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SITE INVESTIGATION/ REMEDIAL ALTERNATIVE REPORT

Richard L. Hanson, Jr. - Fire Training Center
NYS Route 5, Village of Yosts,
Montgomery County, New York

Completion Date – November 7, 2002

Prepared For:

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1.0 INTRODUCTION:

1.1 Purpose of Report:

Precision Environmental Services, Inc. (PES) was contracted under the New York State Department of Environmental Conservation's (NYS DEC) Environmental Restoration Projects (Brownfields) by Montgomery County (MC) to perform a *limited* supplementary site investigation (SI) at the Richard L. Hanson, Jr. - Fire Training Center (Site). Subsequent sections of this report will address results of the SI and provide remedial alternatives based on the SI data.

1.2 Site Background:

1.2.1 Site Description:

The Site comprises a 12.7 acre parcel of which 3.12 acres were eligible for this Brownfields grant investigation. The Site is located on New York State Route 5, in the Town of Mohawk (Hamlet of Yosts), Montgomery County, New York (approximately 6 miles southwest of the Village of Fonda) (See Figure 1, Site Location Map). The area of investigation includes the Site and a one (1) acre parcel (Montgomery Co. tax map parcel number 65-2-18) located immediately southeast of the Site and NYS Route 5. A pond situated along the northern portion of the site, occupies an area of approximately 2.4 acres.

The Site is situated in a rural/residential setting with private homes existing to the north, west and east. A vacant wooded hillside exists to the north. Topography at the Site slopes gently from NYS Route 5 to a small pond located along the properties northern border (south to north). Regional topography slopes from the Site towards the Mohawk River (north to south). The Site is currently utilized as a training facility for fire fighting personnel. Structures existing on-site at the time of this investigation included a single story masonry block classroom building and a multi-story concrete block fire-training tower (see Figure 2 - Site Map). The facility is serviced with an on-site six-inch (6") steel cased, water well (reportedly 120 (+) feet in depth) and a conventional subsurface sewage disposal system. Electrical needs are met by overhead and underground services. No natural gas service exists at the Site.

1.2.2 Site History and Previous Investigations:

According to information contained in J. Kenneth Fraser & Associate's (F&A) Environmental Site Assessment (ESA) prepared on behalf of Montgomery County in October of 1996, a number of petroleum bulk storage (PBS) tanks historically existed at the subject Site. Information indicated underground storage tanks (USTs) existed in association with the former maintenance garage (500 gallon heating oil- Spill No 96-06805) and 300 linear feet northeast of the fire tower (probable 12,000 gallon UST - solvent based liquid - Spill No. 96-08496). In addition, fuel oil based contamination was detected in association with excavation work performed to construct the fire-training tower. A review of historic topographic maps (provided by the County) indicated the past existence of two (2) above ground bulk petroleum storage tanks. Currently, a single (1) 275 gallon heating oil aboveground storage tank is known to exist at the Site (southeast corner - classroom structure), which services the classroom building's heating needs. Specifics regarding the spatial occurrence of petroleum storage/distribution equipment associated with the possible historic fueling operations conducted by the railroad and/or Gulf Oil Corporation/Peters Truck Stop were not available in information supplied by the County. However, a document reviewed by PES entitled *Preliminary Report on the Proposed Site for a Volunteer Fireman Training Center* (authored by Montgomery County) indicated: the existence of several steel fuel tanks on the subject property including two (2) 20,000 gallon and one (1) 12,000

gallon above ground tanks, 2 or 3 underground tanks and several small fuel oil tanks. Information related to the proper decommissioning of *all* tanks listed in this inventory was not addressed in the historic documents provided to PES. It should be noted that apparent historic product dispensing piping (see Figure 2) was located and removed during the subsurface investigation by county personnel (June 1998). This work was performed under the observation of a PES geologist and direction of a county engineer. The piping was traced/removed in a north and south direction. No evidence of an associated underground storage tank was noted. Significant soil contamination was detected along the piping trace. The piping suggests the possible historic occurrence of a product-dispensing island adjacent to NYS Route 5.

According to information conveyed in the October, 1996 F&A report and verbal communication with County personnel, remediation of: ① the fuel oil tank grave associated with the former maintenance garage, ② fuel oil contamination discovered during construction of the fire tower, and ③ contamination existing in association with the (probable 12,000 gallon) solvent waste tank - has been completed to the satisfaction of the NYS DEC. For specifics regarding the assessment and subsequent historic remediation, please refer to documents prepared for the County by others.

Information provided in a report prepared for Montgomery County by J Kenneth Framer & Associates (F&A) (Rensselaer, New York) indicated the following historic property usage:

① Original Usage - suspected to be agricultural (Schuyler Family),
② Purchased in 1891 from the Schuyler Family by the New York Central & Hudson Railroad usage: mining of sand & gravel for railroad construction. Reputedly, a railroad fueling operation existed on the site in association with the construction work.
③ A partial transfer of property was performed In July of 1933 (railroad to the county) to facilitate widening of NYS Route 5 & Prame Road.
④ The subject property was sold by the railroad to Arthur & Agnes Peters in 1940. The Peters leased the property to Gulf Oil Corporation (GOC) from 1948-1958. GOC utilized the property as a truck stop/retail truck/automotive fueling facility. In addition to the fueling operations, an automotive/truck maintenance garage and diner existed at the site.
⑤ The county took ownership of the subject property in 1970. The diner and maintenance garage were razed subsequent to the transfer to the county.

2.0 STUDY AREA INVESTIGATION:

2.1 Site Investigation Activities:

The implemented workscope was in keeping with specifics outlined in the PES's Site Investigation/Remedial Alternatives Report (SI/RAR) Proposal with the exception of modifications made by the NYS DEC or MC representatives where the site work was conducted. In all cases, modifications to the original workscope were discussed with county/NYS DEC officials prior to implementation (verbal authorization).

2.1.1 Supplemental *Limited* Subsurface Investigation:

During the time frame spanning November 13-16, 2001, PES installed a network of soil borings (SBs) and 1" diameter groundwater micro-monitoring wells (MWs) under the supervision of PES hydrogeologist John Johnson and/or geologist Eric Lewis. Figure 2 details the SB/MW locations.

Placement of the SB/MW was in accordance with locations provided in PES's SI/RAR Proposal.

2.1.2 Soil Boring Installation:

SBs were installed at various on- and off-site locations to investigate reported soil contamination using PES's Hurricane Dual Sampling System (Geoprobe). A 2.25" diameter by 48" long stainless steel macro-core soil sampler was advanced using direct push hydraulic and/or percussion impact (hammer) methods to obtain relatively undisturbed soil samples on a continuous basis (all borings). During the installation of the SBs, the geologic composition of the overburden was documented by a PES hydrogeologist/geologist (see Attachment 2). Drilling tool/soil sampler decontamination procedures (alconox soap wash, rinse and air dry) were implemented before/between/after each soil boring. Soil samples were collected for geologic description and field screening (PID) for volatile organic compounds (VOCs). Details regarding encountered geology and associated PID readings are included on the geologic logs - Attachment 2.

The local geologic profile and associated lithologic changes were delineated from historic and newly generated data obtained during drilling. In general, the on-site overburden is composed predominantly of alternating and interbedded fine to coarse-grained sand with subordinate occurrences of silt and clay. The percentage of silt and clay can be substantial within individual stratigraphic intervals. A clay lithologic unit was encountered at a number of SB locations at depths in excess of (approximately) 10 feet below the existing site grade (B.G.). The maximum depth of investigation was approximately 14 feet B.G.

2.1.3 Micro-Monitoring Well Installation/Construction:

A series of micro-monitoring wells (MW) were installed at the subject site by PES under the observation/supervision of a PES hydrogeologist/geologist. The placement of the MW network was based on historic data as well as newly acquired information resulting from the SB program. All MWs were constructed of 1.25" outside diameter (O.D.) schedule 40 PVC well screen and casing with flush threaded joints. An appropriately sized silica sand pack was placed in the annular space between the borehole and the well screen. The sand pack was installed from the bottom (open hole) of the boring to approximately one foot above the screened interval. The screened interval for all resulting MWs was constructed such that it intercepted the encountered groundwater table. Attempts were made to screen each well approximately five (5) feet above and below the encountered water table. However, due to the relatively shallow occurrence of groundwater during the installation process, this procedure could not be strictly adhered to. Refer to Attachment 2 for individual well completion details. A bentonite seal was placed between grade and the top of the well screen to prevent the infiltration of surface water. All MWs were finished with a limited access, flush mount, and watertight, steel road box. All wells were developed by repetitive hand bailing in order to remove any fine sediment from within the well screen and/or sand pack.

2.1.4 Soil Sampling:

Soil samples were collected during the installation of each MW/SB on a continuous basis. The soil samples were monitored (*field screened*) for volatile organics utilizing a photo-ionization detector (PID) and headspace methods.

The PID was calibrated with an isobutylene standard gas to provide a benzene response factor before it was brought to the site. Collected soil was placed in clean plastic bags, sealed, and allowed to equilibrate for a minimum of five (5) minutes. The tip of the PID was then inserted through the side of

the bag to allow for sampling of the headspace gas *(above the soil)*. The PID response was logged for each sample.

Volatile organics compounds (VOCs) were detected in soil collected from a number of SBs and/or MWs. The maximum concentration of VOCs and horizon producing the response for specific locations were as follows:

Soil Sample ID (MW/SB)	Max. PID Response (ppm)	Depth B.G. (feet)
MW-14	ND	0-12
MW-15	ND	0-12
MW-16	ND	0-12
MW-17	ND	0-13.5
MW-18	ND	0-13.5
MW-19	4-12	4-7
MW-20	ND	0-13.5
MW-21	ND	0-12
MW-22	ND	0-12
MW-23	ND	0-12
MW-24	ND	0-12
MW-25	ND	0-12
MW-26	ND	0-12
SB-1	60	6-8
SB-2	2-3	6-8
SB-3	50-160	4-8
SB-4	150	7-10
SB-5	1-6	6-8
SB-6	ND	0-10
SB-7	60	4-6
SB-8	157-275	3-6
SB-9	2-7	2-7
SB-10	13-21	2-6
SB-11	150-300	2-6
SB-12	90-220	2-9
SB-13	150, 20	5-7, 7-8
SB-14	150-200, 65	6-7, 7-9
SB-15	60-80, 45	3-8, 8-10
SB-16	240,30	5-8, 8-9.5
SB-17	150-220	4-9
SB-18	275, 55	4-5, 5-6

** Refer to Figure 2 for MW/SB locations.* *ND = Not Detected*

Soil samples were collected from all MW/SB locations. Soil samples were collected from the first occurrence of groundwater or from the stratigraphic interval yielding the maximum PID response. All samples were placed immediately into iced storage then transported under Chain Of Custody (COC) to Adirondack Environmental Services, Inc. located in Albany, NY. The soil samples were analyzed for Volatile Organic Compounds (VOCs) according to EPA Methods 8260, Semi-Volatile Organic Compounds (SVOCs) by EPA Method 8270 and Poly-Chlorinated Biphenyls (PCBs) by EPA Method

8082. The results of the soil analysis will be discussed in subsequent sections.

At the request of Mr. Ralph Keating, of the NYS DEC, soil samples were also collected from the base (effluent) of the drainage pipes (Outfall 1 & 2) that convey waters away from the foundations associated with the Hanson Fire Training Center and Fire Tower and to the ponds located at the north end of the Site.

Sidewall and bottom soil samples were collected, as per Mr. Keating, from an Underground Storage Tank (UST) discovered during a Geophysical survey of the site. Results of the UST closure and soil analysis will be discussed in subsequent sections.

2.1.5 Groundwater Monitoring/Sampling:

On December 3, 2001, (prior to sampling) depth to water and the presence and/or thickness of phase-separated product was determined for each MW using a Water Level Indicator (WLI). The WLI utilized is capable of distinguishing the air/water interface to an accuracy of 0.01 feet. Depth to groundwater within the MW network ranged from 1.48 (MW-18) to 7.86 (MW-16) feet B.G. on December 3, 2001. Groundwater elevations ranged from 86.85 (MW-16) to 96.90 (MW-13) feet below a relative benchmark arbitrarily set at 100 feet. Depth to groundwater data (Table 4) was coupled with the acquired survey data (Table 4) to produce the groundwater gradient map included as Figure 3.

Subsequent to gauging depth to water, groundwater samples were secured from all historic and newly installed MWs. The MWs were sampled using dedicated disposal bailers. Prior to sampling, each MW was developed by repetitive bailing. A minimum of three well volumes were removed from each well during development. This procedure promotes the collection of a representative groundwater sample. Sampling proceeded, based on historical and newly collected information (drilling), from the least to the most contaminated well to help minimize the potential for cross-contamination. Petroleum odors and/or sheens were observed in a number of the sample collection points.

All groundwater samples were placed immediately into iced storage then transported under Chain Of Custody (COC) to Adirondack Environmental Services, Inc. located in Albany, NY. The groundwater samples were analyzed for VOCs according to EPA Methods 8260, SVOCs by EPA Method 8270 and PCBs by EPA Method 8082.

Please note: all soil and groundwater samples were analyzed according to NYS DEC ASP-95-1 category B deliverables protocol.

Analytical results confirmed the existence of VOCs in a number of the MWs and two of the three adjacent domestic wells. SVOCs and PCBs also were identified in a subset of MWs. Tables 5-7 summarize the detected concentrations of constituents of concern indigenous to the implemented analytical methods. The distribution of dissolved constituents of concern, as identified in the resulting analytical data are illustrated in Figures 4-6.

The New York State Department of Health (NYS DOH) collected domestic drinking water samples from three (3) properties immediately adjacent to the Site on July 12 and 20 and August 2, 2001. Information regarding the three (3) sampled drinking water wells is summarized below:

Residence	Location from the Site	Laboratory Results
Montgomery Co. Tax Map Parcel 17 4576 NYS Route 5 Fonda, NY 12068.	Northeast	MTBE @ 33 ppb on 7/12/01. MTBE @ 38 ppb on 8/2/01.
Montgomery Co. Tax Map Parcel 21 4622 NYS Route 5 Fonda, NY 12068	Southwest	MTBE @ 0.5 ppb on 8/2/01.
Montgomery Co. Tax Map Parcel 20 113-14 Fourteenth Ave. College Point, NY 11356	West	No VOCs detected above the laboratories detection limits on 7/20/01.

Minor concentrations of Methyl Tertiary Butyl Ether (MTBE) were historically documented at the Site during PES's initial subsurface investigation. Based on current groundwater flow direction, analytical data and the remote location of the sampled domestic wells with respect to the Site, PES is of the opinion that MTBE documented in the two (2) domestic wells is likely not related to petroleum contamination documented in the Sites overburden regime. Figure 4 - Groundwater Quality Map – VOCs indicates no VOCs were detected in perimeter MWs. Information regarding the construction of the domestic wells in question was not available to PES. In addition, bedrock monitoring wells and/or investigation was not part of the original workscope.

PES recommends sampling a subset of the perimeter MWs for MTBE analysis to provide additional data with respect to MTBE migration/presence within the sites overburden. The domestic well servicing the site should also be sampled to ascertain the presence/absence of constituents of concern including but not limited to MTBE. Consideration should be given to the installation of intercept bedrock wells in the event that to on-site domestic well produces results indicating a potential impact to the bedrock regime. Regular sampling of all potentially impacted domestic supply wells should be performed.

2.1.6 Site Surveying:

In January of 2002, the location of the newly installed and historic MWs, with respect to existing on-site structures/features, was established by MC personnel, under the supervision of a MC engineer. Collected information was utilized to construct a scaled site map (Figure 2). In addition to establishing locations, the top of casing elevations were determined for all existing and newly installed MWs. Groundwater elevations ranged from 86.85 (MW-16) to 96.90 (MW-13) feet below a relative benchmark arbitrarily set at 100 feet. Depth to groundwater data was coupled with the acquired survey data (Table 4) to produce the groundwater gradient map included as Figure 3.

2.1.7 Geophysical Survey:

On November 13 and 14, 2001, Hager-Richter Geosciences, Inc. (HR) performed a geophysical survey utilizing time domain electromagnetic induction (EM61) and ground penetrating radar (GPR) methods. The purpose of the geophysical survey was to detect and locate possible USTs and associated piping. Results of the survey revealed one (1) 1,000 gallon UST located southeast of the fire-training center and several utilities that may be petroleum piping. See HR's Geophysical Survey Report for a detailed description of the methodologies and the results.

2.1.8 UST Closure Event – Summary of Procedures/Assessment Results:

On November 13 and 14, 2001, HR performed a geophysical survey to detect and locate possible USTs and associated piping. During the survey one (1) 1,000 gallon UST was located southeast of the fire-training center. Subsequently, on November 20, 2001, PES performed UST closure supervision and documentation. The general location of the UST is illustrated on the Site Map (Figure 2). PES's workscope included:

- notification of the New York State Department of Environmental Conservation (NYS DEC),
- collection/field screening of soil samples from the general UST area,
- examination of the UST for signs of leakage/degree of corrosion,
- visual evaluation of soil in the tank excavation,
- screening and segregation of excavated soil using a photoionization device (PID),
- photo documentation of site activities and
- collection/submission of end point soil samples.

UST excavation, removal and disposal was performed by MC representatives. Empire Environmental Services (EES) of Selkirk, New York provided the tank cleaning services. UST fluids and tank bottom sludge were removed by EES via vacuum truck and subsequently transported to Paradise Oil located in Ossining, New York for disposal. PES geologist Eric Lewis was present to document and observe the closure process and environmental condition of the tank grave.

Residual product/tank bottoms were measured/recorded in the UST prior to commencement of the closure process. According to EES approximately 762 gallons of residual heating oil and/or water were evacuated from the UST. The top of the subject UST was exposed, prior to PES mobilizing to the site. Copper product distribution plumbing was observed attached to the UST during the closure process. Based on the piping configuration, the subject UST was assumed to have been utilized as a heating oil storage tank for a historic structure. It should be noted that the fill port and ventilation piping were historically removed prior to discovering the UST and that the resulting piping attachment points were unsecured.

Subsequent to the fluid removal process, soil was excavated from adjacent to the UST for the purpose of installing an access manway to facilitate internal cleaning. Prior to installing the required manway, the UST's internal atmosphere was monitored for LEL and O^2 levels. Initial internal tank atmospheric monitoring indicated the UST was inert. The access manway and UST entry was made only after safe internal atmospheric levels, for hydrocarbon vapor and oxygen, were confirmed.

The interior surfaces of the UST were scrapped/squeegeed clean then wiped using adsorbent material. All tank fluids and sludge *(approximately 762 gallons)* were removed by EES. PES personnel did not observe any release of product to the environment during the UST closure process.

During the closure process MC utilized a rubber-tired grade-all type excavator to remove soil and/or fill material from the tank pit area. In general, native soils exposed in the tank excavation consisted of brown to black petroleum-stained, fine to medium grained sand with lesser occurrences of coarse sand, fine to coarse gravel, silt and clay. The silt and clay content increases with depth and is typically interbedded into discreet layers with the sands. In general, depths of the excavation during the tank removal phase did not exceed eight (8) feet B.G. Minor groundwater was observed seeping into the tank excavation from the base of the sidewalls during the closure process.

PES's representative examined the outer surfaces of the removed UST for signs of product leakage,

holes, pitting, or areas of weakness. During visual examination of the tank, particular attention was paid to seams and points directly below the fill-port, vent lines, and product transfer access points. Results of the UST inspection indicated several small holes (< 1 mm) were observed in the decommissioned UST as well as the previously mentioned unsecured piping access points. Petroleum staining and olfactory evidences of fugitive hydrocarbons were observed on/in soil occurring immediately adjacent to the decommissioned UST.

Significantly elevated PID responses (150-180 ppm) were obtained for soil collected from adjacent to the UST at depths of 3-6 feet B.G. Visual (stained) and olfactory (odor) evidences of fugitive hydrocarbon impact were observed in excavated/screened soil from the tank grave. Minor amounts of groundwater were encountered/observed in association with the excavation.

Approximately 25-30 cubic yards of petroleum-contaminated soils were excavated from the tank grave and remain poly-encapsulated on-site. The UST excavation was advanced down to a dense clay unit where PID responses dropped to 3-5 ppm @ 8' B.G. Only limited excavation was performed in the lateral directions due to the known and widespread soil contamination. Sidewall excavation limits were determined by the on-site NYS DEC representative, Mr. Ralph Keating, P.E. Upon completion of the excavation process, random grab samples were collected, from the tank pit, for field screening. In general, samples were collected at multiple locations along the tank excavation sidewalls and bottom. For safety reasons the excavation equipment was utilized to collect many of the samples.

Under the direction of Mr. Ralph Keating of the NYS DEC, the four (4) sidewall soil samples were composited into two (2) samples *SW-1&2* and *SW-3&4* and the two (2) bottom samples were composited into one (1) sample *B-1*. *The reader is advised that the SW designation pertains to UST grave sidewall samples and should not be confused with a surface water sample designation.* The soil samples were placed in clean glass jars supplied by the analytical facility. Sample containers were labeled, sealed, and placed immediately in iced storage for transport to the analytical laboratory. The soil samples were submitted with the balance of the soil samples from the SI for the same analysis.

Constituents of concern were detected above the NYS DEC's TAGM 4046 recommended soil cleanup objectives for both the sidewall soil samples. Although constituents of concern were detected above the laboratories Practical Quantitation Limits (PQLs) for the bottom sample, none were above the TAGM 4046 objectives.

3.0 PHYSICAL CHARACTERISTICS OF THE SITE:

3.1 Surface Features:

Surface features such as soil and vegetation types and surface hydrology are described in North Country Ecological Services (NCES) Fish and Wildlife Impact Analysis (FWIA) for Inactive Hazardous Waste Sites – Step I Report.

3.2 Geology:

3.2.1 Unconsolidated Deposits:

According to the Surficial Geologic Map of New York – Hudson-Mohawk Sheet, the overburden geology beneath the Site consists of Recent Alluvial Deposits, Fluvial Gravels and/or Undifferentiated Drift Complex. Several depositional environment boundaries and a fault near the Site indicate multiple stratigraphic sequences (both overburden and bedrock regimes) may exist at the Site. In addition, according to NCES's report, the Site's soil type(s) consist of cut and fill soils.

Recent Alluvial Deposits consist generally of oxidized, non-calcareous, fine sand to gravel confined to floodplains within a valley. In larger valleys, sand and gravel may be overlain by silt, typically 1-10 meters thick.

Fluvial Gravel consists of well rounded, stratified, fine to coarse gravel with sand. The gravels are deposited in a proglacial fluvial environment, with finer textures away from the ice border. Deposits range in thickness from 2-20 meters.

Undifferentiated Drift Complex typically contains complex stratigraphic relations due to multiple glacial events.

Unconsolidated geologic material encountered during installation of SB/MWs indicated the local geology consists of fine to medium grained sand with lesser occurrences of coarse sand, fine to coarse gravel, silt and clay. The silt and clay content increases with depth and is typically interbedded into discreet layers with the sands.

Soil samples were collected during the drilling procedures associated with the installation of MWs 18, 23 and 25 for physical soil testing. The soil samples were analyzed by Atlantic Testing Laboratories, Limited (ATL) for particle size by ASTM D 422 (with hydrometer) and for organic content by ASTM D 2974.

Soil samples for the particle size analysis were collected from the upper sandy lithologic unit and the lower clayey unit at each location. Soil descriptions based on particle size analysis performed by ATL are as follows:

Monitor Well	Depth B.G.	% medium sand	% fine sand	% silt	%clay
MW-18	3-9'	0	64	11	25
MW-18	9-11'	0	16	37	47
MW-23	4-11'	2	59	15	24
MW-23	11.5-12'	2	18	4	76
MW-25	4-11'	1	55	13	31
MW-25	11.5-12'	7	22	24	47

Total Organic Content (TOC) was analyzed for soil samples collected from MWs 18, 23 and 25 at depths of 3-9', 4-11' and 4-11', respectively. The TOC for the three samples were all below the laboratories detection limit of 1,100 mg/kg. Please note: TAGM 4046 utilizes 1% soil organic content and therefore based on the analytical results PES will assume a soil organic content of $\leq$ 1%.

3.2.2 Consolidated (Bedrock) Deposits:

According to the Geologic Map of New York – Hudson-Mohawk Sheet, the bedrock below the Site consists of Beekmantown Group and/or the Theresa Formation. The Beekmantown Group, in the Mohawk valley, consists of Limestone, Dolostone and Chert. The Theresa Formation consists of Dolostone, limestone, sandstone and shale.

Bedrock was not encountered during the subsurface investigation. However, investigation of the rocky cliffs immediately north of the Site revealed bedrock outcrops consisting of interbedded limestone and sandstone of varying composition.

3.3 Hydrology:

A detailed description of the local hydrology, is presented in NCES's FWIA. In general, precipitation and surface water runoff supplies hydrologic input to the on-site ponds. Groundwater in the ponds seep south through the geologic media to the Mohawk River.

3.4 Hydrogeology:

A groundwater gradient map was developed from the December 3, 2001 gauging data and is included as Figure 3. Figure 3 indicates the occurrence of a hydraulic divide in the center portion of the Site. The occurrence of the divide, results in a local groundwater gradient to the south-southeast and to the north. The predominant groundwater flow direction within the established contaminant plume was to the south-southeast. This predominant flow direction is supported by the established contaminant plume dispersion pattern (across NYS Route 5). The average hydraulic gradient in the primary direction of transport on December 3, 2001, was approximately 0.043 ft./ft.. PES's groundwater investigation was limited to the first occurrence of free water in the shallow overburden at the subject Site. Within the shallow overburden, groundwater exists under unconfined conditions. Many of the SBs installed during the two separate Subsurface Investigation events were terminated in a low hydraulic conductivity – aquitard lithologic unit composed of a predominance of clay with subordinate interbedded silt. Geologic exploration to horizons beneath the apparent aquitard clay unit was not a part of the requested/authorized work scope.

3.5 Water Supply Wells/Aquifer Classification:

According to the information collected during Site reconnaissance and verbal communication with County personnel, the subject Site and adjacent properties have private water supply wells. Information available regarding well construction revealed the following:

Subject Site - drilled/cased well - approximate depth 120(+) feet,
Private Residence to the south (across NYS Route 5) - shallow hand dug well 15-20 feet,
Private Residence to the east – well construction unknown and
Private Residence to the west – drilled/cased well – approximate depth 100(+) feet.

The aquifer developed beneath the site is classified as a "GA Aquifer". The best usage of "Class GA Aquifers" is as a source of potable water supply. "Class GA" water is fresh groundwater occurring in the saturated zone of unconsolidated rock or bedrock. Aquifer classification rationale is outlined in the NYS DEC Division of Water Technical and Operational Guidance Series (2.1.3), PRIMARY AND PRINCIPAL AQUIFER DETERMINATIONS.

3.6 Surface Water:

The nearest occurrences of surface waters to the Site are three unnamed ponds located within the Site's northern sector. The Mohawk River occurs approximately 1,350 feet south of the Site and flows from west to east.

3.7 Current and Future Land Use:

Currently, the Site is utilized (periodically) by MC as a fire training facility. Based on verbal communication with MC personal, the site is intended to be utilized in the future for continued fire training purposes. Construction activities associated with the development of the subject Site for its intended use are anticipated.

4.0 NATURE AND EXTENT OF CONTAMINATION:

4.1. Sources:

As mentioned in the Site History (Section 1.2.2), the Site was utilized as a petroleum bulk storage/distribution facility for several years. Recent observations made during PES's initial and subsequent subsurface investigations, with respect to potential contaminant source(s), indicate the potential for multiple contaminant sources to exist. These sources include but are not limited to 1) historic above and underground petroleum/solvent waste storage tanks, 2) associated petroleum distribution piping, 3) historic Site activities (i.e. vehicle/equipment maintenance/storage) and 4) surface releases resulting from historic fueling operations. In addition, results for soil samples collected from the effluent end of two (2) drainage structures trending from the fire-training center and fire tower towards the ponds to the north, indicates these outfalls to be minor sources of petroleum contamination. Additional sources (USTs and/or product piping) may still exist at the Site and should be properly removed as part of the remedy for this site. The existence of multiple sources is confirmed by historic petroleum identification testing which indicated the presence of gasoline, kerosene as well as fuel oil contaminants.

4.2 Contaminant Types:

During PES's initial SI, groundwater samples were collected from MWs 2, 7 and 9 for Petroleum Identification via EPA Method 310.13. The analytical test results indicated gasoline was present at MW-2, gasoline, #2 fuel oil and kerosene were present at MW-7 and gasoline and #2 fuel oil were present at MW-9. Waste oil type contamination was suspected in association with the original Limited Subsurface Investigation based on visual examination of collected soil samples. Analytical data generated from the area of suspected waste oil during performance of the initial SI indicated the presence of non-petroleum based metal contamination specifically, barium and/or chromium. In addition to the petroleum-based contamination, low-level PCBs were detected. The concentrations of the PCBs documented at the Site are well below regulatory levels and therefore are not considered to be factor in the risk assessment process.

4.3 Contaminant Occurrence - Soils (Vadose/Phreatic Zones):

Based on field observations and analytical data, a significant source of the documented contamination exists as petroleum saturated soils located between the main Site structures and NYS Route 5. Precipitation that infiltrates petroleum-impacted soils may leach contaminants from the soil into the groundwater regime where they become mobile and may impact sensitive receptors such as domestic wells and/or surface waters.

4.3.1 Vapor Phase:

Current known sources of documented contamination include but are not limited to hydrocarbon vapor occurring within the pore spaces of the geologic media comprising the vadose (unsaturated zone) occurring in the shallow overburden developed beneath the subject Site. Vacuum extraction testing and/or soil gas surveys were not an aspect of the subsurface investigation workscope, therefore concentrations of pore space volatile organic compounds is undefined. Headspace analysis of soil samples retrieved for field screening during the drilling phase of the work indicate exposed subsurface soils to generate a maximum headspace concentration of 300 ppm.

Indoor air/vapor monitoring was performed at the Fire Training Center by PES geologist Eric Lewis on

September 24, 2002. The indoor air monitoring consisted of PID screening the classroom building and the first floor of the Fire Training Tower. The indoor air monitoring was focused in areas of typical concern like cracks in walls and floors and along the base of all the walls. Results of the field screening indicated only background PID responses (<1 ppm) were observed.

4.3.2 Adsorbed Phase:

The most significant (currently known) source (mass occurrence) of hydrocarbon-based contamination exists as adsorbed phase soil contamination occurring within the vadose and/or phreatic regimes developed within the shallow overburden at the Site. In general the documented adsorbed phase contamination exists between two (2) and ten (10) feet B.G. For quantitative values regarding contaminant loading of subsurface soils, the reader is referred to Tables 1-3. The occurrence of adsorbed phase contaminant within the phreatic (saturated) zone indicates "smearing" resulting from seasonal groundwater table fluctuations. In general, the smear zone was observed to range from six (6) to eight (8) feet in thickness on the Site proper. Smear zone thickness at off-site locations averaged two (2) to four (4) feet. From a mobility stand-point, the adsorbed contaminant mass represents minimal risk, however it does represent the means to allow for equilibrium mass transfer of contaminant to groundwater migrating with the adversely affected geologic media.

4.4 Contaminant Occurrence – Groundwater (Phreatic Zone):

4.1.1 Dissolved Phase:

Analytical data and field observations indicate that the groundwater beneath the Site and across NYS Route 5 is contaminated above NYS DEC Groundwater Standards.

Dissolved phase contamination was documented at on- and off-site locations. With respect to mobility, this source of contamination represents the greatest risk to continued plume expansion and proliferation of contaminant mass. Groundwater transport of contamination represents an expanding negative impact to the shallow aquifer. Propagation of the plume into areas previously unaffected, results in additional damage (volumetrically speaking) to the groundwater resource as well as expansion of the adsorbed phase contaminant area. The rate of migration is dependent on factors previously discussed. To date phase-separated contamination of measurable thickness has not been observed in the data collection points.

4.5 Contaminant Occurrence – Surface Water & Sediments:

As stated previously, results for soil samples collected from the effluent end of two (2) drainage structures trending from the fire-training center and fire tower towards the ponds to the north, indicates these outfalls to be minor sources of petroleum contamination. This outfall is having a negative effect (though thought to be minimal) on surface water occurrences and sediment associated with the lacustrine deposition.

4.6 Contaminant Occurrence – Air:

Review of the geologic information compiled during the subsurface investigation efforts indicates the existence (in general) of 2-3 feet of unaffected top cover geologic material. In general, migration potential associated with subsurface fluid transport for unconsolidated materials is magnitudes greater in a horizontal direction than vertical. The potential for air transport for contamination occurring in the subsurface is thought to be minimal at this study site. This is supported by the ambient air monitoring performed during the second drilling event that resulted in non-detect responses for air-borne

contamination. Exposure potential exists as well as air borne migration during Site activities that significantly disturb/expose subsurface soils.

4.7 Analytical Data:

4.7.1 Soil Analytical Data:

As mentioned previously, soil samples were collected during the installation of thirteen (13) MWs and eighteen (18) SBs during the recent SI performed by PES. Soil samples were also collected in association with closure procedures implemented for the discovered UST and from the two outfalls associated with drainage structures for the fire training center and fire tower. The purpose of collecting these soil samples was to investigate contaminant loading with respect to the soil guidance values published in the NYS DEC – Technical and Administrative Guidance Memorandum (TAGM) 4046.

Soil samples were analyzed for VOCs by to EPA Methods 8260, SVOCs by EPA Method 8270 and PCBs by EPA Method 8082.

Table 1 shows that for 6 of 30 subsurface soil samples, VOC levels were greater than TAGM 4046 - Recommended Soil Cleanup Objectives. Table 2 indicates that for SVOCs, 5 of 30 subsurface soil samples had levels greater than the TAGM soil cleanup levels. Table 3 shows that for PCBs, none of the subsurface soil samples exceeded the TAGM soil cleanup levels. The corresponding maps that show the spatial summary of the concentrations on Tables 1, 2 and 3 can be found in Figures 7, 8 and 9, respectively. Figures 7 and 8 show similar areas where VOC and SVOC contamination occurred.

4.7.2 Groundwater Analytical Data:

The 13 existing and 13 newly installed MWs were sampled on December 3, 2001. The 26 groundwater samples were analyzed for VOCs by to EPA Methods 8260, SVOCs by EPA Method 8270 and PCBs by EPA Method 8082.

Table 5 shows that for 7 of 26 groundwater samples, VOC levels were above the NYS DEC groundwater standards. Table 6 indicates that for SVOCs, 6 of 26 groundwater samples had levels above the NYS DEC groundwater standards. According to Table 7, 1 of 26 water samples analyzed for PCBs exceeded the groundwater standard. The corresponding map that show the groundwater concentration contours that correspond to Table 5, 6 and 7 can be found in Figures 4, 5 and 6, respectively. Similar to the areas of the highest soil concentrations, the VOC and SVOC groundwater concentrations were highest in overlapping areas as well as the PCB concentrations.

5.0 CONTAMINANT FATE AND TRANSPORT:

5.1 Contaminant Migration and Persistence:

In order to predict the behavior of dissolved-phase hydrocarbons, in the subsurface, the factors controlling migration must be understood. The maximum extent of plume migration is determined when the geologic materials, groundwater and dissolved-phase contaminates reach an equilibrium. Controlling factors can be attributable to both the physical characteristics of the geologic/hydrogeologic regime(s) as well as the chemical characteristics of the contaminant constituents of concern. The predominant factors which control fate and transport and the ultimate equilibrium conditions are described below.

5.1.1 Advection:

Advection is the main factor responsible for plume migration in the subsurface. Mass (hydrocarbons) is transported because groundwater in which it is dissolves is moving. Groundwater generally moves from high water table elevation to lower water table elevations. The hydraulic gradient is the term used to describe the magnitude of the differences in the water table elevations across the Site. The permeability or hydraulic conductivity, another controlling factor, is the ease at which groundwater moves through the subsurface geologic media.

5.1.2 Dispersion:

Dissolved hydrocarbons spread with the groundwater as they move through the subsurface. Mechanical mixing or dispersion results from variations in groundwater velocity and geology. The variation in velocities are caused by heterogeneities or differences in the subsurface materials. Dispersion during transport will result in a dilution of contaminant pulses and attenuation of contamination peaks.

5.1.3 Adsorption:

Dissolved VOCs will interact with the subsurface media encountered along the flow path through adsorption and other "surface chemical reactions". These interactions result in contaminants' velocity being retarded with respect to the groundwater velocity. Adsorption does not permanently remove from the system, it merely stores them. In a typical groundwater flow system, solid organic matter, naturally occurring, is the primary source onto which the VOCs will attach.

5.1.4 Biodegradation:

Microorganisms that naturally exist in the subsurface biologically transform many organic compounds they come in contact with. The transformation rates are dependent on site-specific conditions, which may include: soil matrix, and the amount of available oxygen. The degree and/or rate of biodegradation that will occur at a Site will depend on the groundwater and contaminant velocities.

Simulation of subsurface aquifer contaminant transport requires utilization of a set of mathematical equations that quantify the previously outlined controlling factors. Correct utilization of fate and transport models requires incorporation of good quality site-specific data. Additionally the chosen model simulations must be calibrated to actual observed concentration trends to ensure accurate model predictions. With respect to the subject Site, data collected to date that can be utilized during fate and transport modeling include: 1) total organic carbon content, grain size distribution, Site hydraulic gradient, hydraulic conductivity (based on Site specific slug testing) and contaminant distribution. The database with respect to contaminant trends (water quality through time) is limited to the two (2) sampling events performed to date. Two points of data do not establish a trend and therefore additional sampling events are required to establish contaminant trends and allow for calibration of any applied fate and transport model.

5.2 Contaminant Properties – Chemical Factors:

Based on the analytical data generated to date for the subject site, it appears that the vast majority of the contamination that is adversely affecting the Sites environmental status is petroleum based. Petroleum identification testing has indicated at a minimum the occurrence of gasoline, kerosene and fuel oil/diesel products.

