PARS
Environmental
Inc.

SITE INSPECTION REPORT

Major James J. O'Donovan United States Armed Forces Reserve Center
90 North Main Avenue
Albany, Albany County, New York

Volume I of II

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1.0 INTRODUCTION & BACKGROUND

The United States Corps of Engineers (USACE), Louisville District has retained the services of PARS Environmental, Inc. (PARS) to conduct a site inspection at the Major James J. O'Donovan Armed Forces Reserve Center (AFRC). The AFRC is located at 90 North Main Avenue in Albany, New York, hereinafter the "Site." A Locus Plan and Site Plan are included as Figure 1 and Figure 2, respectively.

The inspection was performed in accordance with the *Quality Assurance Project Plan/Sampling Plan* (PARS, March 2011). The purpose of the inspection was to address United States Environmental Protection Agency (EPA) concerns regarding chlorinated solvent impacts identified during previous investigation and remediation activities at the Site. Inspection activities consisted of soil, groundwater, soil vapor and indoor air sampling.

2.0 BACKGROUND

2.1 SITE SETTING

The AFRC is an approximate 3.5 acre parcel located in Albany, Albany County, New York (see Figure 1). The Site is bound to the northwest by North Main Avenue and to the northeast by Washington Avenue. St. Mary's Park and Albany High School are located southwest and southeast of the Site, respectively.

2.2 TOPOGRAPHY

Topography at the Site is relatively flat with a slight gradient to the south/southwest. The elevation at the Site is approximately 220 feet above mean sea level (msl) based on the United States Geologic Survey (USGS) 7.5-minute Albany, NY (1980) topographic map. At the southeast boundary of the Site, adjacent to the parking lot for Albany High School, the topography dips steeply to an approximate elevation of 210 feet above msl.

2.3 REGIONAL GEOLOGY

Albany County contains parts of two (2) major physiographic regions. The northeastern half of the county, including the Site, is located within the Hudson-Mohawk Lowlands physiographic region. The Lowlands have little relief, but rise in elevation and become more rugged westward near the Helderberg Escarpment of the Appalachian Upland physiographic region (southwestern half of the county).

The bedrock formations of Albany County range in age from Middle Ordovician to Middle Devonian. At least four (4) major glacial advances occurred in Albany County. The latest being the Wisconsinan Glaciation, which covered the area from 70,000 to 16,000 years ago. Glacial till was deposited during its retreat and is the most common type of deposit in Albany County (United States Department of Agriculture, Soil Survey of Albany County, New York, June 1992).

2.4 SITE SURFICIAL GEOLOGY

The Site is underlain by Urban Land-Udipsamments-Udorthents soils (United States Department of Agriculture, Soil Survey of Albany County, New York, June 1992). A general description of each soil type is as follows.

- Urban land-Udipsamments complex – This unit consists of nearly level to gently sloping areas of Urban land and very deep, moderately well-drained to somewhat excessively-drained soil. Urban land is mostly covered by asphalt, concrete, buildings, or other impervious materials. Udipsamments are sandy soils that have been disturbed by grading or filling during construction. The seasonal high water table is generally at a depth of more than 6 feet below ground surface (bgs). Depth to bedrock is greater than 6 feet bgs. Permeability is moderately rapid to rapid where soils are relatively undisturbed and uncompacted. The available water capacity is low or very low, and runoff is slow or medium.

- Urban land – Udorthents complex – This unit consists of nearly level and gently sloping areas of Urban land. Udorthents are mostly covered by asphalt, concrete, buildings, or other impervious materials. Udorthents are silty loam to silty clay soil and are mostly cuts and fills. The natural drainage, permeability, available water capacity, and runoff vary with the soil material. Depth to bedrock is greater than 6 feet bgs.

Native surficial soils encountered during the inspection consisted primarily of yellowish brown silty clay with trace fine sand. Soil probes installed as part of the inspection were terminated at 16 feet bgs.

2.5 HISTORY OF OPERATIONS

The Site was developed for use by the military in 1955 as a 100-man center for conducting United States Army Reserve (USAR) and United States Armed Forces Reserve (USAFR) training. Military vehicles were serviced in the maintenance shop and cleaned on the wash rack located north of the maintenance shop (see Figure 2). Vehicles have not been serviced or washed at the facility since the early 1990's. The Site was most recently used as a reserve training center for US Army, Navy and Marine personnel.

2.6 PREVIOUS INVESTIGATIONS

Based on files provided by the USAR and USACE, the following environmental projects have been completed at the Site.

In 1993, two (2) underground storage tanks (USTs) containing No. 2 fuel oil were removed from the Site. No additional information was available. Environmental Data Resources, Inc. (EDR), as referenced in the *Draft Preliminary Assessment (PA) Report* (Parsons, June 2003) identified three (3) USTs at the Site. These USTs were two (2) 10,000-gallon fuel oil tanks and one (1) 2,000-gallon fuel oil tank that were closed in-place or removed prior to April 1991. The EDR report also identified Spill #9100658 dated April 17, 1991. Contaminated soil associated with the USTs was removed and the spill was closed on April 23, 1991. The report did not specify from which UST the spill emanated.

A memo dated July 14, 1998 stated that in 1998 the USGS performed an investigation of the oil-water separator (OWS) and vehicle wash rack area and a sheen was discovered on the groundwater at a depth of 5 feet. Elevated levels of gasoline-related volatile organic compounds (VOCs) were detected and additional investigation was recommended. Spill # 9804671 was assigned and according to the New York State Department of Environmental Conservation (NYSDEC) website the spill was closed in October 2001.

The draft PA Report (Parsons, June 2003) stated that in August 1999 Parsons completed additional subsurface investigations and closure activities associated with the OWS. Soil and groundwater contamination was identified. A sheen was present on the groundwater surface at 3 to 5 feet bgs. Closure activities consisted of cleaning and inspecting the OWS. No damage was found and the OWS was filled and closed in-place. The wash rack was closed and paved over. Post-closure soil samples identified 1,1,1-trichloroethane (1,1,1-TCA) at concentrations ranging from 1,600 to 5,800 milligrams per kilogram (mg/kg) at three (3) of the four (4) probe locations in the vicinity of the OWS and wash rack. No remediation activities were performed during the closure of the OWS and wash rack.

In 2002, the Site was considered a Resource Conservation Recovery Act (RCRA) Large Quantity Generator (LQG) of hazardous waste and, therefore, appeared on the Federal Agency Hazardous Waste Compliance Docket of federal facilities on July 1, 2002. As a result of the listing, the USEPA requested in 2002 that a PA be performed at the Site. Correspondence with the EPA is included in Appendix A.

In 2003, a PA was conducted at the Site by Parsons. A Hazardous Ranking System (HRS) evaluation was completed to determine the relative threats to the public health and the environment based on initial information obtained from the PA. The HRS score was 52, which meant that the Site was potentially eligible for National Priority Listing (NPL). The high scoring was based on the potential number of receptors and data from previous soil sampling for the OWS and wash rack area. A site investigation (SI) was proposed to evaluate potential contamination from the OWS and wash rack area. Based on the results of the PA, the EPA requested that a SI be performed at the Site.

In 2004, a supplemental SI was completed in the vicinity of the OWS and southern boundary of the Site. Soil and groundwater samples were collected and the HRS was revised to 1.04 based on the analytical data. The investigation concluded that limited soil excavation was required in the vicinity of the OWS, wash rack and former UST. Additional groundwater activities were not required.

In 2005, remedial actions were implemented, which consisted of the excavation and disposal of approximately 75 tons of soil in the vicinity of the OWS. The excavation area was limited horizontally because of underground utilities, but was extended to a depth of 14 feet bgs. Confirmation soil sample results indicated that no VOCs or semi-volatile organic compounds (SVOCs) were detected above the NYSDEC soil cleanup criteria. The HRS was revised to 0.34 based on the analytical data. No further remedial action was recommended. Results of the 2005 remedial action are described in the *Final Site Remedial Activities Letter Report* dated March 3, 2006 by EA Engineering, PC. Sample locations are depicted in Figure 3.

The USEPA issued a No Further Remedial Action Planned (NFRAP) letter in 2006 based on the results of the 2004 supplemental SI and the subsequent HRS rescoring (1.04). The NFRAP letter only disqualifies the Site from the NPL. The NFRAP letter did not release the Army from clean-up associated with any releases at the Site.

In response to the *Final Site Remedial Activities Letter Report* (EA, March 2006), an electronic mail transmission from USEPA to USAR on October 29, 2009 stated that the "Removal Action Branch does not currently have enough information to recommend that no further action be taken at the Site. Due to the proximity of the Albany High School and that the area of the former wash rack is about 3-4 feet higher in elevation than the school parking lot, soil vapor/vapor intrusion sampling is recommended". Correspondence from the USEPA is included in Appendix A.

USEPA recommended an additional investigation, including air sampling on the USAR property, sub-slab sampling in the maintenance garage and main building, and groundwater sampling at the Site and the adjacent school property to ensure migration has not occurred. Based on the EPA concerns, a *Quality Assurance Project Plan (QAPP)/Sampling Plan (SAP)* (PARS, March 2011) was submitted to the EPA on March 21, 2011. Comments to the QAPP/SAP were received on March 22, 2011 (see Appendix A). The only comment from USEPA was to add an additional indoor air sample in the maintenance shop. The additional indoor air sample was added to the scope of work for the site inspection.

3.0 FIELD ACTIVITIES

This section describes the activities completed as part of the site inspection. Prior to initiating the field activities, Dig Safe New York was contacted to locate the underground utilities. A site-specific health and safety plan was developed and was included in the *Quality Assurance Project Plan/Sampling Plan* (PARS, March 2011).

3.1 SOIL INVESTIGATION

Ten (10) soil probes, designated as SP-1 through SP-10, were completed on April 11 and 12, 2011, using a Geoprobe 54 LT truck-mounted rig equipped with a pneumatic hammer. Soil probes were completed in the vicinity of the OWS, wash rack, former UST and along the southeastern property line to evaluate potential environmental impacts. Soil probe locations are shown in Figure 3.

The soil probes were advanced using a 2-inch diameter, 48-inch long macro-core sampler that was driven continuously at 48-inch intervals. A new acetate sampler liner was used at each sampling interval. Material recovered in each acetate sample liner was field screened for total organic vapors using an OVM (MiniRAE 2000) equipped with a PID and a 10.6 electron volt (eV) ultraviolet lamp. The OVM used was calibrated daily in accordance with manufacturer's recommendations using a gas standard of isobutylene at an equivalent concentration of 100 milligrams per kilogram (mg/kg). Ambient air at the Site was used to establish background organic vapor concentrations.

Following the field screening, when sufficient sample recovery was obtained, representative portions of the recovered soils were placed in zip-lock bags for further classification and headspace analysis. The headspace in the bag above each collected soil sample was screened for total organic vapors. Total organic vapor headspace readings were measured at SP-4 from 4-8 feet bgs (5.1 mg/kg), at SP-9 from 4-8 feet bgs (30.8 mg/kg) and at SP-9 from 8-12 feet bgs (3.6 mg/kg). Vapor concentrations were non-detect in the headspace screening of the remaining soil samples collected.

One (1) soil sample was collected from the each probe based on OVM field screening and professional judgment. Samples collected were analyzed for target compound list (TCL) VOCs via EPA Method 8260B, TCL SVOCs via EPA Method 8270C, target analyte list (TAL) metals via EPA Method 6010B/7471A and polychlorinated biphenyls (PCBs) via EPA Method 8082. Quality control (QC) samples including one (1) field duplicate and one (1) matrix spike/matrix spike duplicate were collected.

Soil probe logs were prepared to summarize the general subsurface conditions that were observed and encountered at each probe location. These logs are based on visual observations of the recovered soils and include a summary description of the soils using color and composition. Soil probe logs including sample headspace results are presented as Appendix B.

The subsurface soil conditions generally consist of native fine-grained cohesive soils with varying amounts of fine to coarse-grained sands. The coarse-grained sandy fill soils encountered at soil probe locations SP-1, SP-2, SP-6 and SP-7 were observed from ground surface to an approximate depth of 4 feet bgs.

3.2 GROUNDWATER INVESTIGATION

Ten (10) temporary, 1-inch diameter PVC microwells with a 10-foot long section of well screen were installed at the completion of drilling at soil probe locations identified as SP-1 through SP-10. Prior to sampling, a water level reading was recorded at each temporary well location. With the exception of VOCs, groundwater samples were collected from each temporary 1-inch microwell location using a peristaltic pump and dedicated polyethylene tubing. Samples for VOC analysis were collected using disposable Teflon micro-bailers. Sample locations SP-1 through SP-6 were first purged to remove sediment and to ensure collection of representative groundwater samples. Upon purging, these wells went "dry" and were observed to exhibit minimal recovery. Therefore, subsequent microwells were not purged prior to sampling to allow for sufficient volume of groundwater needed to fill the laboratory sample containers.

Water generated from purging microwells prior to sampling was containerized in a 55-gallon drum and stored within the maintenance garage. The drum was disposed of at the Chemtron Corporation, in Avon, Ohio. Disposal documentation is included as Appendix C.

At microwell locations SP-1 through SP-6, water quality parameters (i.e., pH, turbidity, temperature and specific conductance) were measured using a Horiba U-22 Water Quality System. Groundwater sampling logs are included as Appendix D.

One (1) groundwater sample was collected from the each microwell. Samples collected were analyzed for TCL VOCs via EPA Method 8260B, TCL SVOCs via EPA Method 8270C, TAL metals via EPA Method 6010B/7471A and PCBs via EPA Method 8082. QC samples including one (1) field duplicate and one (1) matrix spike/matrix spike duplicate were collected. Groundwater samples collected for metals (dissolved) analysis were filtered upon receipt at the laboratory prior to analysis.

At completion of the groundwater sampling, the microwells were removed and the holes were backfilled with the generated soil cuttings. Asphalt patch was used in the upper 6-inches of soil probes SP-5 through SP-9, which were located in the paved portion of the Site.

Apparent perched groundwater conditions were identified at each of the 10 soil probe locations at depths ranging from approximately 4 feet bgs (SP-8) to 11.5 feet bgs (SP-10). Based on observations made during soil probe activities, apparent intermittent saturated soil conditions were identified at soil probe locations SP-1, SP-3 through SP-6 and SP-7. Perched groundwater conditions varied in saturated thickness and depth at each probe location and typically occurred within the native material encountered. Temporary microwell locations are shown on Figure 4.

3.3 SOIL GAS SAMPLING

As part of the soil gas assessment, nine (9) subsurface soil vapor air samples were collected. The samples were collected via methodologies identified in the New York State Department of Health (NYSDOH) *Guidance for Evaluating Soil Vapor Intrusion in the State of New York*, dated October 2006 (NYSDOH Guidance Document). The nine (9) soil gas samples were identified as SG-1 through SG-9 as shown on Figure 5. Due to the tight nature of the subsurface soils (i.e., silty clays) and perched groundwater conditions, only four (4) samples (SG-1, SG-4, SG-5 and SG-8) contained enough air volume to be tested. Each flow controller was checked upon receipt by the laboratory and was noted to be working properly. Therefore, it is likely that subsurface conditions inhibited sample collection. Rather than dilute each sample in order to achieve the required sample volume to perform the analysis and increase the detection limits, these samples were not analyzed.

Three (3) soil gas samples (SG-1, SG-4 and SG-5) were analyzed from points installed along the southeastern boundary of the Site adjacent to the school parking lot. One (1) soil gas sample (SG-8) was analyzed from a point installed southeast of the O'Donovan building. Samples were collected by driving dedicated galvanized steel probes with an expendable tip to approximately 4 feet bgs using a slide hammer. The probes were then pulled up slightly (approximately 2 inches) to free the removable tip. A bentonite paste was placed between the ground surface and the probes to prevent ambient air from migrating into the subsurface along the probe.

New high density polyethylene (HDPE) tubing was inserted to the bottom of the probes. The tubing was purged of approximately 3 volumes using the pump for the MGD 2003 helium detector prior to sampling. During the purge event, helium gas was released under an enclosure placed over the top of the soil gas probe to check the integrity of the bentonite surface seal and determine if ambient air infiltration was occurring into the subsurface sampling probe system.

The helium detector was operated in the continuous sample mode prior to the release of helium into the enclosure. The helium was dispensed into the enclosure for approximately 30 seconds while the helium detector ran for approximately 3 to 4 minutes after the helium release. The helium detector probe was placed inside the soil gas tubing, with the internal pump on the detector drawing air at a rate of approximately 0.4 liters per minute. The highest reading observed on the helium detector over the 3 to 4 minute period was recorded. Helium concentration measurements at the sampling locations were each measured at <1% total helium by volume. The NYSDOH Guidance Document allows for up to 10% of the tracer gas (helium) to be detected within the sampling system and still be considered acceptable. Prior to removing the enclosure from over the sampling point, the helium detector probe was placed inside the enclosure. Readings measured inside the enclosure were recorded at each location and ranged from 94.0 to 100%.

Once it was determined that the sampling system was sealed and not drawing in ambient ground surface air, a protective cap was connected to the HDPE tubing in preparation for air sampling conducted the following day. The soil gas samples were collected on April 13, 2011, by opening a 6-liter SUMMA® canister over a period of one (1) hour. The soil gas samples were submitted for VOC analysis using EPA Method TO-15.

3.4 VAPOR INTRUSION SAMPLING

Prior to initiating the air sampling in the maintenance shop, PARS completed an Indoor Air Quality Questionnaire and Building Inventory Questionnaire, which is included in Appendix B of the NYSDOH, *Guidance for Evaluating Soil Vapor Intrusion in the State of New York*. The completed Questionnaire is included as Appendix E. During the completion of the questionnaire and survey, PARS documented the various chemicals that were observed within the maintenance shop. The purpose of the survey was to determine if contaminants of concern (i.e., chlorinated solvents) are present within chemicals stored or used within the maintenance shop that could have the potential for interfering with the air sampling results. PARS used an OVM to screen the chemicals and products for total organic compound concentrations. The OVM used was capable of measuring total volatile organics in the micrograms per kilogram (µg/kg) range. The product materials screened and documented within the maintenance shop included latex blacktop crack filler, tile grout, spray paint, weed killer, interior enamel paint, transmission and hydraulic oil, clear adhesive wall coverings, stair tread adhesive and epoxy caulking.

As part of the vapor intrusion assessment, two (2) indoor air samples (IA-1 and IA-2) and one (1) sub-slab soil vapor sample (SS-1) were collected within the maintenance shop. Sample locations are shown in Figure 5.

