas sampling points, test pit excavations were conducted adjacent to the buildings to determine the depth of the footings. This was necessary since the soil gas points were to be installed approximately one foot below the footing of the building. The building footing was encountered at a depth of 4 feet below grade at the SG-1 location, 9 feet below grade at the SG-2 location and 9.5 feet at the SG-4 location. Since the SG-3 location was not in close proximity to a building, the sample was collected at 6.5'-7.5' below grade.

Soil gas sampling points were installed on December 20, 2004 in accordance with procedures described in the Revised Addendum to the March 2004 Interim Groundwater Investigation Report prepared by PWGC and approved by the NYSDEC.

Analytical results were compared to the USEPA Target Shallow Soil Gas Concentrations as specified in the USEPA's Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils. VOCs were detected above the USEPA Target Soil Gas Concentrations in each of the samples collected. PCE was detected at a concentration of 4,400 ppbv in the sample collected from SG-1, 970 ppbv in the sample collected from SG-2, 8,600 ppbv in the sample collected from SG-3, and 1,200 in the sample collected from SG-4, which is

above the USEPA Target Soil Gas Concentration of 12 ppbv. In addition, TCE was detected in the sample collected from SG-1 at a concentration of 1,100 ppbv and in the sample collected from SG-3 at a concentration of 150 ppbv, which is above the USEPA Target Soil Gas Concentration of 41 ppbv. Several other VOCs were detected in the soil gas samples, but at concentrations below the USEPA Target Shallow Soil Gas Concentrations. A summary of the analytical results, as well as copies of the laboratory data reports are included in the Groundwater / Soil Gas Investigation Report, PWGC, revised October 2005, previously submitted under separate cover.

2.0 AUGUST 2005 – SUB-SLAB VAPOR AND INDOOR AIR SAMPLING

A Sub-Slab Vapor and Indoor Air Sampling Plan was prepared in April 2005 at the request of the NYSDEC to address concerns regarding soil vapor intrusion into the on-site buildings. The sampling plan was prepared in accordance with the NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York, Public Comment Draft, February 2005 (NYSDOH Vapr Intrusion Guidance). The NYSDEC reviewed the sampling plan and requested revisions. The revised Sub-Slab Vapor and Indoor Air Sampling Plan was submitted to the NYSDEC in June 2005. The revised plan was approved by the NYSDEC with the inclusion of an additional indoor air sample in the church/religious organization facility. Correspondence letters are provided in **Appendix A**.

PWGC conducted sub-slab vapor, indoor air, and outdoor air sampling at the following locations:

- SS-1 (Sub-Slab-1) and IA-1 (Indoor Air-1) - the office of Landing Wholesale;
- SS-2 and IA-2 - the warehouse of Landing Wholesale;
- SS-3 and IA-3 - Sunnyside-Up Parties;
- SS-4 and IA-4 - Parabit Manufacturing;
- SS-5 and IA-5 - the basement of the on-site residence;
- IA-6 - the church/religious organization located upstairs from Sunnyside-Up Parties;
- OA-1 (Outdoor Air-1) - 15 feet to the southwest of the industrial building;
- OA-2 - 20 feet to the southwest of the residence.

Sub-slab and indoor air sampling points were centrally located in each of the facilities. See **Figure 2**.

2.1 Pre-Sampling Building Inspection and Chemical Inventory

On October 12, 2004, a chemical inventory was conducted prior to soil gas sampling at the site by PWGC, as requested by the NYSDEC. The results of the chemical inventory are documented

in the Revised Groundwater / Soil Gas Investigation Report, prepared by PWGC, October 2005.

On August 25, 2005, a second pre-sampling building inspection and chemical inventory of the existing buildings was conducted by Mr. John Eichler of PWGC to obtain an accurate and current list of possible contributors to detected VOC concentrations. The chemical inventory is shown on **Table 1**.

In addition to the chemical inventory, NYSDOH Indoor Quality Questionnaires, as specified in the NYSDOH Vapor Intrusion Guidance document, were completed for the two on-site buildings. The information provided in the questionnaires was obtained by PWGC through personal observation and through an interview with the owner of the site. The Questionnaires are included as **Appendix B**.

The first floor of the northeast portion of the main building is occupied by Sunnyside-Up Parties (a children's party facility), and contained small amounts of household cleaners in spray bottles. New carpeting had been installed throughout the facility approximately six months prior. At the time of installation and sampling, the facility was unoccupied.

The second floor was being utilized by a church/religious organization and contained no chemical material. At the time of sampling, the facility was being used mainly as a recreation center.

The northwest portion of the building was utilized as office space and as a warehouse for Landing Wholesale for the storage of non-chemical materials. However, this portion of the building did contain a small amount of chemicals, such as adhesives and hand cleaner, and a large quantity of unopened cosmetics. The warehouse also housed a propane-fueled forklift and a gasoline-powered automobile. According to a Landing Wholesale employee, the forklift was used regularly, but the automobile hadn't been used in over a month. During the installation and sampling, three employees occupied the facility.

At the time of inspection, the southwest portion of the building was being utilized by Parabit, an

automated teller machine manufacturer. This portion of the building contained many chemicals, mainly resins and adhesives. Approximately 150 gallons of stored chemicals were observed and were mainly composed of compounds such as methylethylketone, diethyltoluenediamine, naphtha, toluene, and methylene chloride.

The adjoining residence is divided into two apartments. One apartment consists of the second and third floors of the residence, while the other apartment occupies the first floor. However, the first floor apartment was vacant at the time of the inventory and sampling. At the time of the inventory, the first floor was being painted with latex paint and an epoxy which contained 2-pentanone, 4-methyl benzene, and dimethyl phenol. A complete chemical inventory is included on **Table 1**.

The heating systems of the various facilities were put into operation on August 24, 2005, two days before sample collection in order to simulate worst case/heating season conditions. The church/religious organization, Sunnyside Up Parties, and the office of Landing Wholesale each had separate central HVAC systems which vented through the ceilings to the roof. Parabit Manufacturing had active roof vents which drew air from the manufacturing area through the roof. The warehouse of Landing Wholesale and the residence did not have central HVAC systems. Natural gas-supplied heaters in the warehouse and the gas-supplied baseboard radiators in the residence were not in operation as outside temperatures were above 70º F.

2.2 Sub-Slab Vapor Point Installation

Sub-slab vapor sampling points were installed on August 25, 2005, in accordance with procedures described in the Revised Sub-Slab Vapor and Indoor Air Sampling Plan, June 2005, prepared by PWGC and approved by the NYSDEC. Installation services were provided by Associated Environmental, Inc. At each location, a concrete coring device was used to core through the concrete slabs of the buildings. The thickness of the slab in the industrial building was between 8 and 11 inches. Once the concrete core was removed, a thick plastic vapor barrier was discovered directly below the slab at boring locations SS-2, SS-3, and SS-4. The coring device cut a circular section through the vapor barrier, exposing the sub-slab soil. Samples of the slab and the vapor barrier were kept for inspection by NYSDEC and NYSDOH representatives if

they choose. A probe rod was manually driven to a depth of one foot below the slab. The drive point was knocked out and a one-foot stainless steel screen fitted to a polyethylene tubing riser was lowered through the rod. The probe was covered with glass beads. The rod was then removed and a bentonite seal was installed around the tubing to prevent the short circuiting of air.

On the date of sampling point installation, a representative from the NYSDOH was on site to establish contacts with the various residents of the site. While on site, the NYSDOH representative witnessed the installation of a sub-slab vapor point.

2.3 Sampling

Sub-slab vapor and indoor air sampling was conducted by PWGC on August 26, 2005, the day after sub-slab sampling point installation, under the supervision of a NYSDEC representative. Prior to sampling, approximately three volumes (i.e., the volume of the sample probe and tube) were purged to ensure samples collected were representative of sub-slab conditions. Purging was completed using a Rae Systems Mini-Rae 2000 portable VOC monitor calibrated at 0.5 liters/minute.

The seal integrity of each sub-slab sampling point was tested with the use of a tracer gas. A plastic cup was attached to the top of the seal of the sampling point with bentonite and the tracer gas, helium, was injected through a polyethylene tube into the cup during purging. Immediately after purging, a helium detector was attached to the sampling tube and monitored for helium infiltration through the seal of the sampling point. The highest detection of helium was measured at sampling point SS-1 at 9.6%, well within the acceptable limit of 20%. Tracer gas detection values are shown on the Canister Sampling Field Data Sheets in **Appendix C**. Tracer gas testing was provided by Associated Environmental, Inc.

Collection of two of the sub-slab vapor samples began before the tracer gas test was performed, as it was believed that tracer gas testing could be performed during sample collection. It was determined that the points needed to be tested prior to sample collection and the two samplers at points SS-1 and SS-2 were eliminated from the sampling round. After tracer gas sampling was

performed, two new sampling canisters were activated at points SS-1 and SS-2 under the direction of the NYSDEC representative.

