# TECHNICAL MEMORANDUM RISK ASSESSMENT, MUNITIONS RESPONSE SITES

DATE:

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SUBJECT:

Munitions Response Post-Remediation Risk Assessment, Seneca Army Depot Activity

#### 1. Purpose and Organization of Memorandum

Parsons Infrastructure & Technology Group Inc. (Parsons) has completed a risk assessment to evaluate potential risks associated with site conditions following the munitions response actions at SEAD-46 (the 3.5-inch Rocket Range), SEAD-57 (the former Explosive Ordnance Disposal [EOD] Area), SEAD-002-R-01 (EOD-2 and EOD-3), SEAD-007-R-01 (the Grenade Range), and SEAD-70 (Building 2110, Filled Area) at the Seneca Army Depot Activity (SEDA or Depot) Superfund Site, Seneca County, New York. This memorandum summarizes the risk assessment approach and the results for each of the sites.

Section 2 of this memorandum provides background information for the risk assessment, section 3 identifies and presents the data used for the risk assessment, sections 4 through 7 summarize each step of the four-step risk assessment process (i.e., hazard identification, exposure assessment, toxicity assessment, and risk characterization), section 8 discusses the risk uncertainties associated with the risk assessment, section 9 summarizes the risk assessment findings, and section 10 lists reference materials used.

#### 2. Background

#### 2.1 Site History

The former military facility was owned by the U.S. Government and operated by the Army between 1941 and 2000 when SEDA's military mission ceased. The Depot occupied approximately 10,600 acres of land in the towns of Varick and Romulus in Seneca County, New York. The Depot's historic military

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mission included receipt, storage, distribution, maintenance, and demilitarization of conventional ammunition, explosives, and special weapons.

In September 2000 the Army assumed the role of caretaker of the former Depot. As caretaker, the Army maintains control of the Depot's land until the dates when parcels are transferred to new owners for alternate uses. Areas in the Depot that are subject to continuing investigation and remedial action under the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), remain under the control of the Army; however, to date more than 8,250 acres of the former Depot have been transferred to the Seneca County Industrial Development Authority, the State of New York, and other federal entities.

# 2.2 Areas of Concern

This memorandum discusses five areas of concern (AOCs): SEAD-46; SEAD-57; SEAD-002-R-01, which consists of two separate areas defined as Explosive Ordnance Disposal (EOD) Area 2 and Area 3; SEAD-007-R-01; and SEAD-70. The AOCs are located in the northern portion of the former Depot on land that is in the Town of Varick (see Figure 1). SEAD-46 and SEAD-002-R-01 are located in the eastern third of the former Depot. This area is located between Fayette Road and the Depot's eastern security fence, and south of East-West Baseline Road. SEAD-57, SEAD-70, and SEAD-07-R-01 are located in the western third of the former Depot. This area is bounded by North-South Baseline Road and the Depot's western security fence. SEAD-70 is located south and west of the intersection of East-West Baseline Road and North-South Baseline Road. SEAD-57 and SEAD-007-R-01 are located north of East-West Baseline Road. Land within the Depot's former Munitions Storage Area is located between the two areas where the five AOCs are located. SEAD-46, EOD-3, SEAD-57, SEAD-007-R-01, and SEAD-70 are located in areas that are generally undeveloped and surrounded by open grassland, thick brush, and wooded areas; EOD-2 is also partially bordered by the Duck Pond.

# 2.2.1 SEAD-46

SEAD-46, also known as the "3.5-inch Rocket Range", is a trapezoidal parcel of land that encompasses approximately 68 acres (see Figure 2). The southern east-west boundary of SEAD-46 is located approximately 6000 feet north-northwest of the former Depot's main gate on State Highway 96. The area is comprised primarily of open grassland, which is occasionally interrupted and bordered by areas of dense brush and trees. SEAD-46 is bisected by an unnamed dirt road that runs southeast to northwest. The predominant feature in the area is an earthen backstop target berm that is situated near the northwest corner of the AOC.