The indoor air samples were collected from the breathing zone at approximately 4 to 5 feet above the concrete slab-on-grade floor. One (1) of the indoor air samples, identified as IA-1, was collected from within a 10-foot radius of the sub-slab sample.

The sub-slab soil vapor sample was collected beneath the slab-on-grade floor through an approximate $^1/_2$-inch diameter hole using a hammer drill. New HDPE tubing was placed into the hole to approximately 14 inches below the grade of the slab and the hole was sealed at the floor surface with modeling clay. The tubing was purged prior to sampling of approximately 3 volumes using the pump for the MGD 2003 helium detector. The tracer gas procedure was then performed as described in Section 3.3. Helium concentration at SS-1 was measured at < 1% total helium by volume. Readings measured inside the enclosure were recorded at 98.2%.

Once it was determined that the sampling system was sealed and not drawing in ambient ground surface air, a protective cap was connected to the HDPE tubing in preparation for air sampling conducted the following day. The two (2) indoor air and one (1) sub-slab vapor samples were collected on April 13, 2011, by opening a 6-liter SUMMA® canister over a period of eight (8) hours. The samples were submitted for VOC analysis using EPA Method TO-15.

In addition, one (1) ambient outdoor air sample (AA-1) was collected from an upwind location, west of the maintenance shop on April 13, 2011. The ambient outdoor air sample was collected by hanging a canister from a tripod at a height of approximately 4 feet above the ground surface. All samples were collected on April 13, 2011, by opening a 6-liter SUMMA® canister over a period of eight (8) hours. The samples were submitted for VOC analysis using EPA Method TO-15.

4.0 ANALYTICAL TEST RESULTS

Findings of the laboratory testing of the soil, groundwater and air samples analyzed are presented below. Analytical laboratory reports are provided in Volume II. An analytical sample summary table is included in Table 1.

4.1 SOIL SAMPLES

The analytical test results for the subsurface soil samples were compared to the NYSDEC, 6 NYCRR, Subpart 375-6, Unrestricted Soil Cleanup Objectives (USCOs), effective December 14, 2006. Soil analytical results are summarized in Table 2. Additionally, detected VOCs are shown in Figure 3.

Volatile Organic Compounds: No VOCs were detected in the soil samples at concentrations exceeding the applicable USCOs. Trace concentrations of several VOCs were detected at concentrations above the laboratory method detection limits (MDLs) in each of the ten (10) soil samples. 1,1,1-TCA was not detected in any of the soil samples at concentrations above the laboratory MDL.

Semi-Volatile Organic Compounds: No SVOCs were detected in the soil samples at concentrations exceeding the applicable USCOs. SVOCs were detected at concentrations above the laboratory MDLs in 8 of the 10 soil samples.

Metals: Iron was detected in all of the soil samples at concentrations above the USCO for the compound of 2,000 mg/kg. Iron concentrations ranged from 18,700 (SP-2) to 27,300 mg/kg (SP-1). No other metals were detected in the soil samples at concentrations exceeding the applicable USCOs.

Polychlorinated Biphenyls: No PCBs were detected above the laboratory MDLs in any of the soil samples.

4.2 GROUNDWATER SAMPLES

The analytical test results for the groundwater samples were compared to the NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1. Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations dated October 1993; Revised June 1998; ERRATA Sheet dated January 1999 and Addendums dated April 2000 and June 2004 (Class GA criteria). Groundwater analytical results are summarized in Table 3. Additionally, VOCs detected in the groundwater samples are shown in Figure 4.

Volatile Organic Compounds: Total xylene was detected in the groundwater sample collected from SP-6 at a concentration of 5.8 micrograms per liter (µg/L), which slightly exceeds the Class GA criteria for the compound of 5 µg/L. Xylenes were not detected in the other nine (9) groundwater samples at concentrations above the laboratory MDL.

1,1-dichloroethane was detected in the groundwater sample from SP-3 at a concentration of 5.0 ppb, which met the Class GA criteria for the compound of 5 µg/L. 1,1-dichloroethane was detected at two (2) other sample locations, SP-4 and SP-9 at concentrations of 1.8 and 2.4 µg/L, respectively.

No VOCs were detected at concentrations exceeding the Class GA criteria in the groundwater samples from the remaining eight (8) locations (SP-1 through SP-5, SP-7, SP-8 and SP-10).

Semi-Volatile Organic Compounds: Acenaphthene, benzo(a)anthracene and phenanthrene were detected in the groundwater sample collected from SP-9 at concentrations exceeding the Class GA criteria for the respective compounds.

SVOCs were not detected in the groundwater samples from the nine (9) remaining locations at concentrations exceeding the Class GA criteria. Low concentrations of several SVOCs were detected in the groundwater samples from SP-2 through SP-7 and SP-10.

Dissolved Metals: Sodium was detected at concentrations exceeding the Class GA criteria for the compound of 20 mg/L at nine (9) locations, (SP-2 through SP-10). Iron was detected in the groundwater sample from SP-4 and magnesium was detected in the groundwater sample from SP-6 at concentrations exceeding the respective Glass GA criteria. Manganese was detected at concentrations exceeding the Class GA criteria for the compound of 0.3 mg/L at SP-3, SP-4, SP-9 and SP-10. Manganese was also detected in the associated method blank at concentrations above the MDL and is considered a laboratory contaminant. Aluminum, cadmium, calcium and zinc were also detected in the associated method blanks at concentrations above the MDLs. These compounds are considered to be laboratory contaminants but were not detected at concentrations exceeding their respective Class GA criteria.

Polychlorinated Biphenyls: PCBs were not detected above the laboratory MDLs in the ten (10) groundwater samples.

4.3 AIR SAMPLES

Soil gas sample results were compared to the most stringent generic screening levels for target deep gas concentrations included in the USEPA, Office of Solid Waste and Emergency Response (OSWER), *Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater to Soils* (November 2002). Soil gas results are summarized in Table 4.

The sub-slab soil gas sample collected in the maintenance shop was compared to the most stringent generic screening levels for target shallow gas concentrations included in the *Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater to Soils*. The sub-slab soil sample results are summarized in Table 5.

Indoor air sample results were compared to the most stringent generic screening levels for target indoor air concentrations included in the *Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater to Soils*. The NYSDOH Air Guideline Values (Table 3.1, NYSDOH Guidance Document) were not used because the table includes only five (5) chlorinated VOC compounds and the values are less stringent than the USEPA generic screening levels. The indoor air and ambient air sample results are included in Table 6. Compounds detected above the applicable screening levels are shown in Figure 5.

Soil Gas Samples (SG-1, SG-4, SG-5, and SG-8): Tetrachloroethene (PCE) was detected in the sample from SG-8 (adjacent to the O'Donovan building) at a concentration of 360 micrograms per cubic meter ($\mu g/m^3$), which is above the most stringent generic screening level for target deep gas concentrations of the compound of 81 $\mu g/m^3$. Low concentrations of PCE were also detected in the soil gas samples collected from SG-4 (1.3 $\mu g/m^3$) and SG-5 (3.6 $\mu g/m^3$). No other compounds were detected in the soil gas samples at concentrations above the most stringent generic screening levels for target deep gas concentrations.

Sub-Slab Sample (SS-1): No compounds were detected in the sub-slab soil gas sample collected from the maintenance building (SS-1) at concentrations above the most stringent generic screening levels for target shallow soil gas concentrations. Compounds detected in the sub-slab sample were dichlorodifluoromethane, ethanol, methylene chloride and trichlorofluoromethane.

Indoor Air (IA-1 and IA-2) and Ambient Air (AA-1) Samples: Benzene was detected in IA-2 at a concentration of 0.65 $\mu g/m^3$, which is above the most stringent generic screening levels for target indoor air concentrations for the compound of 0.31 $\mu g/m^3$. Benzene was not detected in IA-1 at concentrations above the laboratory MDL.

Carbon tetrachloride was detected in IA-1 and IA-2 at concentrations above the most stringent generic screening levels for target indoor air concentrations for the compound of 0.16 µg/m^3.

Methylene chloride was detected in IA-1 at a concentration of 8.1 µg/m^3, which is above the most stringent generic screening levels for target indoor air concentrations for the compound of 2.4 µg/m^3.

Carbon tetrachloride, chloromethane, dichlorodifluoromethane, ethanol, methylene chloride and trichlorofluoromethane were detected in the ambient air sample collected west of the maintenance shop.

5.0 QUALITY CONTROL/QUALITY ASSURANCE

5.1 ANALYTICAL METHODS, PROCEDURES & CALIBRATION

Soil, groundwater and air samples were collected for laboratory analysis as part of the project. Laboratory analysis for soil and groundwater was performed by Test America Laboratories in Amherst, New York (NY Certification # NY455). Soil and groundwater samples were analyzed for TCL VOCs, TCL SVOCs, TAL metals and PCBs in accordance with EPA methods (see Table 1) Laboratory analysis for air samples was performed by Test America Laboratories in Knoxville, Tennessee. Air samples were analyzed for VOCs in accordance with EPA methods (see Table 1).

Laboratory instruments and equipment were calibrated following analytical method protocols. Initial calibrations and calibration checks were performed at a frequency specified in each analytical method.

Method blanks and instrument blanks were used by the laboratory to evaluate data quality. The purpose of the method blank is to assess contamination introduced during sample preparation. Method blanks are prepared and analyzed in the same manner as the field samples. Instrument blanks are analyzed with field samples to assess the presence or absence of instrument contamination. The frequency of instrument blanks is defined by the analytical method. The laboratory reports provided by Test America Laboratories are included in Volume II.

5.1.1 Laboratory Conformance

Laboratory conformance reports were provided as part of the laboratory report packages. Review of these reports is summarized below.

Method 8260B

The associated trip blank contained a detection above the reporting limit for a tentatively identified compound. The detection was possibly due to carryover from sample SP-4-04111.

Method 8270C

Samples SP-1-(10-12), SP-4-041111, SP-4-(10-12), SP-9-041211, SP-9-041211 MSD and SP-9 (5-7) were diluted due to the nature of the sample matrix. Elevated reporting limits were provided. Sample SP-2-(6-8) had a surrogate 2,4,6-tribromophenol outside the acceptable limits. These results have been qualified and reported.

The laboratory control sample (LCS) for preparation batch 12545 exceeded control limits for n-nitrosodi-n-propylamine, acenaphthene, and fluorene. Samples SP-1-041111, SP-2-041111, SP-3-041111 and SP-4-041111 were re-extracted outside of preparation holding time. All quality control criteria are acceptable in the re-extractable batch.

The LCS for preparation batch 12692 exceeded control limits for n-nitrosodi-n-propylamine and 2-chlorophenol. Samples Rinsate-GW and Rinsate-Soil were re-extracted outside of preparation holding time. Samples SP-5-041211, SP-6-041211, SP-7-041211, SP-8-041211, SP-9-041211, SP-10-041211 and DUP-2 were not re-extracted due to insufficient volume. All quality control criteria are acceptable in the re-extractable batch.

Due to a contamination issue associated with the internal standard spike mix, the recovery of perylene-d12 and chrysene-d12 were below acceptable limits in several samples. The associated analyte and surrogate recoveries are to be considered biased high. Re-extraction and re-analysis was not performed since samples exceeded hold times.

Method 6010B
The method blank for preparation batch 12118 contained cadmium, calcium and zinc above the MDL. These analytes had concentrations that were less than the reporting limit so re-extraction and re-analysis was not performed. The method blank for preparation batch 480-12507 contained dissolved aluminum, calcium and manganese above the MDL. These analytes had concentrations that were less than the reporting limit so re-extraction and re-analysis was not performed.

Method 9012A
Samples SP-9(5-7) and SP-10(4-8) were analyzed outside of analytical holding time due to contamination resulting in digestion blocks being unusable until thoroughly cleaned. Check samples were analyzed to confirm that contamination was removed prior to these samples being analyzed.

Method 3510C
Samples SP-2-041111, SP-3-041111 and SP-4-041111 formed an emulsion during the extraction procedure for analysis by Method 8270C. The emulsion was broken up by use of a centrifuge.

Samples SP-5-041211, SP-6-041211, SP-7-041211, SP-8-041211, SP-9-041211, SP-10-041211 and DUP-2 were decanted prior to preparation due to a significant amount of sediment in the samples.

5.2 FIELD QUALITY CONTROL

Field quality control and quality assurance procedures outlined in the *Quality Assurance Project Plan/Sampling Plan* (PARS, March 2011) were implemented as part of the project. These procedures included field calibration of equipment, field decontamination of equipment and sample management.

Samples were collected in laboratory grade sample containers. The samples were immediately transferred to insulated coolers provided by the laboratory. A chain-of-custody form was used to trace the path of sample containers from the Site to the laboratory.

Soil Sampling

An OVM was used to field screen soils for total organic vapors. The OVM was calibrated daily in accordance with manufacturer specifications using a gas standard of isobutylene at an equivalent concentration of 100 parts per million. Ambient air was used to establish background organic vapor concentrations.

One (1) field duplicate soil sample was collected to assess the variability of a matrix at a specific sampling point and to assess the reproducibility of the sampling method. The field duplicate samples are separate aliquots of the same sample; prior to dividing the sample into "sample" and "duplicate" aliquots, the samples were homogenized (except for the VOC aliquots). The duplicate soil sample was collected from soil probe SP-7 from a depth of 8-12 feet bgs. Results of the soil samples are summarized in Table 2. Detected compounds and concentrations were consistent for the sample and field duplicate sample.

One (1) rinsate soil sample was collected to assess possible sample contamination through the use of sampling equipment. The rinsate sample was collected by passing laboratory supplied analyte free water over sampling equipment and collecting it into laboratory supplied containers. Aluminum, calcium, manganese and zinc were detected in the soil rinsate blank. These results were qualified by the lab as being possible laboratory contaminants. The concentration of zinc was low and is not believed to affect the data quality

Groundwater

Sample locations SP-1 through SP-6 were purged to remove sediment and to ensure the collection of representative samples. During purging, these wells went "dry" and minimal recovery was observed. Therefore, to ensure the collection of sufficient volume of groundwater, remaining sample locations SP-7 through SP-10 were not purged prior to sample collection.

One (1) field duplicate groundwater sample was collected to assess the variability of a matrix at a specific sampling point and to assess the reproducibility of the sampling method. The field duplicate samples are separate aliquots of the same sample. The duplicate sample was collected by alternating the collection of the groundwater between the "sample" and "duplicate" aliquots. The duplicate groundwater sample was collected from SP-8. Results of the groundwater samples are summarized in Table 3. Detected compounds and concentrations were consistent for the sample and field duplicate sample.

One (1) rinsate groundwater sample was collected to assess possible sample contamination through the use of sampling equipment. The rinsate sample was collected by passing laboratory supplied analyte free water over sampling equipment and collecting it into laboratory supplied containers. Aluminum, barium, silver and zinc were detected in the groundwater rinsate blank. Aluminum and barium were qualified by the lab as being possible laboratory contaminants. The concentrations of silver and zinc were low and are not believed to affect the data quality.

Vapor Intrusion

Due to the tight nature of the subsurface soils (i.e., silty clays), only four (4) samples (SG-1, SG-4, SG-5 and SG-9) contained enough air volume to be analyzed. The flow controllers were checked upon receipt by the laboratory and we noted to be working properly. Therefore, it is likely that subsurface conditions inhibited sample collection. Rather than dilute each sample in order to achieve the required sample volume to perform the analysis and increase the detection limits, these samples were not analyzed

One (1) field duplicate soil gas sample was collected to assess the variability of a matrix at a specific sampling point and to assess the reproducibility of the sampling method. The field duplicate samples are separate aliquots of the same sample. The duplicate sample was collected by connecting two (2) 6-liter Summa canisters through a common collection point. The duplicate air sample was collected at sample location SG-8. Results of the air samples are summarized in Table 4. Detected compounds and concentrations were consistent for the sample and field duplicate sample.

6.0 CONCLUSIONS AND RECOMMEDATIONS

A site inspection was performed at the Major James J. O'Donovan United States AFRC located at 90 North Main Avenue, Albany, New York. The work was completed in general accordance with the *Quality Assurance Project Plan/Sampling and Analysis Plan* prepared by PARS and dated March 2011. The purpose of the site inspection was to address the USEPA concerns regarding chlorinated solvent contamination identified during previous investigation and remediation activities at the Site.

The project included the installation of, ten (10) soil probes and ten (10) temporary micro-wells. Vapor intrusion sampling was also performed as part of the project. Vapor intrusion sampling included the analysis of four (4) soil vapor samples, one (1) sub-slab vapor sample, two (2) indoor ambient air samples and one (1) ambient air sample.

6.1 CONCLUSIONS

The following conclusions are based on the findings outlined in this report.

Soil Sampling

Ten (10) soil probes, designated as SP-1 through SP-10, were completed in the vicinity of the OWS, wash rack and along the southeastern boundary of the Site. Samples collected were analyzed for TCL VOCs, TCL SVOCs, TAL metals and PCBs.

No VOCs or SVOCs were detected in the soil samples at concentrations exceeding the applicable NYSDEC USCOs. PCBs were not detected in the samples above the laboratory MDL. Iron was detected in all of the soil samples at concentrations above the ISCO for the compound of 2,000 mg/kg. Iron concentrations ranged from 18,700 (SP-2) to 27,300 mg/kg. Iron is not a contaminant of concern at the Site and is commonly found in native soils in the region. No other metals were detected in the soil samples at concentrations exceeding the applicable ISCOs.

Based on these findings, no further investigation of soil impacts related to the OWS and wash rack is warranted at this time. A soil investigation related to PCE detected in soil gas adjacent to the O'Donovan building is recommended (see Section 6.2).

Groundwater Sampling

One (1) groundwater sample was collected from each of the ten (10) temporary microwells installed following completion of soil probe activities. Groundwater samples were analyzed for TCL VOCs, TCL SVOCs, TAL metals (dissolved) and PCBs.

Total xylene was detected in the groundwater sample collected from SP-6 at a concentration of 5.8 µg/L, which slightly exceeds the Class GA criteria for the compound of 5 µg/L. Xylenes were not detected in the other nine (9) groundwater samples at concentrations above the laboratory MDL.

1,1-dichloroethane was detected in the groundwater sample from SP-3 at a concentration of 5.0 µg/L, which met the Class GA criteria for the compound of 5 µg/L. 1,1-dichloroethane was detected at two (2) other sample locations, SP-4 and SP-9 at concentrations of 1.8 and 2.4 µg/L, respectively.