Petroleum products originate from crude oil and constitute a mixture of hundreds of thousands of chemicals. However, practical limitations allow us to focus only on a limited subset of key components when assessing the impact of petroleum fuel releases to the environment. In general, the classification/description of petroleum products is based on boiling point ranges as well as ranges in the number of carbon atoms per molecule. For example, when one transitions from the "lighter" end to "heavy" end (i.e. gasoline to bunker (No. 6) oil) there is a corresponding increase in the carbon number/boiling point range and a decrease in volatility.

5.2.1 Gasoline:

Gasoline is composed of hydrocarbons and additives utilized for fuel improvement with respect to emissions and engine longevity. The hydrocarbons fall primarily in the C4 to C12 range. Due to high volatility, the C4 and C5 aliphatic hydrocarbons rapidly evaporate from spilled gasoline. The C6 and heavier hydrocarbons also evaporate but at a reduced rates. The aromatic hydrocarbons in gasoline are primarily benzene (C6H6), toluene (C7H8), ethylbenzene (C8H10) and xylene (C8H10) – collectively termed BTEX. Some "heavier" aromatics including polyaromatics (PAHs) are present in gasoline formulations. Aromatics typically comprise 10-40% of gasoline. Oxygenated compounds including alcohols and ethers are utilized in post 1980 gasoline formulations as octane boosters and a catalyst to reduce carbon monoxide emissions. Historic leaded gasoline utilized lead agents such as Tetraethyl lead for octane boosting purposes. To reduce lead emissions lead scavenging compounds including ethylene dibromide and ethylene dichloride were utilized in lead formulated gasoline products.

5.2.2 Kerosene:

The hydrocarbons in kerosene commonly fall into the C11 to C13 range and distill at 150° to 250° C. Both aliphatic and aromatic hydrocarbons are present, including multi-ring compounds.

5.2.3 Diesel Fuel & Light Fuel Oil:

Light fuel oils including No 1 & 2 boil in the range of 160 to 400° C. Hydrocarbons in light fuel oil range from C10 to C20. Because of the increased molecular weight, heavier petroleum products tend to be less volatile, less water-soluble and less mobile than lighter petroleum fractions. About 25 to 35% of the chemical composition of light fuel oil is alkylated benzenes and naphthalenes. The BTEX concentrations are generally low.

5.2.4 Waste Oil

Waste oil compositions are more difficult to ascertain. Depending on how they are managed, waste oils may contain fractions of "light" as well as "heavy" oils. Used automotive crank case oils often contain wear metals (such as chromium) from internal combustion engine parts. Degreasing solvents including but not limited to gasoline, naphtha or light chlorinated solvents may be present in some waste.

5.3 Influence of Chemical Composition with Respect to the Environment:

With the above outlined contaminant characteristic information in mind, generalizations can be made with respect to differing fuels environmental response(s). In general, increases in the number of carbon atoms (molecular weight) results in the following responses, 1) higher boiling point, 2) lower vapor density (volatility), 3) greater density, 4) lower water solubility and 5) stronger adhesion to subsurface soil (decreased mobility).

In summary, the light aromatics (BTEX) have relatively high water solubility and adsorb poorly to soils. Thus, they have high environmental mobility, moving readily through the subsurface. When released to surface water bodies, these materials exhibit moderate to high acute toxicity to aquatic organisms. Although environmental media are rarely impacted to the extent that acute human toxicity is an issue, Benzene is listed as a Group A carcinogen and therefore even trace levels should be considered significant.

Polycyclic aromatics fall into two (2) categories including naphthalenes and methylnapthalenes. Both categories have moderate water solubility and soil adsorption potential thus resulting in reduced movement in the subsurface when compared to mono-aromatics. When released to surface water bodies the toxicity to aquatic organisms is moderate to high. The PAHs with three (3) or more condensed rings have low solubility and tend to adsorb strongly to soils (low mobility). It should be noted that several members in the three (3) to six (6) ring PAH group are known and/or suspected carcinogens and therefore exposure through consumption of drinking water or ingestion of soil may be significant. In addition, four (4) to six (6) ring PAHs are poorly biodegradable and tend to bio-accumulate in tissues of aquatic organisms.

5.4 Potential Routes of Migration:

5.4.1 Vadose Zone:

Contaminant migration in the vadose zone is limited to petroleum vapor. Migration of petroleum vapors within the geologic media is very limited unless the subsurface is disturbed during soil excavation. In general, two-three (2-3) feet of unaffected geologic material (top cover) exists between the surface grade and the first occurrence of substantial adsorbed phase contaminant. The Hanson Fire Training Center Classroom Building is spatially situated over an area with documented subsurface impacts to both the vadose and phreatic zones. According to MC personnel, to date no detection of nuisance petroleum odors due to subsurface vapor migrations have been noted. In addition indoor air sampling was performed at the Fire Training Center and Tower by PES on September 24, 2002. Results of the field screening indicated only background PID responses (<1 ppm) were observed throughout the two buildings.

5.4.2 Phreatic Zone:

Contaminant migration in the phreatic zone is controlled by hydraulic gradient and flow direction of the local groundwater regime. The contaminated groundwater plume beneath the Site has migrated across NYS Route 5 and has impacted the adjacent property and several MWs located immediately southeast of the Site.

5.4.3 Capillary Fringe:

The capillary fringe is located between the vadose and phreatic zones. Precipitation may leach hydrocarbons down from the vadose zone and transport them into the saturated phreatic zone where groundwater transport can assist in further contaminant transport.

6.0 BASELINE RISK ASSESSMENT:

Risk-Based Corrective Action (RBCA) is a consistent decision-making process in which exposure and risk assessment practices are integrated with traditional components of the corrective action process to insure that appropriate and cost-effective remedies are selected, and that limited resources are

properly allocated. The basic goal of RBCA is to protect human health and environmental resources.

6.1 Public Health Evaluation:

6.1.1 Exposure Assessment:

Only a complete exposure pathway is quantified in the exposure assessment process. A complete exposure pathway requires: 1) a source and mechanism for a chemical release into the environment, 2) a transport medium (i.e. soil, groundwater, air) for the chemical to move from the source to the receptor, 3) a point of potential contact of the receptor with the medium (i.e. points of exposure) and 4) an uptake route or means for taking the chemical into the body (i.e. ingestion, inhalation, dermal contact).

Currently, the only complete exposure pathways are via groundwater transport to domestic water supply wells and vapor migration to on and/or off-site dwellings. If soil excavation or drilling is performed at the Site, then other exposure pathways (dermal contact) become potential issues.

6.1.2 Toxicity Assessment:

The toxicity of an individual chemical compound is typically established based on dose-response studies that estimate the relationship between different dose levels and the magnitude of their adverse effects or toxicity. A complex mixture of chemicals can be approached the same way. As the chemical(s) released to the environment change through natural processes such as volatilization, leaching, and/or biodegradation, toxicity of the remaining portion may also change.

Hazard identification determines if exposure is directly related to a particular health effect (carcinogenic or non-carcinogenic). Based on human epidemiological studies, benzene (documented at the Site) has been determined to be a Group A carcinogen, known human carcinogen by the USEPA. In addition as previously stated, several members in the three (3) to six (6) ring PAH group are known and/or suspected carcinogens.

6.1.3 Risk Characterization:

Risk characterization, the adverse health effects/health risk, depends on exposure and toxicity.

Documented hydrocarbons in both the Site's and the adjacent properties drinking water supplies indicates an existing health risk. This health risk is expected to continue and potentially increase with additional contaminant concentration impact if control and/or corrective actions with respect to the documented source areas are not implemented.

6.2 Environmental Assessment:

6.2.1 Fish and Wildlife Impact Analysis:

See the attached FWIA, performed by NCES at the Site, for more details.

7.0 SUMMARY AND CONCLUSIONS:

7.1 Summary:

7.1.1 Nature and Extent of Contamination:

During PES's initial SI, groundwater samples were collected from MWs 2, 7 and 9 for Petroleum Identification via EPA Method 310.13. The analytical test results indicated gasoline was present at MW-2, gasoline, #2 fuel oil and kerosene were present at MW-7 and gasoline and #2 fuel oil were present at MW-9. During the initial SI, waste oil contamination was suspected and analytical data produced from samples secured from the area of concern documented the presence of RCRA metals contamination including barium and more importantly chromium.

As Tables 1-3 indicate, a large subset of the soil samples contained VOCs, SVOCs and/or PCBs. In many cases, the constituents of concern were at levels above the NYS DEC's TAGM 4046 – Recommended Soil Cleanup Objectives. In many instances, concentrations were well above the State's Cleanup Objectives.

As Tables 5-7 indicate, a subset of the groundwater samples contained VOCs, SVOCs and/or PCBs. In many cases, the constituents of concern were at levels above the New York State - Division of Water Resources, *Classes and Quality Standards for Groundwater*, Chapter 10 of Title 6, Article 2, Part 703.5.

See Figures 4-9 for the lateral extent of soil and groundwater contamination and see the attached well logs and the tables within the report text for the vertical extent of soil contamination.

7.1.2 Fate and Transport:

Migration of dissolved-phase hydrocarbons through the subsurface is controlled by several physical factors including but not limited to: advection, dispersion, adsorption and biodegradation. Chemical factors indigenous to the contaminant of concern also play a role in the ultimate propagation/longevity of contaminants in the environment. Potential routes of contaminant migration include: 1) migration in the vadose zone which is limited to petroleum vapors. Migration of petroleum vapors within the geologic media is very limited unless the subsurface is disturbed during soil excavation. Migration in the phreatic zone is controlled by a number of factors including: hydraulic gradient and flow direction of the local groundwater regime. The contaminated groundwater plume beneath the Site has migrated across NYS Route 5 and has impacted the adjacent property and shallow dug well located immediately southeast of the Site. Precipitation may leach hydrocarbons down from the vadose zone and transport them into the saturated phreatic zone where groundwater transport will facilitate further contaminant transport.

7.1.3 Risk Assessment:

Risk-Based Corrective Action (RBCA) is a consistent decision-making process in which exposure and risk assessment practices are integrated with traditional components of the corrective action process to insure that appropriate and cost-effective remedies are selected, and that limited resources are properly allocated. The basic goal of RBCA is to protect human health and environmental resources.

Risk characterization, the adverse health effects/health risk, depends on exposure and toxicity.

Documented hydrocarbons in a subset of the off-site MWs indicates a potential for further contaminant

plume migration to third party domestic supply wells.

7.2 Conclusions:

7.2.1 Data Limitations:

The collected data is limited by the number and location of data collection points and the analytical methodologies list of constituents. Generalization made regarding subsurface geologic/environmental conditions may vary away from the data collection points. The coverage with respect to data acquisition points is thought to be sufficient to reasonably characterize conditions at the subject Site.

7.2.2 Recommendations for Future Work:

Although complete definition of the vertical and lateral extent of the soil and groundwater contamination at the Site has not been satisfied, PES is of the opinion that additional subsurface investigation is not warranted. However, based on the concentration and extent of contamination at the Site, PES recommends implementation of remedial measures. Immediate consideration should also be given to abatement of contaminants documented in the adjacent potable water supplies. Carbon filtration should provide for adequate removal of documented contaminant levels. In addition, all local potable water supplies should be placed on a frequent monitoring program to ensure the water supply is safe for consumption.

8.0 REMEDIAL ALTERNATIVES:

8.1 Remedial Action Objectives:

PES recommends implementation of remedial measures to protect existing drinking water supply wells from impact by VOC contaminants. The source of contamination has been identified as petroleum contaminated soils and groundwater beneath the Site. The Remedial Action Plan will be developed by PES for review/approval by the NYS DEC and MC.

Contaminants of interest consist of VOCs and SVOCs associated with gasoline, #2 fuel oil, kerosene and possibly waste oil.

The remediation goals will be based on NYS DEC's TAGM 4046 for soils and NYS Division of Water Resources, *Classes and Quality Standards for Groundwater*, Chapter 10 of Title 6, Article 2, Part 703.5 for groundwater.

8.2 General Response Actions:

It is PES's opinion that remedial measures will be required to attain the remedial action objective (RAO) of protecting existing drinking water supply wells from impact. The RAO can be accomplished by containing, reducing and/or removing the contaminants from the Site.

Based on the remediation goals for the Site, the estimated area to which treatment, containment and/or reduction technologies may be applied are as follows:

1) The lateral extent of remediation should occur between SB-1 to SB-7 (approx. 300') in the east-west direction.

2) In the north-south direction, remediation should occur between SB-9 to MW-1

(approx. 200').

3) The average vertical extent of remediation should occur from 3-8' B.G. (approx. 5').

4) The total estimated volume of soil requiring remediation is 300' x 200' x 5' = 300,000 cubic feet = 11,111 cubic yards.

8.3 Development of Alternatives:

A number of factors and site conditions were considered in developing the remedial alternative for the Site. An evaluation of historic and current analytical data, headspace analysis via PID and visual/olfactory identification of contamination documented during the Site investigation has been conducted during the development of remedial alternatives. All remedial alternatives were developed in accordance with NYS DEC Standards, Criteria and Guidance.

8.3.1 Methodology for Alternative Analysis:

Remedial Alternative evaluation was based on the evaluation criteria set forth by the NYS DEC. The evaluation criteria are listed below:

1) *Overall protection of human health and the environment.*
2) *Compliance with Standards, Criteria, and Guidance (SCG).*
3) *Short-term effectiveness.*
4) *Long-term effectiveness.*
5) *Reduction of toxicity, mobility, and volume.*
6) *Feasibility.*
7) *Community acceptance.*

The remedial alternatives have been evaluated against the first six criteria and the other remedial alternatives. The NYS DEC will evaluate the alternatives against the seventh criteria after completion of the public comment period. Remedial alternatives for the Site are:

1) High Vacuum/Total Fluid Extraction coupled with Air Sparging,
2) Bioremediation,
3) Soil Excavation/Simultaneous Dewatering/Treatment.

8.4 Analysis of Alternatives:

8.4.1 Alternative 1 High Vacuum/Total Fluid Extraction (HV/TFE) coupled with Air Sparging (AS):

8.4.1.1 HV/TFE/AS Description:

In order for High Vacuum/Total Fluid Extraction (HV/TFE) to effectively process the observed dissolved and adsorbed phase contamination, the lithologic nature of the formations must be conducive to dewatering, i.e. low hydraulic conductivity. Effective dewatering is required to allow the vacuum system to overcome the water extraction rate to allow transition to the high vacuum vapor extraction mode. In addition, dewatering/water table depression is required to expose "trapped or submerged" adsorbed contamination to evaporation. Based on the local geology encountered during the SI, HV/TFE may be an effective remedy at this site. However, as with any in-situ remedial methodology, upfront pilot testing is recommended to determine the Site-specific response(s) that may in turn effect the design of the final remedial system.

HV/TFE will be induced on the contaminated geologic strata by placing 4" or 6" well screens to correspond to the contaminated intervals, typically 3-8' B.G. Contaminated fluids/vapors will be removed under vacuum through horizontal subsurface lines to the treatment compound, where a pressure tank will allow for separation and subsequent treatment of fluids and vapors. Treatment of collected contaminants/groundwater is most often accomplished using air stripping and/or activated carbon methods. The size and nature of the groundwater treatment equipment is dependent upon the type and magnitude of the contaminants as well as such things as the volume of fluids requiring treatment and discharging standards imposed at the Site. Treatment of the hydrocarbon vapors, if required, is also accomplished using activated carbon and/or catalytic incineration.

Air Sparge (AS) Description:

Volatilization of VOC contaminants can be accomplished in the phreatic *(saturated)* zone by sparging air through soils below the water table. This process removes volatiles from both the adsorbed *(soil)* and dissolved *(groundwater)* phases, thereby treating both soils and groundwater in the saturated zone. Not only do aeration systems remove VOCs directly, they enhance degradation of VOCs as well. Because vacuum extraction and air sparging increases air flow through contaminated areas, oxygen availability is enhanced and natural bioremediation is stimulated, further increasing the remediation rate.

Air sparging essentially creates a crude air stripper in the subsurface, with the saturated soil column acting as the high surface area packing material. Injected air flows through the water column over the soil media, and air bubbles contacting dissolved/adsorbed contaminants cause the VOCs to volatilize. The entrained organics are then carried by the air bubbles into the vadose *(unsaturated)* zone where they can be captured by vacuum induced by the HV/TFE system.

Air sparging application will be implemented via a series of two (2) inch diameter vertical and/or horizontally installed sparge wells. The sparging effort will be initiated subsequent to significant reductions in observed contaminant mass via the HV/TFE efforts. Alternating and/or pulsed air sparge operation will occur to limit channeling of air/vapors through the geologic media.

The following table summarizes the factors that were considered in the evaluation of HV/TFE/AS has a remedial option.

Factors For Consideration	Most Desirable Condition
Site Size	HV/TFE/AS can be applied to any size site.
Soil Type	Semi-permeable soils are more conducive to HV/TFE & have potential for successful AS application.
Groundwater Use	Groundwater is non-potable during remediation. Shallow water table is ideal for HV/TFE.
Contaminant Characteristics	VOCs are easily volatilized and/or collected by the HV/TFE system. SVOCs require more time to remediate.
Treatment Options	Treatment of collected vapors may be required and treatment of groundwater will be required.

8.4.1.2 HV/TFE/AS Assessment:

Overall Protection of Human Health and the Environment

HV/TFE/AS is an appropriate remedy for this site. The removal of hydrocarbons from the soil/groundwater via HV/TFE/AS is *expected* to result in substantial contaminant mass reductions within three to four years. During the remedial action, minor concentrations (within SCGs) of hydrocarbon vapors may be release to the atmosphere and low-level dissolved contaminants associated with effluent discharge water may be released to the surface soils. The remedial action will occur in-situ, protecting workers and the public from exposure. Subsequent to the remedial effort and assuming the impacted domestic wells return to within NYS Groundwater Standards, exposure to human health and the environment should be minimal or non-existent.

Compliance with Standards, Criteria, and Guidance

SCGs for the HV/TFE/AS option are the NYS Groundwater Standards, TAGM 4046 and STARS for soils, and NYS DAR-1 air quality standards. Please note: HV/TFE/AS will not address the aboveground soil stockpile.

Short-term Effectiveness

Workers will be exposed to contaminated soils during the drilling/trenching phases of the HV/TFE/AS system installation processes. Personal protective equipment will be utilized to mitigate exposure. The effluent air discharge from the HV/TFE/AS system will be controlled by system operation or treatment of the air stream thereby preventing community exposure.

The remedial installation is *expected* to be complete in one construction season. During the remedial system installation, exposure of VOCs may create an odor hazard for workers and/or residents of adjacent properties. Soil excavation may also create ingestion and/or dermal exposure pathways for on-site worker. All on-site personnel will have proper 40 hour OSHA training and the appropriate level of personal protective equipment. In addition, appropriate Site controls, i.e. air monitoring via PID, safety fence, etc., will be maintained during the remedial action to limit public exposure to the Site. If ambient air monitoring indicates unacceptable VOC levels, drilling and/or excavation will be discontinued until the ambient air return to acceptable levels.

Long-term Effectiveness and Permanence

Remediation of the Site is *expected* to reach completion in three to five years. Please note: the presented time frame is purely speculative and more accurate time frames can be estimated subsequent to pilot testing.

HV/TFE/AS is expected to remove VOCs to within TAGM 4046 soil cleanup objectives. However, SVOCs may not be as effectively removed from the soil and groundwater. Residual SVOCs may represent a residual risk subsequent to the remedial effort. Groundwater monitoring, subsequent to the remedial action, will provide data to monitor the effectiveness of the in-situ remedial alternative.

Reduction of Toxicity, Mobility, and Volume

HV/TFE/AS addresses petroleum-contamination by several processes: volatilization of hydrocarbons, treatment of contaminated groundwater and biodegradation. All of which will reduce the volume of contaminant at the Site. The focus of the HV/TFE/AS system will be an area approximately 300' x 200'

immediately southeast of the fire training center. Volatilization will remove the VOCs from the subsurface via the high vacuum of the remedial system for discharge to the ambient air (below the NYS air quality guidelines) or to a treatment unit. Hydrocarbon biodegradation will be enhanced by increasing the available oxygen in the vadose zone. Biodegradation also leads to complete destruction of hydrocarbons. The Total Fluid Extraction part of the remedial system will collect contaminated groundwater and depress the local groundwater table thus controlling/mitigating hydrocarbons in the phreatic zone. There is a possibility that some contaminants may migrate beyond the controls of the HV/TFE/AS system and impact sensitive receptors.

Areas of contamination outside of the focus area, i.e. roadways, right of ways and/or off-site properties, will naturally attenuate over time once the majority of the source is remediated. However, due to the close (down gradient) proximity of a residence and dug well (Tax Map Parcel 18) to residual contamination beneath NYS Route 5 active remedial measures may be needed to return this off-site property to pre-release conditions.

Feasibility

Based on the Site's geology and shallow groundwater table, HV/TFE/AS is a suitable remedy. The Site is relatively flat and open and has very little traffic, making installation of the in-situ remedial system and future operation and maintenance very implementable. The installation cost for this remedial action is lower than soil excavation and treatment. However, ongoing system operation and maintenance could make the overall cost for HV/TFE/As option similar to and/or greater than the soil excavation and treatment option.

8.4.2 Alternative 2 Bioremediation:

8.4.2.1 Bioremediation Description:

In-situ bioremediation is a remedial methodology that utilizes a variety of technologies designed to enhance the subsurface environment by providing the necessary oxygen, water and nutrients for microbial population growth. The increased microbial population will in turn metabolize the hydrocarbons documented in the source area located southeast of the fire-training center. An Oxygen Releasing Compound (ORC) in the form of an ORC/water slurry mixture would be injected into the source area via Geoprobe soil borings. The oxygen source becomes available to the microbe population immediately upon installation and typically provides oxygen for up to six months. The amount of ORC required to remediate the Site is based on the mass of contaminant in a three to one oxygen to hydrocarbon ration. Multiple applications over time may be required to effectively mitigate the hydrocarbons.

The following table summarizes the factors that were considered in the evaluation of bioremediation as a remedial alternative.

Factors For Consideration	Most Desirable Condition
Site Size	Bioremediation can be applied to any size site.
Soil Type	Sand and gravels are ideal. Less porous soil may require additional ORC and injection points.
Groundwater Use	Groundwater is non-potable during remediation.
Contaminant Characteristics	VOCs are easily destroyed by ORC. SVOCs require more time to degrade.
Disposal Options	No disposal necessary.

Periodic groundwater monitoring will be required to track the progress of the remedial measures. Confirmatory soil samples will be required prior to Site closure.

8.4.2.2 Bioremediation Assessment:

Overall Protection of Human Health and the Environment

Because this remedial alternative takes place in-situ, exposure to human health is very limited. Upon completion the remedial process is expected to leave only water and carbon dioxide, thus eliminating most residual public health and environmental risks.

Compliance with Standards, Criteria, and Guidance

Bioremediation of hydrocarbons at the Site will be performed until TAGM 4046 and/or STARS Guidance Values for soils and NYS Groundwater Standards are achieved. Hydrocarbon vapor and groundwater discharges are not expected as part of this remedy.

Short-term Effectiveness

Under optimal Site conditions bioremediation can reach the cleanup objectives in a relatively short duration (typically 3-5 years). Because hydraulic control of the groundwater is not part of this remedy, the potential for contaminant migration to sensitive receptors does exist. Contaminant migration can be controlled or eliminated with the installation of a down gradient ORC barrier. During the ORC injection process, appropriate site controls, i.e. air monitoring via PID, will be maintained to limit public exposure to the Site. If ambient air monitoring indicates unacceptable VOC levels, Geoprobing will be discontinued until the ambient air return to acceptable levels. Subsequent to the installation process, exposure to the public is not expected.

Long-term Effectiveness and Permanence

ORC injection is expected to reduce hydrocarbon contamination associated with the source to below the TAGM 4046 cleanup objectives thus eliminating the source of long-term contaminant migration to adjacent domestic water supply wells. Once TAGM 4046 cleanup objectives are met, no residual risks are expected. No on-site remedial enclosure is needed to control this remedial alternative.

Reduction of Toxicity, Mobility, and Volume

In-situ bioremediation is expected to metabolize the hydrocarbon contaminants within the source below TAGM 4046 cleanup objectives. Bioremediation degrades or completely destroys hydrocarbon contaminants. This remedy will significantly reduce the volumes, mobility, and toxicity of the source contamination.

In addition, ORC injection along the south side of NYS Route 5 would expedite off-site contaminant mitigation.

Feasibility

Unfavorable site conditions such as heterogeneity of the soils and high concentrations of SVOCs indicates bioremediation via ORC injection may not be the most feasible remedial alternative.

8.4.3 Alternative 3 Soil Excavation/Simultaneous Dewatering/Treatment:

8.4.3.1 Soil Excavation/Simultaneous Dewatering/Treatment Description:

Excavation of contaminated soils is one of the most common and short-termed remedial alternatives. Soil excavation removes contaminated soils from the subsurface thus preventing continued impact to the groundwater regime. Excavated geologic media would be hauled off-site for thermal desorption or utilized as top cover at a local landfill.

Factors that were considered in the evaluation of soil excavation/treatment are summarizes below.

Factors For Consideration	Most Desirable Condition
Site Size	Small sites are most easily and cost effectively excavated.
Soil Type	All soil types can be excavated, excavation may be the only option for clay contaminated soils.
Groundwater Use	Groundwater table may be encountered during excavation and should be pumped & treated.
Contaminant Characteristics	SVOCs, due to their heavy molecular weight are most easily remediated from the Site by excavation.
Disposal Options	Top cover at landfills and thermal desorption are a feasible option for excavated soils.
Treatment Options	Excavated soils are most easily bioremediated in an ex-situ scenario, however, the size of the Site and volume of soil requiring treatment should be considered.

Shallow groundwater table creates a challenge for the implementation of the excavation remedy. Several options are available to reduce saturation in the excavated soils. Sheet piling installed around the excavation would reduce the influence of the groundwater hydraulic gradient. However, installing sheet piling is a costly option. Dewatering the excavation and treating contaminated groundwater is a viable option. PES owns and operates a portable dewatering trailer suited for this purpose. Saturated soils could be excavated and dewatered on a bermed liner adjacent to the excavation. Contaminated groundwater would be drained back into the excavation allowing the soils to be hauled off-site to a treatment facility or landfill.

Contaminated soil excavation would occur east of the fire-training center and south of the fire-training tower. The area of concern exists between SB-1, SB-7, (300') SB-9 and MW-1 (200'). Field screening and analytical testing of soils obtained during the soil boring installation process indicated that hydrocarbon contamination typically exists from 3-8' B.G. The estimated volume of soil requiring remediation is 11,111 cubic yards. Subsequently, the remedial excavation will be backfilled with clean overburden material from the Site and clean backfill hauled to the Site.

The excavated soils will be hauled to a permitted thermal desorption facility or a local landfill for disposal. Waste characterization samples are required at permit specified intervals for both facility types.

8.4.3.2 Soil Excavation/Simultaneous Dewatering/Treatment Assessment:

Overall Protection of Human Health and the Environment

Remedial excavation of hydrocarbon-contaminated soils from the Site will greatly improve the local groundwater quality. Subsequent to soil excavation process only minor contaminant levels, below

TAGM 4046, are expected to exist in the subsurface soils. The use of an approved, permitted treatment/disposal facility will ensure proper treatment/disposal of the contaminated soils. As the remedial action occurs, the Site will be made secure to prevent access to the open excavation thus protecting the human health of the public during the remedial action. Exposure to human health and the environment after remediation will be limited by clean backfill or clean native soils that will cover any residual contaminated soils. Residual public health and environmental risks, in the form of residual contaminated groundwater, may exist after the remedial action. However, source removal coupled with natural attenuation should significantly reduce or remove any public health and environmental risks associated with the local groundwater quality.

Compliance with Standards, Criteria, and Guidance

Contaminated soil excavation and treatment/disposal should bring the site into compliance with the applicable SCGs identified for the Site soils. Groundwater pump and treatment (P&T) during the soil excavation process will aid in advancing the Site toward compliance. P&T will remove contaminated groundwater that would re-contaminate the clean backfill. Additionally, treating the groundwater will also aid in achieving the ultimate goal of protecting the local groundwater quality and the surrounding domestic water supply wells.

Short-term Effectiveness

This remedial action could be implemented in one construction season. During the remedial excavation, exposure of VOCs may create an odor hazard for workers and/or residents of adjacent properties. Soil excavation may also create ingestion and/or dermal exposure pathways for on-site worker. All on-site personnel will have proper 40 hour OSHA training and the appropriate level of personal protective equipment. In addition, appropriate site controls, i.e. air monitoring via PID, safety fence, etc., will be maintained during the remedial action to limit public exposure to the Site. If ambient air monitoring indicates unacceptable VOC levels, excavation will be discontinued until the ambient air return to acceptable levels.

Long-term Effectiveness and Permanence

Removal of contaminated soils is expected to have the best long-term effect because the source is physically removed from the Site. Some residual contamination, below TAGM 4046, is expected, however, natural attenuation should provide for further degradation of residual soils and groundwater. Groundwater monitoring, subsequent to the remedial action, will provide data to monitor the effectiveness of the contaminated soil excavation process.

Reduction of Toxicity, Mobility, and Volume

Excavation of contaminated soils will significantly reduce the volume of the source material by 11,111 cubic yards. With the majority of the source soils removed, residual contamination is expected to naturally degrade in the environment. In addition, with the source removed, groundwater contaminant leaching will be reduced, thus decreasing the mobility of the contaminant plume beneath the Site. If P&T is implemented during the excavation process, then groundwater contaminant mobility would also be reduced during the remedial action process. Soil excavation and treatment/disposal is a permanent and irreversible remedial technology.

ORC injection along the southern border of NYS Route 5 and/or installing ORC socks in the off-site MWs subsequent to the excavation process would reduce off-site contaminants and minimize contaminant migration thus expediting the off-site remedial effort. PES anticipates that on-site

contaminated soil excavation coupled with limited off-site ORC application(s) would advance the off-site areas to pre-release conditions in the timeliest manner.

Feasibility

Remedial soil excavation is a suitable technology for this Site. Excavation is an immediate remedy of contaminated soils at the Site. Several treatment/disposal facilities are located within reasonable trucking distance from the Site. PES has services and materials to implement this remedial action.

8.4.4 Alternative 4 No Action with Institutional Controls:

8.4.4.1 No Action with Institutional Controls Description:

The no action alternative is the baseline for remedial alternative selection. No action is best suited to sites that have low-level contamination and do not pose a significant threat to human health and the environment. Institutional controls are commonly implemented to provide an additional measure of protection at the Site. Institutional controls can be defined as mechanisms used to limit human activities at a contaminated site to ensure protection of human health. Well restrictions, land use restrictions, access controls, declaration of environmental restrictions, deed notices, site posting requirements and notification in public registries are some examples of institutional controls. Institutional controls for the Site are developed for current and future land use. The repositories for the institutional controls are selected to ensure they will be made known to respective parties associated with a property transfer or a change in property use.

8.4.4.2 No Action with Institutional Controls Assessment:

Overall Protection of Human Health and the Environment

No action with institutional controls is not considered a viable remedial alternative because existing hydrocarbon-contamination has impacted an adjacent domestic supply well. In addition due to the shallow depth of the contaminant smear zone, future construction and excavation could expose contaminated soils creating potential risks for exposure.

Compliance with Standards, Criteria, and Guidance

No action will not advance the Site towards compliance with SCGs without further impacting adjacent properties and their potable water supplies.

Short-term Effectiveness

No action will have no short-term effects to assess. High concentrations of VOCs and SVOCs in the soil and groundwater dictate that the Site is not suitable for this remedial alternative.

Long-term Effectiveness and Permanence

Natural attenuation of contaminants migrating off-site has been documented as an ineffective remedy for the Site based on the existing off-site contaminant plume. No action with institutional controls would allow for continued off-site contaminant mitigation, which could lead to further third party impacts.

Reduction of Toxicity, Mobility, and Volume

Over an *extended* period of time, natural attenuation may reduce the contaminant's toxicity, mobility and volume to within acceptable SCGs. Further third party impacts are likely if no action is taken to remedy the Site.

Feasibility

Based on the Site's high contaminant levels and sensitive off-site receptors, no action is not a feasible remedy.

9.0 REMEDIAL ALTERNATIVES COMPARISON:

9.1 HV/TFE/AS Alternative:

HV/TFE/AS, because of its in-situ nature, is protective of human health and the environment. In addition, this remedial alternative will significantly reduce the toxicity, mobility and volume of contamination. Because of the Site's heterogeneous geology and significant volume of SVOCs associated with the source, HV/TFE/AS technologies need to be pilot tested prior to implementation of a full-scale design. Pilot testing would provide Site-specific data regarding recovery well construction and spacing, vacuum levels, airflow rates, etc. PES can provide a more accurate cost estimate for HV/TFE/AS subsequent to Site-specific pilot testing.

9.2 Bioremediation Alternative:

The nature of the contaminants (significant SVOCs) and the relatively low hydraulic conductivity at the Site indicates ORC injection may only have limited effects and therefore a significant volume of ORC will be required for this remedy. In addition, a second application may be required if post treatment groundwater/soil samples fail applicable SCGs.

9.3 Soil Excavation/Simultaneous Dewatering/Treatment Alternative:

The nature of the contaminants (significant SVOCs) and the relatively low hydraulic conductivity at the Site indicates that this remedial option will have more significant and permanent effects. Costs are provided based on the existing number of data collection points.

9.4 No Action with Institution Controls:

Significantly elevated contaminant levels and sensitive off-site receptors indicates, no action is not an option for this site.

10.0 REMEDIAL ALTERNATIVE COSTS:

Remedial Alternative	HV/TFE/AS	Bioremediation	Excavation/ Dewatering	No Action
Capital Costs (materials, labor and equipment to install remedy	$605,000 to 735,000	$1,679,000	$925,000	$0
Engineering Design	$57,100 to 70,100	$45,000	$27,000	$0
Permitting	$7,000	$0	$0	$0
Contingency	$75,000 to 105,000	$167,900	$45,000	$0
O&M (over remedial action lifetime)	$677,000 727,000 Duration 4 years	Reapplication may be required.	$0	$0
Total	$1,421,100 to 1,644,100	$1,891,900	$997,000	$0

Any statement or opinion contained in this Report prepared by Precision Environmental Services, Inc. (PES) shall not be construed to create any warranty or representation that the real or personal property on which the investigation was conducted is free of pollution or complies with any or all applicable regulatory or statutory requirements, or that the property is fit for any particular purpose. Unless otherwise indicated in this Report, PES did not independently determine the compliance of present or past owners of the site with federal, state or local laws and regulations. The conclusions presented in this Report were based upon the services described, within the time and budgetary constraints imposed by the client, and not on scientific tasks or procedures beyond the scope of those described services. PES shall not be responsible for conditions or consequences arising from any facts that were concealed, withheld or not fully disclosed by any person at the time evaluation was performed.

Any person or entity considering the acquisition, use or other involvement or activity concerning the property that is the subject of this Report shall be solely responsible for determining the adequacy of the property for any and all such purposes. The person or entity should enter into any such acquisition or use relying solely on its own judgment and personal investigation of the property, and not upon reliance of any representation by PES regarding the property or the character, quality or value thereof.

The contents and conclusions of this Report and the information gathered in order to prepare the Report will remain confidential except to the parties or their representatives.

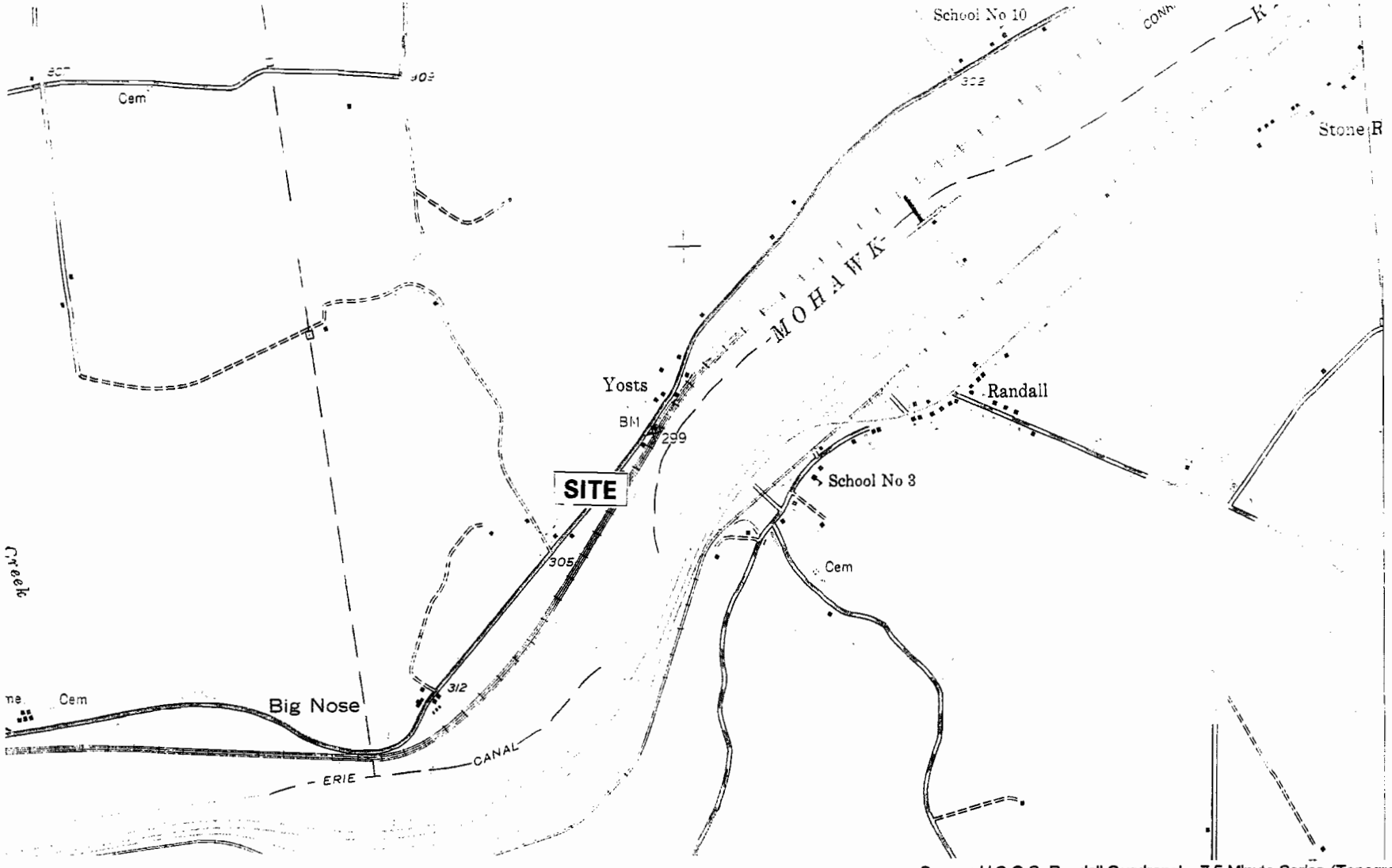
PES greatly appreciates the opportunity to provide continuing environmental services to Montgomery County. Please call if you have questions regarding the contents of this report.