From the 1940s to the 1960s SEAD-46 was used for testing fire tracers, 3.5-inch rockets, and possibly other forms of ammunition. The 1998 Archive Search Report (ASR) indicates that the backstop target berm is visible in the 1954 aerial photograph of the area. Although SEAD-46 is identified as the "3.5-inch Rocket Range," the ASR indicates that it also includes a reputed EOD disposal site (i.e., EOD-3) and a known Reserve Component Training Area. Further, the Ordnance and Explosives Engineering Evaluation/Cost Analysis (OE EE/CA) prepared by Parsons in 2004 indicates that SEAD-46 was once

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used as a testing range for rocket motors. Review of historic files revealed at least one picture of a 3.5-inch motor fixed to a tripod in front of the backstop berm at SEAD-46.

#### 2.2.2 SEAD-57

SEAD-57, the former Explosive Ordnance Disposal Area (formerly EOD-1), is a rectangular parcel of land that encompasses approximately 72 acres in the west-northwest portion of the former Depot. SEAD-57 is adjacent to the southernmost portion of the Open Burning/Open Detonation Grounds (see Figure 3) that occupies most of the land located in the northwestern corner of the former Depot. SEAD-57 is comprised primarily of open grassland. A few man-made structures, located in the center of the AOC and along its northern edge, exist at SEAD-57. An open, reverse "C"-shaped berm, measuring approximately 80 feet by 100 feet in size, is located in the center of the AOC. Equipment shelters, remote control shelters, and an EOD munitions storage igloo are located along the north-central edge of the AOC. An east-west oriented, unnamed dirt road transects the northern edge of the AOC, and a second, perpendicular, unnamed dirt road intersects the northern road roughly halfway across the AOC's edge. This road provides vehicular access to the area surrounding the earthen containment berm.

For more than 20 years, the 143<sup>rd</sup> Ordnance Detachment, a Department of the Army tenant organization located at the Depot, performed ordnance and explosives (OE) disposal at SEAD-57. The disposal area was used by EOD personnel for the disposal of conventional ammunition or explosives weighing less than 5 pounds.

# 2.2.3 SEAD-002-R-01 (EOD-2 and EOD-3)

SEAD-002-R-01 is comprised of two separate areas, EOD-2 and EOD-3, which are located in the northeastern portion of the former Depot in the vicinity of the Duck Pond and SEAD-46.

EOD-2 encompasses approximately 3 acres of land on the southwestern shore of the Duck Pond (see Figure 4). This area is west-northwest of SEAD-46 and southeast of the intersection of Fayette Road and East-West Baseline Road (see Figure 1). EOD-2 is comprised primarily of open grassland with small areas of brush and tree cover. A portion of the eastern boundary of this site is defined by the shore of the Duck Pond. A portion of EOD-2 is collocated with the western portion of SEAD-13, the former Inhibited Red-fuming Nitric Acid disposal area. The ASR states that explosive devices were used in EOD-2, and that non-explosive projectiles were disposed in the Duck Pond.

EOD-3 encompasses approximately 4 acres of land approximately 250 feet north of the earthen target berm in SEAD-46 (see Figure 5). EOD-3 is mostly flat with the exception of a 100 foot by 200 foot depression in the middle of the site. The area surrounding the depression is wooded. The ASR describes the AOC as a former EOD disposal area, and indicates that in the 1950s and 1960s the area surrounding the depression was clear of brush and trees.

# 2.2.4 SEAD-007-R-01 (Grenade Range)

The Grenade Range, which was constructed in the mid-1980s, encompasses approximately 28 acres of land in the northwestern portion of the former Depot, to the west and southwest of SEAD-57 (see Figure 6). During its lifetime, the Grenade Range area contained wooden and armored vehicle targets, distance

and boundary markers, and a range control tower. The Grenade Range is comprised primarily of open grassland that is surrounded by woods. The ASR states that 40mm M781 (40mm Low Velocity Practice Cartridge) and 35mm M73 sub-caliber practice rockets were used at the Grenade Range during security forces' training. There is no record (or indication at the targets) that high explosive (HE) rounds were tested. Small arms (blanks) casings were reported to be present at the time of the ASR.