Acenaphthene, benzo(a)anthracene and phenanthrene were detected in the groundwater sample collected from SP-9 at concentrations that exceed the Class GA criteria for the respective compounds. SVOCs were not detected in the groundwater samples from the remaining locations at concentrations exceeding the Class GA criteria.

Sodium was detected at concentrations exceeding the Class GA criteria for the compound of 20 mg/L at nine (9) locations, (SP-2 through SP-10). Iron was detected in the groundwater sample from SP-4 and magnesium was detected in the groundwater sample from SP-6 at concentrations exceeding the respective Glass GA criteria. Manganese was detected at concentrations exceeding the Class GA criteria for the compound of 0.3 mg/L at SP-3, SP-4, SP-9 and SP-10. Detections of manganese in the groundwater samples were qualified as lab contamination and are not considered contaminants of concern at the Site. These dissolved metals detected in the groundwater samples at concentrations above the Class GA criteria are not identified as contaminants of concern at the Site. Elevated concentrations of sodium may be from surface salting of paved areas in the winter months. Iron and magnesium are naturally occurring in soils in the region.

PCBs were not detected above the laboratory MDLs in the ten (10) groundwater samples.

Based these findings, residential groundwater impacts detected at SP-6 and SP-9 are likely associated with the former OWS and wash rack. Additional groundwater sampling is warranted at the Site (see Section 6.2).

Vapor Intrusion Sampling

Four (4) soil gas samples (SG-1, SG-4, SG-5, and SG-8) were analyzed as part of the site inspection. One (1) sub-slab soil gas sample (SS-1), two (2) indoor air samples (IA-1 and IA-2) and one (1) ambient air sample (AA-1) were also analyzed as part of the vapor intrusion assessment. All samples were analyzed for VOCs.

PCE was detected in the sample from SG-8 (adjacent to the O'Donovan building) at a concentration of 360 µg/m^3, which is above the most stringent generic screening level for target deep gas concentrations of the compound of 81 µg/m^3. No other compounds were detected in the soil gas samples at concentrations above the most stringent generic screening levels for target deep gas concentrations.

No compounds were detected in the sub-slab soil gas sample collected from the maintenance building (SS-1) at concentrations above the most stringent generic screening levels for target shallow gas concentrations.

Benzene was detected in IA-2 and methylene chloride was detected in IA-1 at concentrations above the most stringent generic screening levels for target indoor air concentrations. Carbon tetrachloride was detected in IA-1 and IA-2 at concentrations above the most stringent generic screening levels for target indoor air concentrations for the compound of 0.16 µg/m^3.

Based on the findings of the vapor intrusion assessment, no further investigation of the vapor intrusion pathway is warranted for impacts related to the OWS and wash rack. Analytical results from the soil gas air samples analyzed from samples collected along the eastern property line (SP-1, SP-4 and SP-5) between the Site and the school property does not indicate a threat to human health or the environment.

PARS concludes that benzene, carbon tetrachloride and methylene chloride are background contaminants. Benzene and carbon tetrachloride were not detected in the sub-slab soil gas sample. Additionally carbon tetrachloride and methylene chloride were detected in the ambient air sample. Methylene chloride was detected in the sub-slab soil gas sample, but at concentrations well below the most stringent generic screening levels for target shallow gas concentrations.

Further investigation of the vapor intrusion pathway for PCE detected at SG-8 is warranted (see Section 6.2).

6.2 RECOMMENDATIONS

It is recommended that an investigation be performed to further evaluate the PCE levels detected in the soil gas sample adjacent to the O'Donovan building (SB-8). It is also recommended that groundwater impacts detected at SP-6 and SP-9 be further investigated. The following tasks are proposed to complete the investigation. Proposed sample locations are shown in Figure 6.

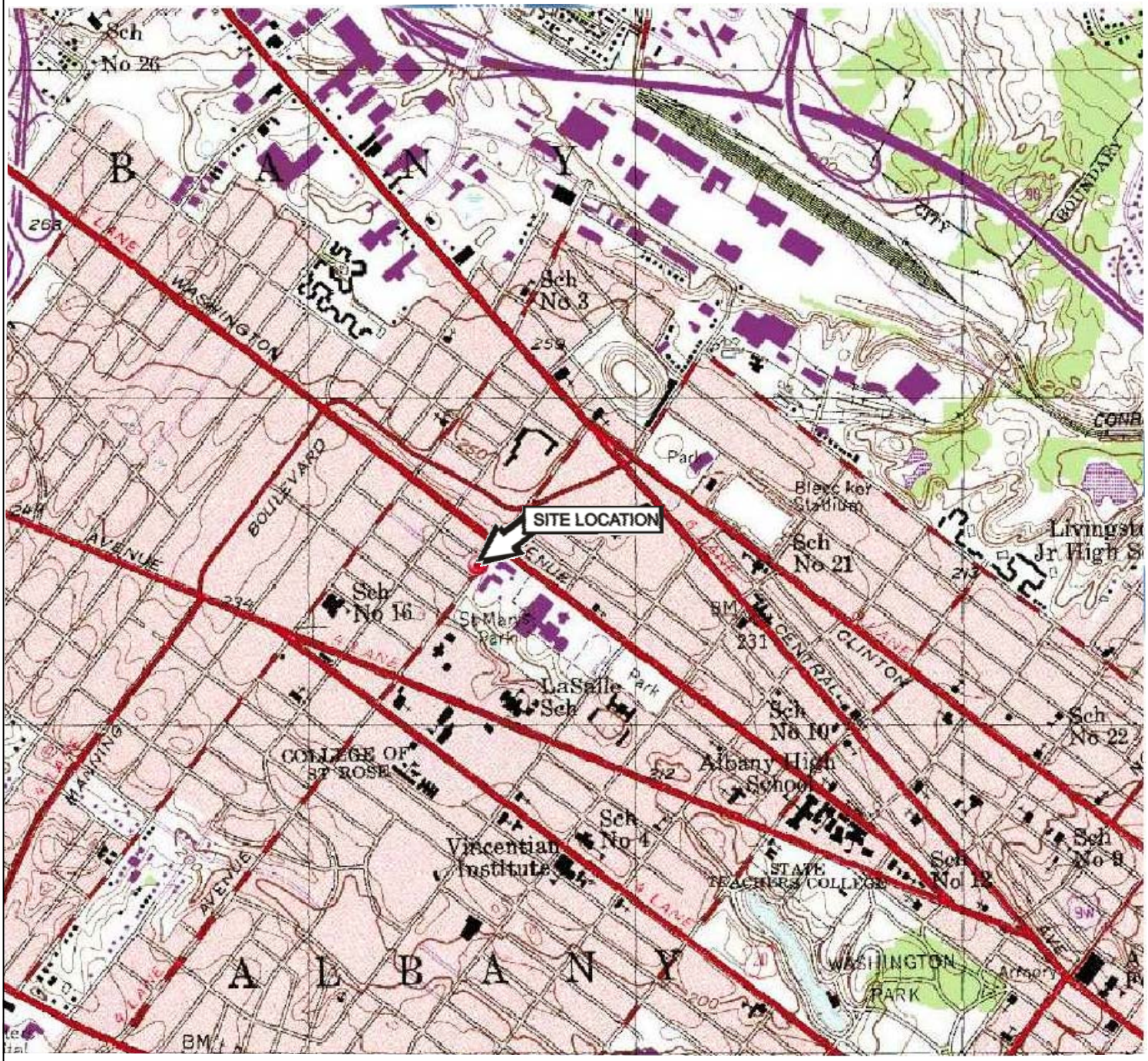
Install five (5) soil probes in the area adjacent to SG-8. One (1) soil sample will be collected from each probe and will be analyzed for TCL VOCs. Samples will be biased based on PID readings and professional judgment.

Install a temporary micro-well in each probe and collect a groundwater sample from each micro-well. Groundwater samples will be analyzed for TCL VOCs.

Install a monitoring well at the location of SP-6 and between SP-3 and SP-9. Additionally, install a monitoring well in the vicinity of SG-8. The location of the monitoring well in the vicinity of SG-8 will be based on the results of groundwater samples from the micro-wells. Complete two (2) rounds of groundwater monitoring and analyze groundwater samples for TCL VOCs. The groundwater samples from the monitoring well installed between SP-3 and SP-9 will also be analyzed for TCL SVOCs.

Install one (1) sub-slab soil gas sample and collect two (2) indoor air samples in the O'Donovan building. Additional samples may be necessary based upon the construction and layout of the O'Donovan building. Structural drawings of the O'Donovan building will need to be reviewed prior to sampling to determine if additional sample locations are necessary. Vapor intrusion samples will be analyzed for VOCs.

FIGURES



NOTE:
BASE MAP ADAPTED FROM U.S.G.S. TOPOGRAPHIC MAPS DOWNLOADED FROM TERRASERVER.MICROSOFT.COM

FIGURE 1
LOCUS PLAN
O'DONOVAN AFRC SITE
ALBANY, NEW YORK

PARS ENVIRONMENTAL, INC.
ROBBINSVILLE, NEW JERSEY

DR. BY: KN	SCALE: 1" = 2,000'	JOB No.: –
CK'D. BY: MM	DATE: 3/15/10	FILE NO.: –
REV. NO. –	REV. DATE: –	FIGURE NO.: 1

LEGEND:

- CONCRETE WASH RACK (CLOSED)
- OIL/WATER SEPARATOR (CLOSED)

NOTES:

1. BASE MAP ADAPTED FROM AN AERIAL PHOTO DOWNLOADED FROM http://www.googleearth.com/ AND FIELD OBSERVATIONS.

2. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED APPROXIMATE.

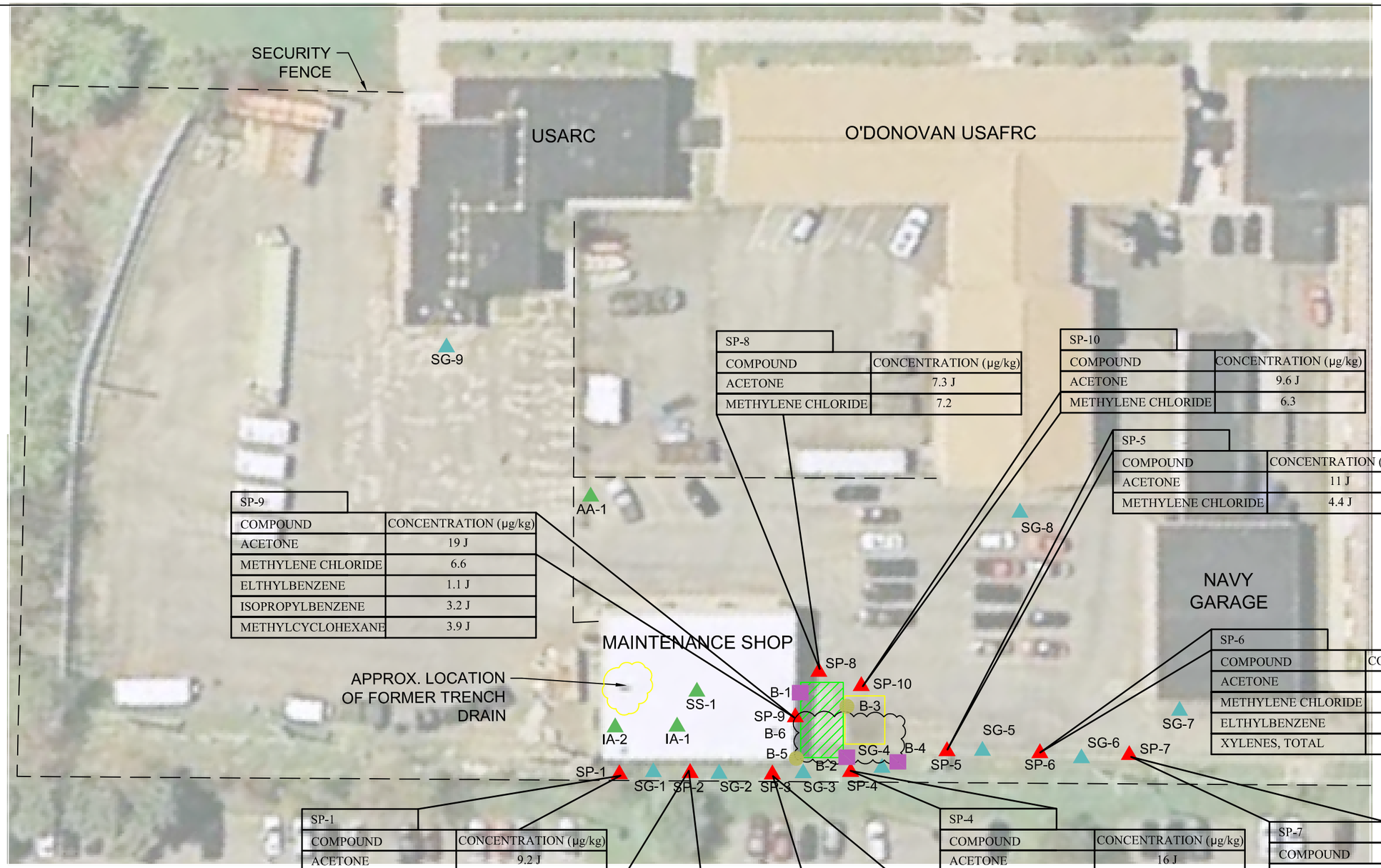
0 40 80

APPROXIMATE SCALE IN FEET

FIGURE 2
SITE PLAN
O'DONOVAN AFRC SITE
ALBANY, NEW YORK

PARS ENVIRONMENTAL, INC.
ROBBINSVILLE, NEW JERSEY

DR. BY: KN	SCALE: 1" = 40'	JOB No.: 773-14
CK'D. BY: MM	DATE: 3/15/10	FILE NO.: 773-14
REV. NO. -	REV. DATE: 7/21/11	FIGURE NO.: 2



SP-8	
COMPOUND	CONCENTRATION (µg/kg)
ACETONE	7.3 J
METHYLENE CHLORIDE	7.2

SP-10	
COMPOUND	CONCENTRATION (µg/kg)
ACETONE	9.6 J
METHYLENE CHLORIDE	6.3

SP-5	
COMPOUND	CONCENTRATION (µg/kg)
ACETONE	11 J
METHYLENE CHLORIDE	4.4 J

SP-9	
COMPOUND	CONCENTRATION (µg/kg)
ACETONE	19 J
METHYLENE CHLORIDE	6.6
ELTHYLBENZENE	1.1 J
ISOPROPYLBENZENE	3.2 J
METHYLCYCLOHEXANE	3.9 J

SP-6	
COMPOUND	CONCENTRATION (µg/kg)
ACETONE	8.2 J
METHYLENE CHLORIDE	4.9 J
ELTHYLBENZENE	2.6 J
XYLENES, TOTAL	9.4 J

SP-1	
COMPOUND	CONCENTRATION (µg/kg)
ACETONE	9.2 J
METHYLENE CHLORIDE	8.6

SP-4	
COMPOUND	CONCENTRATION (µg/kg)
ACETONE	16 J
METHYLENE CHLORIDE	3.8 J
ISOPROPYLBENZENE	2.1 J

SP-7	
COMPOUND	CONCENTRATION (µg/kg)
ACETONE	11 J
METHYLENE CHLORIDE	4.9 J

SP-2	
COMPOUND	CONCENTRATION (µg/kg)
ACETONE	17 J
METHYLENE CHLORIDE	3.1
2-BUTANONE (MEK)	2.7 J

SP-3	
COMPOUND	CONCENTRATION (µg/kg)
1.1-DICHLOROETHANE	1.0 J
ACETONE	17 J
METHYLENE CHLORIDE	3.5 J

LEGEND:

- SOIL BORING/TEMPORARY WELL POINT
- SOIL GAS SAMPLE
- AIR SAMPLE
- CONCRETE WASH RACK (CLOSED)
- OIL/WATER SEPARATOR (CLOSED)
- NT — NOT TESTED
- APPROXIMATE LOCATION OF OIL/WATER SEPARATOR EXCAVATION
- B-1 — APPROXIMATE LOCATION OF SOIL/GROUNDWATER SAMPLING LOCATION (2005)
- B-3 — APPROXIMATE LOCATION OF SOIL SAMPLING LOCATION (2005)

NOTES:

1. BASE MAP ADAPTED FROM AN AERIAL PHOTO DOWNLOADED FROM http://www.googleearth.com/ AND FIELD OBSERVATIONS.

2. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED APPROXIMATE.