Once the integrity of the sampling point seal was established, samples were collected directly into six liter, laboratory supplied Summa® canisters attached to the sampling tube. The samples were collected using eight-hour flow regulators at a rate of approximately 0.0125 liters/minute. Specific canister information was recorded on Canister Sampling Field Data Sheets, included as **Appendix C**.

Indoor air samples were collected to characterize exposures to air within the on-site buildings. For each sub-slab sample collected, one indoor air sample was collected within five feet of the sub-slab sampling point. Indoor air samples were collected near the sub-slab sampling points in order to evaluate the most likely points of vapor intrusion. A sixth indoor air sample was collected from the church/religious organization located on the second floor of the industrial building at the request of the NYSDEC to characterize the air quality for a facility which is frequently occupied by children. Indoor air samples were collected from a height of between three and six feet to represent typical breathing heights. Sub-slab vapor and indoor air samples were collected over approximately the same period of time so that evaluation of the impact of sub-slab concentrations on indoor air quality can be performed.

As with the sub-slab sample collection, indoor air samples were collected in six-liter Summa® canisters, certified clean by the laboratory, and were collected over the same time period as the sub-slab sample collection (i.e., the same day) to represent consistent conditions while evaluating and comparing sub-slab vapor samples with indoor air samples. Sampling collection times are shown on the Canister Sampling Field Data Sheets in **Appendix C**.

Two outdoor air samples were collected to characterize site-specific background outdoor air conditions. One sample was collected from an upwind location from each of the two on-site buildings. They were collected in the same manner and concurrently with (i.e., the same day as) the indoor air and sub-slab vapor samples.

During the sampling process, the regulators on the canisters were periodically monitored to ensure that they were functioning properly. From this monitoring, it was determined that three of the samples were collecting at a faster rate than the prescribed eight hours, most likely due to leaks at the connection between the canisters and the regulators. These samples (IA-3, IA-4, and IA-5) were removed from service and replaced.

The thirteen samples were to be collected concurrently. Despite tracer gas testing and three leaking samplers, the first of the thirteen samplers was started less than five hours before the last sampler. Sample collection was completed during a thirteen-hour time period.

A representative from Severn-Trent Laboratories (STL) accepted the thirteen samples from the site for transport to STL, Burlington, Vermont for analysis of VOCs by USEPA Method TO-15.

3.0 ANALYTICAL RESULTS

The primary method for the evaluation of analytical data is the use of "decision matrices" provided in the NYSDOH Vapor Intrusion Guidance document. The decision matrices incorporate both sub-slab vapor results and their corresponding indoor air results in a table to formulate an appropriate action for a sampling site. Decision matrices have been developed for PCE, TCE, and 1,1,1-TCA. Although decision matrices have not yet been developed for other compounds, consideration will be given to the comparisons between the sub-slab vapor and indoor air concentrations. Analytical results for the sub-slab vapor and indoor air samples are shown on **Table 2**.

Detected concentrations of PCE, TCE, and methylene chloride in indoor air were also compared to the NYSDOH Indoor Air Guideline Values specified in the Vapor Intrusion Guidance. These guideline values are based on lifetime exposure limits. PCE, TCE, and methylene chloride are the only VOCs which have Air Guideline Values in the Vapor Intrusion Guidance (see **Table 3**). This comparison allows the evaluation of the potential health effects of compounds detected in indoor by itself, without the consideration of sub-slab concentrations which people are not directly exposed to.

Outdoor Air sample concentrations were compared to Outdoor Background Levels as specified in the USEPA's Building Assessment and Survey Evaluation (BASE '94-'98), as specified in the NYSDOH Vapor Intrusion Guidance document. Outdoor Air sample results are shown on **Table 4**.

3.1 Decision Matrices –NYSDOH Vapor Intrusion Guidance

SS-1 / IA-1 Location

The recommended action using the NYSDOH matrices for the samples in the Landing Wholesale office (SS-1 and IA-1) is mitigation, based on the elevated concentration of PCE in sub-slab sample SS-1 (1,000 µg/m³).

SS-2 / IA-2 Location

The recommended action using the NYSDOH matrices for the samples in the Landing Wholesale warehouse (SS-2 and IA-2) is mitigation, due to the elevated concentrations of PCE (16,000 µg/m³) and TCE (520 µg/m³) in the sub-slab sample SS-2. Sample SS-2 represents the highest concentration of TCE detected in this sampling round.

SS-3 / IA-3 Location

The recommended action using the NYSDOH matrices for the samples at Sunnyside Up Parties (SS-3 and IA-3) is mitigation, due to the elevated concentrations of PCE (50,000 µg/m³) and TCE (280 µg/m³) in the sub-slab sample. Sample SS-3 represents the highest concentration of PCE detected in this sampling round.

SS-4 / IA-4 Location

The recommended action using the NYSDOH matrices for the samples at Parabit Manufacturing (SS-4 and IA-4) is to take reasonable action and practical actions to identify and reduce human exposures. This is based on the concentration of PCE detected in indoor air sample IA-4 (14 µg/m³).

Elevated concentrations of methylene chloride in SS-4 and IA-4 (Parabit Manufacturing) can be attributed to regular manufacturing activities which take place at that facility. Specifically, methylene chloride is an ingredient found in the resin bond utilized in the room. This resin bond is the likely source of the lesser concentrations of methylene chloride detected in indoor air samples IA-1 (170 µg/m³), IA-2 (110 µg/m³), IA-4 (800 µg/m³), and IA-6 (73 µg/m³) at concentrations above the NYSDOH Air Guideline Value of 60 µg/m³. Methylene chloride was detected in IA-3 at a concentration of 6.3 µg/m³ and was not detected in IA-5.

SS-5 / IA-5 Location

The recommended action using the NYSDOH matrices for the samples in the Landing Wholesale office (SS-5 and IA-5) is mitigation, based on the elevated concentration of PCE in sub-slab sample SS-5 (6,200 µg/m³). Elevated detections of ethylbenzene, 1,2,4-

trimethylbenzene, and 1,3,5-trimethylbenzene in IA-5 is most likely attributable to painting activities which occurred during and prior to sampling. The use of epoxy paint was noted in the chemical inventory. It is expected that concentrations of these compounds will be lower in future indoor air sampling.

The mitigation recommended in four of the facilities is due to the elevated concentrations of PCE in the sub-slab samples. Specifically, a concentration of 1,000 µg/m³ of PCE in a sub-slab sample will result in a recommendation of mitigation, regardless of the concentration of PCE detected in the corresponding indoor air sample. It should be noted that concentrations of PCE detected in the site's indoor air samples were within the Air Guideline Value of 100 µg/m³ derived by the NYSDOH. A concentration of 250 µg/m³ of TCE in a sub-slab sample will result in a recommendation of mitigation, regardless of the concentration of TCE detected in the corresponding indoor air sample. It should be noted that concentrations of TCE detected in the site's indoor air samples were within the Air Guideline Value of 5 µg/m³ derived by the NYSDOH. The low concentrations of PCE and TCE detected in indoor air samples is attributable the thickness and integrity of the concrete slab, as well as the vapor barrier which exists at three of the sampling points.

Analytical results from outdoor air samples OA-1 and OA-2 were compared to the USEPA's Building Assessment and Survey Evaluation (BASE '94-'98) Outdoor Background Levels, as specified in the NYSDOH Vapor Intrusion Guidance. Concentrations of VOCs detected in the outdoor air samples were consistent with Outdoor Background Levels, indicating that off-site air quality does not contribute to VOC detections in on-site indoor air samples. Results of the outdoor air samples are shown on **Table 4**.

3.2 Data Usability

PWGC reviewed the Laboratory QC Summary Package for the sample batch in which the project samples are included, so that an appropriate data usability summary could be prepared. The QC Summary Package is included in **Appendix D**.

This usability section pertains to the analytical results, submitted by Severn Trent Laboratories, for the sub-slab vapor, indoor air, and outdoor air sampling conducted by PWGC at the former Penetrex Processing, Inc. site. The analytical results submitted by Severn Trent Laboratories were reviewed and the analytical results assessed against the project data quality objectives (DQOs) in the preparation of this report. Overall, the data submitted by Severn Trent Laboratories met the project DQOs and are usable to determine the presence, absence, and magnitude of environmental contamination in the samples collected from the site.

A total of 13 air samples were collected and analyzed for VOCs in accordance with the most recent version of the by USEPA TO-15 methodologies. The analyses of the samples SS-2 and SS-3 were performed at appropriate dilutions in order to provide quantification of all target analytes within the calibrated range of instrument response.

The original analyses of samples IA-1, IA-2, IA-4, SS-1, SS-4, and SS-5 exhibited concentrations of select target compounds that exceeded the calibration range of the instrument. These samples were subsequently re-analyzed at dilutions and yielded results that were within the calibration range of the instrument.