#### 2.2.5 SEAD-70

SEAD-70 is a historic fill area encompassing approximately 4.5 acres that are adjacent to the historic location of Building T-2110 in the northwestern portion of the Depot (see Figure 7). Building T-2110 was demolished in 2007. SEAD-70 is south of East-West Baseline Road approximately 1,000 feet west of the intersection of North-South Baseline Road and East-West Baseline Road, and approximately 15,000 feet northwest of the former Depot's main gate on State Highway 96. When Building T-2110 was present at the site, it was encircled by a dirt road and was used to house horses. The remainder of SEAD-70 is undeveloped.

The most noticeable feature in the undeveloped portion of SEAD-70 is a kidney-shaped landfill that forms a flat, topographic high area. The landfill appears to originate near the former barn and expand southeasterly. The landfill's scarp is clearly visible on its eastern side. A large mound is located near the southeastern corner of the barn and an elongated vegetated mound is present along the southern perimeter of the landfill. Immediately east of the landfill is a wetland area beyond which is a large stand of deciduous trees.

The topography in the immediate area of the barn and over the extent of the landfill is relatively flat; however the local and regional topography surrounding the landfill slopes west.

#### 3. Data Used for the Risk Assessment

All soil and groundwater data used in the risk assessment calculations were validated by Parsons' chemists in accordance with US Environmental Protection Agency (USEPA) Region 2 Standard Operating Procedures (SOPs).

# 3.1 <u>SEAD-46</u>

Analytical results from samples collected during the SEAD-46 remedial investigation (RI) performed between 1999 and 2000 form the datasets used for the risk assessment at this AOC. Soil and groundwater datasets were evaluated for SEAD-46. There are no permanent wetland areas nor surface water features in SEAD-46; therefore, exposure to surface water and to sediment were considered incomplete pathways. A few "surface water" and "sediment" (henceforth "ditchsoil") samples were collected and characterized during the RI; however, these samples were collected from pools that formed during intermittent storm events prior to infiltration or evaporation. Hence, results from surface water samples were not used in this risk assessment. On the other hand, results from "sediment" samples were pooled with soil results that were evaluated in the risk assessment.

The soil dataset for SEAD-46 is comprised of surface (0 to 2 feet), subsurface (2 to 15 feet), and ditchsoil sample results. The soil dataset, which includes a surface soil and a total soil subset, are presented in

Attachment A, Table 1. Surface soil in the SEAD-46 dataset was assumed to be accessible by all potential receptors evaluated in this risk assessment (construction workers, park workers, recreational child visitors, resident adults, and resident children); subsurface soils in the SEAD-46 dataset were assumed accessible by the construction worker receptor only.

During the SEAD-46 RI, two rounds of groundwater samples were collected from six monitoring wells (MW46-1 to MW46-6). Analytical results from these samples were used as the groundwater dataset for the risk assessment. Round 1 samples were collected from January 22-23, 2000; and Round 2 samples were collected from April 25-26, 2000. The RI groundwater samples were collected using low-flow groundwater sampling methods. Generally, the concentrations of chemicals detected in the Round 1 and Round 2 samples are comparable. Groundwater data used for the risk assessment are presented in **Attachment A, Table 2**.

SEAD-46 soil and groundwater samples were analyzed for Target Compound List (TCL) volatile organic compounds (VOCs), TCL semi-volatile organic compounds (SVOCs), TCL pesticides and polychlorinated biphenyls (PCBs), explosive constituents, and Target Analyte List (TAL) metals. Prior to performing summary statistics and risk assessment calculations, analytical results from sample duplicate pairs of soil data were averaged.

#### 3.2 SEAD-57

Analytical results from soil and ditchsoil samples collected during the SEAD-57 Expanded Site Investigation (ESI) in 1993 and 1994, the RI in 1999 and 2000, and the Munitions Response activities performed in 2006 were used in the risk assessment. Surface soil in the SEAD-57 dataset was assumed to be accessible by all potential receptors evaluated in this risk assessment, whereas subsurface soils in the SEAD-57 dataset were assumed accessible by only construction worker receptors. Soil data used for the risk assessment are presented in **Attachment B**, **Table 1**.