3. ONLY COMPOUNDS DETECTED ABOVE THE LABORATORY METHOD DETECTION LIMITS ARE SHOWN.

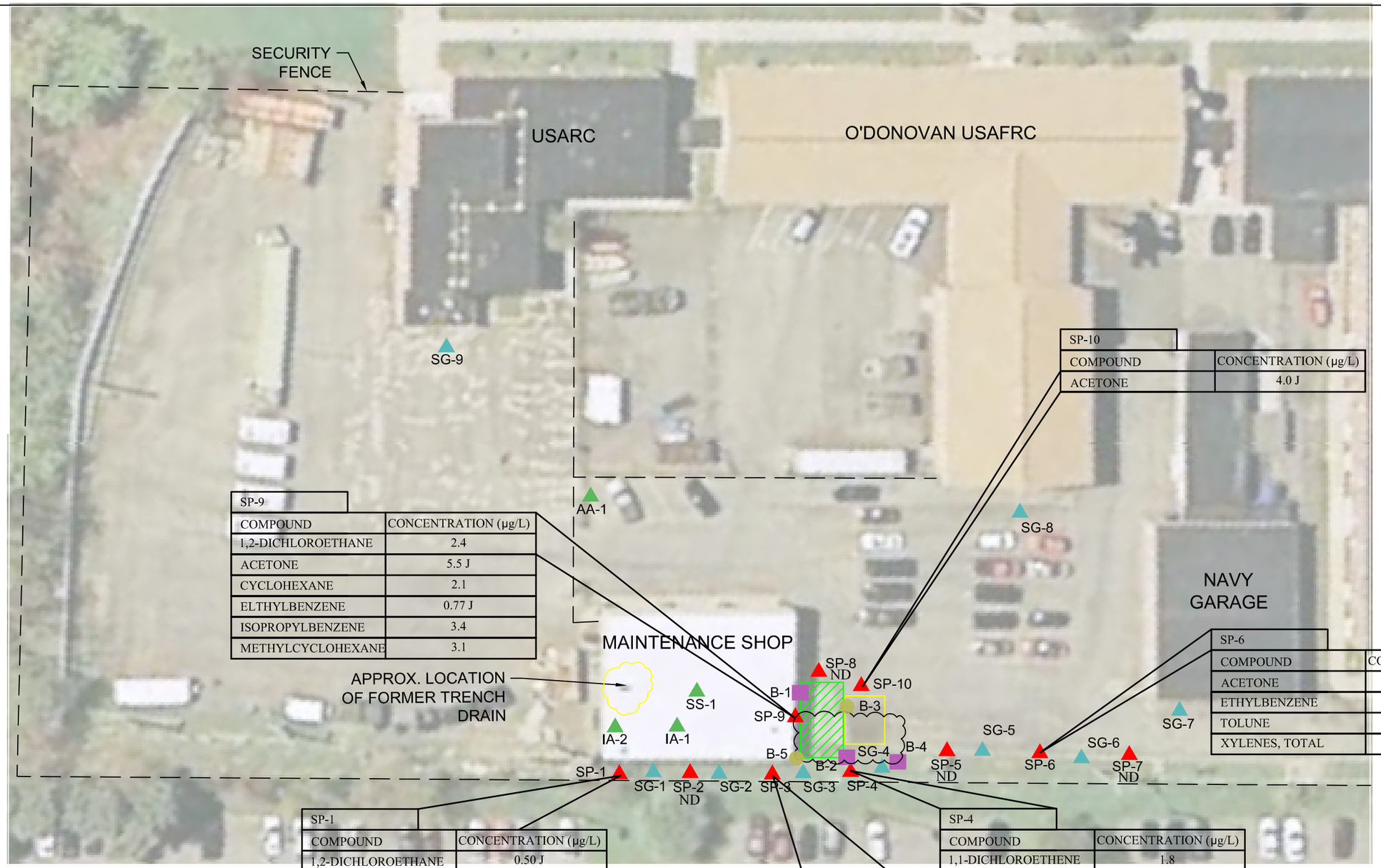
0 40 80

APPROXIMATE SCALE IN FEET

FIGURE 3
SOIL INVESTIGATION VOC RESULTS MAP
O'DONOVAN AFRC SITE
ALBANY, NEW YORK

PARS ENVIRONMENTAL, INC.
ROBBINSVILLE, NEW JERSEY

DR. BY: KN	SCALE: 1" = 40'	JOB No.: 773-14
CK'D. BY: MM	DATE: 3/15/10	FILE NO.: 773-14
REV. NO. –	REV. DATE: 10/12/11	FIGURE NO.: 3



SP-9	
COMPOUND	CONCENTRATION (µg/L)
1,2-DICHLOROETHANE	2.4
ACETONE	5.5 J
CYCLOHEXANE	2.1
ELTHYLBENZENE	0.77 J
ISOPROPYLBENZENE	3.4
METHYLCYCLOHEXANE	3.1

SP-10	
COMPOUND	CONCENTRATION (µg/L)
ACETONE	4.0 J

SP-6	
COMPOUND	CONCENTRATION (µg/L)
ACETONE	17
ETHYLBENZENE	1.9
TOLUNE	0.77 J
XYLENES, TOTAL	**5.8**

SP-1	
COMPOUND	CONCENTRATION (µg/L)
1,2-DICHLOROETHANE	0.50 J

SP-4	
COMPOUND	CONCENTRATION (µg/L)
1,1-DICHLOROETHENE	1.8
ACETONE	4.9 J
ISOPROPYLBENZENE	4.0

SP-3	
COMPOUND	CONCENTRATION (µg/L)
1,1,1-TRICHLOROETHANE	1.2
1,1-DICHLOROETHENE	**5.0**

LEGEND:

- SOIL BORING/TEMPORARY WELL POINT
- SOIL GAS SAMPLE
- AIR SAMPLE
- CONCRETE WASH RACK (CLOSED)
- OIL/WATER SEPARATOR (CLOSED)
- APPROXIMATE LOCATION OF OIL/WATER SEPARATOR EXCAVATION
- B-1 APPROXIMATE LOCATION OF SOIL/GROUNDWATER SAMPLING LOCATION (2005)
- B-3 APPROXIMATE LOCATION OF SOIL SAMPLING LOCATION (2005)

NOTES:

1. BASE MAP ADAPTED FROM AN AERIAL PHOTO DOWNLOADED FROM http://www.googleearth.com/ AND FIELD OBSERVATIONS.

2. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED APPROXIMATE.

3. ONLY COMPOUNDS DETECTED ABOVE THE LABORATORY METHOD DETECTION LIMITS ARE SHOWN.

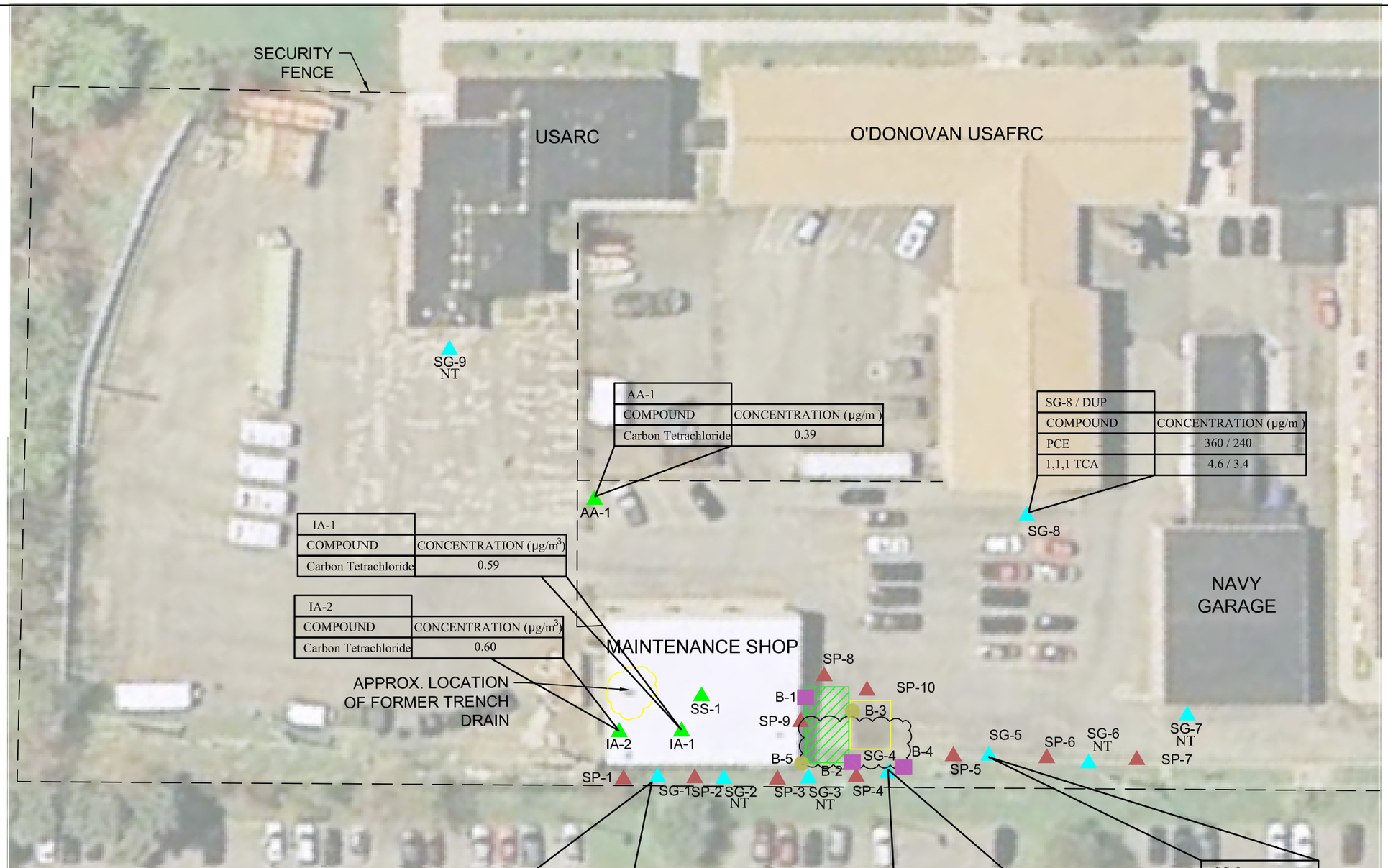
0 40 80

APPROXIMATE SCALE IN FEET

FIGURE 4
GROUNDWATER INVESTIGATION VOC RESULTS MAP
O'DONOVAN AFRC SITE
ALBANY, NEW YORK

PARS ENVIRONMENTAL, INC.
ROBBINSVILLE, NEW JERSEY

DR. BY: KN	SCALE: 1" = 40'	JOB No.: 773-14
CK'D. BY: MM	DATE: 3/15/10	FILE NO.: 773-14
REV. NO. -	REV. DATE: 10/12/11	FIGURE NO.: 4



AA-1	
COMPOUND	CONCENTRATION (µg/m)
Carbon Tetrachloride	0.39

SG-8 / DUP	
COMPOUND	CONCENTRATION (µg/m)
PCE	360 / 240
1,1,1 TCA	4.6 / 3.4

IA-1	
COMPOUND	CONCENTRATION ($\mu g/m^3$)
Carbon Tetrachloride	0.59

IA-2	
COMPOUND	CONCENTRATION ($\mu g/m^3$)
Carbon Tetrachloride	0.60

SG-1	
COMPOUND	CONCENTRATION ($\mu g/m^3$)
Carbon Tetrachloride	0.59

SG-4	
COMPOUND	CONCENTRATION ($\mu g/m^3$)
PCE	1.3
1,1,1 TCA	0.86
TCE	0.27
Carbon Tetrachloride	0.67

SG-5	
COMPOUND	CONCENTRATION ($\mu g/m^3$)
PCE	3.6
1,1,1 TCA	4.4
Carbon Tetrachloride	0.32

LEGEND:

- SOIL BORING/TEMPORARY WELL POINT
- SOIL GAS SAMPLE
- AIR SAMPLE
- CONCRETE WASH RACK (CLOSED)
- OIL/WATER SEPARATOR (CLOSED)
- APPROXIMATE LOCATION OF OIL/WATER SEPARATOR EXCAVATION
- B-1 APPROXIMATE LOCATION OF SOIL/GROUNDWATER SAMPLING LOCATION (2005)
- B-3 APPROXIMATE LOCATION OF SOIL SAMPLING LOCATION (2005)

NOTES:

1. BASE MAP ADAPTED FROM AN AERIAL PHOTO DOWNLOADED FROM http://www.googleearth.com/ AND FIELD OBSERVATIONS.

2. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED APPROXIMATE.

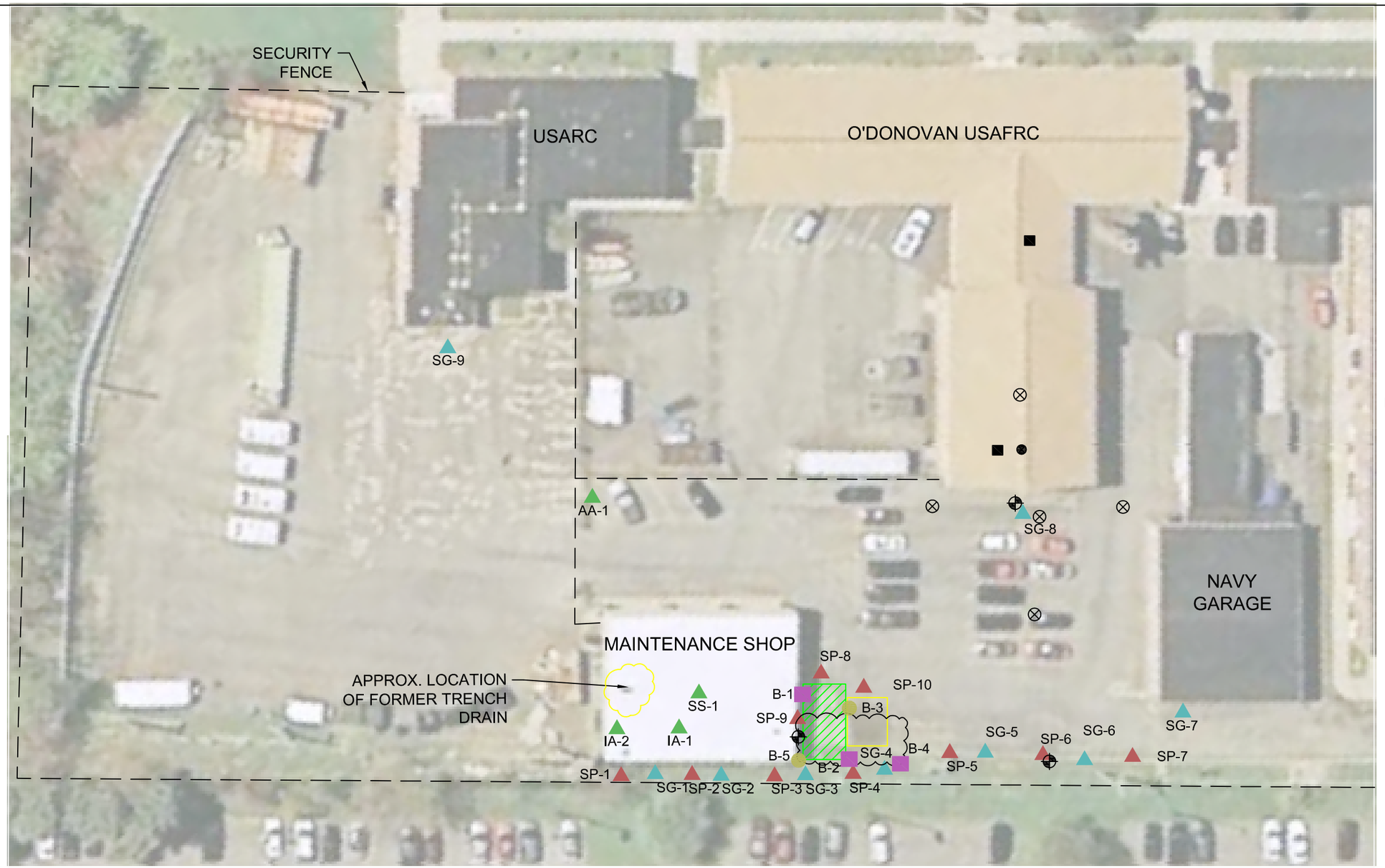
0 40 80

APPROXIMATE SCALE IN FEET

FIGURE 5
VAPOR INTRUSION INVESTIGATION RESULTS MAP
O'DONOVAN AFRC SITE
ALBANY, NEW YORK

PARS ENVIRONMENTAL, INC.
ROBBINSVILLE, NEW JERSEY

DR. BY: KN	SCALE: 1" = 40'	JOB No.: 773-14
CK'D. BY: MM	DATE: 3/15/10	FILE NO.: 773-14
REV. NO. -	REV. DATE: 10/12/11	FIGURE NO.: 5



LEGEND:

- SOIL BORING/TEMPORARY WELL POINT
- SOIL GAS SAMPLE
- AIR SAMPLE
- CONCRETE WASH RACK (CLOSED)
- OIL/WATER SEPARATOR (CLOSED)
- APPROXIMATE LOCATION OF OIL/WATER SEPARATOR EXCAVATION
- B-1 — APPROXIMATE LOCATION OF SOIL/GROUNDWATER SAMPLING LOCATION (2005)
- B-3 — APPROXIMATE LOCATION OF SOIL SAMPLING LOCATION (2005)
- PROPOSED SOIL BORING LOCATION/ MICRO WELL LOCATION
- PROPOSED MONITORING WELL LOCATION
- PROPOSED INDOOR AIR SAMPLE LOCATION
- PROPOSED SUB-SLAB SOIL GAS LOCATION

NOTES:

1. BASE MAP ADAPTED FROM AN AERIAL PHOTO DOWNLOADED FROM http://www.googleearth.com/ AND FIELD OBSERVATIONS.

2. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED APPROXIMATE.