The analyses of the blank spike samples VGUC LCS and VGUELCS and the associated blank spike duplicate samples exhibited percent recoveries of the target compounds 1,2,4-trichlorobenzene that were outside the control limits. The target compound 1,3,5-trimethylbenzene was also outside the control limits in the blank spike duplicate sample VGUELCSD.

The responses for the target compounds 1,2,4-trichlorobenzene and hexachlorobutadiene in select continuing check acquisitions exceeded the maximum percent difference criterion. These compounds were not detected in the samples.

4.0 CONCLUSIONS AND RECOMMENDATIONS

In response to the results of the soil gas investigation performed at the site in October 2004, a Sub-Slab Vapor and Indoor Air Sampling Plan was prepared at the request of the NYSDEC. The objectives of the Sampling Plan was to detail an investigation to determine if VOC vapors exist below the slabs of the on-site buildings and, if VOC vapors exist, what is their effect on the air quality within the buildings.

Analytical results of the sub-slab vapor and indoor air samples were used to evaluate the concentrations of VOCs in the sub-slab of the two on-site structures, and whether those VOCs were infiltrating the interior of the buildings.

The Soil Vapor / Indoor Air Matrices specified in the NYSDOH Draft Guidance for Evaluating Soil Vapor Intrusion in the State of New York were utilized to compare and evaluate the concentrations of PCE and TCE detected in each of the sub-slab samples and their corresponding indoor air samples.

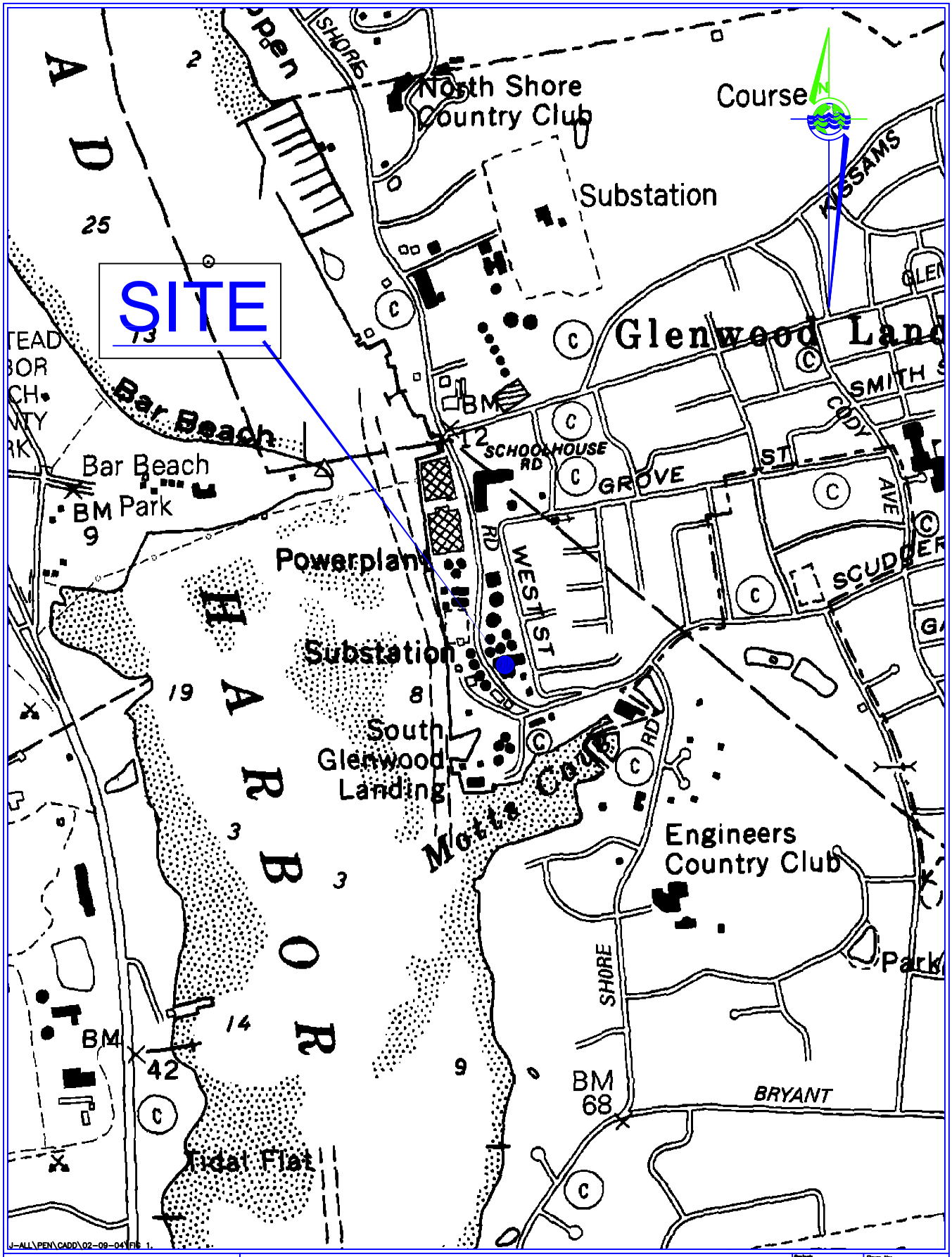
When utilizing the decision matrix for PCE, mitigation is recommended at three of the four sub-slab sampling areas in the industrial building and in the residence. When evaluating the decision matrix for TCE, mitigation measures are recommended at two sampling locations within the industrial building only. However, as previously indicated, concentrations of both PCE and TCE are well within the Indoor Air Guideline Values contained in the NYSDOH Vapor Intrusion guidance. Although, concentrations of these compounds are above background, PWGC believes the thickness of the concrete slab and the existence of a vapor barrier beneath much of the site is already effectively mitigating the indoor air quality. The sampling was performed under the simulation of heating conditions therefore, conditions are not expected to worsen.

At this time, it is not known whether the sub-slab vapor concentrations represent a buildup of vapors overtime, representative of pre-remediation conditions, or if unknown residual contamination in the area immediately adjacent to the former Pentrex facility exists and is acting

as a source of these vapors. Based on the existing VOC concentrations in groundwater and the depth to groundwater at the eastern portion of the site, it is not believe that impacted groundwater is contributing to the vapor concentrations noted. However, in order to better determine and confirm existing site conditions, PWGC has prepared a work plan for additional investigation of subsurface soils and groundwater and has submitted it under separate cover for NYSDEC review.

Should residual impact be found, PWGC will develop a remedial measure to address the contamination to eliminate the source of vapors beneath the sub-slab. If no impact is noted and follow-up sub-slab samples still show elevated VOC concentrations, an appropriate sub-slab remedial action will be recommended. Such action may include a one time venting of sub-slab vapors or the installation of a passive sub-slab venting system at both the industrial building and the residence.

FIGURES



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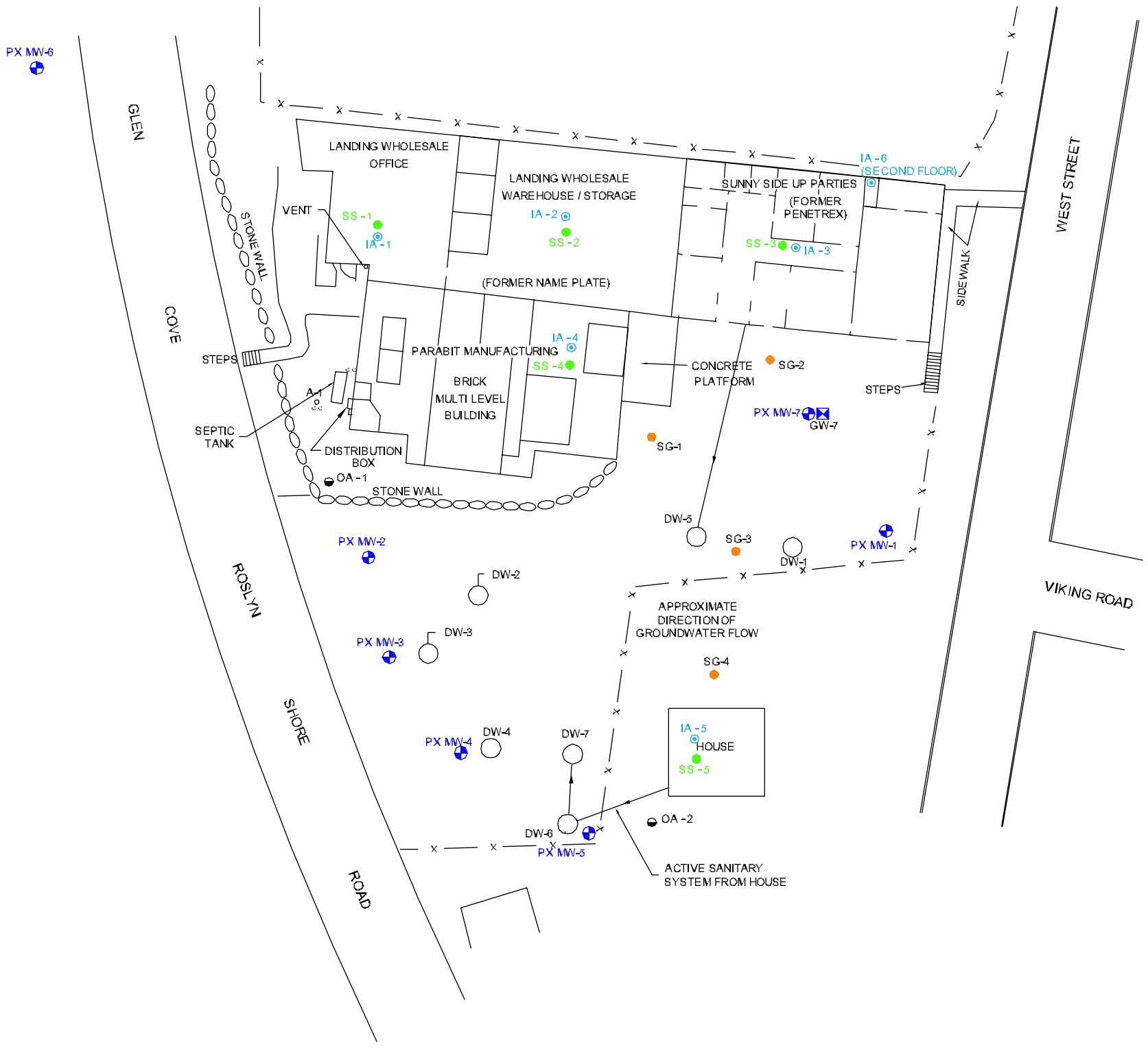
Site Location Map