Analytical results from groundwater samples collected during the ESI on February 3, 1994; Round 1 and Round 2 of the SEAD-57 RI on January 23-25, 2000 and April 26-28, 2000; and Round 1 and Round 2 of the SEAD-12 RI on April 23, 1999 and December 2, 1999 comprise the SEAD-57 groundwater dataset. During the ESI, groundwater samples were collected from three monitoring wells (MW57-1, MW57-2, and MW57-3) using bailers. Since bailers were used during the ESI sampling, elevated results are suspect. It is likely that elevated contaminant concentrations found in the ESI samples are due to the presence of silt or entrained soil fines that were stirred up by the bailing technique that was used when sampling these wells. The repetitive lowering and raising of the bailer is likely to stir up any soil or silt in the well, and the presence of metals in soil are likely to contribute to the concentration of metals detected in the samples from such event. The use of bailers creates more turbidity in samples than do low-flow sampling procedures, and, as such, metal concentrations in samples obtained with bailers tend to be greater than metal concentrations obtained with low-flow sampling procedures.

Samples collected during the SEAD-57 and SEAD-12 RI sampling events were collected using low-flow sampling procedures. Groundwater samples were collected from seven monitoring wells (MW57-1 to MW57-7) as part of the SEAD-57 RI, and from one monitoring well (MW57-1) as part of the SEAD-12

RI. Groundwater data collected during all groundwater sampling events are presented in **Attachment B**, **Table 2a**.

An alternate SEAD-57 groundwater dataset that excludes the ESI groundwater results is presented in **Attachment B, Table 2b**. ESI results were excluded from the alternate dataset due to concerns over result biases due to the use of bailers which tend to create more turbidity in samples than do low-flow sampling procedures. As such, the majority of detected metal concentrations in the ESI samples were a magnitude higher than comparable metal concentrations in the RI samples. This discrepancy in metal concentration is suspected to be attributable to the presence of metal contaminants in suspended soil/silt that was present in the ESI samples but not in the RI samples.

Soil and groundwater samples collected from SEAD-57 were analyzed for TCL VOCs, SVOCs, pesticides and PCBs, explosives, and TAL metals during the ESI sampling event; TCL VOCs, SVOCs, pesticides and PCBs, and TAL metals were analyzed during the SEAD-57 RI sampling events; and TAL metals were analyzed during the SEAD-12 RI sampling events. Analytical results from sample duplicate pairs were presented as discreet samples.

# 3.3 SEAD-002-R-01 (EOD-2 and EOD-3)

The SEAD-002-R-01 dataset is separated into two area-specific datasets for EOD-2 and EOD-3. Analytical results collected during the Munitions Response activities in 2006 form the dataset used for the risk assessment at SEAD-002-R-01. This dataset includes only shallow soil samples (0 to 2 feet). The EOD-2 soil data used in the risk assessment are presented in **Attachment C**, **Table 1**. The EOD-3 soil data used in the risk assessment are presented in **Attachment D**, **Table 1**. Soil associated with the analytical results was assumed to be accessible by all potential receptors evaluated in this risk assessment; therefore all results presented in the aforementioned tables were used in the risk assessment.

Soil samples collected from EOD-2 and EOD-3 were analyzed for TCL VOCs, SVOCs, pesticides and PCBs, and TAL metals during the Munitions Response sampling events. Analytical results from sample duplicate pairs of soil data were presented as discreet samples.

# 3.4 SEAD-007-R-01 (Grenade Range)

Analytical results from samples collected during the Munitions Response activities in 2006 form the dataset used for the risk assessment at the Grenade Range. The SEAD-007-R-01 soil dataset consists of results from shallow samples only. The soil data used for the risk assessment are presented in **Attachment E, Table 1**. Soil associated with the analytical results was assumed to be accessible by all potential receptors evaluated in this risk assessment; therefore all results presented in the aforementioned table were used in this risk assessment.

Soil samples collected from SEAD-007-R-01 were analyzed for TCL VOCs, SVOCs, pesticides and PCBs, and TAL metals during the Munitions Response sampling event. Analytical results from sample duplicate pairs of soil data were presented as discreet samples.

# 3.5 SEAD-70

Analytical results from selected shallow and subsurface soil samples that were collected during the 1994 ESI sampling event, and shallow soil samples collected during the limited removal action conducted between 2006 and 2009 form the SEAD-70 soil dataset. Results associated with soil that was removed as part of the SEAD-70 limited removal action have been eliminated from the SEAD-70 soil dataset. The soil data used for this risk assessment are presented in **Attachment F**, **Table 1**. Soil associated with the analytical results was assumed to be accessible by all potential receptors evaluated in this risk assessment; therefore all results presented in the aforementioned table were used in this risk assessment.