0 40 80
APPROXIMATE SCALE IN FEET

FIGURE 6
PROPOSED SAMPLE LOCATION MAP
O'DONOVAN AFRC SITE
ALBANY, NEW YORK

PARS ENVIRONMENTAL, INC.
ROBBINSVILLE, NEW JERSEY

DR. BY: KN	SCALE: 1" = 40'	JOB No.: 773-14
CK'D. BY: MM	DATE: 3/15/10	FILE NO.: 773-14
REV. NO. –	REV. DATE: 10/13/11	FIGURE NO.: 6

TABLES

Table 1
Analytical Sample Summary Table
Major James J. O'Donovan
Armed Forces Reserve Center
Albany, New York

Sample Identification	Date Collected	VOCs EPA Method 8260-TCL	SVOCs EPA Method 8270 - TCL	TAL Metals EPA Method SW 846	PCBs EPA Method 8082	VOCs EPA Method TO-15
Soil Samples						
SP-1-(10-12)	4/11/2011	X	X	X	X	
SP-2-(6-8)	4/11/2011	X	X	X	X	
SP-3-(10-12)	4/11/2011	X	X	X	X	
SP-4-(10-12)	4/11/2011	X	X	X	X	
SP-5-(10-12)	4/11/2011	X	X	X	X	
SP-6-(10-12)	4/11/2011	X	X	X	X	
SP-7-(8-12)	4/11/2011	X	X	X	X	
SP-8-(8-10)	4/11/2011	X	X	X	X	
SP-9-(5-7)	4/12/2011	X	X	X	X	
SP-10-(4-8)	4/12/2011	X	X	X	X	
Water Samples						
SP-1-041111	4/11/2011	X	X	X	X	
SP-2-041111	4/11/2011	X	X	X	X	
SP-3-041111	4/11/2011	X	X	X	X	
SP-4-041111	4/11/2011	X	X	X	X	
SP-5-041211	4/12/2011	X	X	X	X	
SP-6-041211	4/12/2011	X	X	X	X	
SP-7-041211	4/12/2011	X	X	X	X	
SP-8-041211	4/12/2011	X	X	X	X	
SP-9-041211	4/12/2011	X	X	X	X	
SP-10-041211	4/12/2011	X	X	X	X	
Soil Vapor / Sub-Slab Vapor / Indoor Ambient Air / Outdoor Ambient Air Samples						
SG-1	4/13/2011					X
SG-2	4/13/2011					X
SG-3	4/13/2011					X
SG-4	4/13/2011					X
SG-5	4/13/2011					X
SG-6	4/13/2011					X
SG-7	4/13/2011					X
SG-8	4/13/2011					X
SG-9	4/13/2011					X
SS-1	4/13/2011					X
IA-1	4/13/2011					X
IA-2	4/13/2011					X
AA-1	4/13/2011					X

Notes:

1. SP-1-(10-12) = (SP-1), type of sample and number from which sample was obtained, (10-12) depth of sample below ground surface. SP = soil probe.
2. VOCs = Volatile Organic Compounds
3. SVOCs = Semi-Volatile Organic Compounds
4. TCL = Target Compound List
5. TAL = Target Analyte List
6. PCBs = Polychlorinated Biphenyls
7. SG = Soil Gas, SS = Sub-Slab, IA = Indoor Ambient Air, AA = Outdoor Ambient Air

Table 2
Soil Analytical Testing Results Summary
Major James J. O'Donovan
Armed Forces Reserve Center
Albany, New York

Parameter	Soil Cleanup Objectives	Restricted Residential Soil Cleanup Objectives	Restricted Commmercial Soil Cleanup Objectives	SP-1-(10-12) 04/11/2011 Result	SP-2-(6-8) 04/11/2011 Result	SP-3-(10-12) 04/11/2011 Result	SP-4-(10-12) 04/11/2011 Result	SP-5-(10-12) 04/11/2011 Result	SP-6-(10-12) 04/11/2011 Result	SP-7-(8-12) 04/11/2011 Result	SP-8-(8-10) 04/11/2011 Result	SP-9-(5-7) 04/12/2011 Result	SP-10-(4-8) 04/12/2011 Result	DUP-1 04/11/2011 Result	Rinsate- Soil 04/12/2011 Result
Volatile Organic Compounds - EPA Method 8260 TCL (ug/kg)															
1,1-Dichloroethane	270			ND	ND	1.0 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	50	**100,000**	*500,000*	9.2 J	17 J	17 J	16 J	11 J	8.2 J	11 J	7.3 J	19 J	9.6 J	9.2 J	ND
Methylene Chloride	50	**100,000**	*500,000*	8.6	3.1 J	3.5 J	3.8 J	4.4 J	4.9 J	4.9 J	7.2	6.6	6.3	9	ND
Ethylbenzene	1,000	**41,000**	*390,000*	ND	ND	ND	ND	ND	2.6 J	ND	ND	1.1 J	ND	ND	ND
Xylenes, total	260	**100,000**	*500,000*	ND	ND	ND	ND	ND	9.4 J	ND	ND	ND	ND	ND	ND
Isopropylbenzene	2,300	--	--	ND	ND	ND	2.1 J	ND	ND	ND	ND	3.2 J	ND	ND	ND
Methylcyclohexane	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND	3.9 J	ND	ND	ND
2-Butanone (MEK)	100,000	--	--	ND	2.7 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total VOCs				17.8	22.8	21.5	6.9	15.4	25.1	15.9	14.5	33.8	15.9	18.2	ND
Tentatively Identified Volatile Organic Compounds															
Total Unknown Compounds				41.4	40.3	46.6	1056	27.5	35.2	32.3	36.9	805	25	28.6	ND
Semi-Volatile Organic Compounds - EPA Method 8270 TCL (ug/kg)															
Naphthalene	12,000	**100,000**	*500,000*	ND	ND	ND	ND	ND	ND	ND	45 J	ND	ND	31 J	ND
2-Methylnaphthalene	410	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.3 J	ND
Acenaphthylene	100,000	**100,000**	*500,000*	ND	ND	ND	ND	ND	26 J	ND	ND	ND	ND	ND	ND
Fluorene	30,000	**100,000**	*500,000*	ND	ND	ND	140 J	ND	ND	ND	ND	620 J	ND	ND	ND
Phenanthrene	100,000	**100,000**	*500,000*	ND	16 J	ND	240 J	ND	23 J	ND	ND	1,600	ND	ND	ND
Fluoranthene	100,000	**100,000**	*500,000*	ND	22 J	ND	ND	ND	130 J	ND	ND	180 J	ND	ND	ND
Pyrene	100,000	**100,000**	*500,000*	ND	27 J	ND	ND	ND	250	ND	ND	240 J	ND	ND	ND
Benzo(a)anthracene	1,000	**1,000**	*5,600*	ND	20 J	ND	ND	ND	150 J	ND	ND	ND	ND	ND	ND
Dibenzofuran	7,000	**--**	*--*	ND	ND	ND	ND	ND	ND	ND	ND	330 J	ND	ND	ND
Bis(2-ethylhexyl)phthalate	50000 [9]	--	--	ND	ND	ND	ND	87 J	ND	82 J	ND	ND	97 J	ND	ND
Chrysene	1,000	**3,900**	*56,000*	ND	24 J	ND	ND	ND	130 J	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	1,000	**1,000**	*5,600*	ND	ND	ND	ND	ND	200 J	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	800	**3,900**	*56,000*	ND	ND	ND	ND	ND	60 J	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	1,000	**1,000**	*1,000*	ND	ND	ND	ND	ND	150 J	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	500	**500**	*5,600*	ND	25 J	ND	ND	ND	120 J	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	100,000	**100,000**	*500,000*	ND	ND	ND	ND	ND	150 J	ND	ND	ND	ND	ND	ND
Total SVOCs				ND	134	ND	380	87	1,389	82	45	2,970	97	39.3	ND
Tentatively Identified Semi-Volatile Organic Compounds															
Total Unknown Compounds				ND	ND	ND	8,200	410	1,810	240	240	66,300	310	430	41.9
TAL Metals - EPA Method SW 846 (mg/kg)															
Aluminum	--	--	--	17,100	8,620	14,300	11,400	15,600	12,100	10,300	13,900	14,200	12,300	11600	0.061 J B
Arsenic	13	**16**	*16*	6.3	5.2	5.7	7.1	3.7	5.3	5.1	4.7	4.7	5.9	4.3	ND
Barium	350	**400**	*400*	121	42.2	81.4	67.8	116	79.0	68.3	90.1	102.0	78.9	76.9	ND
Beryllium	7.2	**590**	*590*	1.1	0.490	0.760	0.66	1.0	0.61	0.57	0.70	0.770	0.59	0.61	ND
Cadmium	2.5	**9.3**	*9.3*	0.23 J B	0.15 J B	0.16 J B	0.15 J B	0.19 J B	0.19 J B	0.18 J B	0.24 J B	0.21 J B	0.21 J B	0.20 J B	ND
Calcium	--	--	--	16500 B	1790 B	2980 B	2950 B	17900 B	38500 B	47700 B	52800 B	46400 B	50900 B	56300 B	0.15 J B
Chromium	30	**180**	*1,500*	16.20	11.10	18.6	13.1	15.9	14.9	13.2	17.3	15.9	14.6	14.3	ND
Cobalt	30 [9]	--	--	13.60	8.20	11.0	10.8	12.8	10.1	9.8	11.5	12.7	10.2	12.4	ND
Copper	50	**270**	*270*	22.9	15.6	21.7	24.0	20.8	23.8	21.9	25.1	24.3	21.6	22.9	ND
Iron	2,000 [9]	--	--	27,300	18,700	24,800	23,400	24,600	21,700	19,600	23,200	22,900	21,200	20,200	ND
Lead	63	**400**	*1,000*	10.80	8.0	9.0	10.8	9.9	10.0	8.9	10.9	10.6	9.2	10	ND
Magnesium	--	--	--	7,160	2,320	4,700	3,550	7,980	9,640	12,700	12,400	9,560	14,000	14,700	ND
Manganese	1,600	**2,000**	*10,000*	476	538	492	434	355	476	481	472	574	477	482	0.00055 J B
Mercury	0.18	**0.81**	*2.8*	0.028	0.041	0.023 J	0.035	0.017 J	0.019 J	0.019 J	0.025	0.028	0.016 J	0.023 J	ND
Nickel	30	**310**	*310*	27.10	15.80	26.6	23.3	26.0	24.0	21.6	27.4	28.0	23.8	24.6	ND
Potassium	--	--	*NV*	2,610	946	1,770	1,450	2,610	2,240	2,010	2,650	2,580	2,170	2280	ND
Selenium	3.9	**180**	*1,500.0*	ND	ND	ND	ND	0.74 J	ND	ND	ND	ND	ND	ND	ND
Sodium	--	--	--	326	48.5 J	187	175 J	475	268	285	294	356	244	308	ND
Vanadium	100 [9]	--	--	25.30	19.0	22.4	21.0	22.9	21.5	19.5	26.0	24.7	21.2	22	ND
Zinc	109	**10,000**	*10,000*	73.2 B	38.8 B	63.4 B	58.0 B	70.0 B	53.9 B	46.8 B	56.5 B	56.1 B	49.1 B	50.0 B	0.0034 J
Polychlorinated Biphenyls - EPA Method 8082 (ug/kg)															
Total PCBs	100*	**1000***	*1,000**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
1. Compounds detected in one or more samples are presented on this table. Refer to Attachment C for list of all compounds included in analysis.
2. Analytical testing completed by Test America Laboratories.
3. ug/kg = part per billion; mg/kg = parts per million
4. < indicates compound was not detected above method detection limits.
5. -- = No criteria exists.
6. Shading indicates value exceeds Unrestricted Use Soil Cleanup Objectives.
7. A duplicate sample (DUP-1) was collected at soil probe location SP-7. Values shown are the higher of the two analytical results.
8. *Soil cleanup objective is for the sum of the Aroclor compound concentrations detected (Total PCBs).
9. Soil cleanup objectives (SCOs) are from NYSDEC Part 375, Subpart 375-6: Unrestricted Use Soil Cleanup Objectives and the Supplemetal Soil Cleanup Objectives (SSCOs) are from NYSDEC Final Commissioners Policy, CP-51, Dated Octeober 21, 2010.
10. J quailfier = estimated concentration.

Table 3
Water Analytical Testing Results Summary
Major James J. O'Donovan
Armed Forces Reserve Center
Albany, New York

Parameter	Class GA Criteria	SP-1-041111 4/11/2011 Result	SP-2-041111 4/11/2011 Result	SP-3-041111 4/11/2011 Result	SP-4-041111 4/11/2011 Result	SP-5-041211 4/12/2011 Result	SP-6-041211 4/12/2011 Result	SP-7-041211 4/12/2011 Result	SP-8-041211 4/12/2011 Result	SP-9-041211 4/12/2011 Result	SP-10-041211 4/12/2011 Result	DUP-2 4/12/2011 Result	Trip Blank 4/11/2011 Result	Trip Blank 4/12/2011 Result	Rinsate-GW 4/12/2011 Result
Volatile Organic Compounds - EPA Method 8260 TCL (ug/L)															
1,1,1-trichloroethane	--	ND	ND	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethane	5	ND	ND	5.0	1.8	ND	ND	ND	ND	2.4	ND	ND	ND	ND	ND
1,2-dichloroethane	0.6	0.50 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	50	ND	ND	ND	4.9 J	ND	17	ND	ND	5.5 J	4.0 J	ND	ND	ND	ND
Cyclohexane	--	ND	ND	ND	ND	ND	ND	ND	ND	2.1	ND	ND	ND	ND	ND
Ethylbenzene	--	ND	ND	ND	ND	ND	1.9	ND	ND	0.77 J	ND	ND	ND	ND	ND
Isopropylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	3.4	ND	ND	ND	ND	ND
Methylcyclohexane	--	ND	ND	ND	ND	ND	ND	ND	ND	3.1	ND	ND	ND	ND	ND
Toluene	5	ND	ND	ND	ND	ND	0.77 J	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	5 [6]	ND	ND	ND	ND	ND	5.8	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	5	ND	ND	ND	4.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total VOCs		0.50	ND	6.20	10.70	ND	25.47	ND	ND	17.27	4.0	ND	ND	ND	ND
Tentatively Identified Volatile Organic Compounds															
Total Unknown Compounds	--	3.7	6.3	203	470	ND	ND	ND	ND	232	25.6	ND	54	ND	2.9
Semi-Volatile Organic Compounds - EPA Method 8270 (ug/L)															
2-Methylnaphthalene	--	ND	ND	ND	ND	ND	ND	ND	ND	28 J	ND	ND	NS	NS	ND
4-Methylphenol	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND
Acenaphthene	20	ND	ND	1.9 J	14 J	ND	ND	ND	ND	32 J	ND	ND	NS	NS	ND
Anthracene	50	ND	ND	ND	7.6 J	ND	ND	ND	ND	14 J	ND	ND	NS	NS	ND
bis(2-ethylhexyl)phthalate	5	ND	ND	3.3 J	ND	2.5 J	2.3 J	3.7 J	ND	ND	ND	ND	NS	NS	ND
Benzo [a] anthracene	0.002*	ND	ND	ND	ND	ND	ND	ND	ND	7.7 J	ND	ND	NS	NS	ND
Di-n-butyl phthalate	50	ND	0.36 J H	ND	ND	1.0 J B	1.0 J B	0.79 J B	ND	ND	0.65 J B	0.63 J B	NS	NS	ND
Dibenzofuran	--	ND	ND	3.8 J	10 J	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND
Fluoranthene	50	ND	ND	ND	ND	ND	ND	ND	ND	14 J	ND	ND	NS	NS	ND
Diethyl phthalate	50	ND	ND	0.73 J	ND	ND	ND	ND	ND	ND	1.2 J	ND	NS	NS	ND
Fluorene	50	ND	ND	1.1 J	26	ND	ND	ND	ND	52 J	ND	ND	NS	NS	ND
Fluoranthene	--	ND	ND	1.0 J	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND
Phenanthrene	50 *	ND	ND	2.1 J	37	ND	ND	ND	ND	100	ND	ND	NS	NS	ND
Pyrene	50	ND	ND	1.2 J	6.1 J	ND	ND	ND	ND	14 J	ND	ND	NS	NS	ND
Total SVOCs		ND	0.36	15.1	100.7	3.5	3.3	4.49	ND	261.7	1.85	0.63	NS	NS	ND
Tentatively Identified Semi-Volatile Organic Compounds															
Total Unknown Compounds	--	341.0	269	789	2,080	247.4	208.4	168.5	253	4,790	93.5	294.9	NS	NS	128.5
PCBs - EPA Method 8082 (ug/L)															
Total PCBs	0.09 [11]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND
Dissolved Metals - EPA Method SW 846 (mg/L)															
Aluminum	--	0.084 J B	0.16 J B	ND	0.71 B	0.071 J B	0.14 J B	0.081 J B	ND	0.064 J B	0.086 J B	ND	NS	NS	0.080 J B
Barium	1	0.016	0.011	0.012	0.024	0.066	0.12	0.079	0.089	0.077	0.0980	0.096	NS	NS	ND
Cadmium	10	ND	ND	ND	ND	ND	0.00035 J	ND	ND	ND	ND	ND	NS	NS	0.11 J B
Calcium	--	61.1 B	43.8 B	41.4 B	37.5 B	85.0 B	191 B	105 B	134 B	137 B	129 B	138 B	NS	NS	ND
Chromium	0.05	0.0016 J	0.0013 J	ND	0.0028 J	0.0019 J	0.0018 J	0.0024 J	0.0018 J	0.0018 J	0.0022 J	0.0014 J	NS	NS	ND
Cobalt	--	ND	ND	0.00065 J	ND	ND	ND	ND	ND	ND	0.00072 J	ND	NS	NS	ND
Copper	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0031 J	ND	NS	NS	ND
Iron	0.3	0.019 J	0.057	0.02 J	0.53	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND
Magnesium	35*	8.2	6.0	5.2	4.4	14.8	40.8	24.3	29.8	27.1	30.2000	31	NS	NS	ND
Manganese	0.3	0.14 B	0.06 B	1.9 B	1.6 B	0.046 B	0.046 B	0.12 B	0.21 B	1.3 B	0.33 B	0.25 B	NS	NS	ND
Nickel	0.1	ND	ND	ND	ND	ND	ND	ND	0.0017 J	ND	0.0023 J	0.0021 J	NS	NS	ND
Potassium	--	0.37 J	0.65	0.46 J	0.65	1.4	2.1	2.1	1.7	0.86	2.30	2	NS	NS	ND
Silver	50	ND	0.003	ND	0.0021 J	0.0019 J	0.0019 J	0.0017 J	ND	0.0023 J	0.0017 J	ND	NS	NS	0.0029 J
Sodium	20	4.1	21.6	33.9	53.2	163	111	119	51.5	84.5	51.7	51.9	NS	NS	ND
Vanadium	--	ND	ND	0.0028 J	0.0028 J	ND	ND	ND	ND	0.0019 J	0.0012 J	0.0014 J	NS	NS	ND
Zinc	2*	0.0051 J	0.0017 J	0.0057 J	0.018	ND	ND	0.0019 J	ND	ND	0.0020 J	0.0034 J	NS	NS	0.0028 J

Notes:
1. Compounds detected in one or more samples are presented on this table.
2. Analytical testing completed by Test America Laboratories.
3. NYSDEC Class GA criteria obtained from Division of Water Technical and Operational Guidance Series (TOGS 1.1.1), June 1998, dated October 1993, revised June 1998, January 1999 errata sheet and April 2000 addendum.
4. ug/L = part per billion (ppb); mg/L = part per million (ppm)
5. Shading indicates values exceeding NYSDEC Class GA groundwater criteria.
6. Class GA criteria shown is for total xylene concentration.
7. < = compound was not detected.
8. * indicates a Guidance Value instead of a Standard Value.
9. -- = No criteria exists
10. ND = non-detectable concentration by approved analytical methods.
11. Groundwater criteria is for the sum of the Aroclor compound concentrations detected (Total PCBs).
12. SP-1, SP-2, SP-3, SP-4, & Rinsate-GW results reflect the re-extracted and analyzed values.