Project	PEN0001
Designed by	JPR
Approved by	JPR
Drawn by	KF
Figure No.	1
Date	02\09\04



LEGEND

- MONITORING WELL
- DRY WELL / LEACHING STRUCTURE
- GW-7 VERTICAL PROFILE LOCATION
- PREVIOUS SOIL GAS LOCATION
- SS-2 SUB-SLAB VAPOR LOCATION
- IA-3 INDOOR AIR LOCATION
- OA-1 OUTDOOR AIR LOCATION

0 40 80

SCALE: 1" = 40'

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

SITE PLAN
1 SHORE ROAD
GLENWOOD LANDING
FORMER PENETREX PROCESSING
NYSDEC I.D. No. 130034

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Project: PEN0001	Designed By: ZY	Figure No: 2
CADD Operator: TC\TEB	Approved By: PWG	Date: 10/20/05

J:\Projects M-R\Pen - Penetrex\CADD\10-18-05\FIGURE 2 10-20-05.dwg

TABLES

ONE SHORE ROAD
GLENWOOD LANDING, NEW YORK

TABLE 1

CHEMICAL INVENTORY

Southwest Portion of Building (first floor, Parabit)				
Product	**Ingredient**	**Quantity**	**Units**	**Website/MSDS**
3M Super Duty Rubbing Solution		1	quart	http://multimedia.mmm.com/mws/
3M Swirl Mark Remover		1	quart	http://multimedia.mmm.com/mws/
ABS Cement	Methylethylketone	1.5	gal	http://www.genovaproducts.com/MSDS/ABSCEMENT.pdf
Dap Weldwood Contact Cement		1	gal	http://www.dap.com/msds/118.pdf
Dap Weldwood Spray Adhesive		8	oz	http://www.dap.com/msds/118.pdf
DuoSeal Pump Oil		2	gal	
Fast Oranger Hand Cleaner		1	gal	http://www.permatex.com/MSDS_data/msds_pdf/35013.pdf
Formica Glue	Naphtha, MEK, toluene, hexane, cyclohexane	5	gal	
KleenMaster - Brillianize		8	oz	http://www.brillianize.com/Reports.htm
Kydex glue		2	quart	http://kydex.com
Liquid Nails		10	tubes	http://www.liquidnails.com/productlist.html
Novus Fine and Heavy Scratch Remover		24	oz	http://www.modernplastics.com/novisplasticpolish.html
Novus Plastic Shine		24	oz	http://www.modernplastics.com/novisplasticpolish.html
PVC primer and cement		1	quart	
Resin Bond	methylene chloride	1	gal	
SEM Color Coat Flexible Coating		12	oz	
SEM Self Etching Primer	toluene, acetone, methylethyl ketone, xylenes	1	gal	
Smooth-on Epoxy Resin Cement	Bisphenol A, epichlorohydrin	15	gal	http://www.smooth-on.com/liqrubr.htm
Smooth-on Reoflux 30 urethane compound	Diethyltouenediamine	100	gal	http://www.smooth-on.com/liqrubr.htm
Smooth-on Rubber Mold Compound	Diethyltouenediamine	10	gal	http://www.smooth-on.com/liqrubr.htm

Northwest Warehouse Portion of Building (first floor, Landing Wholesale)				
Product	**Ingredient**	**Quantity**	**Units**	**Website/MSDS**
3M Photo Mount Adhesive		16	oz	
Goof Off		1	gal	http://www.valspar.com/val/resident/goof-off.jsp
Olive Oil Cosmetics		2,000	gal	

Northeast Portion of Building (second floor, church/daycare)				
Product	**Ingredient**	**Quantity**	**Units**	**Website/MSDS**
none				

East Portion of Building (first floor, Sunnyside Up Parties)				
Product	**Ingredient**	**Quantity**	**Units**	**Website/MSDS**
Clorox cleaner with bleach	chlorine	1.25	gal	http://chlorox.com
Lysol All-purpose Cleaner		1	gal	http://www.lysol.com
Lysol Disinfectant Spray		38	oz	http://www.lysol.com
Windex Window Cleaner	ethylene glycol, isopropanol	1	gal	http://www.scjohnson.com/msds_us_ca/US_brands/windex

Residence				
Product	**Ingredient**	**Quantity**	**Units**	**Website/MSDS**
Benjamin Moore Latex Paint	Titanium Dioxide	10	gal	http://www.benjaminmoore.com/msds/1033/m221.pdf
Klenk's Tub, Tile, & Sink Epoxy A	2-pentanone, 4-methyl benzene, Dimethyl phenol	24	oz	http://www.klenks.com/downloads/8500_MSDS.pdf