Analytical results from groundwater samples collected during the ESI sampling event conducted on July 7 and 8, 1994 form the SEAD-70 groundwater dataset. The groundwater data used for the risk assessment are presented in **Attachment F**, **Table 2**.

Soil samples collected from SEAD-70 were analyzed for TCL VOCs, SVOCs, pesticides and PCBs, and TAL metals during the ESI sampling event; samples collected during the limited removal action were analyzed for arsenic only. Analytical results from sample duplicate pairs of soil data were presented as discreet samples.

# 4. Hazard Identification

Contaminants that were evaluated in this risk assessment (i.e., Contaminants of Potential Concern [COPCs]) were selected by comparing maximum detected concentrations (MDCs) with USEPA Regional Screening Level (RSLs). RSLs for carcinogenic compounds were used at full value, which corresponds to a target cancer risk of 1x10<sup>-6</sup>; RSLs for non-carcinogenic compounds were reduced by a factor of 10 (i.e., 0.1 times the listed RSL value), which corresponds to a hazard quotient of 0.1. When USEPA RSLs were not available, other USEPA screening values were used if identified. For example, in the absence of USEPA RSLs Parsons consulted USEPA Region 3 or 9 Risk-Based Concentrations (RBCs) for residential soil, USEPA Region 3 or 9 RBCs for tapwater, and USEPA Maximum Contaminant Levels (MCLs) for drinking water.

Chemicals with concentrations below the comparator RSLs were eliminated from the list of COPCs evaluated in this risk assessment. Chemicals with no available screening values and chemicals with maximum detected concentrations above the screening values were considered COPCs. In addition, all members of a chemical class that had any one member selected as a COPC were considered COPCs (e.g., all detected carcinogenic polycyclic aromatic hydrocarbons (cPAHs) were retained as COPCs if any one cPAH was identified as a COPC based on the aforementioned screening process).

Soil and groundwater screening tables summarizing the COPC identification process are presented in:

- SEAD-46: Attachment A, Tables 3A and 3B, respectively.
- SEAD-57: Attachment B, Tables 3A and 3B, respectively.
- SEAD-002-R-01 (EOD-2): Attachment C, Table 2 (soil only).
- SEAD-002-R-01 (EOD-3): Attachment D, Table 2 (soil only).
- SEAD-007-R-01 (Grenade Range): Attachment E, Table 2 (soil only).

• SEAD-70: Attachment F, Tables 3A and 3B, respectively.

# 5. Exposure Assessment

#### 5.1 Exposure Point Concentrations (EPCs)

Risk due to soil exposure and ambient air exposure was evaluated at all AOCs; risk due to groundwater exposure was evaluated at SEAD-46, SEAD-57, and SEAD-70 only. Risk was evaluated via the reasonable maximum exposure (RME) scenarios.

Risk due to soil and groundwater exposure was evaluated based on soil and groundwater EPCs which were set equal to a contaminant's MDC or a contaminant's upper confidence limit (UCL) of the arithmetic mean concentration. MDCs were used as EPCs where limited contaminant data exist. UCLs were used for EPCs where large-enough contaminant datasets exist. When UCLs were used, they were calculated via the USEPA's Software for Calculating Upper Confidence Limits (ProUCL) version 4.00.04. When necessary, datasets were analyzed in ProUCL with "ND" to account for non-detect values. This EPC calculation is consistent with USEPA guidance (2002b).

Risk due to ambient air exposure was evaluated based on soil EPCs. COPCs for ambient air were determined from soil EPCs and concentrations of particulate matter that were below 10 μm in aerodynamic diameter (PM10) in ambient air. Ambient PM10 concentrations for the construction worker were estimated using an emission and dispersion model (see Attachment G). PM10 concentrations for industrial workers and residents at the Depot were set at 17 μg/m³, which is based on particulate measurements collected at the Depot.