Table 4
Air Analytical Testing Results Summary
Major James J. O'Donovan
Armed Forces Reserve Center
Albany, New York

Compounds	EPA VI Target Deep Soil Gas Concentration	Soil Vapor Samples				
		SG-1	SG-4	SG-5	SG-8	DUP-SG
Volatile Organic Compounds via USEPA Method TO-15 (ug/m^3)						
1,2,4-Trimethylbenzene	6.00E+02	0.48	ND	2.9	2.9	7.4
1,1,1-Trichloroethane	2.20E+05	ND	0.86	4.4	4.6	3.4
1,1,2-Trichlorotrifluoroethane	3.00E+06	0.74	0.63	1.0	ND	ND
1,3,5-Trimethylbenzene	6.00E+02	ND	ND	0.87	0.86	1.8
1,3-Dichlorobenzene	1.10E+04	ND	ND	1.1	ND	1.1
2,2,4-Trimethylpentane	--	1.9	ND	1.5	ND	ND
Benzene	3.10E+01	1.8	1.6	3.1	1.6	1.9
Carbon tetrachloride	1.60E+01	0.59	0.67	0.32	ND	ND
Chloromethane	2.40E+02	1.6	1.6	1.2	ND	ND
Cyclohexane	--	0.92	1.3	1.7	ND	ND
Dichlorodifluoromethane	2.00E+04	3.1	2.9	3.3	1.0	1.4
Ethanol	--	59.0	63.0	140.0	51.0	50.0
Ethylbenzene	2.20E+02	ND	0.69	6.9	3.0	7.4
m&p-Xylene	7.00E+05	0.62	1.8	21.0	10.0	28.0
Methylene Chloride	2.40E+02	1.7	ND	7.1	ND	4.7
Methyl Ethyl Ketone	1.00E+05	2.0	9.9	6.4	5.1	5.1
n-Hexane	2.00E+04	4.8	2.7	6.7	3.4	9.0
o-Xylene	7.00E+05	ND	0.61	6.2	3.7	9.5
Styrene	1.00E+05	ND	ND	0.38	ND	ND
tert-Butyl alcohol	--	ND	6.9	3.0	2.6	2.3
Tetrachloroethene	8.10E+01	ND	1.3	3.6	240 D	360 D
Toluene	4.00E+04	4.9	9.7	42.0	12.0	30.0
Trichloroethene	2.20E+00	ND	0.27	ND	ND	ND
Trichlorofluoromethane	7.00E+04	1.6	1.6	1.9	1.6	1.8

Notes
1. Compounds detected in one or more samples are presented on this table.
2. Analytical testing completed by Test America Laboratotries.
3. ug/m^3 = microgram per cubic meter.
4. Soil vapor samples were collected during a 1-hour sample duration. Sub-slab and ambient air samples were collected during an 8-hour sample duration.
5. NYSDOH does not currently have standards, criteria or guidance values for concentrations of soil vapor. The detection of VOCs in soil vapor samples does not necessarily indicate soil vapor intrusionis occurring or action should be taken to address exposures.
6. D qualifer = Result was obtained from the analysis of a dilution.
7. -- = No criteria for the compound exists.

Table 5

Sub-Slab Air Analytical Testing Results Summary

Major James J. O'Donovan

Armed Forces Reserve Center

Albany, New York

Compounds	EPA VI Target Shallow Soil Gas Concentration	Sub-slab Sample
		SS-1
Volatile Organic Compounds via USEPA Method TO-15 (ug/m^3)		
1,2,4-Trimethylbenzene	6.00E+01	ND
1,1,1-Trichloroethane	2.20E+04	ND
1,1,2-Trichlorotrifluoroethane	3.00E+05	ND
1,3,5-Trimethylbenzene	6.00E+01	ND
1,3-Dichlorobenzene	1.10E+03	ND
2,2,4-Trimethylpentane	NV	ND
Benzene	3.10E+00	ND
Carbon tetrachloride	1.60E+00	ND
Chloromethane	2.40E+01	ND
Cyclohexane	NV	ND
Dichlorodifluoromethane	2.00E+03	2.8
Ethanol	NV	140.0
Ethylbenzene	2.20E+01	ND
m&p-Xylene	7.00E+04	ND
Methylene Chloride	2.40E+01	13.0
Methyl Ethyl Ketone	1.00E+04	ND
n-Hexane	2.00E+03	ND
o-Xylene	7.00E+04	ND
Styrene	1.00E+04	ND
tert-Butyl alcohol	NV	ND
Tetrachloroethene	8.10E+00	ND
Toluene	4.00E+03	ND
Trichloroethene	2.20E-01	ND
Trichlorofluoromethane	7.00E+03	1.2

Notes

1. Compounds detected in one or more samples are presented on this table.
2. Analytical testing completed by Test America Laboratotries.
3. ug/m^3 = microgram per cubic meter.
4. Soil vapor samples were collected during a 1-hour sample duration. Sub-slab and ambient air samples were collected during an 8-hour sample duration.
5. NYSDOH does not currently have standards, criteria or guidance values for concentrations of soil vapor. The detection of VOCs in soil vapor samples does not necessarily indicate soil vapor intrusionis occurring or action should be taken to address exposures.
6. D qualifer = Result was obtained from the analysis of a dilution.
7. A duplicate sample was collected at soil vapor sample location SG-8. Values shown are the higher of the two analytical results.

Table 6

Indoor Air Analytical Testing Results Summary
Major James J. O'Donovan
Armed Forces Reserve Center
Albany, New York

Compounds	EPA VI Target Indoor Air Concentration ($R=10^{-6}$)	Indoor Air Samples		
		IA-1	IA-2	AA-1
Volatile Organic Compounds via USEPA Method TO-15 (ug/m^3)				
1,2,4-Trimethylbenzene	6.00E+00	ND	ND	ND
1,1,1-Trichloroethane	2.20E+03	ND	ND	ND
1,1,2-Trichlorotrifluoroethane	3.00E+04	0.78	0.73	ND
1,3,5-Trimethylbenzene	6.00E+00	ND	ND	ND
1,3-Dichlorobenzene	1.10E+02	ND	ND	ND
2,2,4-Trimethylpentane	NV	ND	ND	ND
Benzene	3.10E-01	ND	0.65	ND
Carbon tetrachloride	1.60E-01	0.59	0.6	0.39
Chloromethane	2.40E+00	2.0	1.5	2.1
Cyclohexane	NV	0.94	ND	ND
Dichlorodifluoromethane	2.00E+02	3.7	2.9	3.9
Ethanol	NV	100.0	19.0	15.0
Ethylbenzene	2.20E+00	ND	ND	ND
m&p-Xylene	7.00E+03	ND	0.79	ND
Methylene Chloride	2.40E+00	8.1	0.75	1.4
Methyl Ethyl Ketone	1.00E+03	1.1	3.4	ND
n-Hexane	2.00E+02	ND	ND	ND
o-Xylene	7.00E+03	ND	ND	ND
Styrene	1.00E+03	ND	ND	ND
tert-Butyl alcohol	NV	ND	ND	ND
Tetrachloroethene	8.10E-01	ND	ND	ND
Toluene	4.00E+02	ND	1.5	ND
Trichloroethene	2.20E-02	ND	ND	ND
Trichlorofluoromethane	7.00E+02	4.0	1.8	1.8

Notes

1. Compounds detected in one or more samples are presented on this table.
2. Analytical testing completed by Test America Laboratotries.
3. ug/m^3 = microgram per cubic meter.
4. Soil vapor samples were collected during a 1-hour sample duration. Sub-slab and ambient air samples were collected during an 8-hour sample duration.
5. NYSDOH does not currently have standards, criteria or guidance values for concentrations of soil vapor. The detection of VOCs in soil vapor samples does not necessarily indicate soil vapor intrusionis occurring or action should be taken to address exposures.
6. D qualifer = Result was obtained from the analysis of a dilution.
7. A duplicate sample was collected at soil vapor sample location SG-8. Values shown are the higher of the two analytical results.

APPENDIX A

EPA Correspondence

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

AUG 21 2002

Environmental Director
Major O'Donovan AFR Center
90 N Main Ave.
Albany, New York 12203

Dear Director:

Section 120(c) of the Superfund Amendments and Reauthorization Act of 1986 (SARA) mandates that the United States Environmental Protection Agency (EPA) establish and maintain a Federal Agency Hazardous Waste Compliance Docket ("docket") of federal facilities which manage hazardous waste or have potential hazardous waste problems.

Attached is the Federal Register publication of July 1, 2002 (Update 15) which updates the docket. Please note that your facility was added to the updated docket.

EPA requires that a Preliminary Assessment (PA) be submitted within 18 months of docket listing and that, if it is subsequently determined by EPA to be necessary, a Site Inspection (SI) and complete evaluation for NPL purposes be conducted within 48 months of docket listing. In order to meet the current deadlines for site evaluation, we are requesting that you submit a PA to this office no later than January 1, 2004. However, since your facility may be required to perform an SI, we suggest submission of the PA sooner, if possible, preferably by July 1, 2003. Your PA submittal should consist of: 1.) "Site Assessment Report: Preliminary Assessment" and 2.) "PA scoresheets". In accordance with the enclosed "Guidance for Performing Preliminary Assessments under CERCLA- September 1991". The subject guidance will assist you in completing the necessary PA forms.

A PA (i.e., based on records search) is the first step in the overall site evaluation process. Information from the PA enables EPA to evaluate the site's potential for future action which may include SI sampling, and scoring the site under the revised Hazard Ranking System (HRS). Upon our review of your site's PA, we will make a determination as to whether further investigative work needs to be done (i.e , SI sampling and reports) or that no further action is necessary. If it is subsequently determined that the HRS score is 28.5 or greater, the facility may be eligible for inclusion on the NPL.

Please note that if, in addition to the requested PA information, sampling that may qualify for an SI has already been performed at your facility, please contact this office in order to obtain appropriate guidance documents and SI report forms.

The requested PA information should be sent to:

Ms. Helen Shannon
Region 2 Docket Coordinator
U.S. Environmental Protection Agency
E.R.R.D./SPB/FFS
290 Broadway - 18th floor
New York, New York 10007

We would also appreciate a response to this letter as soon as possible indicating whether we can anticipate receipt of your PA no later than January 1, 2004. Your timely response to this request is necessary for EPA to meet the aforementioned deadlines in order to complete its NPL evaluation of your facility. Thank you in advance for your cooperation.

If you have any questions, feel free to call me at (212)637-4332 or Ms. Shannon of my staff at (212)637-4260.

Sincerely yours,

Robert J. Wing, Chief
Federal Facilities Section

Enclosures

DEPARTMENT OF THE ARMY
HEADQUARTERS, U.S. ARMY 77TH REGIONAL SUPPORT COMMAND
FORT TOTTEN
FLUSHING, NY 11359-1016

REPLY TO
ATTENTION OF

July 1, 2003

77th Army Reserve Installation Management
Environmental Division

Ms. Helen Shannon
Region 2 Docket Coordinator
U.S. Environmental Protection Agency
E.R.R.D./SPB/FFS
290 Broadway – 18th floor
New York, New York 10007

Dear Ms. Shannon:

As required by your office and as a result of being listed on the Federal Agency Hazardous Waste Compliance Docket, the 77th Army Reserve Installation Management has prepared a Draft Preliminary Assessment (PA) of the Major O'Donovan Armed Forces Reserve Center located at 90 N Main Ave. in Albany, New York. Enclosed herewith is a copy of the Draft PA including the "PA scoresheets" for the O'Donovan AFRC. Please accept this document and determine the potential for further action and if a Site Inspection is warranted to further evaluate the site.

If you have any additional requests for information, please forward correspondence as well as your determination to Mr. Donald Hohn of this office at the above address.

Sincerely,

Nickolas Christopher
Deputy Director, Installation Management

Enc:

PARSONS

290 Elwood Davis Road, Suite 312, Liverpool, New York 13088, (315) 451-9560 (tel.)/(315) 451-9570 (Fax)

LETTER OF TRANSMITTAL

To:	*Mr. Paul Bertrand*	Date:	*June 20, 2003*
	Department of the Army	File No.	*742718.01000*
	77th RSC, Room 399	Subject:	*Major O'Donovan*
	Fort Totten, NY 11359-1016		*AFR Center PA*
Att.	*AFRC-CNY-EN, Building 200*		

We are sending the following:

1. *Two copies of Draft PA*
2.

These are transmitted as checked below:

___ For your information	___ For your use	___ Approved as noted
X For your action	___ Returning	*X* For review and comment
___ As requested	___ For approval and signature	

Remarks: *Sorry for the delay. Please feel free to call me if you have any questions or require additional information.*

Craig F. Butler, P.E.
Project Manager

cc. Heather Raymond (Parsons)
Tom Abrams (Parsons)

P:\743178\TECH\TRANS.DOC

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

JUN 24 2003

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Dick Ramsdell
Chief, Environmental Division
Fort Totten
77 Army Reserve Installation
Management
ATTN: AFRC-CNY-EN, Bldg. 200
Ft. Totten, New York 11359-1016

Re: Review of PA for 77th Reserve
Major O Donovan Center
Albany, New York

Dear Mr. Ramsdell:

This is to inform you that we have reviewed the Preliminary Assessment (PA) submitted on July 1, 2003 for the 77th Reserve Major O Donovan Center We are in agreement with your recommendation that a focused Site Inspection (SI) needs to be performed at the facility to determine whether releases are occurring and potentially impacting receptors.

We have included EPA's Site Inspection Guidance to assist you with the EPA's technical requirements for conducting SIs. Also, we have included a Site Inspection Report form as well as SI Scoresheets which you are required to complete and return to EPA. Furthermore, a cover sheet must be submitted to us with the SI that states: "On behalf of the Army, I certify our knowledge that the analytical data presented to the EPA in the Site Inspection Report can be used for the NPL evaluation of the sites. It is our belief that the analytical data presented in the following reports is of appropriate quality for the purpose".

Within thirty (30) days of receipt of this letter, please provide us with a schedule as to when we can expect receipt of the appropriate SI report form and SI scoresheets. EPA is mandated by Congress to fully evaluate all federal facilities on the Federal Agency Hazardous Waste Compliance Docket (docket) for possible inclusion on the National Priorities List (NPL). In order to comply with our agency's policy to evaluate federal facilities for the NPL within a reasonable time frame, we require your compliance with our request for a schedule pertaining to submittal of the SI.

Please submit all required information to:

Ms. Helen Shannon
Region 2 Docket Coordinator
U.S.E.P.A.
290 Broadway
E.R.R.D - 20th Floor
New York, New York 10007

This information request is being made pursuant to the authority of Section 104(e) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA),42 U.S.C. in Section 9604(e). Failure to comply may result in the issuance of an order in concurrence with the U.S. Attorney General resulting in compliance with 42 U.S.C. 9604(e)(5).

Your cooperation in this matter is appreciated. If you have any questions, please call me at (212)637-4260.

Sincerely yours,

Helen Shannon
Federal Facilities Docket Coordinator

Enclosures

cc: Ravi Ajodah, Dept. of Army

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

FEB 23 2006

Mr. Richard Ramsdell
Facility Management Officer
Department of the Army
Headquarters
U.S. Army 77th Regional Readiness Command
Fort Totten
Flushing, New York 11359-1016

Re: EPA's Review of Site Investigation (Oct. 2004)
for Major O'Donovan Army Forces Reserve
Center

Dear Mr. Ramsdell:

This is to notify you that pursuant to Section 120(d) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), the U.S. Environmental Protection Agency (EPA) has determined that the Major O'Donovan Army Forces Reserve Center (Albany, New York) does not meet the criteria for inclusion on the National Priorities List(NPL). EPA's determination is based upon the information currently available for the subject facility, in the form of the October 2004 Supplemental Site Investigation Report as submitted by you to this office. Hence, we have given the site a designation of NFRAP- No Further Remedial Action Planned. Be aware that the NFAP designation does not relieve your agency from remediating hazardous waste contamination at the site or from complying with appropriate State cleanup regulations.

Please note that our determination is subject to change if additional new information becomes available to EPA which warrants re-evaluation of the facility in the future. If you have any questions, please call me at (212)637-4260 or Ms. Alida Karas at (212)637-4276.

Sincerely yours,

Helen Shannon
R2 Docket Coordinator/RPM
Federal Facilities Section

cc: R.Ajodah, U.S. Army

Tom Dobinson

From: Michael Moore
Sent: Monday, August 08, 2011 2:18 PM
To: Tom Dobinson
Subject: FW: FW: Final Draft QAPP/SAP for Albany Site Inspection (UNCLASSIFIED)

Michael D. Moore, PG, LSRP
Senior Project Manager
PARS Environmental, Inc.
500 Horizon Drive, Suite 540
Robbinsville, NJ 08691
Tel: 609-890-7277
Fax: 609-890-9166

-----Original Message-----
From: Dellolio, Laura A CTR CTR USAR 99TH RRC -NA- [mailto:laura.dellolio@usar.army.mil]
Sent: Tuesday, March 22, 2011 3:54 PM
To: Michael Moore
Subject: FW: FW: Final Draft QAPP/SAP for Albany Site Inspection (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Hi Mike,

See EPA's comments. Is it possible to collect 2 indoor air samples without breaking the bank?

Thank you,
Laura Dell'Olio
609-562-7661

-----Original Message-----
From: Hoppe.Shawna@epamail.epa.gov [mailto:Hoppe.Shawna@epamail.epa.gov]
Sent: Tuesday, March 22, 2011 3:45 PM
To: Dellolio, Laura A CTR CTR USAR 99TH RRC -NA-
Subject: Re: FW: Final Draft QAPP/SAP for Albany Site Inspection
(UNCLASSIFIED)

Hey Laura-

Dave and I have both looked over the QAPP/SAP and it looks good to us. The only request I have is that we collect at least 2 indoor air samples in the maintenance building, just to be sure. Let us know how the schedule looks as we get closer. I'll probably come up and observe for at least Monday and Tuesday. Thanks!

Shawna (Rigby) Hoppe
US EPA, On-Scene Coordinator
2890 Woodbridge Ave
Bld 205, Bay B
Edison NJ 08837
Office (732) 321-6652
Cell (646) 221-4321

From: "Dellolio, Laura A CTR CTR USAR 99TH RRC -NA-" <laura.dellolio@usar.army.mil>
To: Shawna Hoppe/R2/USEPA/US@EPA
Date: 03/21/2011 01:11 PM
Subject: FW: Final Draft QAPP/SAP for Albany Site Inspection (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Hello Shawna,

Please let us know if you have any comments you'd like incorporated. Also we are planning to be onsite the week of 4/11, if you'd like to make a site visit. Work will for sure occur M-W, with Th-F being extra days just in case of heavy rain, etc.