1 SHORE ROAD
GLENWOOD LANDING, NEW YORK

TABLE 2

SUB-SLAB VAPOR AND
INDOOR AIR ANALYTICAL RESULTS

	Landing Wholesale (Office)				Landing Wholesale (Warehouse)				Sunnyside Up Parties				Parabit Manufacturing				Residence				Church	
Compound	**SS-1**	**Q**	**IA-1**	**Q**	**SS-2**	**Q**	**IA-2**	**Q**	**SS-3**	**Q**	**IA-3**	**Q**	**SS-4**	**Q**	**IA-4**	**Q**	**SS-5**	**Q**	**IA-5**	**Q**	**IA-6**	**Q**
Dichlorodifluoromethane	4.9	U	5.9		250	U	13		640	U	2.5	U	4.9	U	2.5	U	25	U	2.5		2.5	
Chloromethane	2.1	U	1.1		100	U	1.0	U	270	U	2.1		2.1	U	1.1		10	U	1.0	U	1.3	
Vinyl Chloride	1.0	U	0.51	U	51	U	0.51	U	130	U	0.51	U	1.0	U	0.51	U	5.1	U	0.51	U	0.51	U
Bromomethane	1.6	U	0.78	U	78	U	0.78	U	190	U	0.78	U	1.6	U	0.78	U	7.8	U	0.78	U	0.78	U
Chloroethane	1.1	U	0.53	U	53	U	0.53	U	130	U	0.53	U	1.1	U	0.53	U	5.3	U	0.53	U	0.53	U
Trichlorofluoromethane	2.6		3.7		110	U	6.7		280	U	1.6		2.2	U	2.2		11	U	2.6		1.9	
Freon TF	450		1.5	U	410		1.5	U	380	U	1.5	U	24		1.5	U	15	U	1.5	U	1.5	U
1,1-Dichloroethene	1.6	U	0.79	U	79	U	0.79	U	200	U	0.79	U	1.6	U	0.79	U	7.9	U	0.79	U	0.79	U
Methylene Chloride	17		170	D	170	U	110		450	U	6.3		1,300	D	800	D	17	U	1.7	U	73	
1,1-Dichloroethane	1.6	U	0.81	U	81	U	0.81	U	200	U	0.81	U	1.6	U	0.81	U	8.1	U	0.81	U	0.81	U
cis-1,2-Dichloroethene	1.6	U	0.79	U	79	U	0.79	U	200	U	0.79	U	1.6	U	0.79	U	7.9	U	0.79	U	0.79	U
Chloroform	2.0	U	0.98	U	98	U	0.98	U	240	U	0.98	U	2.3		0.98	U	9.8	U	0.98	U	0.98	U
1,1,1-Trichloroethane	10		1.1	U	120		1.1	U	270	U	1.1	U	15		1.1	U	11	U	1.1	U	1.1	U
Carbon Tetrachloride	2.5	U	1.3	U	130	U	1.3	U	310	U	1.3	U	2.5	U	1.3	U	13	U	1.3	U	1.3	U
Benzene	1.4		1.4		64	U	1.3		160	U	0.83		3.5		0.86		6.4	U	0.89		1.8	
1,2-Dichloroethane	1.6	U	0.81	U	81	U	0.81	U	200	U	0.81	U	1.6	U	0.81	U	8.1	U	0.81	U	0.81	U
Trichloroethene	52		1.5		520		1.1	U	280		1.1	U	16		1.1	U	30		1.1	U	1.1	U
1,2-Dichloropropane	1.8	U	0.92	U	92	U	0.92	U	230	U	0.92	U	1.8	U	0.92	U	9.2	U	0.92	U	0.92	U
cis-1,3-Dichloropropene	1.8	U	0.91	U	91	U	0.91	U	230	U	0.91	U	1.8	U	0.91	U	9.1	U	0.91	U	0.91	U
Toluene	110		26		750		31		2,600		27		230		34		570		9.0		3.8	
trans-1,3-Dichloropropene	1.8	U	0.91	U	91	U	0.91	U	230	U	0.91	U	1.8	U	0.91	U	9.1	U	0.91	U	0.91	U
1,1,2-Trichloroethane	2.2	U	1.1	U	110	U	1.1	U	270	U	1.1	U	2.2	U	1.1	U	11	U	1.1	U	1.1	U
Tetrachloroethene	1,000	D	7.5		16,000		9.5		50,000		55		37		14		6,200	D	11		15	
Chlorobenzene	1.8	U	0.92	U	92	U	0.92	U	230	U	0.92	U	1.8	U	0.92	U	9.2	U	0.92	U	0.92	U
Ethylbenzene	6.5		2.7		87	U	2.3		220	U	2.3		7.4		2.0		32		96		0.87	U
Xylene (m,p)	29		8.7		96		7.4		220		7.4		28		5.6		130		270		0.87	U
Styrene	25		3.4		160		2.6		210	U	6.0		12		6.4		8.5	U	0.85	U	0.85	U
Xylene (o)	10		3.2		87	U	2.6		220	U	2.6		9.6		2.0		41		65		0.87	U
1,1,2,2-Tetrachloroethane	2.7	U	1.4	U	140	U	1.4	U	340	U	1.4	U	2.7	U	1.4	U	14	U	1.4	U	1.4	U
1,3-Dichlorobenzene	2.4	U	1.2	U	120	U	1.2	U	300	U	1.2	U	2.4	U	1.2	U	12	U	1.2	U	1.2	U
1,4-Dichlorobenzene	2.4	U	1.2	U	120	U	1.2	U	300	U	1.2	U	2.4	U	1.2	U	12	U	1.2	U	1.2	U
1,2-Dichlorobenzene	2.4	U	1.2	U	120	U	1.2	U	300	U	1.2	U	2.4	U	1.2	U	12	U	1.2	U	1.2	U
1,2,4-Trichlorobenzene	7.4	U	3.7	U	370	U	3.7	U	960	U	3.7	U	7.4	U	3.7	U	37	U	3.7	U	3.7	U
Hexachlorobutadiene	4.3	U	2.1	U	210	U	2.1	U	530	U	2.1	U	4.3	U	2.1	U	21	U	2.1	U	2.1	U
1,3,5-Trimethylbenzene	4.9		0.98	U	98	U	0.98	U	250	U	1.3		4.3		0.98	U	15		7.4		0.98	U
1,2,4-Trimethylbenzene	19		2.9		98	U	3.1		250	U	3.4		16		1.9		54		27		0.98	U
1,2-Dichlorotetrafluoroethane	2.8	U	1.4	U	140	U	1.4	U	350	U	1.4	U	2.8	U	1.4	U	14	U	1.4	U	1.4	U
1,2-Dibromoethane	3.1	U	1.5	U	150	U	1.5	U	380	U	1.5	U	3.1	U	1.5	U	15	U	1.5	U	1.5	U
1,3-Butadiene	0.88	U	0.44	U	44	U	0.44	U	110	U	0.44	U	0.88	U	0.44	U	4.4	U	0.44	U	0.44	U
Carbon Disulfide	3.1	U	1.6	U	160	U	1.6	U	470		2.0		3.1	U	1.6	U	16	U	1.6	U	1.6	U
Acetone	88		120	D	1,200	U	100	D	3,100	U	50		380	D	86		120	U	16		55	
Isopropyl Alcohol	25	U	59		1,200	U	37		3,200	U	12	U	91		23		420		12	U	29	
Methyl tert-Butyl Ether	3.6	U	1.8	U	180	U	1.8	U	470	U	1.8	U	3.6	U	1.8	U	21		1.8	U	1.8	U
Cyclohexane	1.4	U	0.69		190		0.86		890		0.69	U	2.3		0.69	U	6.9	U	0.69	U	1.5	
Dibromochloromethane	3.4	U	1.7	U	170	U	1.7	U	430	U	1.7	U	3.4	U	1.7	U	17	U	1.7	U	1.7	U
Methyl Ethyl Ketone	9.4		12		180		9.4		530		7.1		29		14		15	U	2.9		22	
1,4-Dioxane	36	U	18	U	1,800	U	18	U	4,700	U	18	U	36	U	18	U	180	U	18	U	18	U
Methyl Isobutyl Ketone	4.9		2.1		200	U	5.3		530	U	4.9		17		4.0		20	U	5.7		2.0	U
Methyl Butyl Ketone	4.1	U	2.0	U	200	U	2.0	U	530	U	2.0	U	4.1	U	2.0	U	20	U	2.0	U	2.0	U
Bromoform	4.1	U	2.1	U	210	U	2.1	U	520	U	2.1	U	4.1	U	2.1	U	21	U	2.1	U	2.1	U
Bromodichloromethane	2.7	U	1.3	U	130	U	1.3	U	340	U	1.3	U	2.7	U	1.3	U	13	U	1.3	U	1.3	U
trans-1,2-Dichloroethene	1.6	U	0.79	U	79	U	0.79	U	200	U	0.79	U	1.6	U	0.79	U	7.9	U	0.79	U	0.79	U
4-Ethyltoluene	12		2.2		98	U	2.2		250	U	2.5		9.8		1.5		42		16		0.98	U
3-Chloropropene	1.3	U	0.63	U	63	U	0.63	U	160	U	0.63	U	1.3	U	0.63	U	6.3	U	0.63	U	0.63	U
2,2,4-Trimethylpentane	1.9	U	3.0		93	U	3.3		230	U	1.1		2.7		1.3		9.3	U	1.0		1.3	
Bromoethene	1.7	U	0.87	U	87	U	0.87	U	220	U	0.87	U	1.7	U	0.87	U	8.7	U	0.87	U	0.87	U
2-Chlorotoluene	2.1	U	1.0	U	100	U	1.0	U	260	U	1.0	U	2.1	U	1.0	U	10	U	1.0	U	1.0	U
n-Hexane	9.5		2.8		99		3.3		260		1.2		9.2		1.7		15		1.2		4.6	
Tetrahydrofuran	29	U	15	U	1,500	U	15	U	3,800	U	15	U	29	U	15	U	150	U	15	U	15	U
n-Heptane	1.7		2.0		82	U	1.8		200	U	1.5		13		4.5		8.2	U	1.8		2.2	
1,2-Dichloroethene (total)	1.6	U	0.79	U	79	U	0.79	U	200	U	0.79	U	1.6	U	0.79	U	7.9	U	0.79	U	0.79	U
Xylene (total)	40		12		96		10		230		10		38		7.8		170		340		0.87	U
tert-Butyl Alcohol	30	U	15	U	1,500		15	U	3,900	U	15	U	39		15	U	150	U	15	U	15	U

Notes:

U - Compound not detected at a concentration above the reporting limit.
D - Concentrations identified from analysis of the sample at a secondary dilution.
All units are µg/m³

1 SHORE ROAD
GLENWOOD LANDING, NEW YORK

TABLE 3

INDOOR AIR ANALYTICAL RESULTS

Compound	Air Guideline Value*	IA-1	Q	IA-2	Q	IA-3	Q	IA-4	Q	IA-5	Q	IA-6	Q
Methylene Chloride	**60** a	**170**	D	**110**		6.3		**800**	D	1.7	U	**73**	
Trichloroethene	**5** b	1.5		1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
Tetrachloroethene	**100** c	7.5		9.5		55		14		11		15	

Notes:

*Air guideline values derived by the NYSDOH

a - NYSDOH. Letter from N. Kim to T. Allen, Division of Air, NYSDEC. November 28, 1988.
b - NYSDOH. Letter from N. Kim to D. Desnoyers, Division of Environmental Remediation, NYSDEC. October 31, 2003.
c - NYSDOH. Tetrachloroethene Ambient Air Criteria Document. Albany, NY: Bureau of Toxic Substance Assessment. 1997.