SINCERELY,
PRECISION ENVIRONMENTAL SERVICES, INC.

Eric S. Lewis
Senior Geologist

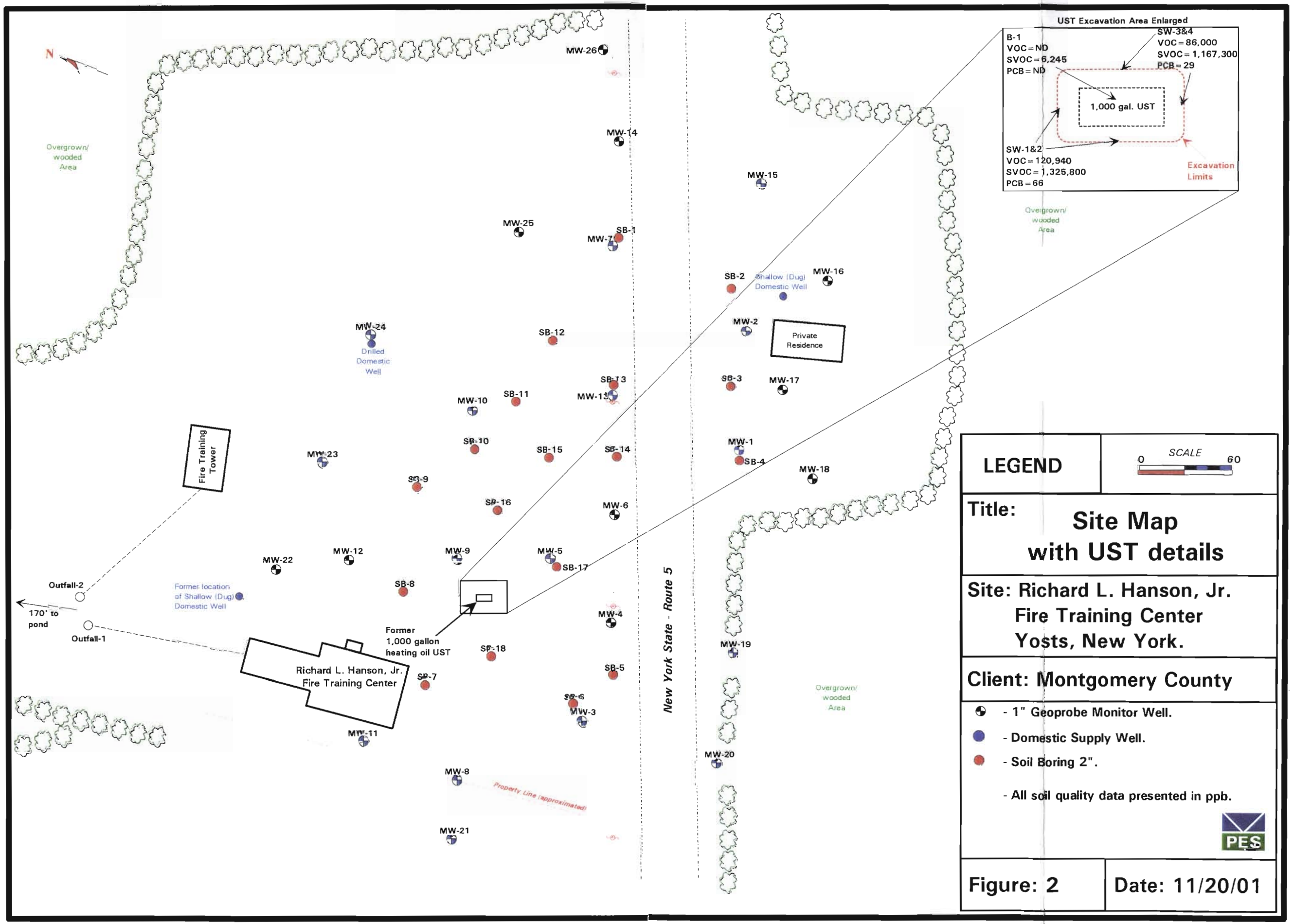
John J. Johnson
Hydrogeologist/Geotechnical Manager

FIGURES



Source: U.S.G.S. Randall Quadrangle, 7.5 Minute Series (Topography).

PRECISION ENVIRONMENTAL SERVICES, INC.	Date: July, 2002	Project No.: B00138-4
Hanson Fire Training Center **Site Location Map**	Scale: 1 : 24,000	Figure No.: 1
	Drawn By: ESL	Location: Yosts, NY



LEGEND	SCALE 0 60

Title: Site Map with UST details

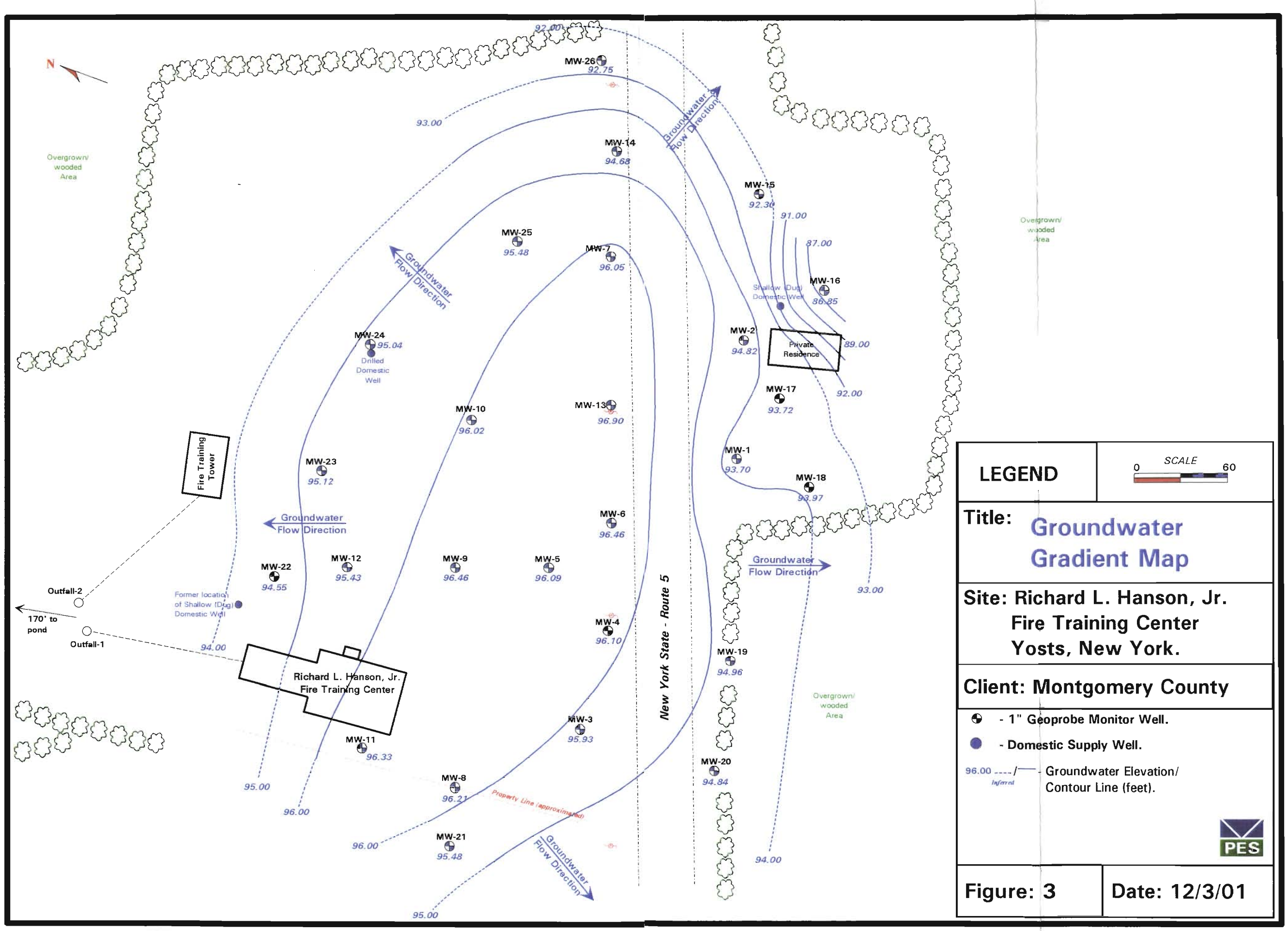
Site: Richard L. Hanson, Jr. Fire Training Center Yosts, New York.

Client: Montgomery County

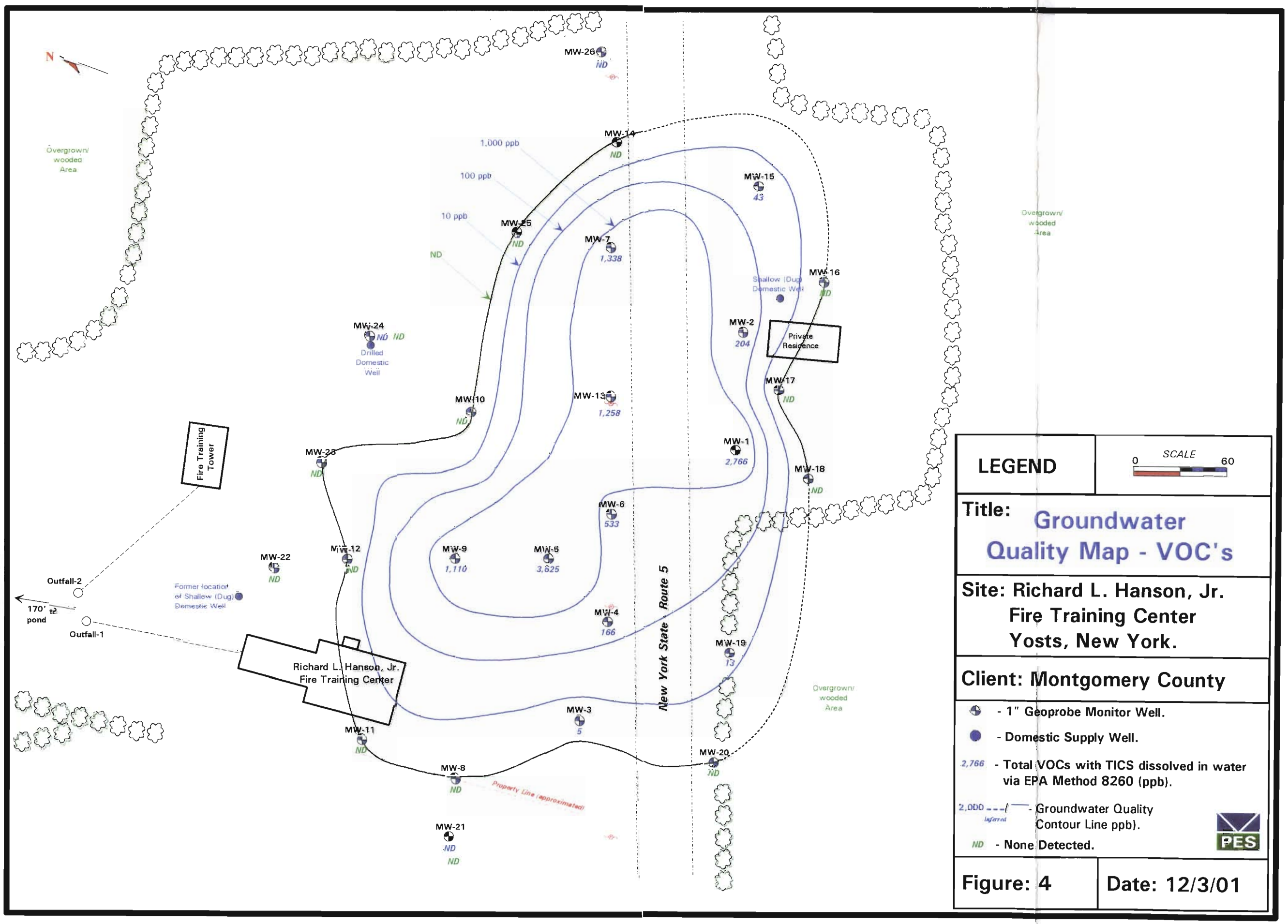
- 1" Geoprobe Monitor Well.
- Domestic Supply Well.
- Soil Boring 2".
- All soil quality data presented in ppb.

PES

Figure: 2	Date: 11/20/01



LEGEND	SCALE 0 60
Title: Groundwater Gradient Map	
Site: Richard L. Hanson, Jr. Fire Training Center Yosts, New York.	
Client: Montgomery County	
● - 1" Geoprobe Monitor Well.	
● - Domestic Supply Well.	
96.00 ----/— Inferred - Groundwater Elevation/ Contour Line (feet).	
PES	
Figure: 3	**Date:** 12/3/01



LEGEND	SCALE 0 60

Title: Groundwater Quality Map - VOC's

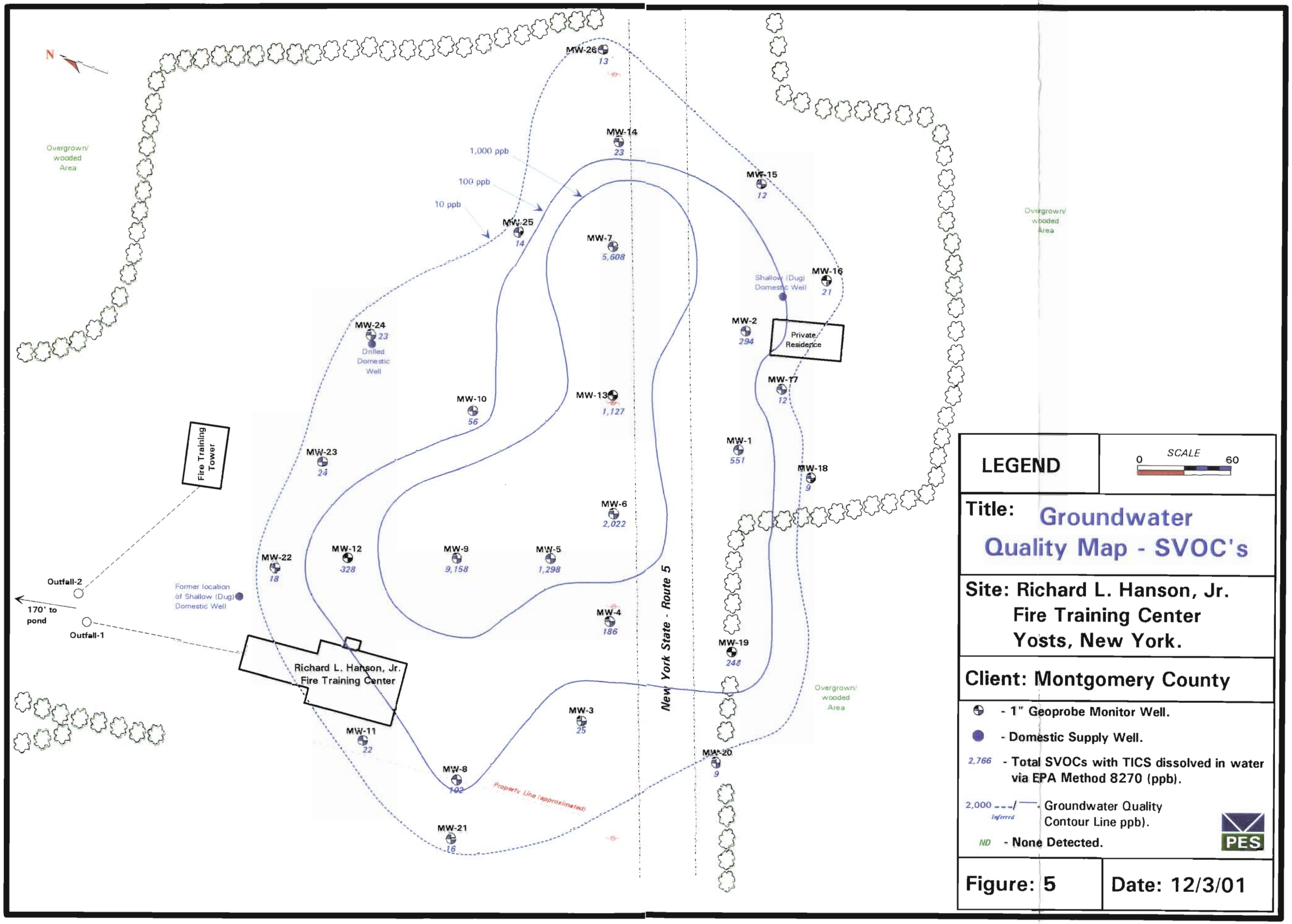
Site: Richard L. Hanson, Jr. Fire Training Center Yosts, New York.

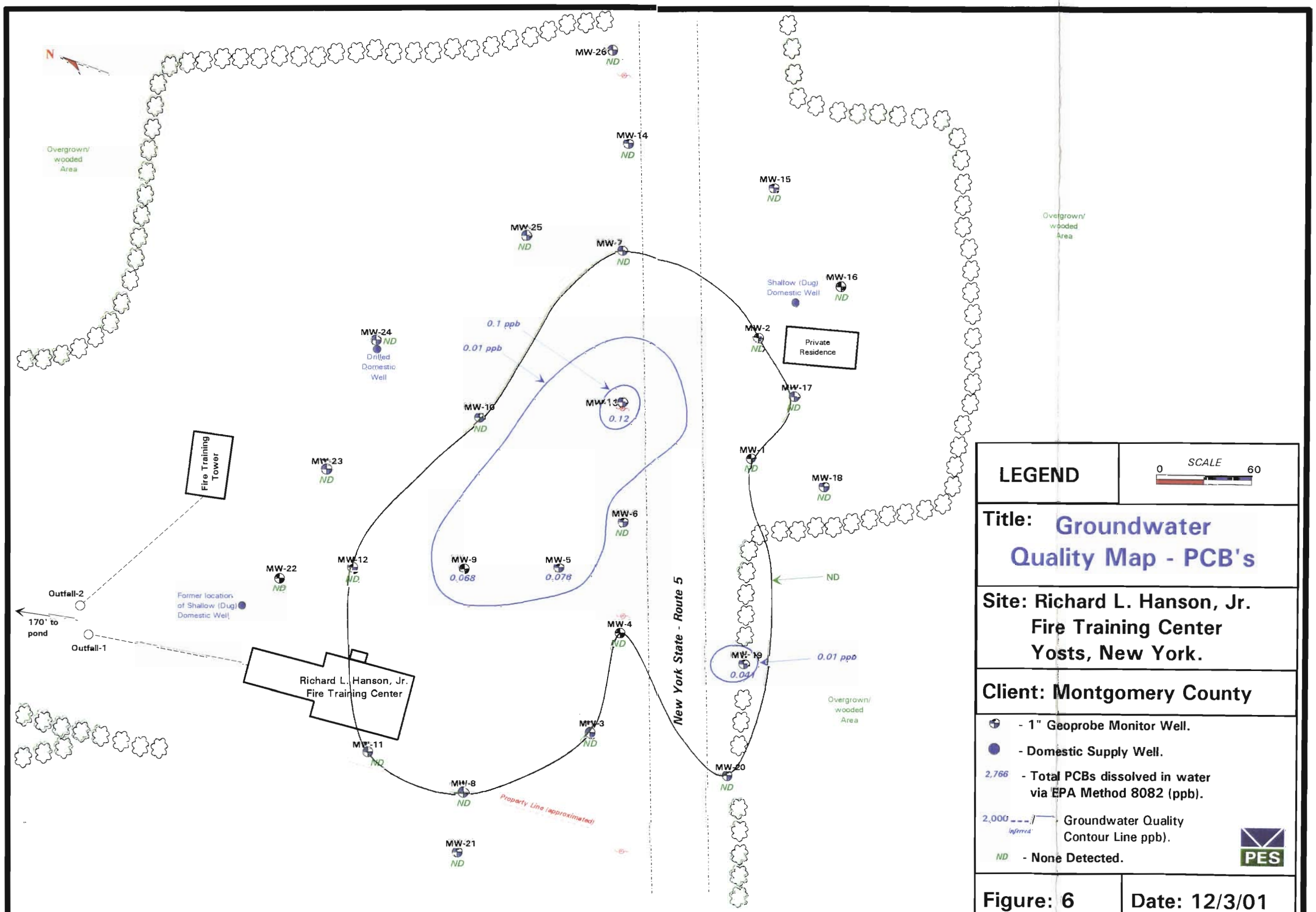
Client: Montgomery County

- - 1" Geoprobe Monitor Well.
- - Domestic Supply Well.
- 2,766 - Total VOCs with TICS dissolved in water via EPA Method 8260 (ppb).
- 2,000 (inferred) - Groundwater Quality Contour Line ppb).
- ND - None Detected.

PES

Figure: 4	Date: 12/3/01


N
Overgrown/ wooded Area
MW-26 13
MW-14 23
1,000 ppb
100 ppb
10 ppb
MW-15 12
MW-25 14
MW-7 5,608
Overgrown/ wooded Area
Shallow (Dug) Domestic Well
MW-16 21
MW-24 23
Drilled Domestic Well
MW-2 294
Private Residence
MW-17 12
MW-10 56
MW-13 1,127
MW-1 551
Fire Training Tower
MW-23 24
MW-18 9
MW-6 2,022
MW-22 18
MW-12 328
MW-9 9,158
MW-5 1,298
Outfall-2
170' to pond
Outfall-1
Former location of Shallow (Dug) Domestic Well
MW-4 186
MW-19 248
New York State - Route 5
Richard L. Hanson, Jr. Fire Training Center
Overgrown/ wooded Area
MW-3 25
MW-11 22
MW-20 9
MW-8 102
Property Line (approximated)
MW-21 16
LEGEND
SCALE 0 60
Title: Groundwater Quality Map - SVOC's
Site: Richard L. Hanson, Jr. Fire Training Center Yosts, New York.
Client: Montgomery County
- 1" Geoprobe Monitor Well.
- Domestic Supply Well.
2,766 - Total SVOCs with TICS dissolved in water via EPA Method 8270 (ppb).
2,000 Inferred - Groundwater Quality Contour Line ppb).
ND - None Detected.
PES
Figure: 5
Date: 12/3/01

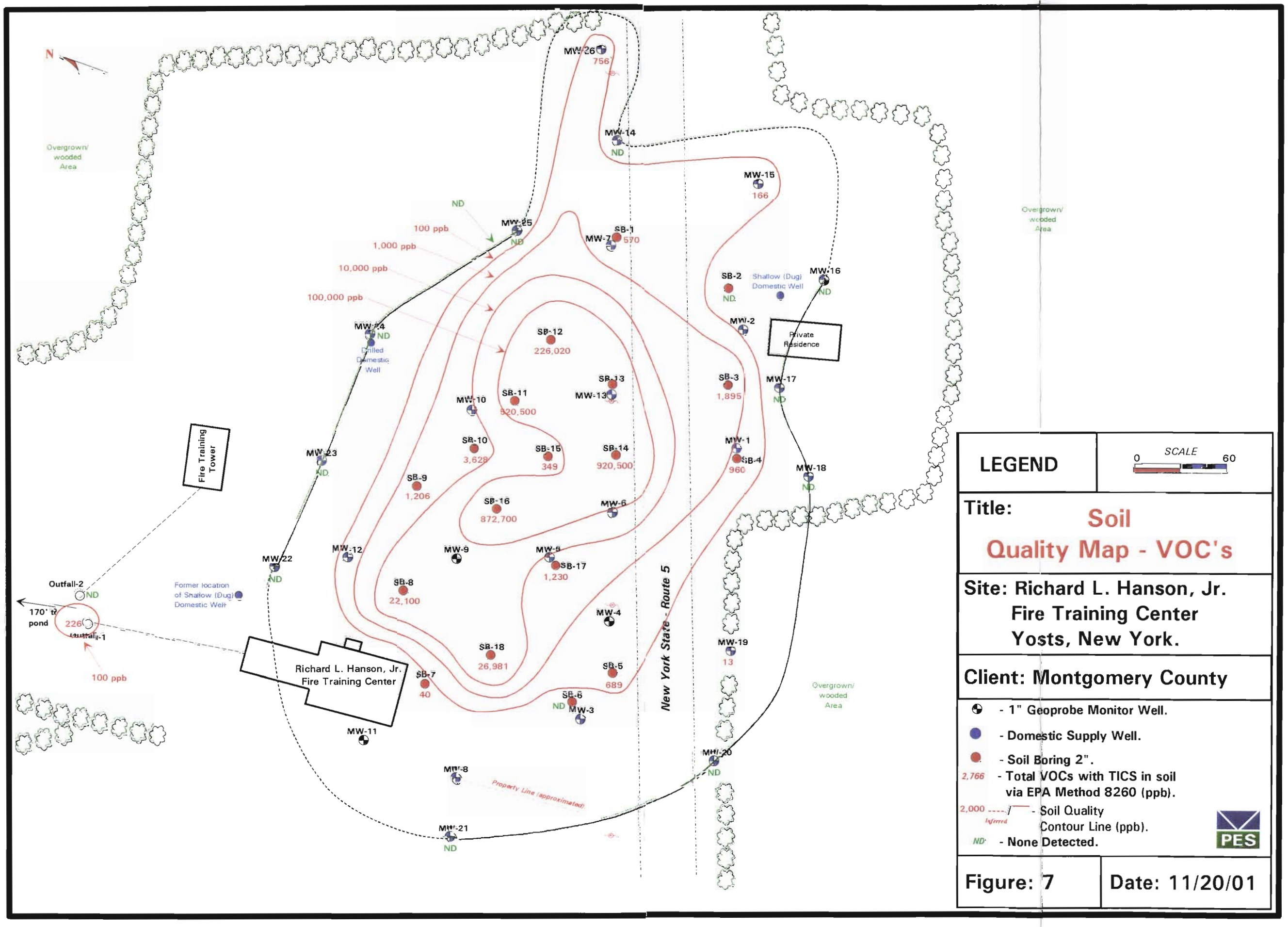


LEGEND	SCALE 0 60
Title: Groundwater Quality Map - PCB's	
Site: Richard L. Hanson, Jr. Fire Training Center Yosts, New York.	
Client: Montgomery County	

- 1" Geoprobe Monitor Well.
- Domestic Supply Well.
- 2,766 - Total PCBs dissolved in water via EPA Method 8082 (ppb).
- 2,000 (Inferred) - Groundwater Quality Contour Line ppb).
- ND - None Detected.

PES

Figure: 6	Date: 12/3/01



LEGEND	SCALE 0 60

Title: Soil Quality Map - VOC's

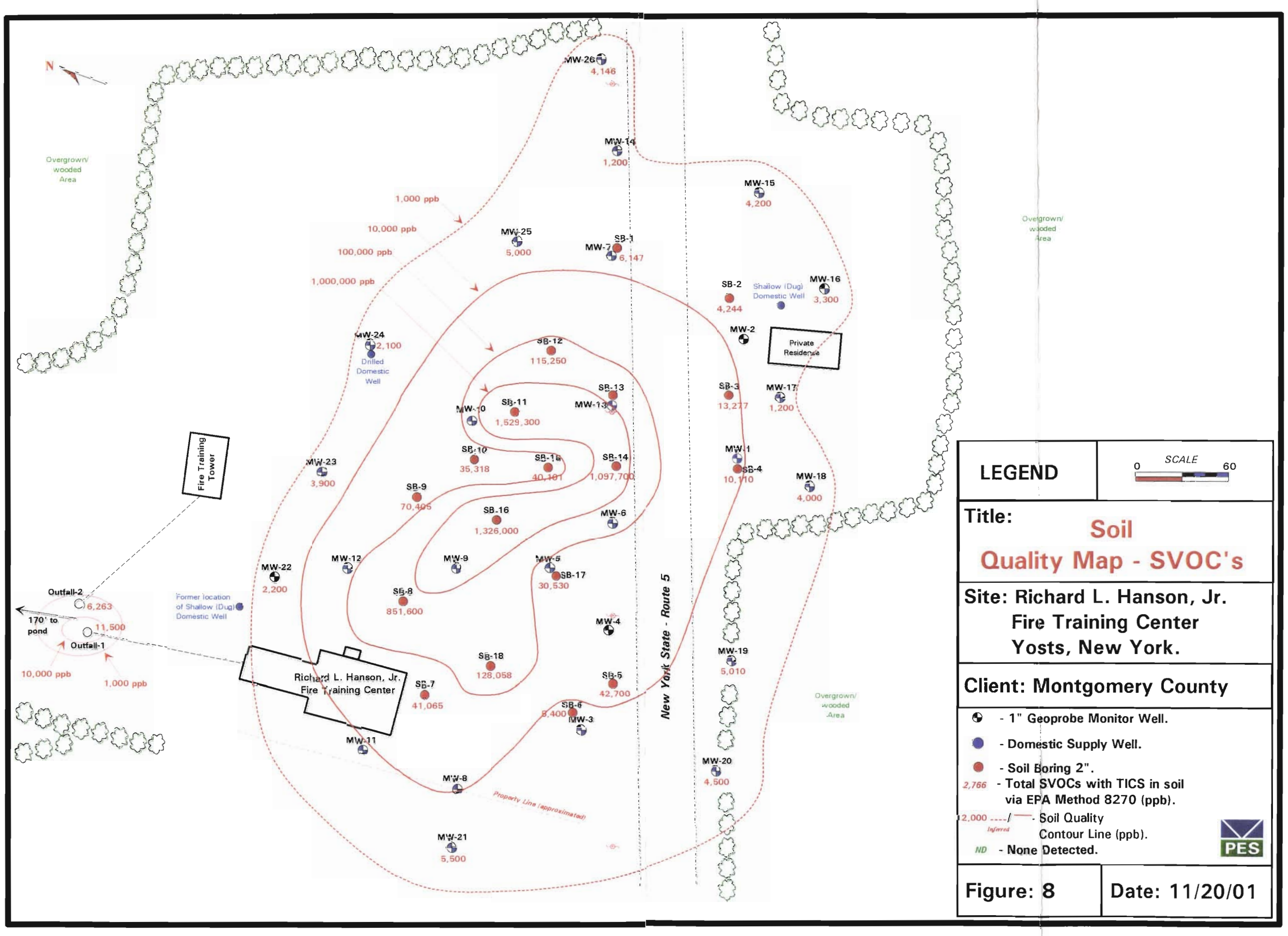
Site: Richard L. Hanson, Jr. Fire Training Center Yosts, New York.

Client: Montgomery County

- 1" Geoprobe Monitor Well.
- Domestic Supply Well.
- Soil Boring 2".
- 2,766 - Total VOCs with TICS in soil via EPA Method 8260 (ppb).
- 2,000 Inferred ----/—— - Soil Quality Contour Line (ppb).
- ND - None Detected.

PES

Figure: 7	Date: 11/20/01



LEGEND	SCALE 0 60

Title:

Soil Quality Map - SVOC's

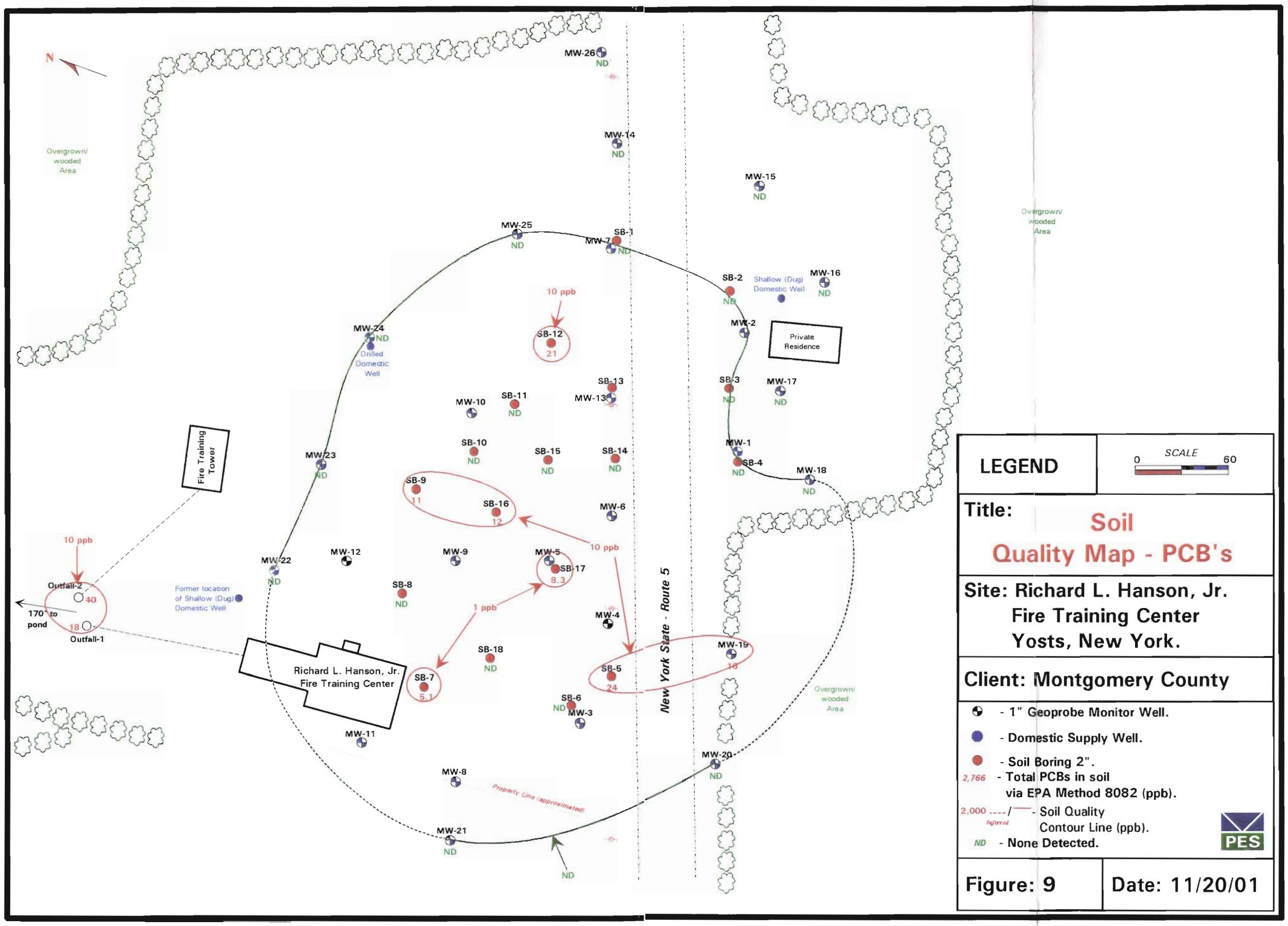
Site: Richard L. Hanson, Jr. Fire Training Center Yosts, New York.

Client: Montgomery County

- - 1" Geoprobe Monitor Well.
- - Domestic Supply Well.
- - Soil Boring 2".
- 2,766 - Total SVOCs with TICS in soil via EPA Method 8270 (ppb).
- 12,000 ----/—— (inferred) - Soil Quality Contour Line (ppb).
- ND - None Detected.

PES

Figure: 8	Date: 11/20/01



LEGEND	SCALE 0 60

Title: Soil Quality Map - PCB's

Site: Richard L. Hanson, Jr. Fire Training Center Yosts, New York.

Client: Montgomery County

- - 1" Geoprobe Monitor Well.
- - Domestic Supply Well.
- - Soil Boring 2".
- 2,766 - Total PCBs in soil via EPA Method 8082 (ppb).
- 2,000 (Inferred) - Soil Quality Contour Line (ppb).
- ND - None Detected.