EPCs for soil, groundwater, ambient air (one scenario for construction workers and one scenario for other human receptors), and inhaled air (in a shower) are presented in:

- SEAD-46: Attachment A, Tables 4A through 4E, respectively.
- SEAD-57: Attachment B, Tables 4A through 4E, respectively.
- SEAD-002-R-01 (EOD-2): **Attachment C, Tables 3A** through **3C**, respectively (no groundwater considered).
- SEAD-002-R-01 (EOD-3): Attachment D, Tables 3A through 3C, respectively (no groundwater considered).
- SEAD-007-R-01 (Grenade Range): **Attachment E, Tables 3A** through **3C**, respectively (no groundwater considered).
- SEAD-70 EPC: Attachment F, **Tables 4A** through **4E**, respectively.

#### 5.2 Receptors, Exposure Pathways, and Exposure Profiles

Currently, each AOC is unused and vacant. Land in the AOCs is currently designated as either Conservation/Recreation (SEAD-57, SEAD-70, SEAD-007-R-01) or Residential/Resort (SEAD-46, SEAD-002-R-01 [EOD-2 and EOD-3]). Based on the current and foreseeable land use at the sites, five future human receptors were identified for this risk assessment: construction worker, park worker, recreational child visitor, adult resident, and child resident. Adult and child residents are included in the

risk assessment to evaluate potential risks to receptors under the Residential/Resort (i.e., unrestricted use) scenario.

Soil exposure pathways analyzed in this risk assessment are the ingestion of soil, dermal contact with soil, and inhalation of ambient dust formed by soil resuspension. Groundwater exposure pathways analyzed in this risk assessment are the intake of groundwater, inhalation of groundwater, and dermal contact with groundwater. Although groundwater pathways are analyzed, it is unlikely that groundwater will be used as a potable water source at the Depot. The aquifer that underlies the Depot has not been shown to be productive enough to supply sufficient water to fulfill potential potable water needs of future occupants. Further, the shallow overburden aquifer that underlies the Depot is subject to large seasonal variations in groundwater elevation, and periodically disappears during dry seasons at many of the AOCs at the Depot. Finally, the Depot has an existing alternate potable water source that is currently in use. Nevertheless, as a conservative approach, the aforementioned groundwater exposure pathways were evaluated in this risk assessment.

Exposure assumptions for the park worker, construction worker, recreational child visitor, adult resident, and child resident receptors are summarized in **Attachment G Tables 1A**, **1B**, **1C**, **1D**, and **1E**, respectively. These assumptions approximate the frequency, duration, and manner in which receptors would be exposed to environmental media.

# 5.3 Quantification of Exposure

Each receptor's potential exposure to the identified COPCs was quantified for each of the applicable exposure pathways. Potential exposures were calculated following methods recommended in USEPA guidance documents, such as the USEPA Risk Assessment Guidance for Superfund (RAGS) (USEPA, 1989). Human health intake, or absorbed dose (depending on the exposure route), was calculated with EPCs and exposure assumptions. The total exposure of any receptor to any COPC is divided by the period of interest to obtain an average exposure. The period of interest, or averaging time, is a function of the toxic endpoint. For non-carcinogenic effects, the period of interest is the receptor's exposure time (specific to the scenario being assessed); for carcinogenic effects, it is the receptor's lifetime (assumed to be 70 years).

#### 6. Toxicity Assessment

Toxicity variables considered in this assessment include the reference dose (RfD) and the reference concentration (RfC) to evaluate non-carcinogenic effects, and the slope factor and the unit risk to evaluate carcinogenic effects. Toxicity values for the risk assessment were selected in accordance with the USEPA-recommended (2003a) human health toxicity value hierarchy.

For the evaluation of carcinogenic cPAHs, Parsons used toxicity equivalency factors (TEFs) that are based on the toxicity of benzo(a)pyrene as published by the USEPA (1993) (see below).

РАН	<u>TEF</u>
Benzo(a)pyrene	1.0
Benzo(a)anthracene	0.1
Benzo(b)fluoranthene	0.1
Benzo(k)fluoranthene	0.01
Dibenzo(a,h)anthracene	1.0
Chrysene	0.001
Indeno(1,2,3-cd)pyrene	0.1

To calculate the slope factor for any given cPAH, the appropriate TEF was multiplied by the slope factor for benzo(a)pyrene. The toxicity factors used in this evaluation are summarized in Attachment G Tables 2A through 2D.