All units are $\mu g/m^3$
Bold text denotes exceedance of guideline value.
U - Compound not detected at a concentration above the reporting limit.
D - Concentrations identified from analysis of the sample at a secondary dilution.

1 SHORE ROAD
GLENWOOD LANDING, NEW YORK

TABLE 4

OUTDOOR AIR ANALYTICAL RESULTS

Compound	Outdoor Background Levels*	OA-1	Q	OA-2	Q
Dichlorodifluoromethane	NA	2.5	U	2.6	
Chloromethane	2.0-3.0	1.0	U	1.0	U
Vinyl Chloride	<1.0	0.51	U	0.51	U
Bromomethane	<1.0	0.78	U	0.78	U
Chloroethane	NA	0.53	U	0.53	U
Trichlorofluoromethane	NA	1.5		1.5	
Freon TF	NA	1.5	U	1.5	U
1,1-Dichloroethene	<1.0	0.79	U	0.79	U
Methylene Chloride	<1.8-3.0	1.7	U	1.9	
1,1-Dichloroethane	<0.4	0.81	U	0.81	U
cis-1,2-Dichloroethene	<1.0	0.79	U	0.79	U
Chloroform	<0.4	0.98	U	0.98	U
1,1,1-Trichloroethane	<0.6-1.7	1.1	U	1.1	U
Carbon Tetrachloride	<1.0	1.3	U	1.3	U
Benzene	1.2-3.7	0.86		0.73	
1,2-Dichloroethane	<0.6	0.81	U	0.81	U
Trichloroethene	<1.5	1.1	U	1.1	U
1,2-Dichloropropane	<1.4	0.92	U	0.92	U
cis-1,3-Dichloropropene	NA	0.91	U	0.91	U
Toluene	5.9-16	3.1		3.1	
trans-1,3-Dichloropropene	NA	0.91	U	0.91	U
1,1,2-Trichloroethane	<12	1.1	U	1.1	U
Tetrachloroethene	<1.4-3.0	1.4	U	1.4	U
Chlorobenzene	<0.8	0.92	U	0.92	U
Ethylbenzene	<1.4-1.6	0.87	U	0.87	U
Xylene (m,p)	<3.6-7.3	1.3		1.3	
Styrene	<1.6	0.85	U	0.85	U
Xylene (o)	<1.4-2.6	0.87	U	0.87	U
1,1,2,2-Tetrachloroethane	NA	1.4	U	1.4	U
1,3-Dichlorobenzene	<0.8	1.2	U	1.2	U
1,4-Dichlorobenzene	NA	1.2	U	1.2	U
1,2-Dichlorobenzene	<1.0	1.2	U	1.2	U
1,2,4-Trichlorobenzene	NA	3.7	U	3.7	U
Hexachlorobutadiene	NA	2.1	U	2.1	U
1,3,5-Trimethylbenzene	<1.4	0.98	U	0.98	U
1,2,4-Trimethylbenzene	<1.6-3.1	0.98	U	0.98	U

1 SHORE ROAD
GLENWOOD LANDING, NEW YORK

TABLE 4

OUTDOOR AIR ANALYTICAL RESULTS

Compound	Outdoor Background Levels*	OA-1	Q	OA-2	Q
1,2-Dichlorotetrafluoroethane	NA	1.4	U	1.4	U
1,2-Dibromoethane	<1.2	1.5	U	1.5	U
1,3-Butadiene	NA	0.44	U	0.44	U
Carbon Disulfide	NA	1.6	U	1.6	U
Acetone	15-32	14		14	U
Isopropyl Alcohol	NA	12	U	12	U
Methyl tert-Butyl Ether	<1.8	1.8	U	1.8	U
Cyclohexane	NA	0.69	U	0.69	U
Dibromochloromethane	NA	1.7	U	1.7	U
Methyl Ethyl Ketone	NA	3.8		3.8	U
1,4-Dioxane	NA	18	U	18	U
Methyl Isobutyl Ketone	NA	2.0	U	2.0	U
Methyl Butyl Ketone	NA	2.0	U	2.0	U
Bromoform	NA	2.1	U	2.1	U
Bromodichloromethane	NA	1.3	U	1.3	U
trans-1,2-Dichloroethene	NA	0.79	U	0.79	U
4-Ethyltoluene	NA	0.98	U	0.98	U
3-Chloropropene	NA	0.63	U	0.63	U
2,2,4-Trimethylpentane	NA	1.0		0.93	U
Bromoethene	NA	0.87	U	0.87	U
2-Chlorotoluene	NA	1.0	U	1.0	U
n-Hexane	<1.2-2.7	1.4		1.2	
Tetrahydrofuran	NA	15	U	15	U
n-Heptane	NA	2.9		2.9	U
1,2-Dichloroethene (total)	NA	0.79	U	0.79	U
Xylene (total)	NA	1.3		1.4	
tert-Butyl Alcohol	NA	15	U	15	U

Notes:

*Outdoor Background Levels, USEPA Building Assessment and Survey Evaluation (BASE '94-'98).

NA - No Available
All units are $\mu g/m^3$
U - Compound not detected at a concentration above the reporting limit.

APPENDIX A

SAMPLING PLAN APPROVAL AND

ADDITIONAL CORRESPONDENCE

New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau A
625 Broadway, 11th Floor
Albany, New York 12233-7015
Phone: (518) 402-9621 • Fax: (518) 402-9022
Website: www.dec.state.ny.us

Denise M. Sheehan
Acting
Commissioner

July 25, 2005

Mr. James P. Rhodes, C.P.G.
P.W. Grosser Consulting Engineers P.C.
630 Johnson Avenue, Suite 7
Bohemia, NY 11716

RE: Penetrex Processing Company
Site No. 130034
Nassau County

Dear Mr. Rhodes:

The New York State Department of Environmental Conservation, NYSDEC, has approved the soil vapor intrusion investigation described in the June 14, 2005 Revised Sub-Slab Vapor and Indoor Air Sampling Plan and the July 19, 2005 Additional Sample letter. Please notify the NYSDEC at least ten business days prior to the start of field work.

Sincerely,

Nathan E. Putnam
Project Manager
Section A

cc: R. Weitzman, NCDOH
D. Yudelson, Esq.

ec: G. Bobersky, NYSDEC
W. Parish, NYSDEC
J. Nealon, NYSDOH

APPENDIX B

NYSDOH INDOOR AIR QUALITY QUESTIONNAIRES AND BUILDING INVENTORIES

commercial

NEW YORK STATE DEPARTMENT OF HEALTH
INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY
CENTER FOR ENVIRONMENTAL HEALTH

This form must be completed for each residence involved in indoor air testing.

Preparer's Name John Eichler Date/Time Prepared 8-25-05

Preparer's Affiliation PW Grosser Consulting Phone No. (631) 466-0153

Purpose of Investigation Supplemental / PCE

1. OCCUPANT:

Interviewed: Y / N

Last Name: various First Name: _____

Address: 1 Shore Rd, Glenwood Landing, NY

County: Nassau

Home Phone: _____ Office Phone: _____

Number of Occupants/persons at this location ~ 20 Age of Occupants adults/children/various

2. OWNER OR LANDLORD: (Check if same as occupant ___)

Interviewed: (Y) N

Last Name: Weinberger First Name: Larry

Address: 99 Mineola Ave., Roslyn Heights, NY 11577

County: Nassau

Home Phone: _____ Office Phone: (516) 484-1234

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

Residential School (Commercial) Multi-use
Industrial Church Other: _____

If the property is residential, type? (Circle appropriate response)

Ranch	2-Family	3-Family
Raised Ranch	Split Level	Colonial
Cape Cod	Contemporary	Mobile Home
Duplex	Apartment House	Townhouses/Condos
Modular	Log Home	Other:_____

If multiple units, how many? _____

If the property is commercial, type?