PES

Figure: 9	Date: 11/20/01

TABLES

TABLE 1
Summary of Analytical Results
VOCs in Soil via EPA Method 8260
Hanson Fire Training Center
Yosts, New York
November 20, 2001

Parameter	Method	Sample Identification																NYS DEC TAGM 4046 Recommended Soil Cleanup Objectives (ppb)
		SB-1 Grab	SB-2 Grab	SB-3 Grab	SB-4 Grab	SB-5 Grab	SB-6 Grab	SB-7 Grab	SB-8 Grab	SB-9 Grab	SB-10 Grab	SB-11 Grab	SB-12 Grab	SB-14 Grab	SB-15 Grab	SB-16 Grab	SB-17 Grab	SB-18 Grab	
Chloromethane	EPA 8260	<12	<12	<12	<12	<12	<12	<13	<1,300	<11	<12	<6,100	<1,200	<6,000	<12	<6,000	<12	<120	10,000
Bromomethane	EPA 8260	<12	<12	<12	<12	<12	<12	<13	<1,300	<11	<12	<6,100	<1,200	<6,000	<12	<6,000	<12	<120	10,000
Vinyl Chloride	EPA 8260	<12	<12	<12	<12	<12	<12	<13	<1,300	<11	<12	<6,100	<1,200	<6,000	<12	<6,000	<12	<120	10,000
Chloroethane	EPA 8260	<12	<12	<12	<12	<12	<12	<13	<1,300	<11	<12	<6,100	<1,200	<6,000	<12	<6,000	<12	<120	10,000
Methylene Chloride	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<630	<6	<6	<3,000	<600	<3,000	<6	<3,000	<6	<60	10,000
Acetone	EPA 8260	<12	<12	<12	<12	<12	<12	<13	<1,300	<11	<12	<6,100	<1,200	<6,000	<12	<6,000	<12	<120	10,000
Carbon Disulfide	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<630	<6	<6	<3,000	<600	<3,000	<6	<3,000	<6	<60	10,000
1,1-Dichloroethene	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<630	<6	<6	<3,000	<600	<3,000	<6	<3,000	<6	<60	10,000
1,1-Dichloroethane	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<630	<6	<6	<3,000	<600	<3,000	<6	<3,000	<6	<60	10,000
1,2-Dichloroethene-trans	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<630	<6	<6	<3,000	<600	<3,000	<6	<3,000	<6	<60	10,000
Chloroform	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<630	<6	<6	<3,000	<600	<3,000	<6	<3,000	<6	<60	10,000
1,2-Dichloroethane	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<630	<6	<6	<3,000	<600	<3,000	<6	<3,000	<6	<60	10,000
2-Butanone	EPA 8260	<12	<12	<12	<12	<12	<12	<13	<1,300	<11	<12	<6,100	<1,200	<6,000	<12	<6,000	<12	<120	10,000
1,1,1-Trichloroethane	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<630	<6	<6	<3,000	<600	<3,000	<6	<3,000	<6	<60	10,000
Carbon Tetrachloride	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<630	<6	<6	<3,000	<600	<3,000	<6	<3,000	<6	<60	10,000
Bromodichloromethane	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<630	<6	<6	<3,000	<600	<3,000	<6	<3,000	<6	<60	10,000
1,2-Dichloropropane	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<630	<6	<6	<3,000	<600	<3,000	<6	<3,000	<6	<60	10,000
cis-1,3-Trichloroethane	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<630	<6	<6	<3,000	<600	<3,000	<6	<3,000	<6	<60	10,000
Trichloroethene	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<630	<6	<6	<3,000	<600	<3,000	<6	<3,000	<6	<60	10,000
Dibromochloromethane	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<630	<6	<6	<3,000	<600	<3,000	<6	<3,000	<6	<60	10,000
1,1,2-Trichloroethane	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<630	<6	<6	<3,000	<600	<3,000	<6	<3,000	<6	<60	10,000
Benzene	EPA 8260	<6	<6	8	20	<6	<6	<6	<630	22	11	2,600	1,100	3,600	<6	15,000	12	<60	60
trans-1,3-Dichloropropene	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<630	<6	<6	<3,000	<600	<3,000	<6	<3,000	<6	<60	10,000
Bromoform	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<630	<6	<6	<3,000	<600	<3,000	<6	<3,000	<6	<60	10,000
4-Methyl-2-Pentanone	EPA 8260	<12	<12	<12	<12	<12	<12	<13	<1,300	<11	<12	<6,100	<1,200	<6,000	<12	<6,000	<12	<120	10,000
2-Hexanone	EPA 8260	<12	<12	<12	<12	<12	<12	<13	<1,300	<11	<12	<6,100	<1,200	<6,000	<12	<6,000	<12	<120	10,000
Tetrachloroethene	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<630	<6	<6	<3,000	<600	<3,000	<6	<3,000	<6	<60	10,000
1,1,2,2-Tetrachloroethane	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<630	<6	<6	<3,000	<600	<3,000	<6	<3,000	<6	<60	10,000
Toluene	EPA 8260	<6	<6	3	6	<6	<6	<6	<630	28	5	2,000	<600	2,400	<6	7,800	2	35	1,500
Chlorobenzene	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<630	<6	<6	<3,000	<600	<3,000	<6	<3,000	<6	<60	10,000
Ethylbenzene	EPA 8260	<6	<6	61	62	<6	<6	<6	5,100	10	110	34,000	12,000	27,000	11	52,000	33	900	5,500
Styrene	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<630	<6	<6	<3,000	<600	<3,000	<6	<3,000	<6	<60	10,000
1,2-Dichloroethene-cis	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<630	<6	<6	<3,000	<600	<3,000	<6	<3,000	<6	<60	10,000
m,p-Xylenes	EPA 8260	<6	<6	100	110	<6	<6	<6	17,000	63	440	150,000	49,000	110,000	34	220,000	84	1,400	1,200
o-Xylene	EPA 8260	<6	<6	<6	9	<6	<6	<6	380	5	8	1,900	620	4,300	<6	8,300	<6	56	800
Total TICs Concentration	EPA 8260 (TICs)	570	ND	1,717	753	689	ND	40	ND	1,083	3,054	330,000	183,300	773,000	304	569,600	1,099	24,590	
# of TICs	EPA 8260 (TICs)	11	ND	12	11	10	ND	3	ND	10	12	12	12	12	8	12	12	12	
Total Compounds	EPA 8260 + TICs	570	0	1,889	960	689	0	40	22,480	1,211	3,628	520,500	226,020	920,500	349	872,700	1,230	26,993	

Comments: All values are reported in ug/kg - parts per billion (ppb).
Analytical Facility: Adirondack Environmental Services, Inc., Albany, NY.
Values in red Equals and/or Exceeds NYS DEC TAGM 4046 Recommended Soil Cleanup Objectives (ppb).

ND=None Detected
NA=Not Available

Brownfields I.D. #: B00138-4
NYS Spill #: 9606805
NYS Spill #: 9608496

TABLE 1
Summary of Analytical Results
VOCs in Soil via EPA Method 8260
Hanson Fire Training Center
Yosts, New York
November 20, 2001

Parameter	Method	Sample Identification																	NYS DEC TAGM 4046 Recommended Soil Cleanup Objectives (ppb)
		MW-14 Grab	MW-15 Grab	MW-16 Grab	MW-17 Grab	MW-18 Grab	MW-19 Grab	MW-20 Grab	MW-21 Grab	MW-22 Grab	MW-23 Grab	MW-24 Grab	MW-25 Grab	MW-26 Grab	OF-1 Grab	OF-2 Grab	B-1 Grab	SW-1&2 Grab	SW-3&4 Grab	
Chloromethane	EPA 8260	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<18	<12	<13	<1200	<620	10,000
Bromomethane	EPA 8260	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<18	<12	<13	<1200	<620	10,000
Vinyl Chloride	EPA 8260	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<18	<12	<13	<1200	<620	10,000
Chloroethane	EPA 8260	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<18	<12	<13	<1200	<620	10,000
Methylene Chloride	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<9	<6	<6	<620	<310	10,000
Acetone	EPA 8260	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<18	<12	<13	<1200	<620	10,000
Carbon Disulfide	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<9	<6	<6	<620	<310	10,000
1,1-Dichloroethene	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<9	<6	<6	<620	<310	10,000
1,1-Dichloroethane	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<9	<6	<6	<620	<310	10,000
1,2-Dichloroethene-trans	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<9	<6	<6	<620	<310	10,000
Chloroform	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<9	<6	<6	<620	<310	10,000
1,2-Dichloroethane	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<9	<6	<6	<620	<310	10,000
2-Butanone	EPA 8260	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<18	<12	<13	<1200	<620	10,000
1,1,1-Trichloroethane	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<9	<6	<6	<620	<310	10,000
Carbon Tetrachloride	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<9	<6	<6	<620	<310	10,000
Bromodichloromethane	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<9	<6	<6	<620	<310	10,000
1,2-Dichloropropane	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<9	<6	<6	<620	<310	10,000
cis-1,3-Trichloroethane	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<9	<6	<6	<620	<310	10,000
Trichloroethene	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<9	<6	<6	<620	<310	10,000
Dibromochloromethane	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<9	<6	<6	<620	<310	10,000
1,1,2-Trichloroethane	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<9	<6	<6	<620	<310	10,000
Benzene	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<9	<6	<6	<620	<310	60
trans-1,3-Dichloropropene	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<9	<6	<6	<620	<310	10,000
Bromoform	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<9	<6	<6	<620	<310	10,000
4-Methyl-2-Pentanone	EPA 8260	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<18	<12	<13	<1200	<620	10,000
2-Hexanone	EPA 8260	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<18	<12	<13	<1200	<620	10,000
Tetrachloroethene	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<9	<6	<6	<620	<310	10,000
1,1,2,2-Tetrachloroethane	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<9	<6	<6	<620	<310	10,000
Toluene	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<9	<6	<6	<620	<310	1,500
Chlorobenzene	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<9	<6	<6	<620	<310	10,000
Ethylbenzene	EPA 8260	<6	7	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<9	<6	<6	5,100	7,500	5,500
Styrene	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<9	<6	<6	<620	<310	10,000
1,2-Dichloroethene-cis	EPA 8260	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<9	<6	<6	<620	<310	10,000
m,p-Xylenes	EPA 8260	<6	20	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<9	<6	<6	17,000	20,000	1,200
o-Xylene	EPA 8260	<6	2	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<9	<6	<6	140	1,600	600
Total TICs Concentration	EPA 8260 (TICs)	ND	137	ND	ND	ND	59	ND	ND	ND	ND	ND	ND	756	226	ND	ND	98,700	56,900	
# of TICs	EPA 8260 (TICs)	ND	7	ND	ND	ND	6	ND	ND	ND	ND	ND	ND	11	8	ND	ND	12	12	
Total Compounds	EPA 8260 + TICs	0	166	0	0	0	59	0	0	0	0	0	0	756	226	0	0	120,940	86,000	

Comments: All values are reported in ug/kg - parts per billion (ppb).
Analytical Facility: Adirondack Environmental Services, Inc., Albany, NY.
Values in red Equals and/or Exceeds NYS DEC TAGM 4046 Recommended Soil Cleanup Objectives (ppb)

ND=None Detected
NA=Not Available

Brownfields I.D. #: B00138-4
NYS Spill #: 9606805
NYS Spill #: 9608496

TABLE 2
Summary of Analytical Results
SVOCs in Soil via EPA Method 8270
Hanson Fire Training Center
Yosts, New York
November 20, 2001

Parameter	Method	Sample Identification																NYS DEC TAGM 4046 Recommended Soil Cleanup Objectives (ppb)
		SB-1 Grab	SB-2 Grab	SB-3 Grab	SB-4 Grab	SB-5 Grab	SB-6 Grab	SB-7 Grab	SB-8 Grab	SB-9 Grab	SB-10 Grab	SB-11 Grab	SB-12 Grab	SB-14 Grab	SB-15 Grab	SB-16 Grab	SB-17 Grab	SB-18 Grab	
Phenol	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	30.000
bis(2-Chloroethyl)ether	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
2-Chlorophenol	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
1,3-Dichlorobenzene	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
1,4-Dichlorobenzene	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
1,2-Dichlorobenzene	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
2-Methylphenol	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
bis(2-chloroisopropyl)ether	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
4-Methylphenol	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
n-Nitroso-di-n-propylamine	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
Hexachloroethane	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
Nitrobenzene	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
Isophorone	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
2-Nitrophenol	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
2,4-Dimethylphenol	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
bis(2-Chloroethoxy)methane	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
2,4-Dichlorophenol	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
1,2,4-Trichlorobenzene	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
Naphthalene	EPA 8270	<420	<410	240	200	<410	<410	1,100	20,000	2,300	2,000	62,000	3,000	37,000	660	43,000	530	1,400	13.000
4-Chloroaniline	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
Hexachlorobutadiene	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
4-Chloro-3-methylphenol	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
2-Methylnaphthalene	EPA 8270	<420	<410	970	310	<410	<410	5,400	40,000	2,800	5,100	130,000	6,900	63,000	<410	78,000	1,200	2,900	50.000
Hexachlorocyclopentadiene	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
2,4,6-Trichlorophenol	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
2,4,5-Trichlorophenol	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
2-Chloronaphthalene	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
2-Nitroaniline	EPA 8270	<2,100	<2,100	<2,000	<2,000	<2,000	<2,100	<2,100	<63,000	<1,900	<2,100	<12,000	<2,000	<60,000	<2,100	<60,000	<2,000	<2,000	50.000
Dimethylphthalate	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
Acenaphthylene	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	41.000
2,6-Dinitrotoluene	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
3-Nitroaniline	EPA 8270	<2,100	<2,100	<2,000	<2,000	<2,000	<2,100	<2,100	<63,000	<1,900	<2,100	<12,000	<2,000	<60,000	<2,100	<60,000	<2,000	<2,000	50.000
Acenaphthene	EPA 8270	<420	<410	<410	<390	<410	<410	140	<13,000	150	510	11,000	570	11,000	260	3,500	<400	90	50.000
2,4-Dinitrophenol	EPA 8270	<2,100	<2,100	<2,000	<2,000	<2,000	<2,100	<2,100	<63,000	<1,900	<2,100	<61,000	<2,000	<60,000	<2,100	<60,000	<2,000	<2,000	50.000
4-Nitrophenol	EPA 8270	<2,100	<2,100	<2,000	<2,000	<2,000	<2,100	<2,100	<63,000	<1,900	<2,100	<61,000	<2,000	<60,000	<2,100	<60,000	<2,000	<2,000	50.000
Dibenzofuran	EPA 8270	<420	<410	<410	<390	<410	<410	140	<13,000	160	380	8,300	450	2,300	<410	<12,000	<400	100	50.000
2,4-Dinitrotoluene	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
Diethylphthalate	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
4-Chlorophenyl-phenylether	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
Fluorene	EPA 8270	<420	<410	<410	<390	<410	<410	310	1,600	220	780	16,000	830	4,600	330	6,500	110	210	50.000
4-Nitroaniline	EPA 8270	<2,100	<2,100	<2,000	<2,000	<2,000	<2,100	<2,100	<63,000	<1,900	<2,100	<61,000	<2,000	<60,000	<2,100	<60,000	<2,000	<2,000	50.000
4,6-Dinitro-2-methylphenol	EPA 8270	<2,100	<2,100	<2,000	<2,000	<2,000	<2,100	<2,100	<63,000	<1,900	<2,100	<61,000	<2,000	<60,000	<2,100	<60,000	<2,000	<2,000	50.000
n-Nitrosodiphenylamine	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
4-Bromophenyl-phenylether	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
Hexachlorobenzene	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
Pentachlorophenol	EPA 8270	<2,100	<2,100	<2,000	<2,000	<2,000	<2,100	<2,100	<63,000	<1,900	<2,100	<61,000	<2,000	<60,000	<2,100	<60,000	<2,000	<2,000	50.000
Phenanthrene	EPA 8270	<420	<410	120	<390	<410	<410	100	<13,000	300	1,600	32,000	1,500	9,800	740	15,000	190	210	50.000
Anthracene	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	64	50.000
Carbazole	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
Di-n-butylphthalate	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
Fluoranthene	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
Pyrene	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	80	53	<12,000	<400	<12,000	53	<12,000	<400	<400	50.000
Butylbenzylphthalate	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
3,3'-Dichlorobenzidine	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<25,000	<770	<410	<24,000	<800	<24,000	<820	<24,000	<790	<800	50.000
Benzo(a)anthracene	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	67	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	224
Chrysene	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	170	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	400
bis(2-Ethylhexyl)phthalate	EPA 8270	47	44	47	<390	<410	<410	75	<13,000	40	95	<12,000	<400	<12,000	58	<12,000	<400	84	50.000
Di-n-octylphthalate	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
Benzo(b)fluoranthene	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	54	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	61
Benzo(k)fluoranthene	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	610
Benzo(a)pyrene	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	64	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	61
Indeno(1,2,3-cd)pyrene	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	3,200
Dibenzo(a,h)anthracene	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	14.3
Benzo(g,h,i)perylene	EPA 8270	<420	<410	<410	<390	<410	<410	<420	<13,000	<380	<410	<12,000	<400	<12,000	<410	<12,000	<400	<400	50.000
Total TICs Concentration	EPA 8270 (TICs)	6,100	4,200	11,900	9,600	42,700	5,400	33,800	790,000	64,000	24,800	1,270,000	102,000	970,000	38,000	1,180,000	28,500	123,000	
# of TICs	EPA 8270 (TICs)	11	11	21	17	20	14	20	20	16	19	18	19	17	20	18	20	20	
Total Compounds	EPA 8270 + TICs	6,147	4,244	13,277	10,110	42,700	5,400	41,065	851,600	70,405	35,318	1,529,300	115,250	1,097,700	40,101	1,326,000	30,530	128,058	

Comments: All values are reported in ug/kg - parts per billion (ppb).
Analytical Facility: Adirondack Environmental Services, Inc., Albany, NY.
Values in NEO Equals and/or Exceeds NYS DEC TAGM 4046 Recommended Soil Cleanup Objectives (ppb)

ND=None Detected
NA=Not Available

Brownfields I.D. #: B00138-4
NYS Spill #: 9606805
NYS Spill #: 9608496

TABLE 2
Summary of Analytical Results
SVOCs in Soil via EPA Method 8270
Hanson Fire Training Center
Yosts, New York
November 20, 2001

Parameter	Method	Sample Identification																	NYS DEC TAGM 4046 Recommended Soil Cleanup Objectives (ppb)
		MW-14 Grab	MW-15 Grab	MW-16 Grab	MW-17 Grab	MW-18 Grab	MW-19 Grab	MW-20 Grab	MW-21 Grab	MW-22 Grab	MW-23 Grab	MW-24 Grab	MW-25 Grab	MW-26 Grab	OF-1 Grab	OF-2 Grab	B-1 Grab	SW-1&2 Grab	SW-3&4 Grab	
Phenol	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	30.000
bis(2-Chloroethyl)ether	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
2-Chlorophenol	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
1,3-Dichlorobenzene	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
1,4-Dichlorobenzene	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
1,2-Dichlorobenzene	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
2-Methylphenol	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
bis(2-chloroisopropyl)ether	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
4-Methylphenol	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
n-Nitroso-di-n-propylamine	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
Hexachloroethane	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
Nitrobenzene	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
Isophorone	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
2-Nitrophenol	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
2,4-Dimethylphenol	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
bis(2-Chloroethoxy)methane	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
2,4-Dichlorophenol	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
1,2,4-Trichlorobenzene	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
Naphthalene	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	39,000	50,000	13,000
4-Chloroaniline	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
Hexachlorobutadiene	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
4-Chloro-3-methylphenol	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
2-Methylnaphthalene	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	92	80,000	130,000	50.000
Hexachlorocyclopentadiene	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
2,4,6-Trichlorophenol	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
2,4,5-Trichlorophenol	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
2-Chloronaphthalene	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
2-Nitroaniline	EPA 8270	<2,000	<2,100	<2,000	<2,000	<2,000	<2,000	<2,100	<2,000	<2,100	<2,100	<1,900	<2,100	<2,000	<3,000	<2,000	<2,200	<62,000	<62,000	50.000
Dimethylphthalate	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
Acenaphthylene	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	41.000
2,6-Dinitrotoluene	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
3-Nitroaniline	EPA 8270	<2,000	<2,100	<2,000	<2,000	<2,000	<2,000	<2,100	<2,000	<2,100	<2,100	<1,900	<2,100	<2,000	<3,000	<2,000	<2,200	<62,000	<62,000	50.000
Acenaphthene	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	2,900	9,700	50.000
2,4-Dinitrophenol	EPA 8270	<2,000	<2,100	<2,000	<2,000	<2,000	<2,000	<2,100	<2,000	<2,100	<2,100	<1,900	<2,100	<2,000	<3,000	<2,000	<2,200	<62,000	<62,000	50.000
4-Nitrophenol	EPA 8270	<2,000	<2,100	<2,000	<2,000	<2,000	<2,000	<2,100	<2,000	<2,100	<2,100	<1,900	<2,100	<2,000	<3,000	<2,000	<2,200	<62,000	<62,000	50.000
Dibenzofuran	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	4,600	50.000
2,4-Dinitrotoluene	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
Diethylphthalate	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
4-Chlorophenyl-phenylether	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
Fluorene	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	6,200	16,000	50.000
4-Nitroaniline	EPA 8270	<2,000	<2,100	<2,000	<2,000	<2,000	<2,000	<2,100	<2,000	<2,100	<2,100	<1,900	<2,100	<2,000	<3,000	<2,000	<2,200	<62,000	<62,000	50.000
4,6-Dinitro-2-methylphenol	EPA 8270	<2,000	<2,100	<2,000	<2,000	<2,000	<2,000	<2,100	<2,000	<2,100	<2,100	<1,900	<2,100	<2,000	<3,000	<2,000	<2,200	<62,000	<62,000	50.000
n-Nitrosodiphenylamine	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
4-Bromophenyl-phenylether	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
Hexachlorobenzene	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
Pentachlorophenol	EPA 8270	<2,000	<2,100	<2,000	<2,000	<2,000	<2,000	<2,100	<2,000	<2,100	<2,100	<1,900	<2,100	<2,000	<3,000	<2,000	<2,200	<62,000	<62,000	50.000
Phenanthrene	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	7,700	27,000	50.000
Anthracene	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
Carbazole	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
Di-n-butylphthalate	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
Fluoranthene	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	71	<430	<12,000	<12,000	50.000
Pyrene	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	63	<430	<12,000	<12,000	50.000
Butylbenzylphthalate	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
3,3'-Dichlorobenzidine	EPA 8270	<810	<830	<810	<800	<790	<810	<820	<800	<820	<820	<760	<830	<810	<1,200	<780	<870	<25,000	<25,000	50.000
Benzo(a)anthracene	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	40	<430	<12,000	<12,000	224
Chrysene	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	56	<430	<12,000	<12,000	400
bis(2-Ethylhexyl)phthalate	EPA 8270	<410	<420	<410	<400	<400	110	<410	<400	<410	<410	<380	<420	46	<610	<390	53	<12,000	<12,000	50.000
Di-n-octylphthalate	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
Benzo(b)fluoranthene	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	42	<430	<12,000	<12,000	61
Benzo(k)fluoranthene	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	46	<430	<12,000	<12,000	610
Benzo(a)pyrene	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	45	<430	<12,000	<12,000	61
Indeno(1,2,3-cd)pyrene	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	3,200
Dibenzo(a,h)anthracene	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	14.3
Benzo(g,h,i)perylene	EPA 8270	<410	<420	<410	<400	<400	<410	<410	<400	<410	<410	<380	<420	<410	<610	<390	<430	<12,000	<12,000	50.000
Total TICs Concentration	EPA 8270 (TICs)	1,200	4,200	3,300	1,200	4,000	4,900	4,500	5,500	2,200	3,900	2,100	5,000	4,100	11,500	5,900	6,100	1,190,000	930,000	
# of TICs	EPA 8270 (TICs)	4	13	11	4	12	17	13	16	8	10	10	11	11	15	10	14	20	20	
Total Compounds	EPA 8270 + TICs	1,200	4,200	3,300	1,200	4,000	5,010	4,500	5,500	2,200	3,900	2,100	5,000	4,146	11,500	6,263	6,245	1,325,800	1,167,300	

Comments: All values are reported in ug/kg - parts per billion (ppb).
Analytical Facility: Adirondack Environmental Services, Inc., Albany, NY.
Values in RED Equals and/or Exceeds NYS DEC TAGM 4046 Recommended Soil Cleanup Objectives (ppb)

ND=None Detected
NA=Not Available

Brownfields I.D. #: B00138-4
NYS Spill #: 9606805
NYS Spill #: 9608496

TABLE 3
Summary of Analytical Results
PCBs in Soil via EPA Method 8082
Hanson Fire Training Center
Yosts, New York
November 20, 2001

Parameter	Method	Sample Identification																
		SB-1 Grab	SB-2 Grab	SB-3 Grab	SB-4 Grab	SB-5 Grab	SB-6 Grab	SB-7 Grab	SB-8 Grab	SB-9 Grab	SB-10 Grab	SB-11 Grab	SB-12 Grab	SB-14 Grab	SB-15 Grab	SB-16 Grab	SB-17 Grab	SB-18 Grab
Arochlor-1016	EPA 8082	<42	<41	<41	<39	<41	<41	<42	<42	<38	<41	<41	<40	<40	<41	<40	<40	<40
Arochlor-1221	EPA 8082	<42	<41	<41	<39	<41	<41	<42	<42	<38	<41	<41	<40	<40	<41	<40	<40	<40
Arochlor-1232	EPA 8082	<42	<41	<41	<39	<41	<41	<42	<42	<38	<41	<41	<40	<40	<41	<40	<40	<40
Arochlor-1242	EPA 8082	<42	<41	<41	<39	<41	<41	<42	<42	<38	<41	<41	<40	<40	<41	<40	<40	<40
Arochlor-1248	EPA 8082	<42	<41	<41	<39	<41	<41	<42	<42	<38	<41	<41	<40	<40	<41	<40	<40	<40
Arochlor-1254	EPA 8082	<42	<41	<41	<39	<41	<41	<42	<42	<38	<41	<41	<40	<40	<41	<40	<40	<40
Arochlor-1260	EPA 8082	<42	<41	<41	<39	24	<41	5.1	<42	11	<41	<41	21	<40	<41	12	8.3	<40

Comments: All values are reported in ug/kg - parts per billion (ppb).
Analytical Facility: Adirondack Environmental Services, Inc., Albany, NY.
NYS DEC TAGM 4046 Recommended Soil Cleanup Objective is 10,000 ppb for total PCBs.

ND=None Detected
NA=Not Available

Brownfields I.D. #: B00138-4
NYS Spill #: 9606805
NYS Spill #: 9608496

TABLE 3
Summary of Analytical Results
PCBs in Soil via EPA Method 8082
Hanson Fire Training Center
Yosts, New York
November 20, 2001

Parameter	Method	Sample Identification																	
		MW-14 Grab	MW-15 Grab	MW-16 Grab	MW-17 Grab	MW-18 Grab	MW-19 Grab	MW-20 Grab	MW-21 Grab	MW-22 Grab	MW-23 Grab	MW-24 Grab	MW-25 Grab	MW-26 Grab	OF-1 Grab	OF-2 Grab	B-1 Grab	SW-1&2 Grab	SW-3&4 Grab
Arochlor-1016	EPA 8082	<41	<42	<41	<40	<40	<41	<41	<40	<43	<41	<38	<42	<41	<61	<39	<43	<42	<41
Arochlor-1221	EPA 8082	<41	<42	<41	<40	<40	<41	<41	<40	<43	<41	<38	<42	<41	<61	<39	<43	<42	<41
Arochlor-1232	EPA 8082	<41	<42	<41	<40	<40	<41	<41	<40	<43	<41	<38	<42	<41	<61	<39	<43	<42	<41
Arochlor-1242	EPA 8082	<41	<42	<41	<40	<40	<41	<41	<40	<43	<41	<38	<42	<41	<61	<39	<43	<42	<41
Arochlor-1248	EPA 8082	<41	<42	<41	<40	<40	<41	<41	<40	<43	<41	<38	<42	<41	<61	<39	<43	<42	<41
Arochlor-1254	EPA 8082	<41	<42	<41	<40	<40	16	<41	<40	<43	<41	<38	<42	<41	<61	<39	<43	<42	<41
Arochlor-1260	EPA 8082	<41	<42	<41	<40	<40	<41	<41	<40	<43	<41	<38	<42	<41	18	40	<43	66	29

Comments: All values are reported in ug/kg - parts per billion (ppb).
Analytical Facility: Adirondack Environmental Services, Inc., Albany, NY.
NYS DEC TAGM 4046 Recommended Soil Cleanup Objective is 10,000 ppb for total PCBs.

ND=None Detected
NA=Not Available

Brownfields I.D. #: B00138-4
NYS Spill #: 9606805
NYS Spill #: 9608496

TABLE 4
Summary Of Groundwater Gauging Data
Hanson Fire Training Center
Yosts, New York
December 3, 2001

Project: Hanson Fire Training Center — Location: Yosts, NY.
Date: December 3, 2001 — Project #: B00138-4

Well I.D.	Top of Casing Elevation	Top of Screen Elevation	Bottom of Well Elevation	Product Thickness	Depth to Groundwater	Groundwater Elevation
MW-1	97.00	96.00	86.00	0.00	3.30	93.70
MW-2	97.78	96.78	86.78	0.00	2.96	94.82
MW-3	99.66	98.66	88.66	0.00	3.73	95.93
MW-4	99.48	98.48	88.48	0.00	3.38	96.10
MW-5	99.72	98.72	88.72	0.00	3.63	96.09
MW-6	99.28	98.28	88.28	0.00	2.82	96.46
MW-7	97.68	96.68	86.68	0.00	1.63	96.05
MW-8	99.13	98.13	88.13	0.00	2.92	96.21
MW-9	99.64	98.64	88.64	0.00	3.18	96.46
MW-10	99.15	98.15	88.15	0.00	3.13	96.02
MW-11	98.79	97.79	87.79	0.00	2.46	96.33
MW-12	99.94	98.94	88.94	0.00	4.51	95.43
MW-13	98.88	97.88	87.88	0.00	1.98	96.90
MW-14	96.96	95.96	85.96	0.00	2.28	94.68
MW-15	94.10	93.10	83.10	0.00	1.80	92.30
MW-16	94.71	93.71	83.71	0.00	7.86	86.85
MW-17	96.27	95.27	85.27	0.00	2.55	93.72
MW-18	95.45	94.45	84.45	0.00	1.48	93.97
MW-19	97.36	96.36	86.36	0.00	2.40	94.96
MW-20	98.34	97.34	87.34	0.00	3.50	94.84
MW-21	98.47	97.47	87.47	0.00	2.99	95.48
MW-22	99.30	98.30	88.30	0.00	4.75	94.55
MW-23	101.74	100.74	90.74	0.00	6.62	95.12
MW-24	100.68	99.68	89.68	0.00	5.64	95.04
MW-25	98.57	97.57	87.57	0.00	3.09	95.48
MW-26	96.79	95.79	85.79	0.00	4.04	92.75

Comments: All values are reported in feet.
NA = Not Available.

Brownfields I.D. #: B00138-4
NYS Spill #: 9606805
NYS Spill #: 9608496

TABLE 5
Summary of Analytical Results
VOCs in Groundwater via EPA Method 8260
Hanson Fire Training Center
Yosts, New York
December 3, 2001

Parameter	Method	Sample Identification													NYS DEC Groundwater Standards (ppb)
		MW-1 Grab	MW-2 Grab	MW-3 Grab	MW-4 Grab	MW-5 Grab	MW-6 Grab	MW-7 Grab	MW-8 Grab	MW-9 Grab	MW-10 Grab	MW-11 Grab	MW-12 Grab	MW-13 Grab	
Chloromethane	EPA 8260	<50	<10	<10	<10	<100	<10	<20	<10	<10	<10	<10	<10	<10	5
Bromomethane	EPA 8260	<50	<10	<10	<10	<100	<10	<20	<10	<10	<10	<10	<10	<10	5
Vinyl Chloride	EPA 8260	<50	<10	<10	<10	<100	<10	<20	<10	<10	<10	<10	<10	<10	2
Chloroethane	EPA 8260	<50	<10	<10	<10	<100	<10	<20	<10	<10	<10	<10	<10	<10	50
Methylene Chloride	EPA 8260	27	<5	5	<5	45	6	<10	<5	5	<5	<5	<5	9	5
Acetone	EPA 8260	<50	<10	<10	<10	<100	<10	<20	<10	<10	<10	<10	<10	<10	50
Carbon Disulfide	EPA 8260	<25	<5	<5	<5	<50	<5	<10	<5	<5	<5	<5	<5	<5	50
1,1-Dichloroethene	EPA 8260	<25	<5	<5	<5	<50	<5	<10	<5	<5	<5	<5	<5	<5	5
1,1-Dichloroethane	EPA 8260	<25	<5	<5	<5	<50	<5	<10	<5	<5	<5	<5	<5	<5	5
1,2-Dichloroethene-trans	EPA 8260	<25	<5	<5	<5	<50	<5	<10	<5	<5	<5	<5	<5	<5	5
Chloroform	EPA 8260	<25	<5	<5	<5	<50	<5	<10	<5	<5	<5	<5	<5	<5	7
1,2-Dichloroethane	EPA 8260	<25	<5	<5	<5	<50	<5	<10	<5	<5	<5	<5	<5	<5	5
2-Butanone	EPA 8260	<50	<10	<10	<10	<100	<10	<20	<10	<10	<10	<10	<10	<10	50
1,1,1-Trichloroethane	EPA 8260	<25	<5	<5	<5	<50	<5	<10	<5	<5	<5	<5	<5	<5	5
Carbon Tetrachloride	EPA 8260	<25	<5	<5	<5	<50	<5	<10	<5	<5	<5	<5	<5	<5	5
Bromodichloromethane	EPA 8260	<25	<5	<5	<5	<50	<5	<10	<5	<5	<5	<5	<5	<5	5
1,2-Dichloropropane	EPA 8260	<25	<5	<5	<5	<50	<5	<10	<5	<5	<5	<5	<5	<5	5
cis-1,3-Trichloroethane	EPA 8260	<25	<5	<5	<5	<50	<5	<10	<5	<5	<5	<5	<5	<5	5
Trichloroethene	EPA 8260	<25	<5	<5	<5	<50	<5	<10	<5	<5	<5	<5	<5	<5	5
Dibromochloromethane	EPA 8260	<25	<5	<5	<5	<50	<5	<10	<5	<5	<5	<5	<5	<5	50
1,1,2-Trichloroethane	EPA 8260	<25	<5	<5	<5	<50	<5	<10	<5	<5	<5	<5	<5	<5	5
Benzene	EPA 8260	200	<5	<5	<5	970	77	<10	<5	190	<5	<5	<5	22	0.7
trans-1,3-Dichloropropene	EPA 8260	<25	<5	<5	<5	<50	<5	<10	<5	<5	<5	<5	<5	<5	5
Bromoform	EPA 8260	<25	<5	<5	<5	<50	<5	<10	<5	<5	<5	<5	<5	<5	5
4-Methyl-2-Pentanone	EPA 8260	<50	<10	<10	<10	<100	<10	<20	<10	<10	<10	<10	<10	<10	50
2-Hexanone	EPA 8260	<50	<10	<10	<10	<100	<10	<20	<10	<10	<10	<10	<10	<10	5
Tetrachloroethene	EPA 8260	<25	<5	<5	<5	<50	<5	<10	<5	<5	<5	<5	<5	<5	5
1,1,2,2-Tetrachloroethane	EPA 8260	<25	<5	<5	<5	<50	<5	<10	<5	<5	<5	<5	<5	<5	5
Toluene	EPA 8260	25	<5	<5	<5	100	17	37	<5	18	<5	<5	<5	7	5
Chlorobenzene	EPA 8260	<25	<5	<5	<5	<50	<5	<10	<5	<5	<5	<5	<5	<5	5
Ethylbenzene	EPA 8260	530	<5	<5	<5	150	120	110	<5	82	<5	<5	<5	40	5
Styrene	EPA 8260	<25	<5	<5	<5	<50	<5	<10	<5	<5	<5	<5	<5	<5	5
1,2-Dichloroethene-cis	EPA 8260	<25	<5	<5	<5	<50	<5	<10	<5	<5	<5	<5	<5	<5	5
m,p-Xylenes	EPA 8260	190	<5	<5	<5	300	120	330	<5	100	<5	<5	<5	79	5
o-Xylene	EPA 8260	34	<5	<5	<5	320	10	91	<5	14	<5	<5	<5	5	5
Total TICs Concentration	EPA 8260 (TICs)	1,760	204	0	166	1,740	183	770	0	701	0	0	947	1,096	
# of TICs	EPA 8260 (TICs)	11	11	0	11	11	11	11	0	11	0	0	11	12	
Total Compounds	EPA 8260 + TICs	2,766	204	5	166	3,625	533	1,338	0	1,110	0	0	947	1,258	

Comments: All values are reported in ug/L - parts per billion (ppb).
Analytical Facility: Adirondack Environmental Services, Inc., Albany, NY.
Values in red Equals and/or Exceeds NYS DEC Groundwater Standards (ppb).

ND=None Detected
NA=Not Available

Brownfields I.D. #: B00138-4
NYS Spill #: 9606805
NYS Spill #: 9608496

TABLE 5
Summary of Analytical Results
VOCs in Groundwater via EPA Method 8260
Hanson Fire Training Center
Yosts, New York
December 3, 2001

Parameter	Method	Sample Identification													NYS DEC Groundwater Standards (ppb)
		MW-14 Grab	MW-15 Grab	MW-16 Grab	MW-17 Grab	MW-18 Grab	MW-19 Grab	MW-20 Grab	MW-21 Grab	MW-22 Grab	MW-23 Grab	MW-24 Grab	MW-25 Grab	MW-26 Grab	
Chloromethane	EPA 8260	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	5
Bromomethane	EPA 8260	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	5
Vinyl Chloride	EPA 8260	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	2
Chloroethane	EPA 8260	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	50
Methylene Chloride	EPA 8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5
Acetone	EPA 8260	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	50
Carbon Disulfide	EPA 8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	50
1,1-Dichloroethene	EPA 8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5
1,1-Dichloroethane	EPA 8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5
1,2-Dichloroethene-trans	EPA 8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5
Chloroform	EPA 8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	7
1,2-Dichloroethane	EPA 8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5
2-Butanone	EPA 8260	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	50
1,1,1-Trichloroethane	EPA 8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5
Carbon Tetrachloride	EPA 8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5
Bromodichloromethane	EPA 8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5
1,2-Dichloropropane	EPA 8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5
cis-1,3-Trichloroethane	EPA 8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5
Trichloroethene	EPA 8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5
Dibromochloromethane	EPA 8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	50
1,1,2-Trichloroethane	EPA 8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5
Benzene	EPA 8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	0.7
trans-1,3-Dichloropropene	EPA 8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5
Bromoform	EPA 8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5
4-Methyl-2-Pentanone	EPA 8260	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	50
2-Hexanone	EPA 8260	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	5
Tetrachloroethene	EPA 8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5
1,1,2,2-Tetrachloroethane	EPA 8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5
Toluene	EPA 8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5
Chlorobenzene	EPA 8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5
Ethylbenzene	EPA 8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5
Styrene	EPA 8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5
1,2-Dichloroethene-cis	EPA 8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5
m,p-Xylenes	EPA 8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5
o-Xylene	EPA 8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5
Total TICs Concentration	EPA 8260 (TICs)	0	43	0	0	0	13	0	0	0	0	0	0	0	
# of TICs	EPA 8260 (TICs)	0	3	0	0	0	2	0	0	0	0	0	0	0	
Total Compounds	EPA 8260 + TICs	0	43	0	0	0	13	0	0	0	0	0	0	0	

Comments: All values are reported in ug/L - parts per billion (ppb).
Analytical Facility: Adirondack Environmental Services, Inc., Albany, NY.
Values in red Equals and/or Exceeds NYS DEC Groundwater Standards (ppb).