Thank you,
Laura Dell'Olio
609-562-7661

-----Original Message-----
From: Michael Moore [mailto:mmoore@parsenviro.com <mailto:mmoore@parsenviro.com>]
Sent: Monday, March 21, 2011 10:46 AM
To: Dellolio, Laura A CTR CTR USAR 99TH RRC -NA-
Cc: Gunnell, Lenard P LRL
Subject: Final Draft QAPP/SAP for Albany Site Inspection

Laura,

Attached please find the final draft of the QAPP/SAP based on your comments dated March 14, 2011.

Feel free to give me a call if you have any additional questions. We will await comments from USEPA and we are set to start field work on April 11th.

Thanks,

Michael D. Moore, PG, LSRP

Senior Project Manager

PARS Environmental, Inc.

500 Horizon Drive, Suite 540

Tel: 609-890-7277

Fax: 609-890-9166

Classification: UNCLASSIFIED
Caveats: NONE

[attachment "Final Draft Albany QAPP-SAP 03220111.pdf" deleted by Shawna Hoppe/R2/USEPA/US]

Classification: UNCLASSIFIED
Caveats: NONE

APPENDIX B

Soil Probe Logs

Major James J. O'Donovan
Armed Forces Reserve Center
Albany, NY

CONTRACTOR:	TREC Environmental	BORING LOCATION:	See Location Plan
DRILLER:	Jim Agar	GROUND SURFACE ELEVATION:	NA DATUM NA
START DATE: 4/11/11	END DATE: 4/11/11	GZA GEOENVIRONMENTAL REPRESENTATIVE:	J. Beninati

WATER LEVEL DATA

DATE	TIME	WATER	CASING

TYPE OF DRILL RIG:	Geoprobe 54 LT track mounted rig
CASING SIZE AND DIAMETER:	2" diameter by 48" long
OVERBURDEN SAMPLING METHOD:	Direct push
ROCK DRILLING METHOD:	NA

DEPTH	Sample Number	DEPTH (FT)	RECOVERY (%)	SAMPLE DESCRIPTION	NOTES	FIELD SCREENING RESULTS (ppm)
	S-1	0-4	40	Topsoil to approximately 6" bgs.		0
1				(FILL) Reddish brown, fine SAND, trace fine Gravel, trace Silt and Clay, trace concrete fragments, moist.	Head Space (0-4') = 0 ppm	
2						0
3						
4						
	S-2	0-8	100	Yellowish brown, Silty CLAY, trace fine Sand, moist. (NATIVE)	Head Space (4-8') = 0 ppm	0
5						
6						0
7						
8						
	S-3	8-12	100		Head Space (8-12') = 0 ppm	0
9				Dark gray, fine to medium SAND, trace fine Gravel, moist.		
10				Yellowish brown, Silty CLAY, trace fine Sand, moist.		0
11				Yellowish brown, Clayey SILT, moist.		
12				Yellowish brown, Silty CLAY, trace fine to Sand, moist.		
	S-4	12-16	100	Grades to:..trace fine to medium Sand, wet.	Head Space (12-16') = 0 ppm	0
13						
14						0
15						
16						
				End of SP-1 at approximately 16 feet bgs.		
17						
18						
19						
20						

S - Split Spoon Sample
C - Rock Core Sample

NOTES: 1) MiniRae 2000 organic vapor meter used to field screen and headspace soil samples.
2) bgs = below ground surface.

General Notes: 1) Stratification lines represent approximate boundary between soil types, transitions may be gradual.
2) Water level readings have been made at times and under conditions stated, fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Major James J. O'Donovan
Armed Forces Reserve Center
Albany, NY

CONTRACTOR:	TREC Environmental	BORING LOCATION:	See Location Plan
DRILLER:	Jim Agar	GROUND SURFACE ELEVATION:	NA DATUM NA
START DATE: 4/11/11	END DATE: 4/11/11	GZA GEOENVIRONMENTAL REPRESENTATIVE:	J. Beninati

WATER LEVEL DATA

DATE	TIME	WATER	CASING

TYPE OF DRILL RIG:	Geoprobe 54 LT track mounted rig
CASING SIZE AND DIAMETER:	2" diameter by 48" long
OVERBURDEN SAMPLING METHOD:	Direct push
ROCK DRILLING METHOD:	NA

DEPTH	Sample Number	DEPTH (FT)	RECOVERY (%)	SAMPLE DESCRIPTION	NOTES	FIELD SCREENING RESULTS (ppm)
	S-1	0-4	30	Topsoil to approximately 4" bgs.		0
1				(FILL) Dark brown, Silty CLAY, some fine Sand, trace fine Gravel, moist.	Head Space (0-4') = 0 ppm	
2						0
3						
4				Brown, Silty CLAY, trace fine Gravel, trace Sand, moist. (NATIVE)		
	S-2	0-8	75	Grayish brown, Clayey SILT, trace fine Gravel, moist.	Head Space (4-8') = 0 ppm	0
5						
6						0
7						
8				Yellowish brown, Silty CLAY, trace fine Gravel, moist.		
	S-3	8-12	90		Head Space (8-12') = 0 ppm	0
9						
10						0
11						
12						
	S-4	12-16	50	Grades to:..reddish brown.	Head Space (12-16') = 0 ppm	0
13						
14						0
15						
16						
				End of SP-2 at approximately 16 feet bgs.		
17						
18						
19						
20						

S - Split Spoon Sample
C - Rock Core Sample

NOTES: 1) MiniRae 2000 organic vapor meter used to field screen and headspace soil samples.
2) bgs = below ground surface.

General Notes:
1) Stratification lines represent approximate boundary between soil types, transitions may be gradual.
2) Water level readings have been made at times and under conditions stated, fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Major James J. O'Donovan
Armed Forces Reserve Center
Albany, NY

CONTRACTOR:	TREC Environmental	BORING LOCATION:	See Location Plan
DRILLER:	Jim Agar	GROUND SURFACE ELEVATION:	NA DATUM NA
START DATE: 4/11/11	END DATE: 4/11/11	GZA GEOENVIRONMENTAL REPRESENTATIVE:	J. Beninati

WATER LEVEL DATA

DATE	TIME	WATER	CASING

TYPE OF DRILL RIG:	Geoprobe 54 LT track mounted rig
CASING SIZE AND DIAMETER:	2" diameter by 48" long
OVERBURDEN SAMPLING METHOD:	Direct push
ROCK DRILLING METHOD:	NA

DEPTH	Sample Number	DEPTH (FT)	RECOVERY (%)	SAMPLE DESCRIPTION	NOTES	FIELD SCREENING RESULTS (ppm)
	S-1	0-4	55	Topsoil to approximately 1.0' bgs.		0
1					Head Space (0-4') = 0 ppm	
				Brown, Clayey SILT, trace fine Sand, moist. (NATIVE)		
2						
						0
3						
				Grades to:..yellowish brown.		
4						
	S-2	0-8	100		Head Space (4-8') = 0 ppm	0
5						
				Yellowish brown, Silty CLAY, trace fine Sand, moist.		
6						
						0
7						
8						
	S-3	8-12	100		Head Space (8-12') = 0 ppm	0
9						
10						
						0
11						
12						
	S-4	12-16	85	Grades to:..wet.	Head Space (12-16') = 0 ppm	0
13						
14						
				Grades to:..reddish gray.		0
15						
16						
				End of SP-3 at approximately 16 feet bgs.		
17						
18						
19						
20						

S - Split Spoon Sample
C - Rock Core Sample

NOTES: 1) MiniRae 2000 organic vapor meter used to field screen and headspace soil samples.
2) bgs = below ground surface.

General Notes: 1) Stratification lines represent approximate boundary between soil types, transitions may be gradual.
2) Water level readings have been made at times and under conditions stated, fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Major James J. O'Donovan
Armed Forces Reserve Center
Albany, NY

CONTRACTOR:	TREC Environmental	BORING LOCATION:	See Location Plan
DRILLER:	Jim Agar	GROUND SURFACE ELEVATION:	NA DATUM NA
START DATE: 4/11/11	END DATE: 4/11/11	GZA GEOENVIRONMENTAL REPRESENTATIVE:	J. Beninati

WATER LEVEL DATA

DATE	TIME	WATER	CASING

TYPE OF DRILL RIG:	Geoprobe 54 LT track mounted rig
CASING SIZE AND DIAMETER:	2" diameter by 48" long
OVERBURDEN SAMPLING METHOD:	Direct push
ROCK DRILLING METHOD:	NA

DEPTH	SAMPLE INFORMATION: Sample Number	DEPTH (FT)	RECOVERY (%)	SAMPLE DESCRIPTION	NOTES	FIELD SCREENING RESULTS (ppm)
	S-1	0-4	30	Topsoil to approximately 6" bgs.		0
1				Yellowish brown, Clayey SILT, trace fine Sand, moist. (NATIVE)	Head Space (0-4') = 0 ppm	
2						0
3						
4						
	S-2	0-8	75		Head Space (4-8') = 5.1 ppm	0
5						
6						5.5
7				Grayish brown, Silty CLAY, trace fine Sand, moist.		
8						
	S-3	8-12	90			5.6
9						
10				Grayish brown, Clayey SILT, trace fine Sand, trace fine Gravel, wet.		13.5
11				Yellowish brown, Silty CLAY, trace fine Sand, moist.		
12						
	S-4	12-16	50			0
13						
14						0
15						
16				End of SP-4 at approximately 16 feet bgs.		
17						
18						
19						
20						

S - Split Spoon Sample
C - Rock Core Sample

NOTES: 1) MiniRae 2000 organic vapor meter used to field screen and headspace soil samples.
2) bgs = below ground surface.

General Notes: 1) Stratification lines represent approximate boundary between soil types, transitions may be gradual.
2) Water level readings have been made at times and under conditions stated, fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Major James J. O'Donovan
Armed Forces Reserve Center
Albany, NY

CONTRACTOR:	TREC Environmental	BORING LOCATION:	See Location Plan
DRILLER:	Jim Agar	GROUND SURFACE ELEVATION:	NA DATUM NA
START DATE: 4/11/11	END DATE: 4/11/11	GZA GEOENVIRONMENTAL REPRESENTATIVE:	J. Beninati

WATER LEVEL DATA

DATE	TIME	WATER	CASING

TYPE OF DRILL RIG:	Geoprobe 54 LT track mounted rig
CASING SIZE AND DIAMETER:	2" diameter by 48" long
OVERBURDEN SAMPLING METHOD:	Direct push
ROCK DRILLING METHOD:	NA

DEPTH	Sample Number	DEPTH (FT)	RECOVERY (%)	SAMPLE DESCRIPTION	NOTES	FIELD SCREENING RESULTS (ppm)
	S-1	0-4	90	Asphalt to approximately 1" bgs.		0
1				Subbase stone to 1.0' bgs.	Head Space (0-4') = 0 ppm	
				Yellowish brown, Silty CLAY, trace fine Sand, moist. (NATIVE)		
2						
						0
3						
4						
	S-2	0-8	100		Head Space (4-8') = 0 ppm	0
5						
6						
				Yellowish brown, Clayey SILT, trace fine Sand, wet.		0
7				Yellowish brown,Silty CLAY, trace fine Sand, moist.		
8						
	S-3	8-12	100		Head Space (8-12') = 0 ppm	0
9						
10						
						0
11						
12						
	S-4	12-16	50		Head Space (12-16') = 0 ppm	0
13						
14						
				Yellowish brown, Clayey SILT, trace fine Sand, wet.		0
15						
16				Yellowish brown, Silty CLAY. Trace fine Sand, moist.		
				End of SP-5 at approximately 16 feet bgs.		
17						
18						
19						
20						

S - Split Spoon Sample
C - Rock Core Sample

NOTES: 1) MiniRae 2000 organic vapor meter used to field screen and headspace soil samples.
2) bgs = below ground surface.

General Notes: 1) Stratification lines represent approximate boundary between soil types, transitions may be gradual.
2) Water level readings have been made at times and under conditions stated, fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Major James J. O'Donovan
Armed Forces Reserve Center
Albany, NY

CONTRACTOR:	TREC Environmental	BORING LOCATION:	See Location Plan
DRILLER:	Jim Agar	GROUND SURFACE ELEVATION:	NA DATUM NA
START DATE: 4/11/11	END DATE: 4/11/11	GZA GEOENVIRONMENTAL REPRESENTATIVE:	J. Beninati

WATER LEVEL DATA

DATE	TIME	WATER	CASING

TYPE OF DRILL RIG:	Geoprobe 54 LT track mounted rig
CASING SIZE AND DIAMETER:	2" diameter by 48" long
OVERBURDEN SAMPLING METHOD:	Direct push
ROCK DRILLING METHOD:	NA

DEPTH	SAMPLE INFORMATION: Sample Number	DEPTH (FT)	RECOVERY (%)	SAMPLE DESCRIPTION	NOTES	FIELD SCREENING RESULTS (ppm)
	S-1	0-4	15	Asphalt to approximately 1" bgs. Subbase stone to 6' bgs.		0
1				(FILL) Brown, fine to medium Sand, moist.	Head Space (0-4') = 0 ppm	
2						
						0
3						
4						
	S-2	0-8	100	Yellowish brown, Silty CLAY, trace fine Sand, moist. (NATIVE)	Head Space (4-8') = 0 ppm	0
5						
6						
						0
7						
				Yellowish brown, Clayey SILT, trace fine Sand, moist.		
8						
	S-3	8-12	50		Head Space (8-12') = 0 ppm	0
9						
				Yellowish brown, Silty CLAY, trace fine Sand, moist.		
10						
						0
11						
12						
	S-4	12-16	60	Yellowish brown, Clayey SILT, some fine to medium Sand,	Head Space (12-16')	0
13				wet.	= 0 ppm	
14						
				Gray, Silty CLAY, trace fine Sand, moist.		0
15						
16						
				End of SP-6 at approximately 16 feet bgs.		
17						
18						
19						
20						

S - Split Spoon Sample
C - Rock Core Sample

NOTES: 1) MiniRae 2000 organic vapor meter used to field screen and headspace soil samples.
2) bgs = below ground surface.

General Notes: 1) Stratification lines represent approximate boundary between soil types, transitions may be gradual.
2) Water level readings have been made at times and under conditions stated, fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Major James J. O'Donovan
Armed Forces Reserve Center
Albany, NY

CONTRACTOR:	TREC Environmental	BORING LOCATION:	See Location Plan
DRILLER:	Jim Agar	GROUND SURFACE ELEVATION:	NA DATUM NA
START DATE: 4/11/11	END DATE: 4/11/11	GZA GEOENVIRONMENTAL REPRESENTATIVE:	J. Beninati

WATER LEVEL DATA

DATE	TIME	WATER	CASING

TYPE OF DRILL RIG:	Geoprobe 54 LT track mounted rig
CASING SIZE AND DIAMETER:	2" diameter by 48" long
OVERBURDEN SAMPLING METHOD:	Direct push
ROCK DRILLING METHOD:	NA

DEPTH	Sample Number	DEPTH (FT)	RECOVERY (%)	SAMPLE DESCRIPTION	NOTES	FIELD SCREENING RESULTS (ppm)
	S-1	0-4	15	Asphalt to approximately 1" bgs.		0
1				Concrete and subbase stone to 6".	Head Space (0-4') = 0 ppm	
				(FILL) Brown, fine to medium SAND, trace fine Gravel, moist.		
2						
						0
3						
4						
	S-2	0-8	90	Yellowish brown, Silty CLAY, trace fine Sand, moist. (NATIVE)	Head Space (4-8') = 0 ppm	0
5						
6						
						0
7						
8						
	S-3	8-12	100	Brown, fine to medium SAND, trace fine Gravel, trace Silt, moist.	Head Space (8-12') = 0 ppm	0
9				Yellowish brown, Silty CLAY, trace fine Sand, moist.		
10						
						0
11						
12						
	S-4	12-16	0			
13						
14						
15						
16						
				End of SP-7 at approximately 16 feet bgs.		
17						
18						
19						
20						

S - Split Spoon Sample
C - Rock Core Sample

NOTES: 1) MiniRae 2000 organic vapor meter used to field screen and headspace soil samples.
2) bgs = below ground surface.

General Notes:
1) Stratification lines represent approximate boundary between soil types, transitions may be gradual.
2) Water level readings have been made at times and under conditions stated, fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Major James J. O'Donovan
Armed Forces Reserve Center
Albany, NY

CONTRACTOR:	TREC Environmental	BORING LOCATION:	See Location Plan
DRILLER:	Jim Agar	GROUND SURFACE ELEVATION:	NA DATUM NA
START DATE: 4/11/11	END DATE: 4/11/11	GZA GEOENVIRONMENTAL REPRESENTATIVE:	J. Beninati

WATER LEVEL DATA

DATE	TIME	WATER	CASING

TYPE OF DRILL RIG:	Geoprobe 54 LT track mounted rig
CASING SIZE AND DIAMETER:	2" diameter by 48" long
OVERBURDEN SAMPLING METHOD:	Direct push
ROCK DRILLING METHOD:	NA

DEPTH	Sample Number	DEPTH (FT)	RECOVERY (%)	SAMPLE DESCRIPTION	NOTES	FIELD SCREENING RESULTS (ppm)
	S-1	0-4	75	Asphalt to approximately 4" bgs.		0
1				Subbase stone to approximately 1.3' bgs.	Head Space (0-4') = 0 ppm	
				Yellowish brown, Silty CLAY, trace fine Sand, moist. (NATIVE)		
2						
						0
3						
4						
	S-2	0-8	100		Head Space (4-8') = 0 ppm	0
5						
6						
						0
7						
8						
	S-3	8-12	100		Head Space (8-12') = 0 ppm	0
9						
10				Yellowish brown, Clayey SILT, trace fine Sand, wet.		
				Yellowish brown, Silty CLAY, trace fine Sand, moist.		0
11						
12				Grades to:..reddish gray.		
	S-4	12-16	0			
13						
14						
15						
16						
				End of SP-8 at approximately 16 feet bgs.		
17						
18						
19						
20						

S - Split Spoon Sample
C - Rock Core Sample

NOTES: 1) MiniRae 2000 organic vapor meter used to field screen and headspace soil samples.
2) bgs = below ground surface.