Business Type(s) warehouse / ATM manufacturer / Church organization / Children's Party yes

Does it include residences (i.e., multi-use)? Y (N) If yes, how many? _____

Other characteristics:

Number of floors 2 Building age 60 years

Is the building insulated? (Y) N How air tight? Tight (Average) Not Tight

4. AIRFLOW

Use air current tubes or tracer smoke to evaluate airflow patterns and qualitatively describe:

Airflow between floors

_____

_____

_____

Airflow near source

_____

_____

_____

Outdoor air infiltration

_____

_____

_____

Infiltration into air ducts

_____

_____

_____

5. **BASEMENT AND CONSTRUCTION CHARACTERISTICS** (Circle all that apply)

a. Above grade construction:	wood frame	(concrete)	stone	brick
b. Basement type:	full	crawlspace	(slab)	other no basement
c. Basement floor:	concrete	dirt	stone	other no basement
d. Basement floor:	uncovered	covered	covered with no basement	
e. Concrete floor:	(unsealed)	sealed	sealed with _____	
f. Foundation walls:	(poured)	block	stone	other _____
g. Foundation walls:	unsealed	sealed	sealed with _____	
h. The basement is:	wet	damp	dry	moldy
i. The basement is:	finished	unfinished	partially finished	
j. Sump present?	Y (N)			
k. Water in sump?	Y / N (not applicable)			

Basement/Lowest level depth below grade: at grade (feet)

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)

—

_____

_____

6. **HEATING, VENTING and AIR CONDITIONING** (Circle all that apply)

Type of heating system(s) used in this building: (circle all that apply – note primary)

(Hot air circulation)	Heat pump	(Hot water baseboard)	
(Space Heaters)	Stream radiation	Radiant floor	
Electric baseboard	Wood stove	Outdoor wood boiler	Other _____

The primary type of fuel used is:

(Natural Gas)	Fuel Oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank fueled by: Gas

Boiler/furnace located in: Basement Outdoors (Main Floor) Other_____

Air conditioning: Central Air Window units Open Windows None

Are there air distribution ducts present? (Y) N

Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.

Sunnyside-Up has new central HVAC system. Church org. and Warner holdings also have central HVAC in office areas.

7. OCCUPANCY

Is basement/lowest level occupied? Full-time (Occasionally) Seldom Almost Never

Level	**General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)**
Basement	none
1st Floor	ATM manuf/childrens parties/warehouse
2nd Floor	Church organization
3rd Floor	—
4th Floor	—

8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

a. Is there an attached garage? (Y)/ N

b. Does the garage have a separate heating unit? (Y) N / NA

c. Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, atv, car) (Y) N / NA
Please specify 1 car, 1 forklift (propane)

d. Has the building ever had a fire? Y / (N) When?_____

e. Is a kerosene or unvented gas space heater present? Y / (N) Where?_____

f. Is there a workshop or hobby/craft area? (Y) N Where & Type? ATM manuf

g. Is there smoking in the building? Y / (N) How frequently?_____

h. Have cleaning products been used recently? Y / (N) When & Type?_____

i. Have cosmetic products been used recently? Y / (N) When & Type? _____

j. Has painting/staining been done in the last 6 months? (Y) N Where & When? _____

k. Is there new carpet, drapes or other textiles? (Y) N Where & When? Sunnyside-up/6 months

l. Have air fresheners been used recently? Y / (N) When & Type? _____

m. Is there a kitchen exhaust fan? Y / (N) If yes, where vented? _____

n. Is there a bathroom exhaust fan? (Y) / N If yes, where vented? roof

o. Is there a clothes dryer? Y / (N) If yes, is it vented outside? Y / N

p. Has there been a pesticide application? Y / (N) When & Type? _____

Are there odors in the building? Y / N
If yes, please describe: Yes. Paint at Parabilt

Do any of the building occupants use solvents at work? (Y) N
(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist

If yes, what types of solvents are used? See Product Inventory

If yes, are their clothes washed at work? Y / (N)

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry-cleaning regularly (weekly) (No)
Yes, use dry-cleaning infrequently (monthly or less) Unknown
Yes, work at a dry-cleaning service

Is there a radon mitigation system for the building/structure? Y / (N) Date of Installation: _____
Is the system active or passive? Active/Passive

9. WATER AND SEWAGE

Water Supply: (Public Water) Drilled Well Driven Well Dug Well Other: _____

Sewage Disposal: Public Sewer Septic Tank Leach Field (Dry Well) Other: _____

10. RELOCATION INFORMATION (for oil spill residential emergency)

a. Provide reasons why relocation is recommended: _____

b. Residents choose to: remain in home relocate to friends/family relocate to hotel/motel

c. Responsibility for costs associated with reimbursement explained? Y / N

d. Relocation package provided and explained to residents? Y / N

11. FLOOR PLANS

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.

Basement:

see site plan

First Floor:

12. OUTDOOR PLOT

Draw a sketch of the area surrounding the building being sampled. If applicable, provide information on spill locations, potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.

13. PRODUCT INVENTORY FORM

Make & Model of field instrument used: MiniRae 2000 PID

List specific products found in the residence that have the potential to affect indoor air quality.

Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units)	Photo** Y / N
Parab.t	3M Super Duty Rubbing Solution	1qt	U		0 ppm	
	3M Swirl Mark Remover	1qt	U		0	
	ABS cement	1.5gal	U	Methyl ethel ketone	0	
	Dap Weldwood Contact Cement	1gal	U	Tolvene, Aliphatic petroleum Distillate, MEK	0	
	Dap Weldwood Spray Adhesive	8oz	U	Tolvene, N-Hexane, Aliphatic Petroleum distillate, Acetone	0	
	Duo Seal Pump Oil	2gal	U		0	
	Fast Orange Hand Cleaner	1gal	U	Pumice	0	
	Formica Glue	5gal	U	Naphthalene, MEK, tolvene nexane, cyclohexane	0	
	Kleenmaster Brillanize cleaner	8oz	U		0	
	Kydex glue	2qt	U		0	
	Liquid Nails	10 tubes	U	Heptane, Benzene, Solvent Naphtha	0	
	Novus Fine and Heavy Scratch Remover	24 oz	U		0	
	Novus Plastic Shine	24 oz	U		0	
	PVC primer and cement	1qt	U		0	
	Resin Bond	1gal	U	methylene chloride	0	
	SEM Color Coat Flexible Coating	12oz	U	tolvene, acetone	24 ppm	
	SEM self Etching Primer	1gal	U	tolvene, acetone, MEK xylenes	0	
	Smooth-on Epoxy Resin Cement	15gal	U	Bisphenol A, epichlorohydrin	0	
	Smooth-on Reoflux 30 urethane compound	100 gal	U	Diethyl tolvenediamine	0	

* Describe the condition of the product containers as **Unopened (UO), Used (U),** or **Deteriorated (D)**
** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

. PRODUCT INVENTORY FORM

Make & Model of field instrument used: MiniRae 2000 PID

List specific products found in the residence that have the potential to affect indoor air quality.

Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units)	Photo** Y / N
Parakit	Smooth-on Rubber Mold Compound	10 gal	U	Diethyltoluenediamine	0 ppm	
Landing	3M Photo Mount Adhesive	16 oz	U		0	
↓	Goof off	1 gal	U		0	
↓	Olive Oil Cosmetics	2000 gal	UO		0	
Sunny side up	Clorox cleaner with Bleach	1.25 gal	UO	chlorine	0	
↓	Lysol All-purpose cleaner	1 gal	U	Ammonia	0	
↓	Lysol Disinfectant Spray	38 oz	U		0	
↓	Windex Window cleaner	1 gal	U	ethylene glycol, isopropanol	0	

* Describe the condition of the product containers as **Unopened (UO), Used (U),** or **Deteriorated (D)**
** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

OSR – 3

Residence

NEW YORK STATE DEPARTMENT OF HEALTH
INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY
CENTER FOR ENVIRONMENTAL HEALTH

This form must be completed for each residence involved in indoor air testing.

Preparer's Name John Eichler Date/Time Prepared 8-25-05

Preparer's Affiliation PW Grosser Consulting Phone No. 426-0153

Purpose of Investigation PCE / supplemental

1. OCCUPANT:

Interviewed: Y / N

Last Name: Coughlin First Name: Dan + Ann

Address: 1 Shore Rd, Glenwood Landing, NY

County: Nassau

Home Phone: _____ Office Phone: _____

Number of Occupants/persons at this location 4 Age of Occupants 2 adults, 2 children

2. OWNER OR LANDLORD: (Check if same as occupant ___)

Interviewed: Y / N

Last Name: Weinberger First Name: Larry

Address: 99 Mineola Ave, Roslyn Heights, NY 11577

County: Nassau

Home Phone: _____ Office Phone: (516) 484-1234

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

Residential	School	Commercial/Multi-use
Industrial	Church	Other: _____

If the property is residential, type? (Circle appropriate response)

Ranch	2-Family	3-Family
Raised Ranch	Split Level	Colonial
Cape Cod	Contemporary	Mobile Home
Duplex	Apartment House	Townhouses/Condos
Modular	Log Home	Other:_____

If multiple units, how many? 2

If the property is commercial, type?