ND=None Detected
NA=Not Available

Brownfields I.D. #: B00138-4
NYS Spill #: 9606805
NYS Spill #: 9608496

TABLE 6
Summary of Analytical Results
SVOCs in Groundwater via EPA Method 8270
Hanson Fire Training Center
Yosts, New York
December 3, 2001

Parameter	Method	Sample Identification													NYS DEC Groundwater Standards (ppb)
		MW-1 Grab	MW-2 Grab	MW-3 Grab	MW-4 Grab	MW-5 Grab	MW-6 Grab	MW-7 Grab	MW-8 Grab	MW-9 Grab	MW-10 Grab	MW-11 Grab	MW-12 Grab	MW-13 Grab	
Phenol	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	1
bis(2-Chloroethyl)ether	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	50
2-Chlorophenol	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	50
1,3-Dichlorobenzene	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	5
1,4-Dichlorobenzene	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	5
1,2-Dichlorobenzene	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	4.7
2-Methylphenol	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	0
bis(2-chloroisopropyl)ether	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	50
4-Methylphenol	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	50
n-Nitroso-di-n-propylamine	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	50
Hexachloroethane	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	5
Nitrobenzene	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	5
Isophorone	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	50
2-Nitrophenol	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	5
2,4-Dimethylphenol	EPA 8270	2	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	5
bis(2-Chloroethoxy)methane	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	5
2,4-Dichlorophenol	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	1
1,2,4-Trichlorobenzene	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	5
Naphthalene	EPA 8270	34	<10	<10	<10	49	76	160	<10	65	<10	<10	<10	66	10
4-Chloroaniline	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	5
Hexachlorobutadiene	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	0.5
4-Chloro-3-methylphenol	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	5
2-Methylnaphthalene	EPA 8270	6	1	<10	7	57	67	120	<10	180	<10	<10	<10	63	50
Hexachlorocyclopentadiene	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	5
2,4,6-Trichlorophenol	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	5
2,4,5-Trichlorophenol	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	1
2-Chloronaphthalene	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	10
2-Nitroaniline	EPA 8270	<50	<50	<50	<50	<50	<50	<250	<50	<250	<50	<50	<50	<50	5
Dimethylphthalate	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	50
Acenaphthylene	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	20
2,6-Dinitrotoluene	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	5
3-Nitroaniline	EPA 8270	<50	<50	<50	<50	<50	<50	<250	<50	<250	<50	<50	<50	<50	5
Acenaphthene	EPA 8270	<10	<10	<10	<10	<10	5	14	<10	12	<10	<10	<10	11	20
2,4-Dinitrophenol	EPA 8270	<50	<50	<50	<50	<50	<50	<250	<50	<250	<50	<50	<50	<50	5
4-Nitrophenol	EPA 8270	<50	<50	<50	<50	<50	<50	<250	<50	<250	<50	<50	<50	<50	5
Dibenzofuran	EPA 8270	<10	<10	<10	<10	2	4	<50	<10	14	<10	<10	<10	<10	5
2,4-Dinitrotoluene	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	5
Diethylphthalate	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	50
4-Chlorophenyl-phenylether	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	5
Fluorene	EPA 8270	<10	<10	<10	<10	5	7	13	<10	31	<10	<10	<10	17	50
4-Nitroaniline	EPA 8270	<50	<50	<50	<50	<50	<50	<250	<50	<250	<50	<50	<50	<50	5
4,6-Dinitro-2-methylphenol	EPA 8270	<50	<50	<50	<50	<50	<50	<250	<50	<250	<50	<50	<50	<50	5
n-Nitrosodiphenylamine	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	5
4-Bromophenyl-phenylether	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	5
Hexachlorobenzene	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	0.35
Pentachlorophenol	EPA 8270	<50	<50	<50	<50	<50	<50	<250	<50	<250	<50	<50	<50	<50	1
Phenanthrene	EPA 8270	<10	<10	<10	<10	5	11	31	<10	16	<10	<10	<10	29	50
Anthracene	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	50
Carbazole	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	5
Di-n-butylphthalate	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	4	<10	<10	<10	50
Fluoranthene	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	50
Pyrene	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	1	50
Butylbenzylphthalate	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	50
3,3'-Dichlorobenzidine	EPA 8270	<20	<20	<20	<20	<20	<20	<100	<20	<100	<20	<20	<20	<20	5
Benzo(a)anthracene	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	0.002
Chrysene	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	0.002
bis(2-Ethylhexyl)phthalate	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	50
Di-n-octylphthalate	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	50
Benzo(b)fluoranthene	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	0.002
Benzo(k)fluoranthene	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	0.002
Benzo(a)pyrene	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	0.002
Indeno(1,2,3-cd)pyrene	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	0.002
Dibenzo(a,h)anthracene	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	50
Benzo(g,h,i)perylene	EPA 8270	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	5
Total TICs Concentration	EPA 8270 (TICs)	509	293	25	179	1,180	1,850	5,270	102	8,800	52	22	328	940	
# of TICs	EPA 8270 (TICs)	16	20	3	20	18	16	18	16	20	7	3	19	18	
Total Compounds	EPA 8270 + TICs	551	294	25	186	1,298	2,022	5,608	102	9,158	56	22	328	1,127	

Comments: All values are reported in ug/kg - parts per billion (ppb).
Analytical Facility: Adirondack Environmental Services, Inc., Albany, NY.
Values in RED Equals and/or Exceeds NYS DEC Groundwater Standards (ppb)

ND=None Detected
NA=Not Available

Brownfields I.D. #: B00138-4
NYS Spill #: 9606805
NYS Spill #: 9608496

TABLE 6
Summary of Analytical Results
SVOCs in Groundwater via EPA Method 8270
Hanson Fire Training Center
Yosts, New York
December 3, 2001

Parameter	Method	Sample Identification													NYS DEC Groundwater Standards (ppb)
		MW-14 Grab	MW-15 Grab	MW-16 Grab	MW-17 Grab	MW-18 Grab	MW-19 Grab	MW-20 Grab	MW-21 Grab	MW-22 Grab	MW-23 Grab	MW-24 Grab	MW-25 Grab	MW-26 Grab	
Phenol	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	1
bis(2-Chloroethyl)ether	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	50
2-Chlorophenol	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	50
1,3-Dichlorobenzene	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	5
1,4-Dichlorobenzene	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	5
1,2-Dichlorobenzene	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	4.7
2-Methylphenol	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	5
bis(2-chloroisopropyl)ether	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	50
4-Methylphenol	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	50
n-Nitroso-di-n-propylamine	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	50
Hexachloroethane	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	5
Nitrobenzene	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	5
Isophorone	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	50
2-Nitrophenol	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	5
2,4-Dimethylphenol	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	5
bis(2-Chloroethoxy)methane	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	5
2,4-Dichlorophenol	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	1
1,2,4-Trichlorobenzene	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	5
Naphthalene	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	10
4-Chloroaniline	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	5
Hexachlorobutadiene	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	0.5
4-Chloro-3-methylphenol	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	5
2-Methylnaphthalene	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	50
Hexachlorocyclopentadiene	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	5
2,4,6-Trichlorophenol	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	5
2,4,5-Trichlorophenol	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	1
2-Chloronaphthalene	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	10
2-Nitroaniline	EPA 8270	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	5
Dimethylphthalate	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	50
Acenaphthylene	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	20
2,6-Dinitrotoluene	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	5
3-Nitoraniline	EPA 8270	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	5
Acenaphthene	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	20
2,4-Dinitrophenol	EPA 8270	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	5
4-Nitrophenol	EPA 8270	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	5
Dibenzofuran	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	5
2,4-Dinitrotoluene	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	5
Diethylphthalate	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	50
4-Chlorophenyl-phenylether	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	5
Fluorene	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	50
4-Nitroaniline	EPA 8270	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	5
4,6-Dinitro-2-methylphenol	EPA 8270	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	5
n-Nitrosodiphenylamine	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	5
4-Bromophenyl-phenylether	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	5
Hexachlorobenzene	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	0.35
Pentachlorophenol	EPA 8270	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	1
Phenanthrene	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	50
Anthracene	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	50
Carbazole	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	5
Di-n-butylphthalate	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	50
Fluoranthene	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	50
Pyrene	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	50
Butylbenzylphthalate	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	50
3,3'-Dichlorobenzidine	EPA 8270	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	5
Benzo(a)anthracene	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	0.002
Chrysene	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	0.002
bis(2-Ethylhexyl)phthalate	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	50
Di-n-octylphthalate	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	50
Benzo(b)fluoranthene	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	0.002
Benzo(k)fluoranthene	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	0.002
Benzo(a)pyrene	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	0.002
Indeno(1,2,3-cd)pyrene	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	0.002
Dibenzo(a,h)anthracene	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	50
Benzo(g,h,i)perylene	EPA 8270	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	5
Total TICs Concentration	EPA 8270 (TICs)	23	12	21	12	9	248	9	16	18	24	23	14	13	
# of TICs	EPA 8270 (TICs)	3	2	3	2	2	17	2	3	3	3	3	2	2	
Total Compounds	EPA 8270 + TICs	23	12	21	12	9	248	9	16	18	24	23	14	13	

Comments: All values are reported in ug/kg - parts per billion (ppb).
Analytical Facility: Adirondack Environmental Services, Inc., Albany, NY.
Values in RED Equals and/or Exceeds NYS DEC Groundwater Standards (ppb)

ND=None Detected
NA=Not Available

Brownfields I.D. #: B00138-4
NYS Spill #: 9606805
NYS Spill #: 9608496

TABLE 7
Summary of Analytical Results
PCBs In Groundwater via EPA Method 8082
Hanson Fire Training Center
Yosts, New York
December 3, 2001

Parameter	Method	Sample Identification												
		MW-1 Grab	MW-2 Grab	MW-3 Grab	MW-4 Grab	MW-5 Grab	MW-6 Grab	MW-7 Grab	MW-8 Grab	MW-9 Grab	MW-10 Grab	MW-11 Grab	MW-12 Grab	MW-13 Grab
Arochlor-1016	EPA 8082	<0.066	<0.066	<0.068	<0.067	<0.066	<0.066	<0.066	<0.066	<0.068	<0.066	<0.072	<0.066	<0.067
Arochlor-1221	EPA 8082	<0.066	<0.066	<0.068	<0.067	<0.066	<0.066	<0.066	<0.066	<0.068	<0.066	<0.072	<0.066	<0.067
Arochlor-1232	EPA 8082	<0.066	<0.066	<0.068	<0.067	<0.066	<0.066	<0.066	<0.066	<0.068	<0.066	<0.072	<0.066	<0.067
Arochlor-1242	EPA 8082	<0.066	<0.066	<0.068	<0.067	<0.066	<0.066	<0.066	<0.066	<0.068	<0.066	<0.072	<0.066	<0.067
Arochlor-1248	EPA 8082	<0.066	<0.066	<0.068	<0.067	<0.066	<0.066	<0.066	<0.066	<0.068	<0.066	<0.072	<0.066	<0.067
Arochlor-1254	EPA 8082	<0.066	<0.066	<0.068	<0.067	<0.066	<0.066	<0.066	<0.066	<0.068	<0.066	<0.072	<0.066	<0.067
Arochlor-1260	EPA 8082	<0.066	<0.066	<0.068	<0.067	0.076	<0.066	<0.066	<0.066	0.068	<0.066	<0.072	<0.066	0.12

Comments: All values are reported in ug/kg - parts per billion (ppb).
Analytical Facility: Adirondack Environmental Services, Inc., Albany, NY.
Values in red Equals or Exceeds NYS DEC Groundwater Quality Standards (0.09 ppb) for individual PCBs.

ND=None Detected
NA=Not Available

Brownfields I.D. #: B00138-4
NYS Spill #: 9606805
NYS Spill #: 9608496

TABLE 7
Summary of Analytical Results
PCBs in Groundwater via EPA Method 8082
Hanson Fire Training Center
Yosts, New York
December 3, 2001

Parameter	Method	Sample Identification												
		MW-14 Grab	MW-15 Grab	MW-16 Grab	MW-17 Grab	MW-18 Grab	MW-19 Grab	MW-20 Grab	MW-21 Grab	MW-22 Grab	MW-23 Grab	MW-24 Grab	MW-25 Grab	MW-26 Grab
Arochlor-1016	EPA 8082	<0.067	<0.067	<0.067	<0.067	<0.066	<0.066	<0.066	<0.066	<0.068	<0.072	<0.066	<0.071	<0.068
Arochlor-1221	EPA 8082	<0.067	<0.067	<0.067	<0.067	<0.066	<0.066	<0.066	<0.066	<0.068	<0.072	<0.066	<0.071	<0.068
Arochlor-1232	EPA 8082	<0.067	<0.067	<0.067	<0.067	<0.066	<0.066	<0.066	<0.066	<0.068	<0.072	<0.066	<0.071	<0.068
Arochlor-1242	EPA 8082	<0.067	<0.067	<0.067	<0.067	<0.066	<0.066	<0.066	<0.066	<0.068	<0.072	<0.066	<0.071	<0.068
Arochlor-1248	EPA 8082	<0.067	<0.067	<0.067	<0.067	<0.066	<0.066	<0.066	<0.066	<0.068	<0.072	<0.066	<0.071	<0.068
Arochlor-1254	EPA 8082	<0.067	<0.067	<0.067	<0.067	<0.066	0.041	<0.066	<0.066	<0.068	<0.072	<0.066	<0.071	<0.068
Arochlor-1260	EPA 8082	<0.067	<0.067	<0.067	<0.067	<0.066	<0.066	<0.066	<0.066	<0.068	<0.072	<0.066	<0.071	<0.068

Comments: All values are reported in ug/kg - parts per billion (ppb).
Analytical Facility: Adirondack Environmental Services, Inc., Albany, NY.
Values in red Equals or Exceeds NYS DEC Groundwater Quality Standards (0.09 ppb) for individual PCBs

ND=None Detected
NA=Not Available

Brownfields I.D. #: B00138-4
NYS Spill #: 9606805
NYS Spill #: 9608496

ATTACHMENT 1
Photographic Documentation

General Site Photo
Note: red shovel handle at UST location and fire training center in the background.

General Site Photo
Note: Ground Penetrating Radar equipment and fire training tower in the background.

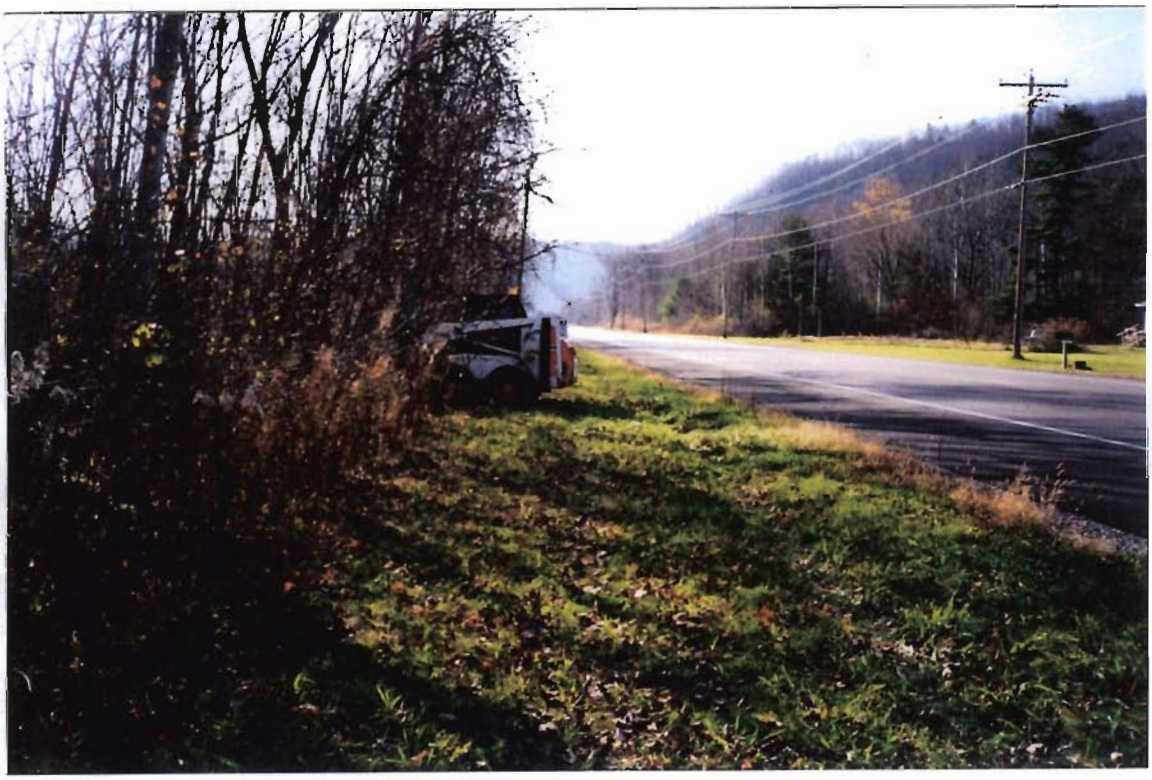
PES

Hager-Richter Geosciences, Inc. geophysicist James Coffman surveying with an EM61 time domain electromagnetic induction metal detector.

Hager-Richter's Smart Cart Noggin Plus digital subsurface imaging radar system (ground penetrating radar) downloading data to a laptop computer.

PES

PES Hydrogeologist John Johnson advancing a macro-core soil sample at the location of monitoring well MW-18.



Installation of monitoring well MW-19 located along NYS Route 5.

PES

1,000 gallon heating oil UST
Note: contaminated soil excavated from the tank pit and stockpiled on plastic.

Subsurface conditions after excavation of contaminated soil.
Note: residual contamination and stained soil in the sidewalls of the tank excavation.

PES

Outfall-1
Note: Outfall-1 conveys drainage from the Hanson Fire Training Center north towards a large pond.

Outfall-2
Note: Outfall-2 conveys drainage from the Hanson FireTraining Tower to the same pond.

PES

ATTACHMENT - 2
Geologic Well Logs

PRECISION Environmental Services, Inc.
2144 Saratoga Ave.
Ballston Spa, NY 12020
TEL: 518 885-4399
FAX: 518 885-4416

DRILLING LOG

Well/ Boring No. MW-14

Project: Hanson Fire Training Center Client: Montgomery County

Project No.: B00138-4 Location: NYS Rte. 5, Yosts, New York

Driller: John Johnson Logged by: Dave Maxam

Drilling Contractor: PES Drilling Method: Geoprobe

Date Drilled: November 15, 2001 Date Developed: December 3, 2001

M.P. Elev.: NA W.L. Initial: 3-4' W.L. Static: NA

Total Depth of Hole: 12' Diameter: 2.25"

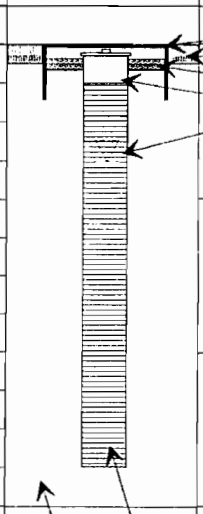
Screen: Dia.: 1" Length: 10' Slot Size: 0.010"

Casing: Dia.: 1" Length: 1' Type: PVC

Sand Pack: 0.5-12' Bentonite Seal: 0.25-0.5' Protective Casing: flush mount roadbox

Sketch Map:

See Figure 2 - Site Map

Depth (ft.)	Well Construction	Notes (recovery/ penetrated)	Sample Type/ #	PID (ppm)	Description/ Soil Classification
0		2'/4'	Geoprobe Macro-core-1	ND	Grass and black, moist loamy topsoil (0-6").
2					Black, moist, fine-coarse SAND and GRAVEL (6"-4').
4		4'/4'	Geoprobe Macro-core-2	ND	Brown, saturated, fine SAND (4-4.5').
6					Brown/gray, saturated, mottled, CLAY (4.5-7').
8		4'/4'	Geoprobe Macro-core-3	ND	Brown, saturated, fine SAND (7-8').
10					Brown, saturated, fine SAND (8-9.5').
12					Gray, saturated, fine SAND (9.5-11.5').
14					Gray, saturated, mottled, CLAY (11.5-12').
16					
18					
20					
22					
24					
26					
28					
30					

Note: ND = No VOCs Detected by PID analysis.

PRECISION
Environmental Services, Inc.
2144 Saratoga Ave.
Ballston Spa, NY 12020
TEL: 518 885-4399
FAX: 518 885-4416

DRILLING LOG

Well/ Boring No. MW-15

Project: Hanson Fire Training Center Client: Montgomery County

Project No.: B00138-4 Location: NYS Rte. 5, Yosts, New York

Driller: John Johnson Logged by: Dave Maxam

Drilling Contractor: PES Drilling Method: Geoprobe

Date Drilled: November 13, 2001 Date Developed: December 3, 2001

M.P. Elev.: NA W.L. Initial: 2-3' W.L. Static: NA

Total Depth of Hole: 12' Diameter: 2.25"

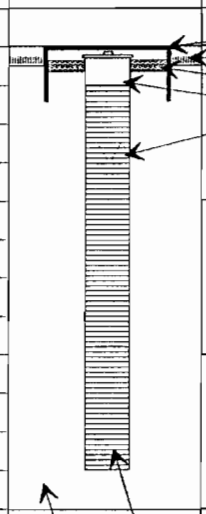
Screen: Dia.: 1" Length: 10' Slot Size: 0.010"

Casing: Dia.: 1" Length: 1' Type: PVC

Sand Pack: 0.5-12' Bentonite Seal: 0.25-0.5' Protective Casing: flush mount roadbox

Sketch Map:

See Figure 2 - Site Map

Depth (ft.)	Well Construction	Notes (recovery/ penetrated)	Sample Type/ #	PID (ppm)	Description/ Soil Classification
0		1'/4'	Geoprobe Macro-core-1	ND	Grass and black, moist loamy topsoil, ash, cinders and slag (0-6"). No recovery (6"-4').
4		3.5'/4'	Geoprobe Macro-core-2	ND	Brown, saturated, fine-medium SAND, some silt and interbedded clay (4-8').
8		4'/4'	Geoprobe Macro-core-3	ND	Brown, saturated, fine-medium SAND, some silt and interbedded clay (8-10.5'). Gray, saturated, fine SAND, some silt (10.5-12').
12					
14					
16					
18					
20					
22					
24					
26					
28					
30					Note: ND = No VOCs Detected by PID analysis.

PRECISION
PES Environmental Services, Inc.
2144 Saratoga Ave.
Ballston Spa, NY 12020
TEL: 518 885-4399
FAX: 518 885-4416

DRILLING LOG

Well/ Boring No. MW-16

Project: Hanson Fire Training Center Client: Montgomery County

Project No.: B00138-4 Location: NYS Rte. 5, Yosts, New York

Driller: John Johnson Logged by: Dave Maxam

Drilling Contractor: PES Drilling Method: Geoprobe

Date Drilled: November 13, 2001 Date Developed: December 3, 2001

M.P. Elev.: NA W.L. Initial: 8-9' W.L. Static: NA

Total Depth of Hole: 12' Diameter: 2.25"

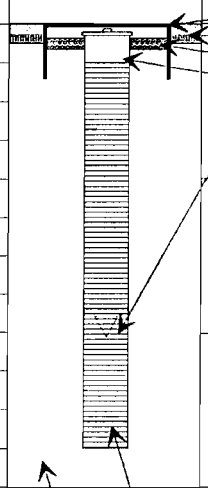
Screen: Dia.: 1" Length: 10' Slot Size: 0.010"

Casing: Dia.: 1" Length: 1' Type: PVC

Sand Pack: 0.5-12' Bentonite Seal: 0.25-0.5' Protective Casing: flush mount roadbox

Sketch Map:

See Figure 2 - Site Map

Depth (ft.)	Well Construction	Notes (recovery/ penetrated)	Sample Type/ #	PID (ppm)	Description/ Soil Classification
0		1'/4'	Geoprobe Macro-core-1	ND	Grass and black, moist loamy topsoil,some fine-coarse sand and gravel (0-6").
2					No recovery (6"-4').
4		3'/4'	Geoprobe Macro-core-2	ND	Brown, moist, fine-coarse SAND (4-6').
6					Gray, wet, CLAY (6-7').
8		4'/4'	Geoprobe Macro-core-3	ND	Gray, wet, fine-medium SAND (7-8').
10					Gray, saturated, fine-medium SAND (8-12').
12					
14					
16					
18					
20					
22					
24					
26					
28					
30					

Note: ND = No VOCs Detected by PID analysis.

PRECISION Environmental Services, Inc.
PES
2144 Saratoga Ave.
Ballston Spa, NY 12020
TEL: 518 885-4399
FAX: 518 885-4416

DRILLING LOG

Well/ Boring No. MW-17

Project: Hanson Fire Training Center Client: Montgomery County

Project No.: B00138-4 Location: NYS Rte. 5, Yosts, New York

Driller: John Johnson Logged by: Dave Maxam

Drilling Contractor: PES Drilling Method: Geoprobe

Date Drilled: November 13, 2001 Date Developed: December 3, 2001

M.P. Elev.: NA W.L. Initial: 2-3' W.L. Static: NA

Total Depth of Hole: 13.5' Diameter: 2.25"

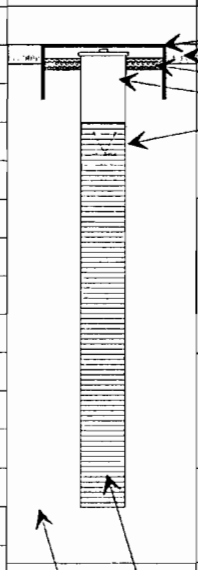
Screen: Dia.: 1" Length: 10' Slot Size: 0.010"

Casing: Dia.: 1" Length: 2' Type: PVC

Sand Pack: 0.5-13.5' Bentonite Seal: 0.25-0.5' Protective Casing: flush mount roadbox

Sketch Map:

See Figure 2 - Site Map

Depth (ft.)	Well Construction	Notes (recovery/ penetrated)	Sample Type/ #	PID (ppm)	Description/ Soil Classification
0					
2		3'/4'	Geoprobe Macro-core-1	ND	Grass and black, moist loamy topsoil,some coarse gravel (0-6"). Brown, moist, SILT and fine SAND (6"-3'). Brown, saturated, fine-medium SAND (3-3.7'). Gray, saturated, CLAY and SILT (3.7-4').
4		4'/4'	Geoprobe Macro-core-2	ND	Gray, saturated, fine-medium SAND, traces of silt and pyrite grains (4-7').
6					
8		4'/3'	Geoprobe Macro-core-3	ND	Gray, saturated, fine-medium SAND, little clay and silt (7-8').
10					Brown/gray, saturated, fine-medium SAND, some interbedded clay (8-11').
12		4'/2.5'	Geoprobe Macro-core-4	ND	Brown, saturated, fine-medium SAND (11-12.5'). Gray, saturated, CLAY, some fine sand (12.5-13.5').
14					
16					
18					
20					
22					
24					
26					
28					
30					Note: ND = No VOCs Detected by PID analysis.

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FAX: 518 885-4416

DRILLING LOG

Well/ Boring No. MW-18

Project: Hanson Fire Training Center Client: Montgomery County

Project No.: B00138-4 Location: NYS Rte. 5, Yosts, New York

Driller: John Johnson Logged by: Dave Maxam

Drilling Contractor: PES Drilling Method: Geoprobe

Date Drilled: November 13, 2001 Date Developed: December 3, 2001

M.P. Elev.: NA W.L. Initial: 2-3' W.L. Static: NA

Total Depth of Hole: 13.5' Diameter: 2.25"

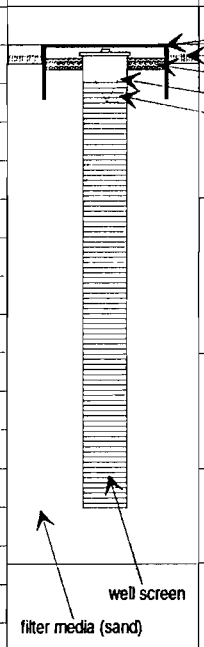
Screen: Dia.: 1" Length: 10' Slot Size: 0.010"

Casing: Dia.: 1" Length: 1' Type: PVC

Sand Pack: 0.5-13.5' Bentonite Seal: 0.25-0.5' Protective Casing: flush mount roadbox

Sketch Map:

See Figure 2 - Site Map

Depth (ft.)	Well Construction	Notes (recovery/ penetrated)	Sample Type/ #	PID (ppm)	Description/ Soil Classification
0		2'/4'	Geoprobe Macro-core-1	ND	Grass and black, moist loamy topsoil (0-6"). Brown, saturated, fine-medium SAND (6"-3'). Brown, saturated, fine SAND and SILT, some clay (3-4').
2					
4		4'/4'	Geoprobe Macro-core-2	ND	Brown, saturated, fine SAND and SILT, some clay (4-5'). Gray, saturated, CLAY, some silt (5-7').
6					
8		3'/3'	Geoprobe Macro-core-3	ND	Gray, saturated, fine SAND (7-8'). Gray, saturated, fine-medium SAND (8-9'). Gray, saturated, SIL:T and CLAY (9-10.5').
10					
12		4'/1.5'	Geoprobe Macro-core-4	ND	Gray, saturated, fine SAND (10.5-13.5').
14					
16					
18					
20					
22					
24					
26					
28					
30					

Note: ND = No VOCs Detected by PID analysis.

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DRILLING LOG

Well/ Boring No. MW-19

Project: Hanson Fire Training Center Client: Montgomery County

Project No.: B00138-4 Location: NYS Rte. 5, Yosts, New York

Driller: John Johnson Logged by: Dave Maxam

Drilling Contractor: PES Drilling Method: Geoprobe

Date Drilled: November 13, 2001 Date Developed: December 3, 2001

M.P. Elev.: NA W.L. Initial: 2-3' W.L. Static: NA

Total Depth of Hole: 13.5' Diameter: 2.25"

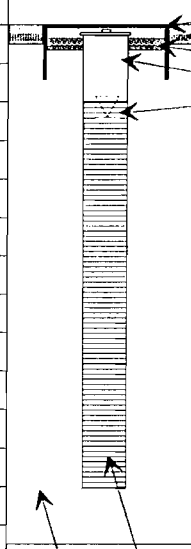
Screen: Dia.: 1" Length: 10' Slot Size: 0.010"

Casing: Dia.: 1" Length: 2' Type: PVC

Sand Pack: 0.5-13.5' Bentonite Seal: 0.25-0.5' Protective Casing: flush mount roadbox

Sketch Map:

See Figure 2 - Site Map

Depth (ft.)	Well Construction	Notes (recovery/ penetrated)	Sample Type/ #	PID (ppm)	Description/ Soil Classification
0		1.5'/4'	Geoprobe Macro-core-1	ND	Black, moist sandy topsoil, some medium-coarse gravel (0-1'). No recovery (1-4').
4		4'/4'	Geoprobe Macro-core-2	12	Brown, saturated, fine-medium SAND, little silt and interbedded clay (4-6').
6				4	Gray, saturated, CLAY (6-7').
8				1	Gray, saturated, fine-medium SAND (7-8').
10		4'/3'	Geoprobe Macro-core-3	1	Brown/gray, saturated, fine-medium SAND (8-10.5').
12		4'/2.5'	Geoprobe Macro-core-4	1	Gray, saturated, CLAY (10.5-11').
				2	Brown/gray, saturated, fine-medium SAND (11-13.5').
14					
16					
18					
20					
22					
24					
26					
28					
30					

Note: ND = No VOCs Detected by PID analysis.

PRECISION Environmental Services, Inc.
2144 Saratoga Ave.
Ballston Spa, NY 12020
TEL: 518 885-4399
FAX: 518 885-4416

DRILLING LOG

Well/ Boring No. MW-20

Project: Hanson Fire Training Center Client: Montgomery County

Project No.: B00138-4 Location: NYS Rte. 5, Yosts, New York

Driller: John Johnson Logged by: Dave Maxam

Drilling Contractor: PES Drilling Method: Geoprobe

Date Drilled: November 13, 2001 Date Developed: December 3, 2001

M.P. Elev.: NA W.L. Initial: 3-4' W.L. Static: NA

Total Depth of Hole: 13.5' Diameter: 2.25"

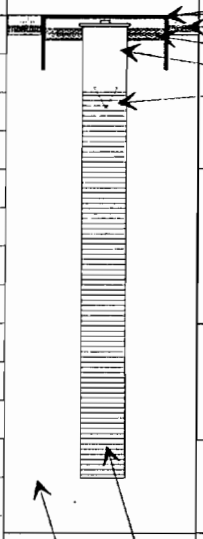
Screen: Dia.: 1" Length: 10' Slot Size: 0.010"

Casing: Dia.: 1" Length: 2' Type: PVC

Sand Pack: 0.5-13.5' Bentonite Seal: 0.25-0.5' Protective Casing: flush mount roadbox

Sketch Map:

See Figure 2 - Site Map

Depth (ft.)	Well Construction	Notes (recovery/ penetrated)	Sample Type/ #	PID (ppm)	Description/ Soil Classification
0					
2		1.5'/4'	Geoprobe Macro-core-1	ND	Black, dry, sandy topsoil, some fine-coarse sand and fine-medium gravel (0-1.5'). No recovery (1.5-4').
4					
6		3'/4'	Geoprobe Macro-core-2	ND	Brown, saturated, fine-coarse SAND, some fine-medium gravel (4-6'). Gray, saturated, CLAY (6-6.5').
8					Brown, saturated, fine-medium SAND (6.5-8').
10		0'/3'	Geoprobe Macro-core-3	ND	No recovery (8-11').
12		1.5'/1.5'	Geoprobe Macro-core-4	ND	Brown, saturated, fine SAND (11-13.5').
14					
16					
18					
20					
22					
24					
26					
28					
30					Note: ND = No VOCs Detected by PID analysis.

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PES
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DRILLING LOG

Well/ Boring No. MW-21

Project: Hanson Fire Training Center Client: Montgomery County

Project No.: B00138-4 Location: NYS Rte. 5, Yosts, New York

Driller: John Johnson Logged by: Dave Maxam

Drilling Contractor: PES Drilling Method: Geoprobe

Date Drilled: November 15, 2001 Date Developed: December 3, 2001

M.P. Elev.: NA W.L. Initial: 3-4' W.L. Static: NA

Total Depth of Hole: 12' Diameter: 2.25"

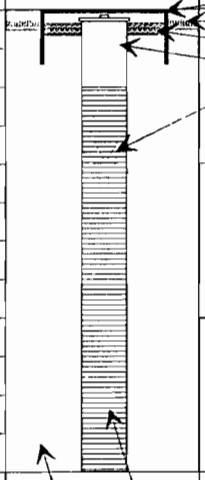
Screen: Dia.: 1" Length: 10' Slot Size: 0.010"

Casing: Dia.: 1" Length: 2' Type: PVC

Sand Pack: 0.5-12' Bentonite Seal: 0.25-0.5' Protective Casing: flush mount roadbox

Sketch Map:

See Figure 2 - Site Map

Depth (ft.)	Well Construction	Notes (recovery/ penetrated)	Sample Type/ #	PID (ppm)	Description/ Soil Classification
0					
2		1'/4'	Geoprobe Macro-core-1	ND	Grass and black, dry, loamy topsoil (0-6"0. Brown, dry, fine-medium SAND and fine-medium GRAVEL (6"-4').
4					Brown, saturated, fine SAND (4-6').
6		2.5'/4'	Geoprobe Macro-core-2	ND	
8					Gray/brown, saturated, mottled, CLAY, trace of silt (6-9').
10		3.5'/4'	Geoprobe Macro-core-3	ND	Brown, saturated, fine SAND (9-11.5').
12					Gray, saturated, CLAY (11.5-12').
14					
16					
18					
20					
22					
24					
26					
28					
30					Note: ND = No VOCs Detected by PID analysis.

PRECISION Environmental Services, Inc.
PES
2144 Saratoga Ave.
Ballston Spa, NY 12020
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FAX: 518 885-4416

DRILLING LOG

Well/ Boring No. MW-22

Project: Hanson Fire Training Center Client: Montgomery County

Project No.: B00138-4 Location: NYS Rte. 5, Yosts, New York

Driller: John Johnson Logged by: Dave Maxam

Drilling Contractor: PES Drilling Method: Geoprobe

Date Drilled: November 13, 2001 Date Developed: December 3, 2001

M.P. Elev.: NA W.L. Initial: 3-4' W.L. Static: NA

Total Depth of Hole: 12' Diameter: 2.25"

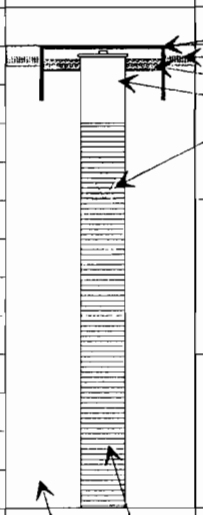
Screen: Dia.: 1" Length: 10' Slot Size: 0.010"

Casing: Dia.: 1" Length: 2' Type: PVC

Sand Pack: 0.5-12' Bentonite Seal: 0.25-0.5' Protective Casing: flush mount roadbox

Sketch Map:

See Figure 2 - Site Map

Depth (ft.)	Well Construction	Notes (recovery/ penetrated)	Sample Type/ #	PID (ppm)	Description/ Soil Classification
0					
2		2'/4'	Geoprobe Macro-core-1	ND	Brown, dry/moist, medium-coarse SAND, some silt and fine-medium gravel (6"-4').
4					
6		3.5'/4'	Geoprobe Macro-core-2	ND	Brown, saturated, fine-medium SAND, some silt, trace of fine-coarse gravel (4-6').
8					Brown, saturated, CLAY (6-7').
10		4'/4'	Geoprobe Macro-core-3	ND	Brown, saturated, fine SAND and SILT (7-9').
12					Gray, saturated, CLAY, some fine sand (9-12').
14					
16					
18					
20					
22					
24					
26					
28					
30					

Note: ND = No VOCs Detected by PID analysis.