General Notes: 1) Stratification lines represent approximate boundary between soil types, transitions may be gradual.
2) Water level readings have been made at times and under conditions stated, fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Major James J. O'Donovan
Armed Forces Reserve Center
Albany, NY

CONTRACTOR:	TREC Environmental	BORING LOCATION:	See Location Plan
DRILLER:	Jim Agar	GROUND SURFACE ELEVATION:	NA DATUM NA
START DATE: 4/11/11	END DATE: 4/11/11	GZA GEOENVIRONMENTAL REPRESENTATIVE:	J. Beninati

WATER LEVEL DATA

DATE	TIME	WATER	CASING

TYPE OF DRILL RIG:	Geoprobe 54 LT track mounted rig
CASING SIZE AND DIAMETER:	2" diameter by 48" long
OVERBURDEN SAMPLING METHOD:	Direct push
ROCK DRILLING METHOD:	NA

DEPTH	Sample Number	DEPTH (FT)	RECOVERY (%)	SAMPLE DESCRIPTION	NOTES	FIELD SCREENING RESULTS (ppm)
	S-1	0-4	50	Asphalt to approximately 2" bgs.		0
1				Subbase stone to approximately 1.0' bgs.	Head Space (0-4') = 0 ppm	
				Yellowish brown, Silty CLAY, trace fine Sand, moist. (NATIVE)		
2						
						0
3						
4						
	S-2	0-8	100	Grades to:..grayish brown.	Head Space (4-8') = 30.8 ppm	5.6
5						
						23.7
6						
						21.9
7						
						18.9
8						
	S-3	8-12	50		Head Space (8-12') = 3.6 ppm	15.6
9						
						13.6
10						
						26.6
11						
				Grades to:..yellowish brown.		13.6
12						
	S-4	12-16	0			0
13						
14						
15						
16						
				End of SP-9 at approximately 16 feet bgs.		
17						
18						
19						
20						

S - Split Spoon Sample
C - Rock Core Sample

NOTES: 1) MiniRae 2000 organic vapor meter used to field screen and headspace soil samples.
2) bgs = below ground surface.

General Notes: 1) Stratification lines represent approximate boundary between soil types, transitions may be gradual.
2) Water level readings have been made at times and under conditions stated, fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Major James J. O'Donovan
Armed Forces Reserve Center
Albany, NY

CONTRACTOR:	TREC Environmental	BORING LOCATION:	See Location Plan
DRILLER:	Jim Agar	GROUND SURFACE ELEVATION:	NA DATUM NA
START DATE: 4/11/11	END DATE: 4/11/11	GZA GEOENVIRONMENTAL REPRESENTATIVE:	J. Beninati

WATER LEVEL DATA

DATE	TIME	WATER	CASING

TYPE OF DRILL RIG:	Geoprobe 54 LT track mounted rig
CASING SIZE AND DIAMETER:	2" diameter by 48" long
OVERBURDEN SAMPLING METHOD:	Direct push
ROCK DRILLING METHOD:	NA

DEPTH	Sample Number	DEPTH (FT)	RECOVERY (%)	SAMPLE DESCRIPTION	NOTES	FIELD SCREENING RESULTS (ppm)
	S-1	0-4	70	Asphalt to approximately 2"		0
1				Subbabse stone to approxiamtely 0.8' bgs.	Head Space (0-4') = 0 ppm	
				Yellowish brown, Silty CLAY, trace fine Sand, moist. (NATIVE)		
2						
						0
3						
4						
	S-2	0-8	100		Head Space (4-8') = 0 ppm	0
5						
6						
						0
7						
8						
	S-3	8-12	100		Head Space (8-12') = 0 ppm	0
9						
10						
						0
11						
12						
	S-4	12-16	100	Grades to:..reddish gray, moist.	Head Space (12-16') = 0 ppm	0
13				Moisture content in clay increases with depth.		
14						
						0
15						
16						
				End of SP-10 at approximately 16 feet bgs.		
17						
18						
19						
20						

S - Split Spoon Sample
C - Rock Core Sample

NOTES: 1) MiniRae 2000 organic vapor meter used to field screen and headspace soil samples.
2) bgs = below ground surface.

General Notes:
1) Stratification lines represent approximate boundary between soil types, transitions may be gradual.
2) Water level readings have been made at times and under conditions stated, fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

APPENDIX C

Disposal Documentation

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: CESQG EXEMPT

Manifest Document No.:

2. Page 1 of 1

3. Generator's Name and Mailing Address:
ARMED FORCES RESERVE CENTER
90 NORTH MAIN AVENUE
ALBANY NY

Att: JOHN BENANATI SAME

4. Generator's Phone (7 1 8) 8 4 4 - 7 0 3 2

5. Transporter 1 Company Name: WEST CENTRAL ENVIRONMENTAL COR

6. US EPA ID Number: N Y D 0 0 0 7 0 8 2 7 1

A. State Transporter's ID

B. Transporter 1 Phone: 518 272-6801

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address:
Chemtron Corporation
35850 Schneider Court
Avon OH 44011

10. US EPA ID Number: O H D 0 8 6 0 8 0 8 0 8

E. State Facility's ID

F. Facility's Phone: 440 933-8348

11. WASTE DESCRIPTION	Containers No.	Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-RCRA, NON-DOT REGULATED LIQUID, (PURGE WATER)	001	DM	55	G
b.				
c.				
d.				

G. Additional Descriptions for Materials Listed Above
a. APPROVAL: 20110628-181
b.
c.
d.

H. Handling Codes for Wastes Listed Above
a.
b.
c.
d.

15. Special Handling Instructions and Additional Information
1) WCE JN: 44677-7-11

D42315

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name	Signature	Date: Month	Day	Year
Charles Kostka	Charles Kostka	7	20	2011

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Date: Month	Day	Year
Peter Moagk	Peter Moagk	7	20	11

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Date: Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name	Signature	Date: Month	Day	Year
George A Stapleton	George A Stapleton	07	26	11

GENERATOR

TRANSPORTER

FACILITY

NON-HAZARDOUS WASTE

APPENDIX D

Groundwater Sampling Logs

PARS Environmental Inc.

MONITORING WELL SAMPLING LOG

Date: 7 / 19 / 11

Client: USAR - ALBANY Location: ALBANY PARS Project No.: 723 - 14

SAMPLE ID COMMENTS	Sample Method	Sample Time (Start/End)	Volume Purged (Gallons)	Other	Turbidity (Visual / NTU.)	Specific Cond (units?)	Dissolved Oxygen (ppm)	Temp (C)	pH	Measurement Schedule	Depth To Water (Pre Sample)	Purge Rate (Gallons/Minute)	Depth To Water (Post Purge)	Purge Time (Start/End)	1 Well Volume (Gallons)	Depth to Water (In Feet)	TOC to TOS (In Feet)	Total Depth (Ft)	Product Thickness	PID Reading	Well Permit #	Well ID
TOC to GS -4.0 ft Collect Sample SP-1-041111 @ 12:44 For VOCs, SVOCs, PCBs + Metals	BAILER	12:44	1 GALLON	208 ORP	800	0333	3.51	15.55	6.40	I	13.68	0.09 gal/min	13.68	12:18/12:29	0.27 GALLONS	8.17	10.00	18.7 Ft.	1	1	1	SP-1
					0.0	4332	4.01	12.12	7.21	MP												
				179.162	403	0.321	3.35	11.27	7.21	PS												
TOC to GS - 1.5 inches Collect Sample SP-2-041111 @ 13:47 For VOCs, SVOCs, PCBs + Metals	BAILER	13:47	1 GALLON	192	169	0.188	0.94	17.68	7.54	I	8.62	0.09 Gal/min	8.62	13:20/13:31	0.27 gallons	5.02	5.61	15.61	—	—	1	SP-2
				127	250	0.328	0.90	11.58	7.00	MP												
				93	243	0.313	1.01	13.04	6.97	PS												
TOC to GS - 0.3 inches Collect Sample SP-3-041111 @ 14:50 For VOCs, SVOCs, PCBs + Metal	BAILER	14:50	1 GALLON	126	800	.393	1.51	15.44	7.27	I	7.51	0.125 gal/min	7.51	14:24/14:32	0.26 Gallons	5.60	4.38	14.38	—	—	1	SP-3
				106	0.0	.380	0.72	14.34	7.15	MP												
				96	0.0	0.351	1.16	13.88	7.02	PS												

Weather Conditions: _____

Items for Comment Section: (slow recharge, turbidity, odor, sheen)

Sampled By: _____

2" Schd. 40 = 0.163 g/ft. / 4" Schd. 40 = 0.653 g/ft. / 6" Schd. 40 = 1.47 g/ft.

Instrument Types/Calibration Time:
(D.O., pH, Temp., Cond., Turb.)

_____ _____
_____ _____
_____ _____

Sample Methods:
(b) - Bailer
(p) - Submersible Pump
(o) - Other
(d) - Dry

Measurement Schedule:
I - Pre Purge PP - Post Purge
MP - Mid Purge PS - Post Sample

PARS Environmental Inc.

MONITORING WELL SAMPLING LOG

Date: 7/19/11

Client: USAR Location: ALBANY PARS Project No.: 773-14

SAMPLE ID / COMMENTS	Sample Method	Sample Time (Start/End)	Volume Purged (Gallons)	Other	Turbidity (Visual / NTU.)	Specific Cond. (units?)	Dissolved Oxygen (ppm)	Temp (C)	pH	Measurement Schedule	Depth To Water (Pre Sample)	Purge Rate (Gallons/Minute)	Depth To Water (Post Purge)	Purge Time (Start/End)	1 Well Volume (Gallons)	Depth to Water (In Feet)	TOC to TOS (In Feet)	Total Depth (Ft)	Product Thickness	PID Reading	Well Permit #	Well ID
Sheen observed in purge water at 15:23	BAILER	15:48	1 GALLON	17	800	0.444	0.21	13.23	7.43	I		0.11 gal/min		15:21/15:30	0.23	5.96	4.81	14.81	—	1	1	SP-4
				-84	800	0.413	0.00	11.93	7.35	MP												
Collect Sample SP4-041111 @ 15:48				-104	800	0.414	0.38	11.73	7.32	PP												
For VOCs, SVOCs, PCBs + Metals										PS												
1519	BAILER	9:32	1 GALLON	163	800	1.08	8.78	10.84	6.52	I		0.11 gal/min		8:41/8:50	0.21	5.73	3.46	13.46	—	1	1	SP-5
				141	0.0	1.06	7.26	9.94	7.06	MP												
TOC to GS = 2.4 inches				94	800	0.972	6.26	11.72	7.47	PP												
Collect Sample SP-5-041211 @ 9:32										PS												
For VOCs, SVOCs, PCBs + Metals																						
1513	BAILER	10:13	1 GALLON	164	721	1.68	7.42	11.45	6.98	I		0.17 gal/min		9:47/9:53	0.21	7.85	5.86	15.86	—	1	1	SP-6
				145	0.0	1.38	6.81	10.64	7.27	MP												
TOC to GS = 5 inches										PP												
Collect Sample SP6-041211 @ 10:13										PS												
For VOCs, SVOCs, PCBs and Metals																						

Weather Conditions: _____

Items for Comment Section: (slow recharge, turbidity, odor, sheen)

Sampled By: _____

2" Schd. 40 = 0.163 g/ft. / 4" Schd. 40 = 0.653 g/ft. / 6" Schd. 40 = 1.47 g/ft.

Instrument Types/Calibration Time:
(D.O., pH, Temp., Cond., Turb.)

_____ _____
_____ _____
_____ _____

Sample Methods:
(b) - Bailer
(p) - Submersible Pump
(o) - Other
(d) - Dry

Measurement Schedule:
I - Pre Purge PP - Post Purge
MP - Mid Purge PS - Post Sample

PARS Environmental Inc.

MONITORING WELL SAMPLING LOG

Date: 7/19/11

Client: VSAR Location: ALBANY PARS Project No.: 773-14

SAMPLE ID / COMMENTS	Sample Method	Sample Time (Start/End)	Volume Purged (Gallons)	Other	Turbidity (Visual / NTU.)	Specific Cond (units?____)	Dissolved Oxygen (ppm)	Temp (C)	pH	Measurement Schedule	Depth To Water (Pre Sample)	Purge Rate (Gallons/Minute)	Depth To Water (Post Purge)	Purge Time (Start/End)	1 Well Volume (Gallons)	Depth to Water (In Feet)	TOC to TOS (In Feet)	Total Depth (Ft)	Product Thickness	PID Reading	Well Permit #	Well ID
TOC to GS - 1.3" Collect Sample SP7-041211 @ 10:44 For VOCs, SVOCs, PCBs and Metals	BAILER	10:44	1 GALLON							I MP PP PS						7.64	4.88	14.88	1	1	1	SP-7
Collect Samples SP8-041211 and Dup2-041211 @ 11:08 For VOCs, SVOCs, PCBs and Metals	BAILER	11:08	1 GALLON							I MP PP PS						3.85	4.67	14.67	1	1	1	SP-8
Collect Samples SP9-041211 and MSMSD2-041211 @ 11:42 For VOCs, SVOCs, PCBs + Metals	BAILER	11:42	1 GALLON							I MP PP PS						5.66	4.34	14.34	1	1	1	SP-9

Weather Conditions: _____

Items for Comment Section: (slow recharge, turbidity, odor, sheen)

Sampled By: _____

2" Schd. 40 = 0.163 g/ft. / 4" Schd. 40 = 0.653 g/ft. / 6" Schd. 40 = 1.47 g/ft.

Instrument Types/Calibration Time:
(D.O., pH, Temp., Cond., Turb.)

_____ _____
_____ _____
_____ _____

Sample Methods:
(b) - Bailer
(p) - Submersible Pump
(o) - Other
(d) - Dry

Measurement Schedule:
I - Pre Purge PP - Post Purge
MP - Mid Purge PS - Post Sample

PARS Environmental Inc.

MONITORING WELL SAMPLING LOG

Date: 7/19/11

Client: USAR Location: ALBANY PARS Project No.: 773-14

SAMPLE ID / COMMENTS	Sample Method	Sample Time (Start/End)	Volume Purged (Gallons)	Other	Turbidity (Visual / NTU.)	Specific Cond. (units?)	Dissolved Oxygen (ppm)	Temp (C)	pH	Measurement Schedule	Depth To Water (Pre Sample)	Purge Rate (Gallons/Minute)	Depth To Water (Post Purge)	Purge Time (Start/End)	1 Well Volume (Gallons)	Depth to Water (In Feet)	TOC to TOS (In Feet)	Total Depth (Ft)	Product Thickness	PID Reading	Well Permit #	Well ID
Collect Sample SP10-041211 @ 14:20	BAILER	14:20	1 GALLON							I MP PP PS						11.51	6.00	16.00	1	1	1	SP-10
										I MP PP PS												
										I MP PP PS												

Weather Conditions: _____

Items for Comment Section: (slow recharge, turbidity, odor, sheen)

Sampled By: _____

2" Schd. 40 = 0.163 g/ft. / 4" Schd. 40 = 0.653 g/ft. / 6" Schd. 40 = 1.47 g/ft.

Instrument Types/Calibration Time:

(D.O., pH, Temp., Cond., Turb.)

_____ _____

_____ _____

_____ _____

Sample Methods:

(b) - Bailer
(p) - Submersible Pump
(o) - Other
(d) - Dry

Measurement Schedule:

I - Pre Purge PP - Post Purge
MP - Mid Purge PS - Post Sample

H:\Files\Parsmast\Environ\WELLSAM3

APPENDIX E

Air Quality Questionnaire and Building Inventory Form

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

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

Preparer's Name Thomas Dobinson Date/Time Prepared 4/11/11 1030

Preparer's Affiliation Consultant Phone No. 609-890-7277

Purpose of Investigation Site Inspection

1. OCCUPANT:

Interviewed: (Y) / N

Last Name: US Army Reserve First Name: _____

Address: 90 North Main Ave, Albany, NY

County: Albany

Home Phone: _____ Office Phone: _____

Number of Occupants/persons at this location _____ Age of Occupants _____

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

Interviewed: Y / N

Last Name: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

Residential	School	Commercial/Multi-use
Industrial	Church	Other: Former Vehicle Maintenance

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

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

If multiple units, how many? N/A

If the property is commercial, type?

Business Type(s) N/A

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

Other characteristics:

Number of floors 1 Building age_____

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

4. AIRFLOW

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

Airflow between floors

Only 1 floor. The building is slab on grade.

Airflow near source

Outdoor air infiltration

Infiltration into air ducts

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

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

Basement/Lowest level depth below grade: 0 (feet)

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

Expansion joints in the concrete floor and around the former trench drain concrete patch.

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

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

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

The primary type of fuel used is:

Natural Gas	Fuel Oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank fueled by: N/A

Boiler/furnace located in:	Basement	Outdoors	Main Floor	Other_____
Air conditioning:	Central Air	Window units	Open Windows	None

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

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

Hot air is supplied from a ceiling mounted furnace and the ducts run southeast along the ceiling to provide heat.

7. OCCUPANCY

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

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

8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

If yes, what types of solvents are used? Solvents were formerly used as part of vehicle maintenance.

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

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

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

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

9. WATER AND SEWAGE

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

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

10. RELOCATION INFORMATION (for oil spill residential emergency)

a. Provide reasons why relocation is recommended: _____

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

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

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

11. FLOOR PLANS

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

Basement: N/A

First Floor: See Figures

12. OUTDOOR PLOT

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

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

See Figures

13. PRODUCT INVENTORY FORM

Make & Model of field instrument used: ppb Rae

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

Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units)	Photo ** Y / N
Maintenance Shop	Latex Blacktop Crack Fill	1 gal (2x)	UO & U	Not Listed	0 ppb	N
Maintenance Shop	Tile Lab Grout & Tile Sealer	1 gal	U	154 grams of VOC/Liter	0 ppb	N
Maintenance Shop	America's Finest Spray Paint	12 oz	U	toluene, acetone & xylenes	0 ppb	N
Maintenance Shop	RoundUp Weed Killer	1 gal	U	Glyphosphate, isopropylamine salt	0 ppb	N
Maintenance Shop	Behr Interior Enamel	5 gal	UO	Not Listed	0 ppb	N
Maintenance Shop	Behr Interior Enamel	1 gal (3x)	UO & U	Not Listed	0 ppb	N
Maintenance Shop	Hygard Transmission and Hydraulic Oil	5 gal	U	Not Listed	0 ppb	N
Maintenance Shop	Oman Adhesives Clear Wallcovering Adhesive	1 gal	U	Not Listed	0 ppb	N
Maintenance Shop	Roppe Stair Tread Adhesive Stair Tread Compound	5 gal	UO	No Volatile Solvents	0 ppb	N
Maintenance Shop	Roppe Epoxy Caulking	1 gal	UO	Not Listed	0 ppb	N

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