Business Type(s) _____

Does it include residences (i.e., multi-use)? Y / N If yes, how many? 1

Other characteristics:

Number of floors 3 Building age 100 years

Is the building insulated? Y / N How air tight? Tight / Average / Not Tight

4. AIRFLOW

Use air current tubes or tracer smoke to evaluate airflow patterns and qualitatively describe:

Airflow between floors

Airflow near source

Outdoor air infiltration

Infiltration into air ducts

5. **BASEMENT AND CONSTRUCTION CHARACTERISTICS** (Circle all that apply)

a. Above grade construction:	wood frame	concrete	stone	brick
b. Basement type:	full	crawlspace	slab	other 6'
c. Basement floor:	concrete	dirt	stone	other _____
d. Basement floor:	uncovered	covered	covered with _____	
e. Concrete floor:	unsealed	sealed	sealed with _____	
f. Foundation walls:	poured	block	stone	other _____
g. Foundation walls:	unsealed	sealed	sealed with _____	
h. The basement is:	wet	damp	dry	moldy
i. The basement is:	finished	unfinished	partially finished	
j. Sump present?	Y / N			
k. Water in sump?	Y / N / not applicable			

Basement/Lowest level depth below grade: 2-10 (feet) grade varies

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)

None

6. **HEATING, VENTING and AIR CONDITIONING** (Circle all that apply)

Type of heating system(s) used in this building: (circle all that apply – note primary)

Hot air circulation	Heat pump	Hot water baseboard	
Space Heaters	Stream radiation	Radiant floor	
Electric baseboard	Wood stove	Outdoor wood boiler	Other _____

The primary type of fuel used is:

Natural Gas	Fuel Oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank fueled by: Gas

Boiler/furnace located in: Basement Outdoors Main Floor Other_____

Air conditioning: Central Air Window units Open Windows None

Are there air distribution ducts present? Y / (N)

Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.

NA

7. OCCUPANCY

Is basement/lowest level occupied? Full-time Occasionally Seldom (Almost Never)

Level	**General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)**
Basement	utilities
1st Floor	full apartment
2nd Floor	apartment
3rd Floor	apartment
4th Floor	attic

8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

a. Is there an attached garage? Y / (N)

b. Does the garage have a separate heating unit? Y / N / (NA)

c. Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, atv, car) Y / N / (NA) Please specify_____

d. Has the building ever had a fire? Y / (N) When?_____

e. Is a kerosene or unvented gas space heater present? Y / (N) Where?_____

f. Is there a workshop or hobby/craft area? Y / (N) Where & Type?_____

g. Is there smoking in the building? Y / (N) How frequently?_____

h. Have cleaning products been used recently? Y / (N) When & Type?_____

i. **Have cosmetic products been used recently?** Y / (N) When & Type? _____

j. **Has painting/staining been done in the last 6 months?** (Y) / N Where & When? 1st floor / this week

k. **Is there new carpet, drapes or other textiles?** Y / (N) Where & When? _____

l. **Have air fresheners been used recently?** Y / (N) When & Type? _____

m. **Is there a kitchen exhaust fan?** Y / (N) If yes, where vented? _____

n. **Is there a bathroom exhaust fan?** (Y) / N If yes, where vented? outside front

o. **Is there a clothes dryer?** Y / (N) If yes, is it vented outside? Y / N

p. **Has there been a pesticide application?** (Y) / N When & Type? June 2005

Are there odors in the building? (Y) / N
If yes, please describe: FRONT

Do any of the building occupants use solvents at work? Y / (N)
(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? Y / N

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry-cleaning regularly (weekly)
Yes, use dry-cleaning infrequently (monthly or less)
Yes, work at a dry-cleaning service
(No)
Unknown

Is there a radon mitigation system for the building/structure? Y / (N) Date of Installation: _____
Is the system active or passive? Active/Passive

9. WATER AND SEWAGE

Water Supply: (Public Water) Drilled Well Driven Well Dug Well Other: _____

Sewage Disposal: Public Sewer Septic Tank Leach Field (Dry Well) Other: _____

10. RELOCATION INFORMATION (for oil spill residential emergency)

a. **Provide reasons why relocation is recommended:** _____

b. **Residents choose to:** remain in home relocate to friends/family relocate to hotel/motel

c. Responsibility for costs associated with reimbursement explained? Y / N

d. Relocation package provided and explained to residents? Y / N

11. FLOOR PLANS

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.

Basement:

see figure (site plan)

First Floor:

12. OUTDOOR PLOT

Draw a sketch of the area surrounding the building being sampled. If applicable, provide information on spill locations, potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.

13. PRODUCT INVENTORY FORM

Make & Model of field instrument used: Mini Rae 2000 PID

List specific products found in the residence that have the potential to affect indoor air quality.

Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units)	Photo** Y / N
1st Floor	Benjamin Moore Latex Paint	10 gal	U	Titanium Dioxide	0 ppm	
1st Floor	Klenk's Tub, Tile, and Sink Epoxy A	24 oz	U	2-pentanone, 4 methyl benzene Dimethyl Phenol	28 ppm	

* Describe the condition of the product containers as **Unopened (UO), Used (U),** or **Deteriorated (D)**
** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

APPENDIX C

CANISTER SAMPLING FIELD DATA SHEETS

Canister Sampling Field Data Sheet

SUMMA AIR SAMPLING WORK SHEET

Site: PEN 0001
Samplers: JE
Date: 8-26-05

Site#: Penetrex
Work Assignment Manager:
Project Leader: JPR

Sample #	SS-1	SS-2	SS-3	SS-4	SS-5
Location	Landing office	Landing Warehouse	Sunnyside Up Parties	Parabit	residence
SUMMA ID	6213	6534	6388	6860	6575
Orifice Used	8 hr	8 hr	8 hr	8 hr	8 hr
Analysis/Method	TO-15	TO-15	TO-15	TO-15	TO-15
Time (Start)	~~2742~~ 0905	~~0730~~ 0915	0947	0936	1011
Time (Stop)	1705 ✓	1710 ✓	1747 ✓	1736 ✓	1811
Total Time	8 hr	8 hr	8 hr	8 hr	8 hr
Helium (Tracer Gas %)	9.6%	0.02%	0.11%	1.5%	5.8
SUMMA WENT TO AMBIENT	YES/NO	YES/NO	YES/NO	YES/NO	YES/NO
PID (ppm)	70	86	74	68	27
Pressure Gauge	-30	-30	-30	-30	-30
Pressure Gauge	-1	-2	-1	-1	-2
~~Flow Rate~~ (Pre)					
~~Flow Rate~~ (Post)					
~~Flow Rate~~ (Average)					

~~MET Station~~ On-site? Y / N

General Comments:

Canister Sampling Field Data Sheet

SUMMA AIR SAMPLING WORK SHEET

Site: PEN 0001
Samplers: JE
Date: 8-26-05

Site#: Penetrex
Work Assignment Manager:
Project Leader: JPR

Sample #	IA-1	IA-2	IA-3	IA-4	IA-5
Location	Landing Office	Landing Warehouse	Sunnyside up Parties	Parabit	residence Basement
SUMMA ID	7027	6439	6533	6524	[illegible]
Orifice Used	8 hr	8 hr	8 hr	8 hr	8 hr
Analysis/Method	TO-15	TO-15	TO-15	TO-15	TO-15
Time (Start)	0735	0732	1147	~~0745~~ 1150 ~~1205~~	~~0742~~ 1010
Time (Stop)	1535 ✓	1533 ✓	1947	1950 ✓	1810
Total Time	8 hr	8 hr	8 hr	8 hr	8 hr
SUMMA WENT TO AMBIENT	YES/NO	YES/NO	YES/NO	YES/NO	YES/NO
Pressure Gauge	-30	-30	-30	-30	-30
Pressure Gauge	-2	-2	-1	-1	-1
Flow Rate (Pre)					
Flow Rate (Post)					
Flow Rate (Average)					

MET Station On-site? Y / N

General Comments:

Canister Sampling Field Data Sheet

SUMMA AIR SAMPLING WORK SHEET

Site: PEN 0001
Samplers: JF
Date: 8-26-05

Site#: Penetrex
Work Assignment Manager:
Project Leader: JPR

Sample #	OA-1	OA-2	—	—	IA-6
Location	outside, commercial	outside house			upstairs
SUMMA ID		6559			6248
Orifice Used	8 hr	8 hr			8 hr
Analysis/Method	TO-15	TO-15			TO-15
Time (Start)	0935	0930			0712
Time (Stop)	1735 ✓	1730 ✓			1512 ✓
Total Time	8 hr	8 hr			8 hr
SUMMA WENT TO AMBIENT	YES/NO	YES/NO	YES/NO	YES/NO	YES/NO
Pressure Gauge	-30	-30	~~-30~~		-30
Pressure Gauge	-2	-2			-2
Flow Rate (Pre)					
Flow Rate (Post)					
Flow Rate (Average)					

MET Station On-site? Y / N

General Comments:

APPENDIX D

LABORATORY ANALYTICAL REPORTS