PRECISION
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TEL: 518 885-4399
FAX: 518 885-4416

DRILLING LOG

Well/ Boring No. MW-23

Project: Hanson Fire Training Center Client: Montgomery County

Project No.: B00138-4 Location: NYS Rte. 5, Yosts, New York

Driller: John Johnson Logged by: Dave Maxam

Drilling Contractor: PES Drilling Method: Geoprobe

Date Drilled: November 15, 2001 Date Developed: December 3, 2001

M.P. Elev.: NA W.L. Initial: 6-7' W.L. Static: NA

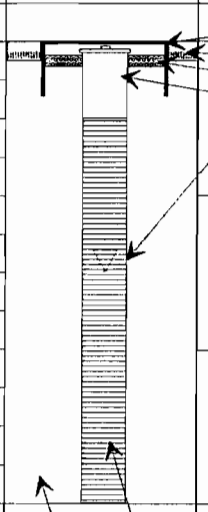
Total Depth of Hole: 12' Diameter: 2.25"

Screen: Dia.: 1" Length: 10' Slot Size: 0.010"

Casing: Dia.: 1" Length: 2' Type: PVC

Sand Pack: 0.5-12' Bentonite Seal: 0.25-0.5' Protective Casing: flush mount roadbox

Sketch Map:

Depth (ft.)	Well Construction	Notes (recovery/ penetrated)	Sample Type/ #	PID (ppm)	Description/ Soil Classification
0					
2		2'/4'	Geoprobe Macro-core-1	ND	Grass and brown sandy topsoil (0-6"). No recovery (6"-4').
4					
6		3.5'/4'	Geoprobe Macro-core-2	ND	Brown/gray, wet, fine SAND, trace of silt, with a 2" clay layer @6'. (4-11.7').
8					
10		4'/4'	Geoprobe Macro-core-3	ND	
12					Brown, saturated, CLAY (11.7-12').
14					
16					
18					
20					
22					
24					
26					
28					
30					Note: ND = No VOCs Detected by PID analysis.

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DRILLING LOG

Well/ Boring No. MW-24

Project: Hanson Fire Training Center Client: Montgomery County

Project No.: B00138-4 Location: NYS Rte. 5, Yosts, New York

Driller: John Johnson Logged by: Dave Maxam

Drilling Contractor: PES Drilling Method: Geoprobe

Date Drilled: November 15, 2001 Date Developed: December 3, 2001

M.P. Elev.: NA W.L. Initial: 5-6' W.L. Static: NA

Total Depth of Hole: 12' Diameter: 2.25"

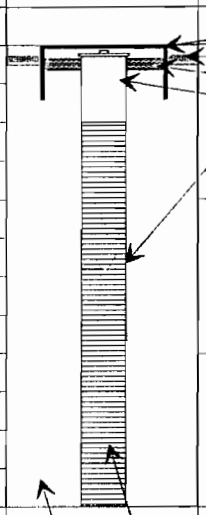
Screen: Dia.: 1" Length: 10' Slot Size: 0.010"

Casing: Dia.: 1" Length: 2' Type: PVC

Sand Pack: 0.5-12' Bentonite Seal: 0.25-0.5' Protective Casing: flush mount roadbox

Sketch Map:

See Figure 2 - Site Map

Depth (ft.)	Well Construction	Notes (recovery/ penetrated)	Sample Type/ #	PID (ppm)	Description/ Soil Classification
0		2'/4'	Geoprobe Macro-core-1	ND	Brown, dry, medium-coarse SAND and fine-medium gravel (0-2').
2					Brown, moist, SILT and fine SAND (2-4').
4		4'/4'	Geoprobe Macro-core-2	ND	Brown, wet/saturated, fine-coarse SAND, little silt (4-6').
6					Brown/gray, saturated, CLAY (6-8').
8		4'/4'	Geoprobe Macro-core-3	ND	Brown/gray, saturated, fine SAND (8-11.5').
10					Gray, saturated, CLAY (11.5-12').
12					
14					
16					
18					
20					
22					
24					
26					
28					
30					

Note: ND = No VOCs Detected by PID analysis.

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DRILLING LOG

Well/ Boring No. MW-25

Project: Hanson Fire Training Center Client: Montgomery County

Project No.: B00138-4 Location: NYS Rte. 5, Yosts, New York

Driller: John Johnson Logged by: Dave Maxam

Drilling Contractor: PES Drilling Method: Geoprobe

Date Drilled: November 15, 2001 Date Developed: December 3, 2001

M.P. Elev.: NA W.L. Initial: 3-4' W.L. Static: NA

Total Depth of Hole: 12' Diameter: 2.25"

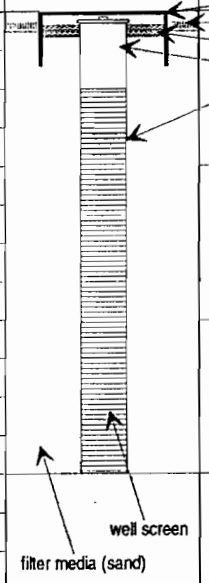
Screen: Dia.: 1" Length: 10' Slot Size: 0.010"

Casing: Dia.: 1" Length: 2' Type: PVC

Sand Pack: 0.5-12' Bentonite Seal: 0.25-0.5' Protective Casing: flush mount roadbox

Sketch Map:

See Figure 2 - Site Map

Depth (ft.)	Well Construction	Notes (recovery/ penetrated)	Sample Type/ #	PID (ppm)	Description/ Soil Classification
0		3'/4'	Geoprobe Macro-core-1	ND	Grass and topsoil (0-6"). Brown, moist, fine-coarse SAND and fine-coarse gravel, some silt (6"-4').
4		4'/4'	Geoprobe Macro-core-2	ND	Brown, saturated, fine SAND, trace of silt (4-9').
8		4'/4'	Geoprobe Macro-core-3	ND	Gray, saturated, fine SAND, trace of silt (9-11.5').
12					Gray, saturated, CLAY, some interbedded silt (11.5-12').
14					
16					
18					
20					
22					
24					
26					
28					
30					

Note: ND = No VOCs Detected by PID analysis.

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DRILLING LOG

Well/ Boring No. MW-26

Project: Hanson Fire Training Center Client: Montgomery County

Project No.: B00138-4 Location: NYS Rte. 5, Yosts, New York

Driller: John Johnson Logged by: Dave Maxam

Drilling Contractor: PES Drilling Method: Geoprobe

Date Drilled: November 15, 2001 Date Developed: December 3, 2001

M.P. Elev.: NA W.L. Initial: 3-4' W.L. Static: NA

Total Depth of Hole: 12' Diameter: 2.25"

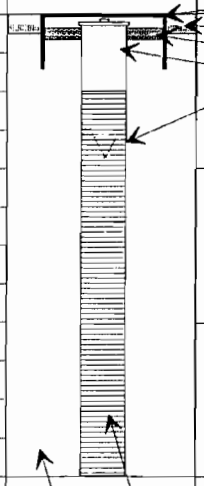
Screen: Dia.: 1" Length: 10' Slot Size: 0.010"

Casing: Dia.: 1" Length: 2' Type: PVC

Sand Pack: 0.5-12' Bentonite Seal: 0.25-0.5' Protective Casing: flush mount roadbox

Sketch Map:

See Figure 2 - Site Map

Depth (ft.)	Well Construction	Notes (recovery/ penetrated)	Sample Type/ #	PID (ppm)	Description/ Soil Classification
0					
2		0'/4'	Geoprobe Macro-core-1	NA	No recovery (0-4').
4		4'/4'	Geoprobe Macro-core-2	ND	Brown, saturated, fine SAND, trace of silt (4-5'). Gray, saturated, fine SAND (5-6'). Gray, saturated, CLAY (6-6.5'). Gray, saturated, fine SAND (6.5-8').
6					
8					
10		4'/4'	Geoprobe Macro-core-3	ND	Gray, saturated, mottled, CLAY, some interbedded silt (8-10'). Gray, saturated, CLAY, some interbedded silt (10-12').
12					
14					
16					
18					
20					
22					
24					
26					
28					
30					Note: ND = No VOCs Detected by PID analysis.

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DRILLING LOG

Well/ Boring No. SB-1

Project: Hanson Fire Training Center Client: Montgomery County

Project No.: B00138-4 Location: NYS Rte. 5, Yosts, New York

Driller: John Johnson Logged by: Eric Lewis

Drilling Contractor: PES Drilling Method: Geoprobe

Date Drilled: November 15, 2001 Date Developed: NA

M.P. Elev.: NA W.L. Initial: 5-6' W.L. Static: NA

Total Depth of Hole: 10' Diameter: 2"

Screen: Dia.: NA Length: NA Slot Size: NA

Casing: Dia.: NA Length: NA Type: NA

Sand Pack: 0-2'/4-10' Bentonite Seal: 2-4' Protective Casing: NA

Sketch Map:

See Figure 2 - Site Map

Depth (ft.)	Well Construction	Notes (recovery/ penetrated)	Sample Type/ #	PID (ppm)	Description/ Soil Classification
0					
2	bentonite; water table	3'/4'	Geoprobe Macro-core-1	ND	Brown/gray, dry, medium-coarse gravel (roadbase) (0-1'). Brown, moist, fine SAND, little silt (1-6').
4					
6		4'/4'	Geoprobe Macro-core-2	ND	
8				60	Gray, saturated, fine SAND (6-9').
10	native sand; filter media (sand)	2'/2'	Geoprobe Macro-core-3	2-3 ND	Gray, saturated, CLAY (9-10').
12					
14					
16					
18					
20					
22					
24					
26					
28					
30					

Note: ND = No VOCs Detected by PID analysis.

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DRILLING LOG

Well/ Boring No. SB-2

Project: Hanson Fire Training Center Client: Montgomery County

Project No.: B00138-4 Location: NYS Rte. 5, Yosts, New York

Driller: John Johnson Logged by: Eric Lewis

Drilling Contractor: PES Drilling Method: Geoprobe

Date Drilled: November 15, 2001 Date Developed: NA

M.P. Elev.: NA W.L. Initial: 5-6' W.L. Static: NA

Total Depth of Hole: 10' Diameter: 2"

Screen: Dia.: NA Length: NA Slot Size: NA

Casing: Dia.: NA Length: NA Type: NA

Sand Pack: 0-2'/4-10' Bentonite Seal: 2-4' Protective Casing: NA

Sketch Map:

See Figure 2 - Site Map

Depth (ft.)	Well Construction	Notes (recovery/ penetrated)	Sample Type/ #	PID (ppm)	Description/ Soil Classification
0					
2	bentonite; water table	3'/4'	Geoprobe Macro-core-1	ND	Grass and topsoil, some ash and cinders (0-2'). Brown, moist, fine SAND, little fine gravel (2-5').
4					
6		4'/4'	Geoprobe Macro-core-2	ND 2-3	Gray, saturated, fine SAND, some interbedded clay (5-9.5').
8					
10	native sand; filter media (sand)	2'/2'	Geoprobe Macro-core-3	ND	Gray, saturated, CLAY (9.5-10').
12					
14					
16					
18					
20					
22					
24					
26					
28					
30					

Note: ND = No VOCs Detected by PID analysis.

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DRILLING LOG

Well/ Boring No. SB-3

Project: Hanson Fire Training Center Client: Montgomery County

Project No.: B00138-4 Location: NYS Rte. 5, Yosts, New York

Driller: John Johnson Logged by: Eric Lewis

Drilling Contractor: PES Drilling Method: Geoprobe

Date Drilled: November 15, 2001 Date Developed: NA

M.P. Elev.: NA W.L. Initial: 4-5' W.L. Static: NA

Total Depth of Hole: 10' Diameter: 2"

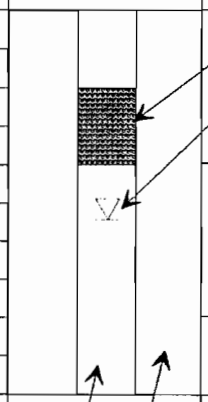
Screen: Dia.: NA Length: NA Slot Size: NA

Casing: Dia.: NA Length: NA Type: NA

Sand Pack: 0-2'/4-10' Bentonite Seal: 2-4' Protective Casing: NA

Sketch Map:

See Figure 2 - Site Map

Depth (ft.)	Well Construction	Notes (recovery/ penetrated)	Sample Type/ #	PID (ppm)	Description/ Soil Classification
0					
2		3'/4'	Geoprobe Macro-core-1	ND	Grass and topsoil (0-6"). Black/brown, moist, fine-coarse SAND, some ash and cinders (6"-4').
4					
6		3'/4'	Geoprobe Macro-core-2	50 160	Brown, moist, fine SAND (4-6'). Gray, saturated, fine SAND, trace of silt (6-8').
8		2'/2'	Geoprobe Macro-core-3	12	Gray, saturated, CLAY, some silt (8-10').
10					
12					
14					
16					
18					
20					
22					
24					
26					
28					
30					Note: ND = No VOCs Detected by PID analysis.

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DRILLING LOG

Well/ Boring No. SB-4

Project: Hanson Fire Training Center Client: Montgomery County

Project No.: B00138-4 Location: NYS Rte. 5, Yosts, New York

Driller: John Johnson Logged by: Eric Lewis

Drilling Contractor: PES Drilling Method: Geoprobe

Date Drilled: November 15, 2001 Date Developed: NA

M.P. Elev.: NA W.L. Initial: 4-5' W.L. Static: NA

Total Depth of Hole: 12' Diameter: 2"

Screen: Dia.: NA Length: NA Slot Size: NA

Casing: Dia.: NA Length: NA Type: NA

Sand Pack: 0-2'/4-12' Bentonite Seal: 2-4' Protective Casing: NA

Sketch Map:

See Figure 2 - Site Map

Depth (ft.)	Well Construction	Notes (recovery/ penetrated)	Sample Type/ #	PID (ppm)	Description/ Soil Classification
0					
2	bentonite; water table	0'/4'	Geoprobe Macro-core-1	NA	No recovery (0-4').
4		0'/4'	Geoprobe Macro-core-2	NA	No recovery (4-8').
8		4'/4'	Geoprobe Macro-core-3	150	Gray, saturated, fine SAND, some silt (8-10').
10				5	Gray, saturated, CLAY, some silt (10-12').
12	native sand; filter media (sand)				
14					
16					
18					
20					
22					
24					
26					
28					
30					

Note: ND = No VOCs Detected by PID analysis.

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DRILLING LOG

Well/ Boring No. SB-5

Project: Hanson Fire Training Center Client: Montgomery County

Project No.: B00138-4 Location: NYS Rte. 5, Yosts, New York

Driller: John Johnson Logged by: Eric Lewis

Drilling Contractor: PES Drilling Method: Geoprobe

Date Drilled: November 15, 2001 Date Developed: NA

M.P. Elev.: NA W.L. Initial: 5-6' W.L. Static: NA

Total Depth of Hole: 10' Diameter: 2"

Screen: Dia.: NA Length: NA Slot Size: NA

Casing: Dia.: NA Length: NA Type: NA

Sand Pack: 0-2'/4-10' Bentonite Seal: 2-4' Protective Casing: NA

Sketch Map:

See Figure 2 - Site Map

Depth (ft.)	Well Construction	Notes (recovery/ penetrated)	Sample Type/ #	PID (ppm)	Description/ Soil Classification
0					
2	bentonite; water table	4'/4'	Geoprobe Macro-core-1	ND	Grass and black, loamy, topsoil, some fine-medium sand and gravel (0-6").
4					Brown, moist, fine SAND, little silt (6"-5').
6		3'/4'	Geoprobe Macro-core-2	ND	Brown, wet, CLAY, little silt (5-6').
				4-6	Brown, saturated, fine SAND (6-6.5').
8				1-2	Brown, saturated, CLAY, trace silt (6.5-8').
		2'/2'	Geoprobe Macro-core-3	ND	Gray, saturated, CLAY, trace silt (8-10').
10	native sand; filter media (sand)				
12					
14					
16					
18					
20					
22					
24					
26					
28					
30					Note: ND = No VOCs Detected by PID analysis.

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DRILLING LOG

Well/ Boring No. SB-6

Project: Hanson Fire Training Center Client: Montgomery County

Project No.: B00138-4 Location: NYS Rte. 5, Yosts, New York

Driller: John Johnson Logged by: Eric Lewis

Drilling Contractor: PES Drilling Method: Geoprobe

Date Drilled: November 16, 2001 Date Developed: NA

M.P. Elev.: NA W.L. Initial: 5-6' W.L. Static: NA

Total Depth of Hole: 10' Diameter: 2"

Screen: Dia.: NA Length: NA Slot Size: NA

Casing: Dia.: NA Length: NA Type: NA

Sand Pack: 0-2'/4-10' Bentonite Seal: 2-4' Protective Casing: NA

Sketch Map:

See Figure 2 - Site Map

Depth (ft.)	Well Construction	Notes (recovery/ penetrated)	Sample Type/ #	PID (ppm)	Description/ Soil Classification
0					
2	bentonite; water table	2'/4'	Geoprobe Macro-core-1	ND	Grass and black, loamy, topsoil, some fine-medium sand and gravel, some silt (0-6").
4					Brown, moist, fine SAND, trace silt (6"-7').
6		2.5'/4'	Geoprobe Macro-core-2	ND	
8					Gray, saturated, CLAY (7-7.3').
					Gray, saturated, fine SAND (7.3-9').
		2'/2'	Geoprobe Macro-core-3	ND	Gray, saturated, CLAY (9-9.3').
10	native sand; filter media (sand)				Gray, saturated, fine SAND (9.3-10').
12					
14					
16					
18					
20					
22					
24					
26					
28					
30					

Note: ND = No VOCs Detected by PID analysis.

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DRILLING LOG

Well/ Boring No. SB-7

Project: Hanson Fire Training Center Client: Montgomery County

Project No.: B00138-4 Location: NYS Rte. 5, Yosts, New York

Driller: John Johnson Logged by: Eric Lewis

Drilling Contractor: PES Drilling Method: Geoprobe

Date Drilled: November 16, 2001 Date Developed: NA

M.P. Elev.: NA W.L. Initial: 5-6' W.L. Static: NA

Total Depth of Hole: 11' Diameter: 2"

Screen: Dia.: NA Length: NA Slot Size: NA

Casing: Dia.: NA Length: NA Type: NA

Sand Pack: 0-2'/4-11' Bentonite Seal: 2-4' Protective Casing: NA

Sketch Map:

See Figure 2 - Site Map

Depth (ft.)	Well Construction	Notes (recovery/ penetrated)	Sample Type/ #	PID (ppm)	Description/ Soil Classification
0					
2	bentonite; water table	2.5'/4'	Geoprobe Macro-core-1	ND	Brown, moist, fine-coarse SAND and GRAVEL (0-1').
4				ND	Brown, moist/wet, fine-medium SAND (1-5').
6		1.5'/4'	Geoprobe Macro-core-2	60	Brown, saturated, fine-medium SAND, some silt and clay (5-6').
				5	Brown, saturated, fine SAND (6-7').
8				ND	Brown, saturated, CLAY (7-8').
10	native sand; filter media (sand)	2.5'/3'	Geoprobe Macro-core-3	ND	Gray, saturated, CLAY (8-9').
					Gray, saturated, fine SAND (9-10').
					Gray, saturated, CLAY (10-10.3').
					Gray, saturated, fine SAND (10.3-11').
12					
14					
16					
18					
20					
22					
24					
26					
28					
30					

Note: ND = No VOCs Detected by PID analysis.

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DRILLING LOG

Well/ Boring No. SB-8

Project: Hanson Fire Training Center Client: Montgomery County

Project No.: B00138-4 Location: NYS Rte. 5, Yosts, New York

Driller: John Johnson Logged by: Eric Lewis

Drilling Contractor: PES Drilling Method: Geoprobe

Date Drilled: November 16, 2001 Date Developed: NA

M.P. Elev.: NA W.L. Initial: 2-3' W.L. Static: NA

Total Depth of Hole: 11' Diameter: 2"

Screen: Dia.: NA Length: NA Slot Size: NA

Casing: Dia.: NA Length: NA Type: NA

Sand Pack: 0-2'/4-11' Bentonite Seal: 2-4' Protective Casing: NA

Sketch Map:

See Figure 2 - Site Map

Depth (ft.)	Well Construction	Notes (recovery/ penetrated)	Sample Type/ #	PID (ppm)	Description/ Soil Classification
0					
2	bentonite; water table	3'/4'	Geoprobe Macro-core-1	ND	Brown/gray, dry, fine-coarse SAND and GRAVEL, some silt (0-2').
				ND	Green, saturated, fine SAND (2-3').
4				275	Gray, saturated, CLAY (3-4').
		3'/4'	Geoprobe Macro-core-2	168	Gray, saturated, fine SAND (4-5').
6				157	Brown, saturated, CLAY (5-6').
				45	Gray, saturated, fine SAND (6-7').
8				9	Gray, saturated, CLAY (7-7.5').
		3'/3'	Geoprobe Macro-core-3	ND	Gray, saturated, fine SAND, some coarse sand (7.5-9').
10					Gray, saturated, CLAY (9-10').
	native sand; filter media (sand)				Gray, saturated, fine SAND, some interbedded clay (10-11').
12					
14					
16					
18					
20					
22					
24					
26					
28					
30					

Note: ND = No VOCs Detected by PID analysis.

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DRILLING LOG

Well/ Boring No. SB-9

Project: Hanson Fire Training Center Client: Montgomery County

Project No.: B00138-4 Location: NYS Rte. 5, Yosts, New York

Driller: John Johnson Logged by: Eric Lewis

Drilling Contractor: PES Drilling Method: Geoprobe

Date Drilled: November 16, 2001 Date Developed: NA

M.P. Elev.: NA W.L. Initial: 5-6' W.L. Static: NA

Total Depth of Hole: 11' Diameter: 2"

Screen: Dia.: NA Length: NA Slot Size: NA

Casing: Dia.: NA Length: NA Type: NA

Sand Pack: 0-2'/4-11' Bentonite Seal: 2-4' Protective Casing: NA

Sketch Map:

See Figure 2 - Site Map

Depth (ft.)	Well Construction	Notes (recovery/ penetrated)	Sample Type/ #	PID (ppm)	Description/ Soil Classification
0					
2	bentonite; water table	3'/4'	Geoprobe Macro-core-1	ND	Brown, dry, fine-coarse SAND and GRAVEL, some silt (0-2').
				5-7	Black, moist, medium-coarse SAND and fine GRAVEL, some ash (2-4').
4		3'/4'	Geoprobe Macro-core-2	2-3	Brown, moist, CLAY (4-5').
6				2-3	Brown, saturated, fine SAND (5-6').
				2-3	Gray, saturated, fine SAND (6-7').
8				ND	Brown, saturated, CLAY (7-8').
		3'/3'	Geoprobe Macro-core-3	ND	Brown, saturated, fine SAND (8-8.5'). Gray, saturated, CLAY (8.5-11').
10	native sand; filter media (sand)				
12					
14					
16					
18					
20					
22					
24					
26					
28					
30					

Note: ND = No VOCs Detected by PID analysis.

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DRILLING LOG

Well/ Boring No. SB-10

Project: Hanson Fire Training Center Client: Montgomery County

Project No.: B00138-4 Location: NYS Rte. 5, Yosts, New York

Driller: John Johnson Logged by: Eric Lewis

Drilling Contractor: PES Drilling Method: Geoprobe

Date Drilled: November 16, 2001 Date Developed: NA

M.P. Elev.: NA W.L. Initial: 5-6' W.L. Static: NA

Total Depth of Hole: 11' Diameter: 2"

Screen: Dia.: NA Length: NA Slot Size: NA

Casing: Dia.: NA Length: NA Type: NA

Sand Pack: 0-2'/4-11' Bentonite Seal: 2-4' Protective Casing: NA

Sketch Map:

See Figure 2 - Site Map

Depth (ft.)	Well Construction	Notes (recovery/ penetrated)	Sample Type/ #	PID (ppm)	Description/ Soil Classification
0					
2	bentonite; water table	3'/4'	Geoprobe Macro-core-1	ND	Brown, dry, fine-coarse SAND and GRAVEL, some silt (0-2').
4				21	Brown/green, wet, fine-medium SAND (2-5.5').
6		3'/4'	Geoprobe Macro-core-2	13	Brown, saturated, CLAY (5.5-6').
8				2-3	Gray/green, saturated, fine SAND (6-8').
10		3'/3'	Geoprobe Macro-core-3	ND	Brown, saturated, CLAY (8-9').
12	native sand; filter media (sand)				Gray, saturated, fine SAND (9-11').
14					
16					
18					
20					
22					
24					
26					
28					
30					

Note: ND = No VOCs Detected by PID analysis.

PRECISION
PES Environmental Services, Inc.
2144 Saratoga Ave.
Ballston Spa, NY 12020
TEL: 518 885-4399
FAX: 518 885-4416

DRILLING LOG

Well/ Boring No. SB-11

Project: Hanson Fire Training Center Client: Montgomery County

Project No.: B00138-4 Location: NYS Rte. 5, Yosts, New York

Driller: John Johnson Logged by: Eric Lewis

Drilling Contractor: PES Drilling Method: Geoprobe

Date Drilled: November 16, 2001 Date Developed: NA

M.P. Elev.: NA W.L. Initial: 5-6' W.L. Static: NA

Total Depth of Hole: 11' Diameter: 2"

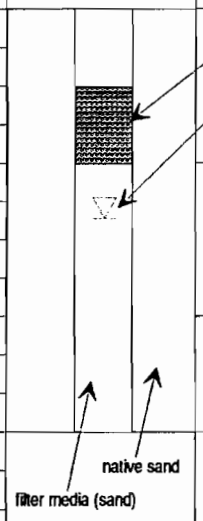
Screen: Dia.: NA Length: NA Slot Size: NA

Casing: Dia.: NA Length: NA Type: NA

Sand Pack: 0-2'/4-11' Bentonite Seal: 2-4' Protective Casing: NA

Sketch Map:

See Figure 2 - Site Map



Depth (ft.)	Well Construction	Notes (recovery/ penetrated)	Sample Type/ #	PID (ppm)	Description/ Soil Classification
0					
2		2.5'/4'	Geoprobe Macro-core-1	ND 300	Brown, dry, fine-coarse SAND and GRAVEL, some silt (0-2'). Green, saturated, fine SAND (2-5.5').
4		3'/4'	Geoprobe Macro-core-2	150 15	Brown, saturated, CLAY (5.5-6'). Gray/green, saturated, fine SAND (6-8').
6					
8		2'/3'	Geoprobe Macro-core-3	ND ND	Brown, saturated, CLAY (8-9'). Gray, saturated, fine SAND (9-11').
10					
12					
14					
16					
18					
20					
22					
24					
26					
28					
30					Note: ND = No VOCs Detected by PID analysis.

PRECISION Environmental Services, Inc.
2144 Saratoga Ave.
Ballston Spa, NY 12020
TEL: 518 885-4399
FAX: 518 885-4416

DRILLING LOG

Well/ Boring No. SB-12

Project: Hanson Fire Training Center Client: Montgomery County

Project No.: B00138-4 Location: NYS Rte. 5, Yosts, New York

Driller: John Johnson Logged by: Eric Lewis

Drilling Contractor: PES Drilling Method: Geoprobe

Date Drilled: November 16, 2001 Date Developed: NA

M.P. Elev.: NA W.L. Initial: 5-6' W.L. Static: NA

Total Depth of Hole: 11' Diameter: 2"

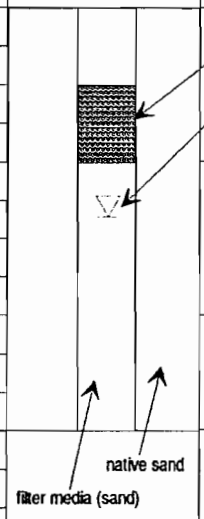
Screen: Dia.: NA Length: NA Slot Size: NA

Casing: Dia.: NA Length: NA Type: NA

Sand Pack: 0-2'/4-11' Bentonite Seal: 2-4' Protective Casing: NA

Sketch Map:

See Figure 2 - Site Map



Depth (ft.)	Well Construction	Notes (recovery/ penetrated)	Sample Type/ #	PID (ppm)	Description/ Soil Classification
0					
2		3'/4'	Geoprobe Macro-core-1	ND	Brown, dry, fine-coarse SAND and GRAVEL, trace silt (0-2').
4				220	Brown, moist, fine-medium SAND (2-4').
6		3'/4'	Geoprobe Macro-core-2	90	Gray, saturated, fine SAND (4-9').
8					
10		2'/3'	Geoprobe Macro-core-3	2-3	Gray, saturated, CLAY (9-10').
				2-3	Gray, saturated, fine SAND (10-11').
12					
14					
16					
18					
20					
22					
24					
26					
28					
30					

Note: ND = No VOCs Detected by PID analysis.

PRECISION
Environmental Services, Inc.
2144 Saratoga Ave.
Ballston Spa, NY 12020
TEL: 518 885-4399
FAX: 518 885-4416

DRILLING LOG

Well/ Boring No. SB-13

Project: Hanson Fire Training Center Client: Montgomery County

Project No.: B00138-4 Location: NYS Rte. 5, Yosts, New York

Driller: John Johnson Logged by: Eric Lewis

Drilling Contractor: PES Drilling Method: Geoprobe

Date Drilled: November 15, 2001 Date Developed: NA

M.P. Elev.: NA W.L. Initial: 5-6' W.L. Static: NA

Total Depth of Hole: 10' Diameter: 2"

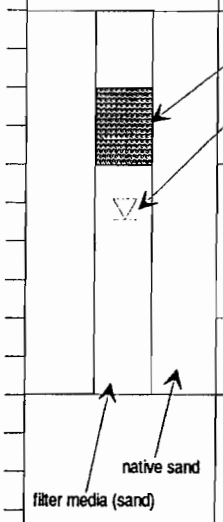
Screen: Dia.: NA Length: NA Slot Size: NA

Casing: Dia.: NA Length: NA Type: NA

Sand Pack: 0-2'/4-10' Bentonite Seal: 2-4' Protective Casing: NA

Sketch Map:

See Figure 2 - Site Map



Depth (ft.)	Well Construction	Notes (recovery/ penetrated)	Sample Type/ #	PID (ppm)	Description/ Soil Classification
0					
2		2'/4'	Geoprobe Macro-core-1	ND	Grass and black loamy topsoil (0-6").
4				ND	Brown, moist, fine-coarse SAND and GRAVEL (6"-5').
6		3'/4'	Geoprobe Macro-core-2	150	Gray, wet, fine SAND, trace silt (5-7').
8				20	Gray, saturated, CLAY (7-8').
10		2'/3'	Geoprobe Macro-core-3	2-3	Gray, saturated, fine SAND (8-10').
12					
14					
16					
18					
20					
22					
24					
26					
28					
30					

Note: ND = No VOCs Detected by PID analysis.

PRECISION Environmental Services, Inc.
PES
2144 Saratoga Ave.
Ballston Spa, NY 12020
TEL: 518 885-4399
FAX: 518 885-4416

DRILLING LOG

Well/ Boring No. SB-14

Project: Hanson Fire Training Center Client: Montgomery County

Project No.: B00138-4 Location: NYS Rte. 5, Yosts, New York

Driller: John Johnson Logged by: Eric Lewis

Drilling Contractor: PES Drilling Method: Geoprobe

Date Drilled: November 15, 2001 Date Developed: NA

M.P. Elev.: NA W.L. Initial: 5-6' W.L. Static: NA

Total Depth of Hole: 10' Diameter: 2"

Screen: Dia.: NA Length: NA Slot Size: NA

Casing: Dia.: NA Length: NA Type: NA

Sand Pack: 0-2'/4-10' Bentonite Seal: 2-4' Protective Casing: NA

Sketch Map:

See Figure 2 - Site Map

Depth (ft.)	Well Construction	Notes (recovery/ penetrated)	Sample Type/ #	PID (ppm)	Description/ Soil Classification
0					
2	bentonite; water table	3.5'/4'	Geoprobe Macro-core-1	ND	Brown, moist, fine-coarse SAND and GRAVEL, some silt, ash and cinders (0-2')
4					Brown, saturated, fine SAND (2-6').
6		3'/4'	Geoprobe Macro-core-2	ND 200	Gray, saturated, fine SAND (6-7').
8				150	Gray, saturated, CLAY (7-7.3').
10	native sand; filter media (sand)	2.5'/3'	Geoprobe Macro-core-3	65 3	Gray, saturated, fine SAND (7.3-9'). Gray, saturated, CLAY (9-10').
12					
14					
16					
18					
20					
22					
24					
26					
28					
30					

Note: ND = No VOCs Detected by PID analysis.

PRECISION Environmental Services, Inc.
2144 Saratoga Ave.
Ballston Spa, NY 12020
TEL: 518 885-4399
FAX: 518 885-4416

DRILLING LOG

Well/ Boring No. SB-15

Project: Hanson Fire Training Center Client: Montgomery County

Project No.: B00138-4 Location: NYS Rte. 5, Yosts, New York

Driller: John Johnson Logged by: Eric Lewis

Drilling Contractor: PES Drilling Method: Geoprobe

Date Drilled: November 16, 2001 Date Developed: NA

M.P. Elev.: NA W.L. Initial: 4-5' W.L. Static: NA

Total Depth of Hole: 11' Diameter: 2"

Screen: Dia.: NA Length: NA Slot Size: NA

Casing: Dia.: NA Length: NA Type: NA

Sand Pack: 0-2'/4-11' Bentonite Seal: 2-4' Protective Casing: NA

Sketch Map:

See Figure 2 - Site Map

Depth (ft.)	Well Construction	Notes (recovery/ penetrated)	Sample Type/ #	PID (ppm)	Description/ Soil Classification
0					
2	bentonite; water table	3'/4'	Geoprobe Macro-core-1	ND ND	Brown, moist, fine-coarse SAND and GRAVEL (0-1') Brown, moist, fine-coarse SAND and GRAVEL, some silt (1-2'). Gray, wet, CLAY (2-3').
4				80	
6		3'/4'	Geoprobe Macro-core-2	80 60	Gray, saturated, fine SAND (3-6').
8					Gray, saturated, fine SAND, some silt (6-10').
10	native sand; filter media (sand)	3'/3'	Geoprobe Macro-core-3	45 1-2 ND	Gray, saturated, CLAY (10-10.5'). Gray, saturated, fine SAND, little silt (10.5-11').
12					
14					
16					
18					
20					
22					
24					
26					
28					
30					

Note: ND = No VOCs Detected by PID analysis.

PRECISION Environmental Services, Inc.
2144 Saratoga Ave.
Ballston Spa, NY 12020
TEL: 518 885-4399
FAX: 518 885-4416

DRILLING LOG

Well/ Boring No. SB-16

Project: Hanson Fire Training Center Client: Montgomery County

Project No.: B00138-4 Location: NYS Rte. 5, Yosts, New York

Driller: John Johnson Logged by: Eric Lewis

Drilling Contractor: PES Drilling Method: Geoprobe

Date Drilled: November 16, 2001 Date Developed: NA

M.P. Elev.: NA W.L. Initial: 4-5' W.L. Static: NA

Total Depth of Hole: 11' Diameter: 2"

Screen: Dia.: NA Length: NA Slot Size: NA

Casing: Dia.: NA Length: NA Type: NA

Sand Pack: 0-2'/4-11' Bentonite Seal: 2-4' Protective Casing: NA

Sketch Map:

See Figure 2 - Site Map

Depth (ft.)	Well Construction	Notes (recovery/ penetrated)	Sample Type/ #	PID (ppm)	Description/ Soil Classification
0					
2	bentonite; water table	4'/4'	Geoprobe Macro-core-1	ND	Brown, moist, fine-coarse SAND and GRAVEL, trace silt (0-1') Brown, moist, fine-coarse SAND, some fine gravel and silt (1-3').
4					Brown, wet, fine-medium SAND, some silt (1-3').
6		3.5'/4'	Geoprobe Macro-core-2	ND 240	Green, saturated, fine SAND (5-7.5').
8		3'/3'	Geoprobe Macro-core-3	30 1-2	Gray, saturated, CLAY (7.5-11').
10	native sand; filter media (sand)				
12					
14					
16					
18					
20					
22					
24					
26					
28					
30					Note: ND = No VOCs Detected by PID analysis.

PRECISION Environmental Services, Inc.
PES
2144 Saratoga Ave.
Ballston Spa, NY 12020
TEL: 518 885-4399
FAX: 518 885-4416

DRILLING LOG

Well/ Boring No. SB-17

Project: Hanson Fire Training Center Client: Montgomery County

Project No.: B00138-4 Location: NYS Rte. 5, Yosts, New York

Driller: John Johnson Logged by: Eric Lewis

Drilling Contractor: PES Drilling Method: Geoprobe

Date Drilled: November 16, 2001 Date Developed: NA

M.P. Elev.: NA W.L. Initial: 4-5' W.L. Static: NA

Total Depth of Hole: 11' Diameter: 2"

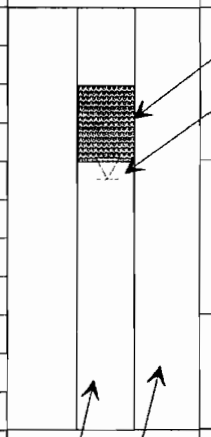
Screen: Dia.: NA Length: NA Slot Size: NA

Casing: Dia.: NA Length: NA Type: NA

Sand Pack: 0-2'/4-11' Bentonite Seal: 2-4' Protective Casing: NA

Sketch Map:

See Figure 2 - Site Map

Depth (ft.)	Well Construction	Notes (recovery/ penetrated)	Sample Type/ #	PID (ppm)	Description/ Soil Classification
0					
2		4'/4'	Geoprobe Macro-core-1	ND	Brown, moist, fine-coarse SAND and GRAVEL, some silt (0-2').
4					Gray, wet, CLAY, some fine-medium gravel (2-3.5').
6		3.5'/4'	Geoprobe Macro-core-2	220 150	Gray, saturated, fine SAND, trace silt (3.5-6').
8					
10		3'/3'	Geoprobe Macro-core-3	150 20 2	Gray, saturated, fine SAND, some silt, trace of clay (6-10.5').
12					Gray, saturated, CLAY (10.5-11').
14					
16					
18					
20					
22					
24					
26					
28					
30					

Note: ND = No VOCs Detected by PID analysis.

PRECISION
PES
Environmental Services, Inc.
2144 Saratoga Ave.
Ballston Spa, NY 12020
TEL: 518 885-4399
FAX: 518 885-4416

DRILLING LOG

Well/ Boring No. SB-18

Project: Hanson Fire Training Center Client: Montgomery County

Project No.: B00138-4 Location: NYS Rte. 5, Yosts, New York

Driller: John Johnson Logged by: Eric Lewis

Drilling Contractor: PES Drilling Method: Geoprobe

Date Drilled: November 16, 2001 Date Developed: NA

M.P. Elev.: NA W.L. Initial: 4-5' W.L. Static: NA

Total Depth of Hole: 11' Diameter: 2"

Screen: Dia.: NA Length: NA Slot Size: NA

Casing: Dia.: NA Length: NA Type: NA

Sand Pack: 0-2'/4-11' Bentonite Seal: 2-4' Protective Casing: NA

Sketch Map:

See Figure 2 - Site Map

Depth (ft.)	Well Construction	Notes (recovery/ penetrated)	Sample Type/ #	PID (ppm)	Description/ Soil Classification
0					
2	bentonite; water table	2.5'/4'	Geoprobe Macro-core-1	ND	Brown, moist, fine-coarse SAND and GRAVEL, trace silt (0-2'). Brown, wet, fine-medium SAND, trace silt (2-4').
4				275	Gray, wet, fine-medium SAND and SILT (4-5').
6		3'/4'	Geoprobe Macro-core-2	55	Brown, wet, CLAY (5-6').
8				15	Gray, saturated, fine SAND, some silt (6-8.5').
10		2.5'/3'	Geoprobe Macro-core-3	ND	Brown/gray, saturated, CLAY (8.5-11').
12	native sand; filter media (sand)				
14					
16					
18					
20					
22					
24					
26					
28					
30					

Note: ND = No VOCs Detected by PID analysis.

ATTACHMENT - 3
Waste Manifest – UST Fluids

EMPIRE ENVIRONMENTAL SERVICES.

PO. BOX 9 949 RIVER RD.
SELKIRK, NY. 12158-0009
PHONE 518-767-3127
FAX 518-767-3193

NON-HAZARDOUS WASTE MANIFEST

Document No. _____

Generator Name Montgomery Co. DPW

Address _____

_____

Phone No. _____

Shipping Location Richard Hanson Jr

Address Fire Training Center

RT 5 Mohawk NY

Phone No. _____

Transporter Name Cross Brothers Transportation, Inc.

Address 949 River Rd.

Selkirk, NY. 12158

Phone No. 518-767-3127

Destination Facility Paradise Oil

Address 1 Quimby St.

Ossining NY. 10562

Phone No. 914-945-0528

WASTE INFORMATION

Waste Description	Containers	Total Quantity / Gals
Tank Bottoms & Water	1	Tank Truck 762 Gals.

I hereby certify that the above waste description is complete and accurate, and that no component exists in the wastes which render it hazardous as defined 6 NY CRR Section 371 and 372.

Andy P. Aldrich mgr — Andy P. Aldrich mgr — 11-20 /2001
Generator's Signature — Print Name — Date

George W. Hanson Jr. — George W. Hanson Jr. — /2001
Transporter # 1 Signature — Print Name — Date

_____ — _____ — /2001
Transporter # 2 Signature — Print Name — Date

_____ — _____ — /2001
TSDF Signature — Print Name — Date

Page 1 Transporter Copy — Page 2 TSDF Copy — Page 3 Generator Copy

ATTACHMENT - 4
Physical Soil Testing

ATLANTIC TESTING LABORATORIES, Limited

Albany
12 Arrowhead Lane
Cohoes, New York 12047
(518) 783-9073 (T)
(518) 783-6987 (F)

Canton
6431 U.S. Highway 11
P.O. Box 29
Canton, NY 13617
(315) 386-4578 (T)
(315) 386-1012 (F)

Utica
698 Stevens Street
Utica, NY 13502
(315) 735-3309 (T)
(315) 735-0742 (F)

December 19, 2001

Precision Environmental
2144 Saratoga Avenue
Ballston Spa, New York 12020

Attn: Mr. Eric Lewis

Re: Laboratory Test Results
Hanson Fire Training Center
Route 5, Yosts, New York
ATL Project No. AT454S-01-11-01

Ladies/Gentlemen:

On November 30, 2001, your representative delivered six soil samples to our Cohoes, New York facility for testing. Particle Size Analysis in accordance with ASTM D 422 (with hydrometer) was performed on each of these samples. Organic Content in accordance with ASTM D 2974 was performed on three of these samples. The laboratory test results follow.

The Particle Size Analysis curves and Total Organic Content data sheets are attached.

Please contact our office should you have any questions or if we may be of further service.

Respectfully,

James J. Kuhn, P.E.
Vice President

JJK/mma

Attachment

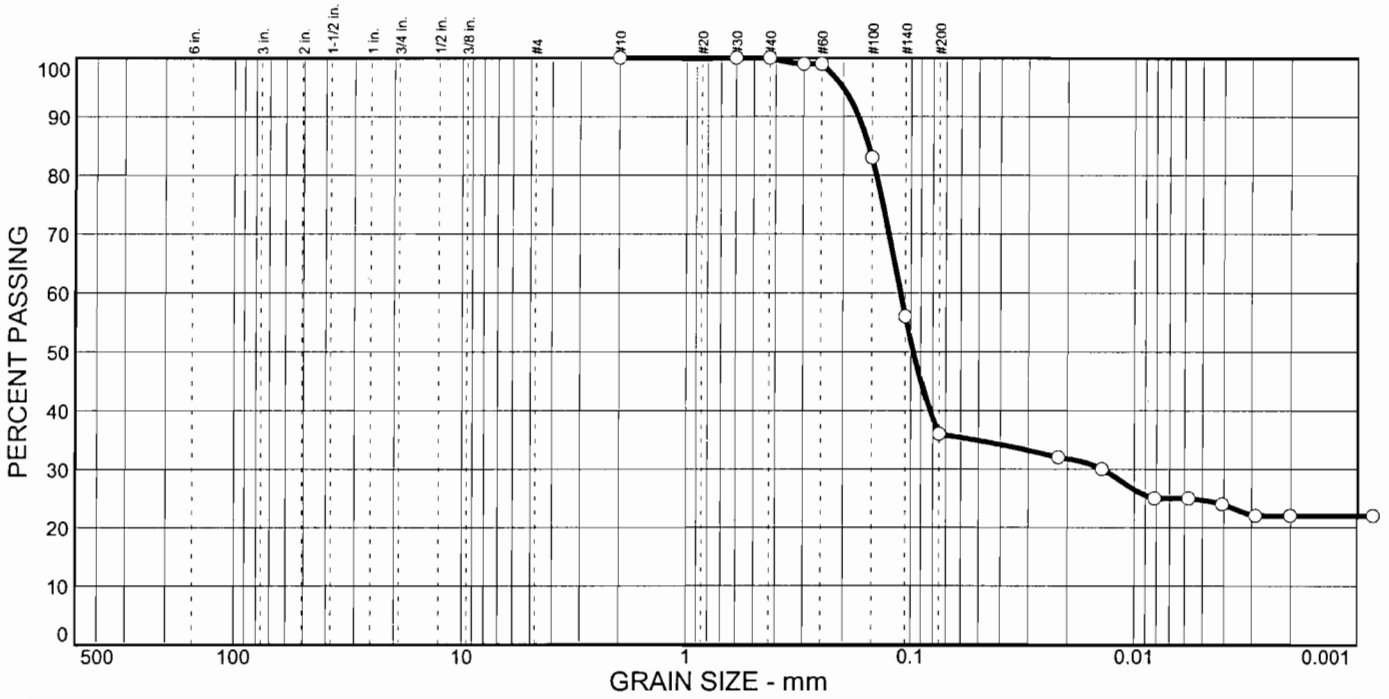
ATLANTIC TESTING LABORATORIES, Limited

Particle Size Distribution Report

Project: Hanson Fire Training Center
Route 5 Yosts, New York
Client: Percision Environmental Services, Inc.

Report No.: AT454S-01-11-01

Sample No: AT454S1 **Source of Sample:** On-Site **Date:** 12/19/01
Location: MW-18 3'-9' **Elev./Depth:** NA



% COBBLES	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
0	0	0	0	0	64	11	25

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	OUT OF SPEC. (X)
#10	100		
#30	100		
#40	100		
#50	99		
#60	99		
#100	83		
#140	56		
#200	36		

* (no specification provided)

Soil Description

fine SAND, some CLAY, little SILT

Atterberg Limits

PL= NA LL= NA PI= NA

Coefficients

D_{85}= 0.155 D_{60}= 0.112 D_{50}= 0.0975
D_{30}= 0.0140 D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Delivered by Client on 11/30/01
ASTM D 422 Particle Size Analysis (with hydrometer)
ATL Sample No. AT454S1

Reviewed by: _____ Date: 12/19/01

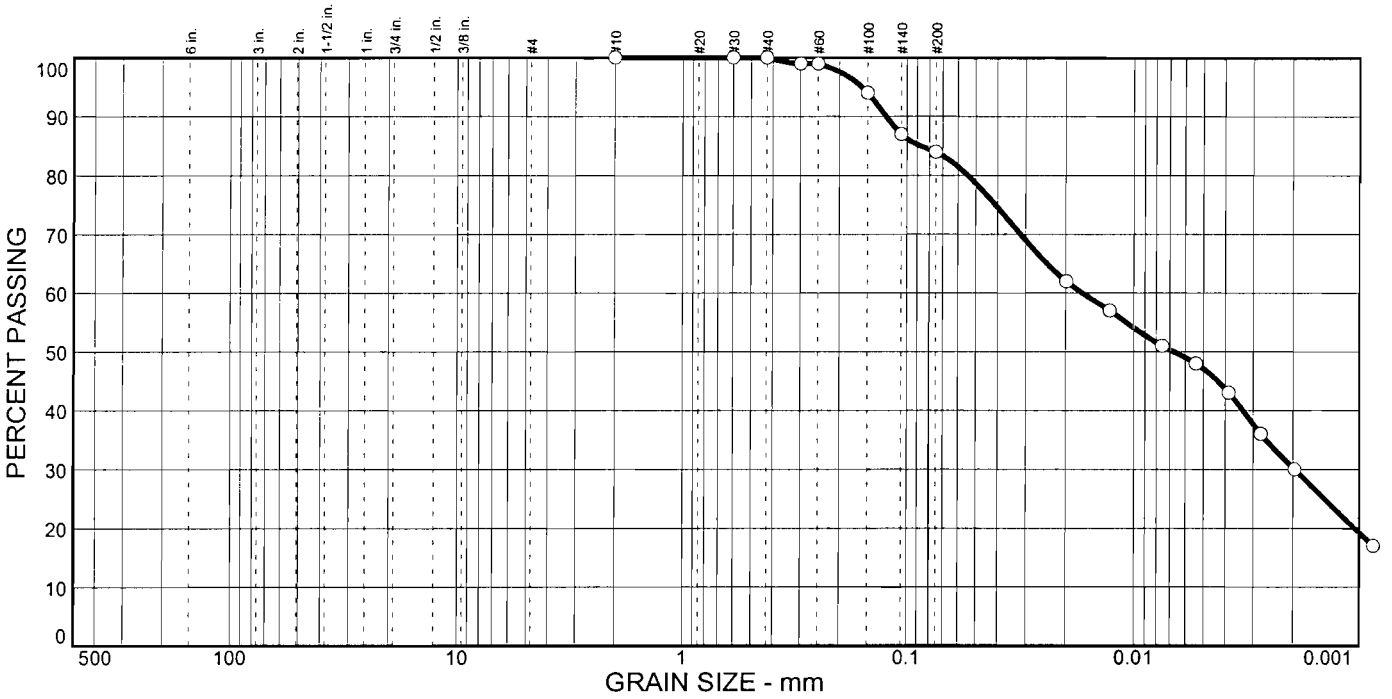
ATLANTIC TESTING LABORATORIES, Limited

Particle Size Distribution Report

Project: Hanson Fire Training Center
Route 5 Yosts, New York
Client: Percision Environmental Services, Inc.

Report No.: AT451S-01-11-01

Sample No: AT454S2 **Source of Sample:** On-Site **Date:** 12/19/01
Location: MW-18 9'-11' **Elev./Depth:** NA



% COBBLES	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
0	0	0	0	0	16	37	47

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	OUT OF SPEC. (X)
#10	100		
#30	100		
#40	100		
#50	99		
#60	99		
#100	94		
#140	87		
#200	84		

* (no specification provided)

Soil Description

CLAY, and SILT, little fine SAND

Atterberg Limits

PL= NA LL= NA PI= NA

Coefficients

D_{85}= 0.0866 D_{60}= 0.0169 D_{50}= 0.0067
D_{30}= 0.0020 D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= ML AASHTO=

Remarks

Delivered by Client on 11/30/01
ASTM D 422 Particle Size Analysis (without hydrometer)
ATL Sample No. AT454S2

Reviewed by: _____ Date: 12/19/01

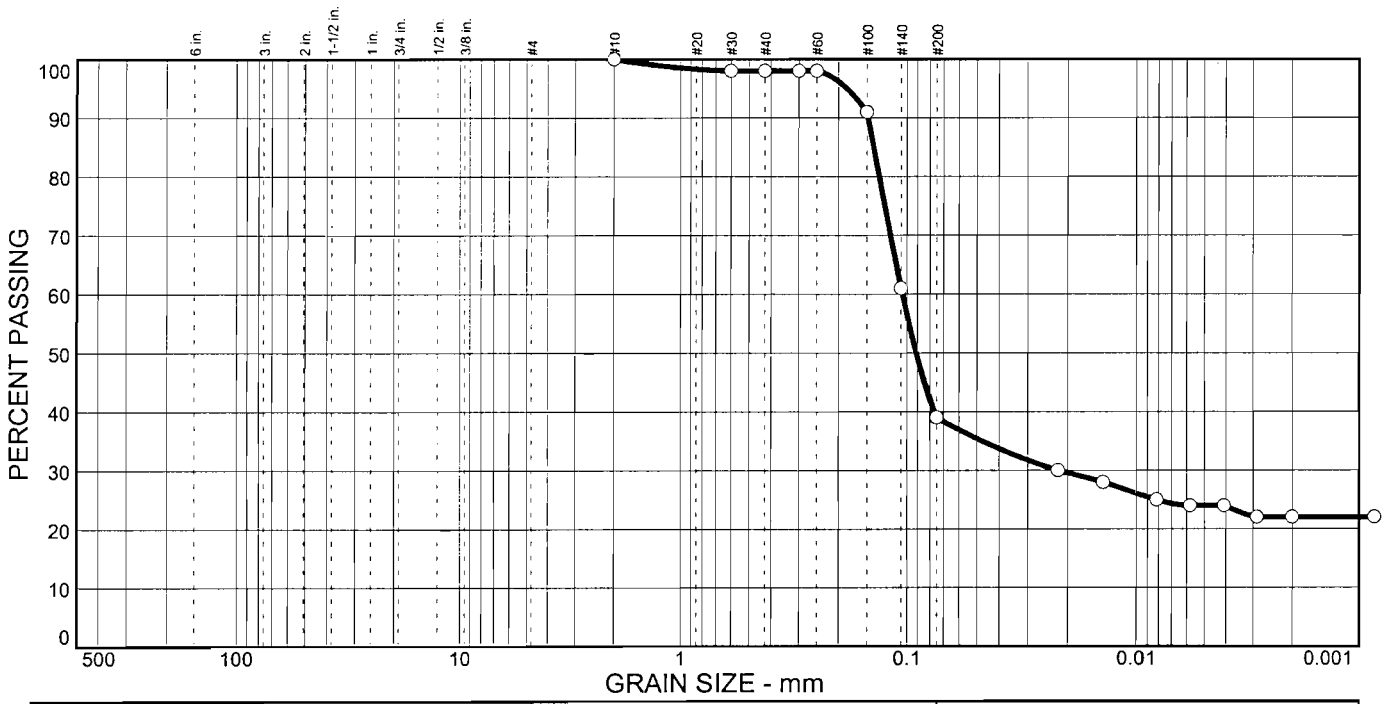
ATLANTIC TESTING LABORATORIES, Limited

Particle Size Distribution Report

Project: Hanson Fire Training Center
Route 5 Yosts, New York
Client: Percision Environmental Services, Inc.

Report No.: AT454S-01-11-01

Sample No: AT454S3 **Source of Sample:** On-Site **Date:** 12/19/01
Location: MW-23 4'-11' **Elev./Depth:** NA



% COBBLES	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
0	0	0	0	2	59	15	24

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	OUT OF SPEC. (X)
#10	100		
#30	98		
#40	98		
#50	98		
#60	98		
#100	91		
#140	61		
#200	39		

* (no specification provided)

Soil Description

fine SAND, some CLAY, little SILT

Atterberg Limits

PL= NA LL= NA PI= NA

Coefficients

D_{85}= 0.140 D_{60}= 0.105 D_{50}= 0.0912
D_{30}= 0.0221 D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Delivered by Client on 11/30/01
ASTM D 422 Particle Size Analysis (with hydrometer)
ATL Sample No. AT454S3

Reviewed by: _____ Date: 12/19/01

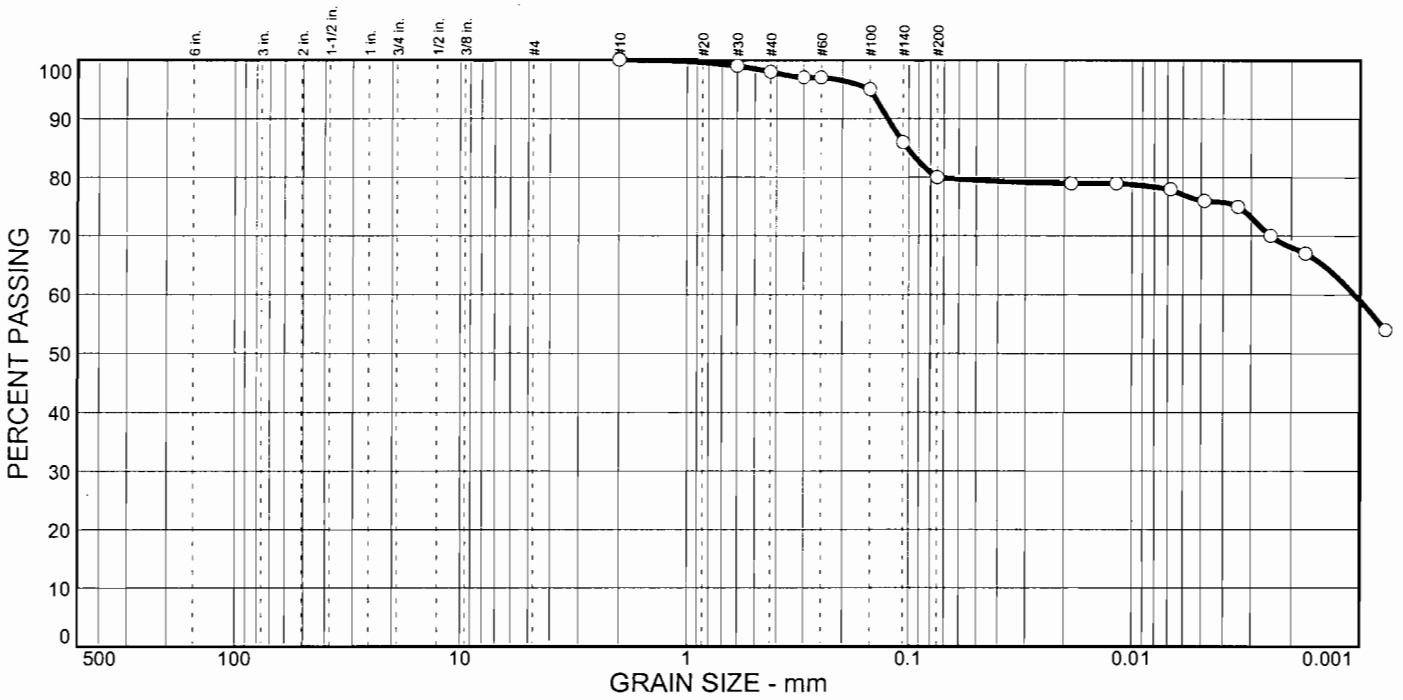
ATLANTIC TESTING LABORATORIES, Limited

Particle Size Distribution Report

Project: Hanson Fire Training Center
Route 5 Yosts, New York
Client: Percision Environmental Services, Inc.

Report No.: AT454S-01-11-01

Sample No: AT454S4 **Source of Sample:** On-Site **Date:** 12/19/01
Location: MW-23 11.5'-12' **Elev./Depth:** NA



% COBBLES	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
0	0	0	0	2	18	4	76

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	OUT OF SPEC. (X)
#10	100		
#30	99		
#40	98		
#50	97		
#60	97		
#100	95		
#140	86		
#200	80		

* (no specification provided)

Soil Description

CLAY, some fine SAND, trace SILT

Atterberg Limits

PL= NA LL= NA PI= NA

Coefficients

D_{85}= 0.101 D_{60}= 0.0011 D_{50}=
D_{30}= D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= ML AASHTO=

Remarks

Delivered by Client on 11/30/01
ASTM D 422 Particle Size Analysis (with hydrometer)
ATL Sample No. AT454S4

Reviewed by: _____ Date: 12/19/01

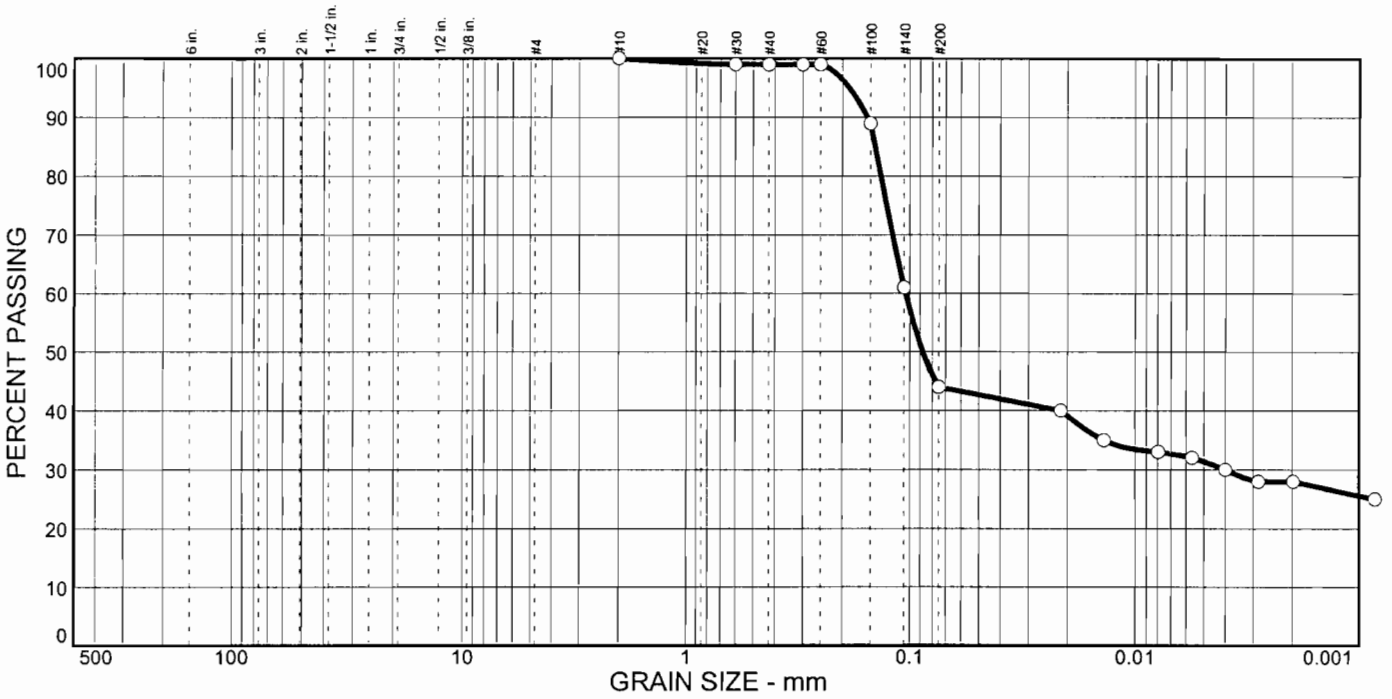
ATLANTIC TESTING LABORATORIES, Limited

Particle Size Distribution Report

Project: Hanson Fire Training Center
Route 5 Yosts, New York
Client: Percision Environmental Services, Inc.

Report No.: AT454S-01-11-01

Sample No: AT454S5 **Source of Sample:** On-Site **Date:** 12/19/01
Location: MW-25 4'-11' **Elev./Depth:** NA



% COBBLES	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
0	0	0	0	1	55	13	31

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	OUT OF SPEC. (X)
#10	100		
#30	99		
#40	99		
#50	99		
#60	99		
#100	89		
#140	61		
#200	44		

* (no specification provided)

Soil Description

fine SAND, some CLAY, little SILT

Atterberg Limits

PL= NA LL= NA PI= NA

Coefficients

D_{85}= 0.143 D_{60}= 0.104 D_{50}= 0.0876
D_{30}= 0.0040 D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Delivered by Client on 11/30/01
ASTM D 422 Particle Size Analysis (with hydrometer)
ATL Sample No. AT454S5

Reviewed by: _____ Date: 12/19/01

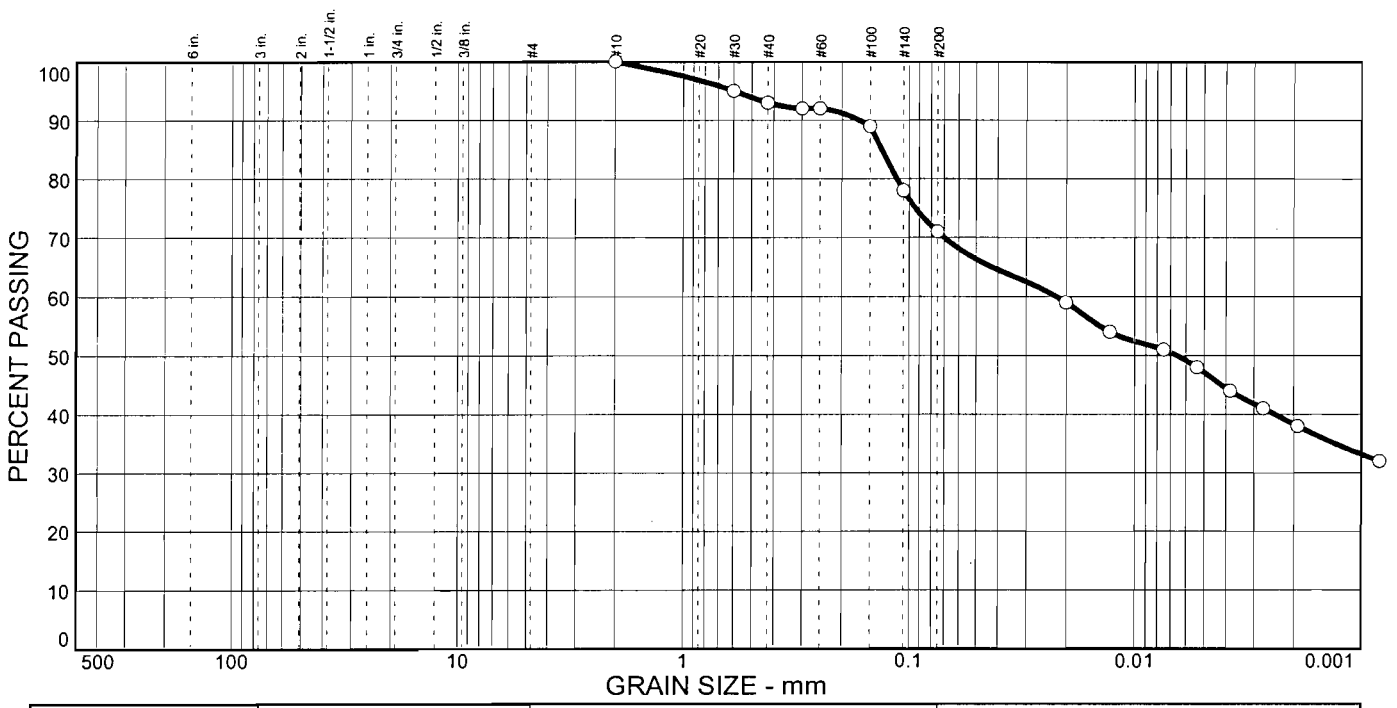
ATLANTIC TESTING LABORATORIES, Limited

Particle Size Distribution Report

Project: Hanson Fire Training Center
Route 5 Yosts, New York
Client: Percision Environmental Services, Inc.

Report No.: AT454S-01-11-01

Sample No: AT454S6 **Source of Sample:** On-Site **Date:** 12/19/01
Location: MW-25 11.5'-12' **Elev./Depth:** NA



% COBBLES	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
0	0	0	0	7	22	24	47

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	OUT OF SPEC. (X)
#10	100		
#30	95		
#40	93		
#50	92		
#60	92		
#100	89		
#140	78		
#200	71		

* (no specification provided)

Soil Description

CLAY, some medium to fine SAND, some SILT

Atterberg Limits

PL= NA LL= NA PI= NA

Coefficients

D_{85}= 0.133 D_{60}= 0.0221 D_{50}= 0.0066
D_{30}= D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= ML AASHTO=

Remarks

Delivered by Client on 11/30/01
ASTM D 422 Particle Size Analysis (with hydrometer)
ATL Sample No. AT454S6

Reviewed by: _____ Date: 12/19/01

FLI
FRIEND LABORATORY I · N · C

ONE RESEARCH CIRCLE WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 FAX (607) 565-4083

Date:13-DEC-2001

Lab Sample ID: L80522-1

Atlantic Testing Laboratories
Greg Wichser
12 Arrowhead Lane
Cohoes, NY 12047

Sample Source: AT454 PRECISION ENV.
Origin: MW-18 (3-9')
Description: COMPOSITE
Sampled On: 30-NOV-01 00:00 by CLIENT
Date Received: 05-DEC-01 10:30
P.O. No: AT454

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	78.7	%		06-DEC-01 00:00	CLP 3.0	01-136-97
TOC	U	mg/kg	1200	06-DEC-01 00:00	SW846 9060	01-069-82

Results calculated on a dry weight basis.

C NY 10252 NJ 73168 PA 68180 EPA NY 00033

Approved by: _____ Lab Director

KEY:					
	ND or U	= None Detected	< = less than	ug/L	= micrograms per liter (equivalent to parts per billion)
	mg/L	= milligrams per liter (equivalent to parts per million)		mg/kg	= milligrams per kilogram (equivalent to parts per million)
	B	= analyte was detected in the method or trip blank		J	= result estimated below the quantitation limit

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FRIEND LABORATORY I · N · C

ONE RESEARCH CIRCLE WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 FAX (607) 565-4083

Date:13-DEC-2001

Lab Sample ID: L80522-2

Atlantic Testing Laboratories
Greg Wichser
12 Arrowhead Lane
Cohoes, NY 12047

Sample Source: AT454 PRECISION ENV.
Origin: MW-23 (4-11')
Description: COMPOSITE
Sampled On: 30-NOV-01 00:00 by CLIENT
Date Received: 05-DEC-01 10:30
P.O. No: AT454

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	76.3	%		06-DEC-01 00:00	CLP 3.0	01-136-97
TOC	U	mg/kg	1100	06-DEC-01 00:00	SW846 9060	01-069-82

Results calculated on a dry weight basis.

NY 10252 NJ 73168 PA 68180 EPA NY 00033

Approved by: _____
Lab Director

KEY: ND or U = None Detected; < = less than; ug/L = micrograms per liter (equivalent to parts per billion); mg/L = milligrams per liter (equivalent to parts per million); mg/kg = milligrams per kilogram (equivalent to parts per million); B = analyte was detected in the method or trip blank; J = result estimated below the quantitation limit

FLI
FRIEND LABORATORY I · N · C

ONE RESEARCH CIRCLE WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 FAX (607) 565-4083

Date:13-DEC-2001

Lab Sample ID: L80522-3

Atlantic Testing Laboratories
Greg Wichser
12 Arrowhead Lane
Cohoes, NY 12047

Sample Source: AT454 PRECISION ENV.
Origin: MW-25 (4-11')
Description: COMPOSITE
Sampled On: 30-NOV-01 00:00 by CLIENT
Date Received: 05-DEC-01 10:30
P.O. No: AT454

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	85.3	%		06-DEC-01 00:00	CLP 3.0	01-136-97
TOC	U	mg/kg	1100	06-DEC-01 00:00	SW846 9060	01-069-82

Results calculated on a dry weight basis.

C NY 10252 NJ 73168 PA 68180 EPA NY 00033

Approved by: Lab Director

KEY:
ND or U = None Detected
< = less than
ug/L = micrograms per liter (equivalent to parts per billion)
mg/L = milligrams per liter (equivalent to parts per million)
mg/kg = milligrams per kilogram (equivalent to parts per million)
B = analyte was detected in the method or trip blank
J = result estimated below the quantitation limit

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ATTACHMENT - 5
Data Validation

LETTER OF TRANSMITTAL

ALPHA GEOSCIENCE
679 Plank Road
Clifton Park, NY 12065
(518) 348 -6995 Phone
(518) 343-6966 FAX

TO: Mr. Eric Lewis
Precision Environmental Services, Inc.
2144 Saratoga Ave.
Ballston Spa, NY 12020

FROM: Don Anne'

DATE: Jan 28, 2002

SUBJECT: Data Validation
Hanson Fire Training Center

WE ARE TRANSMITTING THE FOLLOWING ITEMS:

____ Photographs
____ Maps/Plans
____ Report(s)
____ Letter(s)
____ Disk(s)
__X__ Other Data Packs

Originals	Copies	Description of Materials
	1	Adirondack Environmental Services, Inc. Data Pack, SDG number MW-1
	1	" " " " " ", SDG number MW-21

These Materials are Transmitted:

____ For your use
____ For your approval
____ For your review and comment
____ Approved as submitted
____ Approved as noted
__X__ Returned after loaned to us
____ Returned for revision

Please:
____ Return original to us
____ Submit after revision
____ Retain for your files
____ Other

REMARKS: Returned upon completion of data validation

ADDITIONAL COPIES TO:

SIGNATURE: Donald Anne'

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ENVIRONMENTAL
CONSULTANTS, INC.
Data Validation
Environmental Chemistry
Lab and Field Audits
Sampling Plans

January 28, 2002

Mr. Eric Lewis
Precision Environmental Services, Inc.
2144 Saratoga Avenue
Ballston Spa, New York 12020

Re: Data Validation
Hanson Fire Training Center Project

Dear Mr. Lewis:

The data validation reviews for the Hanson Fire Training Center Project are attached to this letter. The data for Adirondack Environmental Services, Inc., SDG numbers MW-1 and MW-21, were acceptable with some issues that are identified and discussed in the validation summaries. There were no data that were rejected (R) in these data packs. A list of common data validation acronyms is attached to this letter to assist you interpreting the validation summaries.

If you have any questions concerning the work performed, please contact me at our new Clifton Park office, (518) 348-6995. Thank you for the opportunity to assist Precision Environmental Services, Inc.

Sincerely,
Alpha Environmental Consultants, Inc.

Donald Anné

Donald Anné
Senior Chemist

DCA:dca
attachments

\server\main station\alpha e\dataval\2002\02502-hanson ftc\lewis-2.ltr

Data Validation Acronyms

AA	Atomic absorption, flame technique
BHC	Hexachlorocyclohexane
BFB	Bromofluorobenzene
CCB	Continuing calibration blank
CCC	Calibration check compound
CCV	Continuing calibration verification
CN	Cyanide
CRDL	Contract required detection limit
CRQL	Contract required quantitation limit
CVAA	Atomic adsorption, cold vapor technique
DCAA	2,4-Dichlophenylacetic acid
DCB	Decachlorobiphenyl
DFTPP	Decafluorotriphenyl phosphine
ECD	Electron capture detector
FAA	Atomic absorption, furnace technique
FID	Flame ionization detector
FNP	1-Fluoronaphthalene
GC	Gas chromatography
GC/MS	Gas chromatography/mass spectrometry
GPC	Gel permeation chromatography
ICB	Initial calibration blank
ICP	Inductively coupled plasma-atomic emission spectrometer
ICV	Initial calibration verification
IDL	Instrument detection limit
IS	Internal standard
LCS	Laboratory control sample
LCS/LCSD	Laboratory control sample/laboratory control sample duplicate
MSA	Method of standard additions
MS/MSD	Matrix spike/matrix spike duplicate
PID	Photo ionization detector
PCB	Polychlorinated biphenyl
PCDD	Polychlorinated dibenzodioxins
PCDF	Polychlorinated dibenzofurans
QA	Quality assurance
QC	Quality control
RF	Response factor
RPD	Relative percent difference
RRF	Relative response factor
RRF(number)	Relative response factor at concentration of the number following
RT	Retention time
RRT	Relative retention time
SDG	Sample delivery group
SPCC	System performance check compound
TCX	Tetrachloro-m-xylene
%D	Percent difference
%R	Percent recovery
%RSD	Percent relative standard deviation

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QA/QC Review of Volatiles Data for
Adirondack Environmental Services, Inc.
Case No. PE0102, SDG: MW-1

Prepared by: Donald Anné
January 28, 2002

Holding Times: Samples were analyzed within SW-846 holding times.

GC/MS Tuning and Mass Calibration: All BFB tuning criteria were within control limits.

Initial Calibration: The %RSD for vinyl chloride (26.1%) was above the contractual maximum (20.5%). The RRFs for 1,1,2,2-tetrachloroethane (0.434, 0.491, and 0.474) were below the contractual minimum (0.500). No action is taken on two or fewer compounds with %RSDs and RRFs outside contractual requirements, as long as %RSDs are below 40% and RRFs are above 0.010.

Average RRFs for target compounds were above the allowable minimum (0.050) and %RSDs were below the allowable maximum (30%), as required.

Continuing Calibration: All compounds with contract requirements for RRF50s and %Ds met those criteria.

All RRF50s for target compounds were above the allowable minimum (0.050), as required. The %D for 2-hexanone (41.2%) was above the allowable maximum (25%) on 12-05-01 (CS245). The %Ds for chloromethane (31.8%) and acetone (49.2%) were above the allowable maximum (25%) on 12-06-01 (CS246). The %D for 2-butanone (26.2%) was above the allowable maximum (25%) on 12-07-01 (CS248). The %Ds for 2-butanone (25.3%) and 2-hexanone (44.0%) were above the allowable maximum (25%) on 12-10-01 (CS250). Results for these compounds should be considered estimates (J) in associated samples.

Blanks: Method blanks reported target compounds as not detected.

Internal Standard Area Summary: All internal standard areas and retention times were within control limits.

Surrogate Recovery: The surrogate recoveries for environmental samples were within control limits.

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Matrix Spike/Matrix Spike Duplicate: The relative percent differences were below the allowable maximums, but 1 of 10 %Rs (percent recoveries) was outside control limits for aqueous MS/MSD sample MW-13. No action is taken on MS/MSD data alone to qualify or reject an entire set of samples.

Laboratory Control Sample: The percent recoveries for sample VMSB were within QC limits.

Compound ID: Checked compounds were within GC/MS quantitation limits. Detected compounds contained the primary and secondary ions in the mass spectra, as outlined in the method.

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QA/QC Review of Semi-Volatiles Data for
Adirondack Environmental Services, Inc.
Case No. PE0102, SDG No. MW-1

Prepared by: Donald Anné
January 28, 2002

Holding Times: Samples were extracted and analyzed within SW-846 holding times.

GC/MS Tuning and Mass Calibration: All DFTPP tuning criteria were within control limits.

Initial Calibration: Compounds with requirements for RRFs met those criteria. The %RSDs for bis(2-chloroethyl)ether (20.8%) and benzo(k)fluoranthene (25.9%) were above the contractual maximum (20.5%) on 12-17-01. The %RSD for benzo(k)fluoranthene (23.1%) was above the contractual maximum (20.5%) on 01-04-02. No action is taken on four or fewer compounds with %RSDs and RRFs outside contractual requirements, as long as %RSDs are below 40% and RRFs are above 0.010.

Average RRFs for target compounds were above the allowable minimum (0.050), as required. The %RSDs for 4-chloroaniline (38.1%), 3-nitroaniline (55.1%), 4-nitroaniline (61.5%), and carbazole (40.6%) were above the allowable maximum (30%) on 12-17-01. The %RSDs for 3-nitroaniline (32.6%), 2,4-dinitrophenol (55.5%), 3-nitroaniline (69.0%), and carbazole (33.5%) were above the allowable maximum (30%) 01-04-02. Results for these compounds should be considered estimates (J).

Continuing Calibration: Compounds with requirements for RRF50s met those criteria. The %Ds for 4-chloro-3-methylphenol (32.2%), 2-methylnaphthalene (39.4%), and pentachlorophenol (39.7%) were above the contractual maximum (25%) on 12-21-01 (BS302). The %Ds for 4-chloro-3-methylphenol (29.3%), 2-methylnaphthalene (32.6%), and phenol-d5 (28.2%) were above the contractual maximum (25%) on 12-27-01 (BS306). The %Ds for 4-chloro-3-methylphenol (30.9%), 2-methylnaphthalene (35.8%), pyrene (28.1%), and phenol-d5 (27.1%) were above the contractual maximum (25%) on 12-28-01 (BS308). No action is taken on four or fewer compounds with %Ds and RRF50s outside contractual requirements, as long as %Ds are below 40% and RRF50s are above 0.010.

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The RRF50s for target compounds were above the allowable minimum (0.050), as required. The %Ds for the following compounds were above the allowable maximum (25%) on 12-21-01 (BS302):

4-chloro-3-methylphenol (32.2%)	2-methylnaphthalene (39.4%)
3-nitroaniline (39.8%)	2,4-dinitrophenol (60.9%)
4-nitrophenol (70.5%)	4,6-dinitro-2-methylphenol (61.3%)
n-nitrosodiphenylamine (39.1%)	pentachlorophenol (39.7%)
carbazole (50.6%)	

The RRF50s for target compounds were above the allowable minimum (0.050), as required. The %Ds for the following compounds were above the allowable maximum (25%) on 12-27-01 (BS306):

4-chloro-3-methylphenol (29.3%)	2-methylnaphthalene (32.6%)
3-nitroaniline (67.8%)	2,4-dinitrophenol (52.1%)
4-nitrophenol (30.6%)	4,6-dinitro-2-methylphenol (55.6%)
n-nitrosodiphenylamine (27.8%)	butylbenzylphthalate (26.2%)
bis(2-ethylhexyl)phthalate (29.8%)	di-n-octylphthalate (47.2%)

The RRF50s for target compounds were above the allowable minimum (0.050), as required. The %Ds for the following compounds were above the allowable maximum (25%) on 12-28-01 (BS308):

4-chloroaniline (33.1%)	4-chloro-3-methylphenol (30.9%)
2-methylnaphthalene (35.8%)	hexachlorocyclopentadiene (27.0%)
3-nitroaniline (58.0%)	2,4-dinitrophenol (71.6%)
4-nitrophenol (72.9%)	4,6-dinitro-2-methylphenol (36.2%)
pyrene (28.1%)	di-n-octylphthalate (46.2%)

The RRF50s for target compounds were above the allowable minimum (0.050), as required. The %Ds for the following compounds were above the allowable maximum (25%) on 01-04-02 (BS013):

3-nitroaniline (67.2%)	2,4-dinitrophenol (35.2%)
4-nitrophenol (67.4%)	4,6-dinitro-2-methylphenol (51.0%)

Results for the above compounds should be considered estimates (J) in associated samples.

Blanks: The method blank reported target compounds as not detected.

Internal Standard Area Summary: All internal standard areas and retention times were within control limits.

Surrogate Recovery: The surrogate recoveries for environmental samples were within control limits.

Matrix Spike/Matrix Spike Duplicate: Ten of eleven relative percent differences were above the allowable maximums and 13 of 22 %Rs (percent recoveries) were outside control limits for MS/MSD sample MW-13. No action is taken on MS/MSD data alone to qualify or reject an entire set of samples.

Laboratory Control Sample: The percent recoveries for sample WMSB were within QC limits.

Compound ID: Checked compounds were within GC/MS quantitation and qualitation limits. Detected compounds contained the primary and secondary ions in the mass spectra, as outlined in the method.

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QA/QC Review of PCB Data for
Adirondack Environmental Services, Inc.
Case No. PE0101, SDG No. MW-1

Prepared by: Donald Anné
January 28, 2002

Holding Times: All samples were extracted and analyzed within SW-846 holding times.

Blanks: The method blank reported target aroclors as not detected.

Surrogate Recovery: The surrogate recoveries for samples were within advisory limits.

Matrix Spike/Matrix Spike Duplicate: The relative percent difference was below the allowable maximum and the percent recoveries were within QC limits for MS/MSD sample MW-13.

Laboratory Control Sample: The percent recovery for sample PMSBP1 was within QC limits.

Initial Calibration: The %RSDs for target aroclors were below the allowable maximum (20%), as required.

Continuing Calibration: The %Ds for target aroclors were below the allowable maximum (15%), as required.

PCB Evaluation of Retention Time Shift of DCB: The retention times for DCB were within control limits.

PCB Identification: Checked aroclors were within GC quantitation limits. Detected aroclors were confirmed on a second, dissimilar column.

\server\main station\alpha e\dataval\2002\02502-hanson ftc\mw-1.pcb

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QA/QC Review of Volatiles Data for
Adirondack Environmental Services, Inc.
Case No. PE0102, SDG: MW-21

Prepared by: Donald Anné
January 28, 2002

Holding Times: Samples were analyzed within SW-846 holding times.

GC/MS Tuning and Mass Calibration: All BFB tuning criteria were within control limits.

Initial Calibration: The %RSD for vinyl chloride (26.1%) was above the contractual maximum (20.5%). The RRFs for 1,1,2,2-tetrachloroethane (0.434, 0.491, and 0.474) were below the contractual minimum (0.500). No action is taken on two or fewer compounds with %RSDs and RRFs outside contractual requirements, as long as %RSDs are below 40% and RRFs are above 0.010.

Average RRFs for target compounds were above the allowable minimum (0.050) and %RSDs were below the allowable maximum (30%), as required.

Continuing Calibration: All compounds with contract requirements for RRF50s and %Ds met those criteria.

All RRF50s for target compounds were above the allowable minimum (0.050), as required. The %Ds for chloromethane (31.8%) and acetone (49.2%) were above the allowable maximum (25%) on 12-06-01 (CS246). The %D for 2-butanone (26.2%) was above the allowable maximum (25%) on 12-07-01 (CS248). Results for these compounds should be considered estimates (J) in associated samples.

Blanks: Method and trip blanks reported target compounds as not detected. The field blank contained traces of chloroform (3 ug/L) and bromodichloromethane (2 ug/L). Results for chloroform and bromodichloromethane that are less than five times the field blank level should be reported as "not detected" (U) in associated samples.

Internal Standard Area Summary: All internal standard areas and retention times were within control limits.

Surrogate Recovery: The surrogate recoveries for environmental samples were within control limits.

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Matrix Spike/Matrix Spike Duplicate: The relative percent differences were below the allowable maximums and percent recoveries were within control limits for aqueous MS/MSD sample MW-23.

Laboratory Control Sample: The percent recoveries for sample VMSB were within QC limits.

Compound ID: Checked compounds were within GC/MS quantitation limits. Detected compounds contained the primary and secondary ions in the mass spectra, as outlined in the method.

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QA/QC Review of Semi-Volatiles Data for
Adirondack Environmental Services, Inc.
Case No. PE0102, SDG No. MW-21

Prepared by: Donald Anné
January 28, 2002

Holding Times: Samples were extracted and analyzed within SW-846 holding times.

GC/MS Tuning and Mass Calibration: All DFTPP tuning criteria were within control limits.

Initial Calibration: Compounds with requirements for RRFs met those criteria. The %RSDs for bis(2-chloroethyl)ether (20.8%) and benzo(k)fluoranthene (25.9%) were above the contractual maximum (20.5%). No action is taken on four or fewer compounds with %RSDs and RRFs outside contractual requirements, as long as %RSDs are below 40% and RRFs are above 0.010.

Average RRFs for target compounds were above the allowable minimum (0.050), as required. The %RSDs for 4-chloroaniline (38.1%), 3-nitroaniline (55.1%), 4-nitroaniline (61.5%), and carbazole (40.6%) were above the allowable maximum (30%). Results for these compounds should be considered estimates (J).

Continuing Calibration: Compounds with requirements for RRF50s met those criteria. The %Ds for 4-chloro-3-methylphenol (29.3%), 2-methylnaphthalene (32.6%), and phenol-d5 (28.2%) were above the contractual maximum (25%) on 12-27-01 (BS306). The %Ds for 4-chloro-3-methylphenol (30.9%), 2-methylnaphthalene (35.8%), pyrene (28.1%), and phenol-d5 (27.1%) were above the contractual maximum (25%) on 12-28-01 (BS308). No action is taken on four or fewer compounds with %Ds and RRF50s outside contractual requirements, as long as %Ds are below 40% and RRF50s are above 0.010.

The RRF50s for target compounds were above the allowable minimum (0.050), as required. The %Ds for the following compounds were above the allowable maximum (25%) on 12-27-01 (BS306):

- 4-chloro-3-methylphenol (29.3%)
- 3-nitroaniline (67.8%)
- 4-nitrophenol (30.6%)
- n-nitrosodiphenylamine (27.8%)
- bis(2-ethylhexyl)phthalate (29.8%)
- 2-methylnaphthalene (32.6%)
- 2,4-dinitrophenol (52.1%)
- 4,6-dinitro-2-methylphenol (55.6%)
- butylbenzylphthalate (26.2%)
- di-n-octylphthalate (47.2%)

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The RRF50s for target compounds were above the allowable minimum (0.050), as required. The %Ds for the following compounds were above the allowable maximum (25%) on 12-28-01 (BS308):

4-chloroaniline (33.1%)	4-chloro-3-methylphenol (30.9%)
2-methylnaphthalene (35.8%)	hexachlorocyclopentadiene (27.0%)
3-nitroaniline (58.0%)	2,4-dinitrophenol (71.6%)
4-nitrophenol (72.9%)	4,6-dinitro-2-methylphenol (36.2%)
pyrene (28.1%)	di-n-octylphthalate (46.2%)

Results for the above compounds should be considered estimates (J) in associated samples.

Blanks: Method and field blanks reported target compounds as not detected.

Internal Standard Area Summary: All internal standard areas and retention times were within control limits.

Surrogate Recovery: The surrogate recoveries for environmental samples were within control limits.

Matrix Spike/Matrix Spike Duplicate: MS/MSD data was not provided in this SDG. The QA/QC review for PCB data, SDG No. MW-1 contains the MS/MSD data for these samples.

Laboratory Control Sample: The percent recoveries for sample WMSB were within QC limits.

Compound ID: Checked compounds were within GC/MS quantitation and qualitation limits. Detected compounds contained the primary and secondary ions in the mass spectra, as outlined in the method.

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Data Validation
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Sampling Plans

QA/QC Review of PCB Data for
Adirondack Environmental Services, Inc.
Case No. PE0101, SDG No. MW-21

Prepared by: Donald Anné
January 28, 2002

Holding Times: All samples were extracted and analyzed within SW-846 holding times.

Blanks: Method and field blanks reported target aroclors as not detected.

Surrogate Recovery: The surrogate recoveries for samples were within advisory limits.

Matrix Spike/Matrix Spike Duplicate: MS/MSD data was not provided in this SDG. The QA/QC review for PCB data, SDG No. MW-1 contains the MS/MSD data for these samples.

Laboratory Control Sample: The percent recovery for sample PMSBP2 was within QC limits.

Initial Calibration: The %RSDs for target aroclors were below the allowable maximum (20%), as required.

Continuing Calibration: The %Ds for target aroclors were below the allowable maximum (15%), as required.

PCB Evaluation of Retention Time Shift of DCB: The retention times for DCB were within control limits.

PCB Identification: There were no detectable concentrations of aroclors reported in any sample in this SDG.

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LETTER OF TRANSMITTAL

ALPHA ENVIRONMENTAL CONSULTANTS, INC.
679 Plank Road
Clifton Park, New York 12065
(518) 348-6995 - Phone
(518)348-6966 - FAX

TO: Mr. Eric Lewis
Precision Environmental Ser., Inc.
2144 Saratoga Ave.
Ballston Spa, NY 12020

FROM: Don Anne'

DATE: January 22, 2002

SUBJECT: Data Validation
Hanson Fire Training Center Project

WE ARE TRANSMITTING THE FOLLOWING ITEMS:

____ Photographs
____ Maps/Plans
____ Report(s)
____ Letter(s)
____ Disk(s)
__X__ Other Data Packs

Originals	Copies	Description of Materials
	1	Adirondack Environmental Services, Inc. Data Pack, SDG # B-1
	1	" " " " " " , SDG # MW-14

These Materials are Transmitted:

____ For your use
____ For your approval
____ For your review and comment
____ Approved as submitted
____ Approved as noted
__X__ Returned after loaned to us
____ Returned for revision

Please:
____ Return original to us
____ Submit after revision
____ Retain for your files
____ Other

REMARKS: Returned upon completion of data validation

ADDITIONAL COPIES TO:

SIGNATURE: Donald Anne'

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CONSULTANTS, INC.

Data Validation
Environmental Chemistry
Lab and Field Audits
Sampling Plans

January 22, 2002

Mr. Eric Lewis
Precision Environmental Services, Inc.
2144 Saratoga Avenue
Ballston Spa, New York 12020

Re: Data Validation
Hanson Fire Training Center Project

Dear Mr. Lewis:

The data validation reviews for the Hanson Fire Training Center Project, are attached to this letter. The data for Adirondack Environmental Services, Inc., SDG numbers MW-14 and B-1 were acceptable with some issues that are identified and discussed in the validation summaries. There were no data that were rejected (R) in these data packs. A list of common data validation acronyms is attached to this letter to assist you interpreting the validation summaries.

If you have any questions concerning the work performed, please contact me at our new Clifton Park office, (518) 348-6995. Thank you for the opportunity to assist Precision Environmental Services, Inc.

Sincerely,
Alpha Environmental Consultants, Inc.

Donald Anné

Donald Anné
Senior Chemist

DCA:dca
attachments

\server\main station\alpha e\dataval\2002\02502-hanson ftc\lewis.ltr

Data Validation Acronyms

AA	Atomic absorption, flame technique
BHC	Hexachlorocyclohexane
BFB	Bromofluorobenzene
CCB	Continuing calibration blank
CCC	Calibration check compound
CCV	Continuing calibration verification
CN	Cyanide
CRDL	Contract required detection limit
CRQL	Contract required quantitation limit
CVAA	Atomic adsorption, cold vapor technique
DCAA	2,4-Dichlophenylacetic acid
DCB	Decachlorobiphenyl
DFTPP	Decafluorotriphenyl phosphine
ECD	Electron capture detector
FAA	Atomic absorption, furnace technique
FID	Flame ionization detector
FNP	1-Fluoronaphthalene
GC	Gas chromatography
GC/MS	Gas chromatography/mass spectrometry
GPC	Gel permeation chromatography
ICB	Initial calibration blank
ICP	Inductively coupled plasma-atomic emission spectrometer
ICV	Initial calibration verification
IDL	Instrument detection limit
IS	Internal standard
LCS	Laboratory control sample
LCS/LCSD	Laboratory control sample/laboratory control sample duplicate
MSA	Method of standard additions
MS/MSD	Matrix spike/matrix spike duplicate
PID	Photo ionization detector
PCB	Polychlorinated biphenyl
PCDD	Polychlorinated dibenzodioxins
PCDF	Polychlorinated dibenzofurans
QA	Quality assurance
QC	Quality control
RF	Response factor
RPD	Relative percent difference
RRF	Relative response factor
RRF(number)	Relative response factor at concentration of the number following
RT	Retention time
RRT	Relative retention time
SDG	Sample delivery group
SPCC	System performance check compound
TCX	Tetrachloro-m-xylene
%D	Percent difference
%R	Percent recovery
%RSD	Percent relative standard deviation

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QA/QC Review of Volatiles Data for
Adirondack Environmental Services, Inc.
Case No. PE0101, SDG: B-1

Prepared by: Donald Anné
January 22, 2002

Holding Times: Samples were analyzed within SW-846 holding times.

GC/MS Tuning and Mass Calibration: All BFB tuning criteria were within control limits.

Initial Calibration: All compounds with contract requirements for %RSDs met those criteria. The RRFs for 1,1,2,2-tetrachloroethane (0.499, 0.425, and 0.419) were below the contractual minimum (0.500). No action is taken on two or fewer compounds with %RSDs and RRFs outside contractual requirements, as long as %RSDs are below 40% and RRFs are above 0.010.

Average RRFs for target compounds were above the allowable minimum (0.050), as required. The %RSD for chloroethane (39.4%) was above the allowable maximum (30%). Results for chloroethane should be considered estimates (J).

Continuing Calibration: The %D for bromomethane (39.9%) was above the contractual maximum (25%) on 11-27-01 (DS240). The RRF50 for 1,1,2,2-tetrachloroethane (0.471) was below the contractual minimum (0.500) on 11-26-01 (DS239). The RRF50 for 1,1,2,2-tetrachloroethane (0.455) was below the contractual minimum (0.500) on 11-28-01 (DS241). No action is taken on two or fewer compounds with %Ds and RRF50s outside contractual requirements, as long as %Ds are below 40% and RRF50s are above 0.010.

All RRF50s for target compounds were above the allowable minimum (0.050), as required. The %D for 2-butanone (30.1%) was above the allowable maximum (25%) on 11-26-01 (DS239). The %Ds for bromomethane (39.9%) and chloroethane (32.1%) were above the allowable maximum (25%) on 11-27-01 (DS240). The %D for 2-butanone (27.8%) was above the allowable maximum (25%) on 11-28-01 (DS241). Results for these compounds should be considered estimates (J) in associated samples.

Blanks: Method blanks reported target compounds as not detected.

Internal Standard Area Summary: All internal standard areas and retention times were within control limits.

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Surrogate Recovery: The surrogate recoveries for environmental samples were within control limits.

Matrix Spike/Matrix Spike Duplicate: The relative percent differences were below the allowable maximums and percent recoveries were within control limits for soil MS/MSD samples OF-2 and SB-12.

Laboratory Control Sample: The percent recoveries for samples VMSB1 and VMSB2 were within QC limits.

Compound ID: Checked compounds were within GC/MS quantitation limits. Detected compounds contained the primary and secondary ions in the mass spectra, as outlined in the method.

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QA/QC Review of Semi-Volatiles Data for
Adirondack Environmental Services, Inc.
Case No. PE0101, SDG No. B-1

Prepared by: Donald Anné
January 22, 2002

Holding Times: Samples were extracted and analyzed within SW-846 holding times.

GC/MS Tuning and Mass Calibration: All DFTPP tuning criteria were within control limits.

Initial Calibration: Compounds with requirements for RRFs met those criteria. The %RSD for benzo(k)fluoranthene (21.2%) was above the contractual maximum (20.5%). No action is taken on four or fewer compounds with %RSDs and RRFs outside contractual requirements, as long as %RSDs are below 40% and RRFs are above 0.010.

Average RRFs for target compounds were above the allowable minimum (0.050), as required. The %RSD for 4,6-dinitro-2-methylphenol (39.5%) was above the allowable maximum (30%). Results for 4,6-dinitro-2-methylphenol should be considered estimates (J).

Continuing Calibration: Compounds with requirements for RRF50s met those criteria. The %Ds for 4-chloro-3-methylphenol (32.1%), 2-methylnaphthalene (25.6%), and indeno(1,2,3-cd)pyrene (27.5%) were above the contractual maximum (25%) on 12-11-01 (BS278). The %Ds for phenol (27.3%), 4-chloro-3-methylphenol (26.6%), and benzo(k)fluoranthene (26.6%) were above the contractual maximum (25%) on 12-12-01 (BS280). The %Ds for phenol (25.4%), 4-chloro-3-methylphenol (28.5%), 2-methylnaphthalene (27.2%), and benzo(g,h,i)perylene (31.5%) were above the contractual maximum (25%) on 12-13-01 (BS282). No action is taken on four or fewer compounds with %Ds and RRF50s outside contractual requirements, as long as %Ds are below 40% and RRF50s are above 0.010.

The RRF50s for target compounds were above the allowable minimum (0.050), as required. The %Ds for the following compounds were above the allowable maximum (25%) on 12-11-01 (BS278):

- bis(2-chloroisopropyl)ether (28.6%)
- 2-methylnaphthalene (25.6%)
- 2,4-dinitrophenol (77.3%)
- 4,6-dinitro-2-methylphenol (67.4%)
- indeno(1,2,3-cd)pyrene (27.5%)
- 4-chloro-3-methylphenol (32.1%)
- 3-nitroaniline (67.6%)
- 4-nitroaniline (45.9%)
- n-nitrosodiphenylaine (32.1%)

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The %Ds for the following compounds were above the allowable maximum (25%) on 12-12-01 (BS280):

phenol (27.3%)	bis(2-chloroisopropyl)ether (29.3%)
4-chloroaniline (54.2%)	4-chloro-3-methylphenol (26.6%)
3-nitroaniline (75.4%)	2,4-dinitrophenol (68.2%)
4-nitroaniline (47.2%)	4,6-dinitro-2-methylphenol (51.8%)
n-nitrosodiphenylaine (41.8%)	benzo(k)fluoranthene (26.6%)

The %Ds for the following compounds were above the allowable maximum (25%) on 12-13-01 (BS282):

phenol (25.4%)	4-chloroaniline (26.9%)
4-chloro-3-methylphenol (28.5%)	2-methylnaphthalene (27.2%)
hexachlorocyclopentadiene (41.5%)	3-nitroaniline (75.1%)
2,4-dinitrophenol (29.0%)	4-nitroaniline (50.4%)
4,6-dinitro-2-methylphenol (37.7%)	n-nitrosodiphenylaine (40.4%)
3,3'-dichlorobenzidine (32.4%)	benzo(g,h,i)perylene (31.5%)

Results for the above compounds should be considered estimates (J) in associated samples.

Blanks: The method blanks reported target compounds as not detected.

Internal Standard Area Summary: All internal standard areas and retention times were within control limits.

Surrogate Recovery: The surrogate recoveries for environmental samples were within control limits.

Matrix Spike/Matrix Spike Duplicate: The relative percent differences (RPDs) were below the allowable maximums and percent recoveries (%Rs) were within control limits for MS/MSD sample SB-8. Five of 11 RPDs were above the allowable maximums and 7 of 22 %Rs were outside control limits for MS/MSD sample SB-12. No action is taken on MS/MSD data alone to qualify or reject an entire set of samples.

Laboratory Control Sample: The percent recoveries for samples SMSB and MLMSB were within QC limits.

Compound ID: Checked compounds were within GC/MS quantitation and qualitation limits. Detected compounds contained the primary and secondary ions in the mass spectra, as outlined in the method.

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QA/QC Review of PCB Data for
Adirondack Environmental Services, Inc.
Case No. PE0101, SDG No. B-1

Prepared by: Donald Anné
January 22, 2002

Holding Times: All samples were extracted and analyzed within SW-846 holding times.

Blanks: The method blanks reported target aroclors as not detected.

Surrogate Recovery: The surrogate recoveries for samples were within advisory limits.

Matrix Spike/Matrix Spike Duplicate: The relative percent difference was below the allowable maximum (50%) and percent recoveries were withn QC limits (50-150%) for MS/MSD sample SB-12.

Laboratory Control Sample: The percent recovery for sample PMSBP2 was within QC limits.

Initial Calibration: The %RSDs for target aroclors were below the allowable maximum (20%), as required.

Continuing Calibration: The %Ds for target aroclors were below the allowable maximum (15%), as required.

PCB Evaluation of Retention Time Shift of DCB: The retention times for DCB were within control limits.

PCB Identification: Checked results were within GC quantitation limits. Aroclor detections were confirmed on a second, dissimilar column.

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QA/QC Review of Volatiles Data for
Adirondack Environmental Services, Inc.
Case No. PE0101, SDG: MW-14

Prepared by: Donald Anné
January 22, 2002

Holding Times: Samples were analyzed within SW-846 holding times.

GC/MS Tuning and Mass Calibration: All BFB tuning criteria were within control limits.

Initial Calibration: All compounds with contract requirements for %RSDs met those criteria. The RRFs for 1,1,2,2-tetrachloroethane (0.499, 0.425, and 0.419) were below the contractual minimum (0.500). No action is taken on two or fewer compounds with %RSDs and RRFs outside contractual requirements, as long as %RSDs are below 40% and RRFs are above 0.010.

Average RRFs for target compounds were above the allowable minimum (0.050), as required. The %RSD for chloroethane (39.4%) was above the allowable maximum (30%). Results for chloroethane should be considered estimates (J).

Continuing Calibration: The %D for bromomethane (39.9%) was above the contractual maximum (25%) on 11-27-01 (DS240). The RRF50 for 1,1,2,2-tetrachloroethane (0.412) was below the contractual minimum (0.500) on 11-21-01 (DS238). The RRF50 for 1,1,2,2-tetrachloroethane (0.471) was below the contractual minimum (0.500) on 11-26-01 (DS239). The RRF50 for 1,1,2,2-tetrachloroethane (0.455) was below the contractual minimum (0.500) on 11-28-01 (DS241). No action is taken on two or fewer compounds with %Ds and RRF50s outside contractual requirements, as long as %Ds are below 40% and RRF50s are above 0.010.

All RRF50s for target compounds were above the allowable minimum (0.050), as required. The %Ds for 2-butanone (34.5%) and 2-hexanone (34.0%) were above the allowable maximum (25%) on 11-21-01 (DS238). The %D for 2-butanone (30.1%) was above the allowable maximum (25%) on 11-26-01 (DS239). The %Ds for bromomethane (39.9%) and chloroethane (32.1%) were above the allowable maximum (25%) on 11-27-01 (DS240). The %D for 2-butanone (27.8%) was above the allowable maximum (25%) on 11-28-01 (DS241). Results for these compounds should be considered estimates (J) in associated samples.

Blanks: Method blanks reported target compounds as not detected.

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Internal Standard Area Summary: All internal standard areas and retention times were within control limits.

Surrogate Recovery: The surrogate recoveries for environmental samples were within control limits.

Matrix Spike/Matrix Spike Duplicate: The relative percent differences were below the allowable maximums and percent recoveries were within control limits for soil MS/MSD sample MW-23.

Laboratory Control Sample: The percent recoveries for sample VMSB were within QC limits.

Compound ID: Checked compounds were within GC/MS quantitation limits. Detected compounds contained the primary and secondary ions in the mass spectra, as outlined in the method.

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QA/QC Review of Semi-Volatiles Data for
Adirondack Environmental Services, Inc.
Case No. PE0101, SDG No. MW-14

Prepared by: Donald Anné
January 22, 2002

Holding Times: Samples were extracted and analyzed within SW-846 holding times.

GC/MS Tuning and Mass Calibration: All DFTPP tuning criteria were within control limits.

Initial Calibration: Compounds with requirements for RRFs met those criteria. The %RSD for benzo(k)fluoranthene (21.2%) was above the contractual maximum (20.5%). No action is taken on four or fewer compounds with %RSDs and RRFs outside contractual requirements, as long as %RSDs are below 40% and RRFs are above 0.010.

Average RRFs for target compounds were above the allowable minimum (0.050), as required. The %RSD for 4,6-dinitro-2-methylphenol (39.5%) was above the allowable maximum (30%). Results for 4,6-dinitro-2-methylphenol should be considered estimates (J).

Continuing Calibration: Compounds with requirements for RRF50s met those criteria. The %D for 4-chloro-3-methylphenol (37.4%) was above the contractual maximum (25%) on 12-06-01 (BS274). The %Ds for 4-chloro-3-methylphenol (29.2%), dibenzo(a,h)anthracene (30.2%), and benzo(g,h,i)perylene (30.5%) were above the contractual maximum (25%) on 12-10-01 (BS277). The %Ds for 4-chloro-3-methylphenol (32.1%), 2-methylnaphthalene (25.6%), and indeno(1,2,3-cd)pyrene (27.5%) were above the contractual maximum (25%) on 12-11-01 (BS278). No action is taken on four or fewer compounds with %Ds and RRF50s outside contractual requirements, as long as %Ds are below 40% and RRF50s are above 0.010.

The RRF50s for target compounds were above the allowable minimum (0.050), as required. The %Ds for the following compounds were above the allowable maximum (25%) on 12-06-01 (BS274):

4-chloro-3-methylphenol (37.4%)	3-nitroaniline (45.3%)
2,4-dinitrophenol (60.2%)	4-nitroaniline (41.1%)
4,6-dinitro-2-methylphenol (55.7%)	n-nitrosodiphenylaine (40.8%)

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The %Ds for the following compounds were above the allowable maximum (25%) on 12-10-01 (BS277):

bis(2-chloroisopropyl)ether (29.7%)
4-chloro-3-methylphenol (29.2%)
2,4-dinitrophenol (47.7%)
4,6-dinitro-2-methylphenol (42.5%)
carbazole (49.2%)
benzo(g,h,i)perylene (30.5%)
4-chloroaniline (34.6%)
3-nitroaniline (72.7%)
4-nitroaniline (30.9%)
n-nitrosodiphenylaine (39.5%)
dibenzo(a,h)anthracene (30.2%)

The %Ds for the following compounds were above the allowable maximum (25%) on 12-11-01 (BS278):

bis(2-chloroisopropyl)ether (28.6%)
2-methylnaphthalene (25.6%)
2,4-dinitrophenol (77.3%)
4,6-dinitro-2-methylphenol (67.4%)
indeno(1,2,3-cd)pyrene (27.5%)
4-chloro-3-methylphenol (32.1%)
3-nitroaniline (67.6%)
4-nitroaniline (45.9%)
n-nitrosodiphenylaine (32.1%)

Results for the above compounds should be considered estimates (J) in associated samples.

Blanks: The method blank reported target compounds as not detected.

Internal Standard Area Summary: All internal standard areas and retention times were within control limits.

Surrogate Recovery: The surrogate recoveries for environmental samples were within control limits.

Matrix Spike/Matrix Spike Duplicate: The relative percent differences were below the allowable maximums, but 1 of 22 %Rs (percent recoveries) was above control limits for MS/MSD sample MW-14. No action is taken on MS/MSD data alone to qualify or reject an entire set of samples.

Laboratory Control Sample: The percent recoveries for sample SMSB were within QC limits.

Compound ID: Checked compounds were within GC/MS quantitation and qualitation limits. Detected compounds contained the primary and secondary ions in the mass spectra, as outlined in the method.

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QA/QC Review of PCB Data for
Adirondack Environmental Services, Inc.
Case No. PE0101, SDG No. MW-14

Prepared by: Donald Anné
January 22, 2002

Holding Times: All samples were extracted and analyzed within SW-846 holding times.

Blanks: The method blank reported target aroclors as not detected.

Surrogate Recovery: The surrogate recoveries for samples were within advisory limits.

Matrix Spike/Matrix Spike Duplicate: The relative percent difference was below the allowable maximum (50%) and percent recoveries were withn QC limits (50-150%) for MS/MSD sample SB-1.

Laboratory Control Sample: The percent recovery for sample PMSBP1 was within QC limits.

Initial Calibration: The %RSDs for target aroclors were below the allowable maximum (20%), as required.

Continuing Calibration: The %Ds for target aroclors were below the allowable maximum (15%), as required.

PCB Evaluation of Retention Time Shift of DCB: The retention times for DCB were within control limits.

PCB Identification: Checked results were within GC quantitation limits. Aroclor detections were confirmed on a second, dissimilar column.

\server\main station\alpha e\dataval\2002\02502-hanson ftc\mw-14.pcb

ATTACHMENT - 6
Community Air Monitoring

Report Title:	Community Air Monitoring Henson Fire Center
Date of Investigation:	November 13/14/15, 2000
Date of Request:	December , 07, 2001
Place:	Henson Fire Training Center Route 5 Yosts,NY Phone: (518)-885-4399 Fax: (315) 885-4416
Reason:	To conduct ambient air quality testing during boring of Brownfields.
Industrial Hygienist:	Wade L. Sikora, CIH # 5033 Applied Envirometrics 7 Ashlor Drive Middlegrove, NY 12850 Phone: (518) 583-0507
Equipment :	Calibrated air pumps an PM-10 monitors
Related Standards:	OSHA CFR Title 29 Part 1910.120 OSHACT Section 5 (a)

The Hartford - Industrial Hygiene Laboratory
Hartford Plaza Hartford, CT 06115
Toll Free Phone 1-800-986-3509
Phone - (860) 547-4557 Fax - (860) 547-6302

Account:	APPLIED ENVIROMETRICS	**Laboratory #**	17654
Address:	MIDDLE GROVE, NY	**Analyst:**	G. REDFORD, N. SHEKAR, C. GOSSELIN
Submittor:	W. SIKORA		
Date Rec'd:	11/20/2001	**Date Rpt'd:**	11-28-01

Referenced Analytical Method: PARTICULATE BY GRAVIMETRY, NIOSH 0500
ORGANIC SCANS BY GAS CHROMATOGRAPHY, OSHA 07

Sample ID	Volume (liters)	PARTICULATE Mg	PARTICULATE Mg/M³	TOTAL HYDROCARBONS AS N-HEXANE Mg	TOTAL HYDROCARBONS AS N-HEXANE Mg/M³	Down wind	Upwind
LOQ's (Mg)		0.025		0.007			
22-10(28826)	----	<0.025	---			Blank	Blank
22-2(28698)	608	<0.025	<0.05			11/13/01	
22-3(28601)	608	<0.025	<0.05			11/13/01	
22-4(28749)	608	<0.025	<0.05				11/13/01
22-5(28757)	608	<0.025	<0.05			11/14/01	
22-6(28240)	608	<0.025	<0.05			11/14/01	
22-7(27692)	608	<0.025	<0.05				11/14/01
22-8(28765)	608	<0.025	<0.05			11/15/01	
22-9(28222)	608	<0.025	<0.05			11/15/01	
22-1(28716)	608	0.159	0.26				11/15/01
21-8	----			<0.007 *	----	Blank	Blank
21-1	79.2			<0.007 *	<0.09	11/13/01	
21-2	79.2			<0.007 *	<0.09	11/13/01	
21-3	79.2			<0.007 *	<0.09		11/13/01
21-4	79.2			<0.007 *	<0.09	11/14/01	
21-5	79.2			<0.007 *	<0.09	11/14/01	
21-6	79.2			<0.007 *	<0.09		11/14/01
21-7	79.2			<0.007 *	<0.09	11/15/01	
21-9	79.2			<0.007 *	<0.09	11/15/01	
21-10	79.2			<0.007 *	<0.09		11/15/01

* No organic entities present at or above limit of quantitation (LOQ) levels.

Note:	The concentration values (e.g. mg/M³, ppm, fibers/cc, etc.) were calculated at the laboratory using data and information (times and/or flow rates) supplied to the laboratory by the submittor.
Note:	If applicable, organic sampling tube sections are analyzed separately. "<" means not detected at the limit of quantification (the amount of this material that can reliably be reported based upon analytical conditions.
Abbreviations:	Mg = Milligrams Mg/M³ = Milligrams per Cubic Meter of Air

Cynthia Gosselin

Ann McClure, CIH
Laboratory Manager

Cynthia Gosselin, CIH
Laboratory Supervisor