Information regarding Gastrointestinal (GI) absorption efficiency for administered doses was used for the development of dermal toxicity factors. Specifically, oral slope factors were converted to dermal slope factors by dividing by the GI absorption efficiency; likewise, oral reference doses were converted to dermal reference doses by multiplying by the GI absorption efficiency. The derivation of dermal toxicity values for the risk assessment is consistent with USEPA (2004) recommendations. The GI absorption efficiency that was used in this risk assessment is the value recommended by the USEPA in its Supplemental Guidance for Dermal Risk Assessment. In the event that information regarding absorption of a particular substance could not be located, an oral absorption efficiency of 100% was assumed. This method is consistent with USEPA Region 2 guidance (personal communication between A. Schatz of Parsons and M. Maddeloni of USEPA Region 2).

For the development of inhalation toxicity values, RfCs were converted into inhalation RfDs with units of milligrams of chemical per kilogram of body weight per day (mg/kg-day). Similarly, inhalation unit risk factors were converted into inhalation slope factors in units of per milligrams of chemical per kilogram of body weight per day ((mg/kg-day)<sup>-1</sup>).

Ideally, chronic RfDs and RfCs are based on chronic exposure studies of humans or animals. "Chronic exposure" for humans is considered to be exposure of seven years or more; therefore, RfDs and RfCs for chronic exposure are appropriate for evaluating adult and child residential receptor exposures. On the other hand, RfDs and RfCs for subchronic exposure, which is defined as exposure between 1 and 6 years, are appropriate for evaluating construction worker, recreational child visitor, and child resident receptor exposures. Nevertheless, as a conservative approach, chronic RfDs and RfCs were used to assess risk for all receptors.

#### 7. Risk Characterization

Detailed risk calculations for SEAD-46 for exposure via soil ingestion, groundwater intake, dermal exposure to soil, dermal exposure to groundwater, inhalation of groundwater, and inhalation of dust in ambient air are presented in **Attachment A**, **Tables 5** through **10**. Non-cancer hazard indices and cancer risks calculated for the receptors are presented in **Attachment A**, **Table 11**.

Detailed risk calculations based on all available analytical data for SEAD-57 for exposure via soil ingestion, groundwater intake, dermal exposure to soil, dermal exposure to groundwater, inhalation of groundwater, and inhalation of dust in ambient air are presented in **Attachment B**, **Tables 5** through **10**. Non-cancer hazard indices and cancer risks calculated for the receptors are summarized in **Attachment B**, **Table 11**. SEAD-57 risk calculations for a modified dataset that excludes ESI groundwater results that are assumed to be affected by high levels of turbidity associated with the collection of the sample using a bailer are presented in **Attachment B**, **Tables 6A**, **8A** and **11A**.

Detailed risk calculations for SEAD-002-R-01 (EOD-2 and EOD-3) and SEAD-007-R-01 (Grenade Range for exposure via soil ingestion, dermal exposure to soil, and inhalation of dust in ambient air are presented in **Tables 5** through **7**, in their respective attachments (**Attachment C**, **D**, and **E**, respectively). Non-cancer hazard indices and cancer risks calculated for the receptors are summarized in **Table 8**, in their respective attachments.

Detailed risk calculations for SEAD-70 for exposure through soil ingestion, groundwater intake, dermal exposure to soil, dermal exposure to groundwater, inhalation of groundwater, and inhalation of dust in ambient air are presented in **Attachment F**, **Tables 5** through **10**. Non-cancer hazard indices and cancer risks calculated for the receptors are summarized in **Attachment F**, **Table 11**.

# 7.1 Risk Characterization Results

The USEPA-recommended limit (i.e., the value that should not be exceeded) for the non-carcinogenic hazard index (HI) is 1.0. The USEPA upper limit for the cancer risk level is  $1x10^{-4}$  and the preferred limit is  $1x10^{-6}$ .

# 7.2 SEAD-46

#### 7.2.1 Conservation/Recreation Scenario

Estimated non-carcinogenic hazard indices (HIs) for the park worker and recreational child visitor receptors at SEAD-46 are below the USEPA limit of 1; the estimated HI for the construction worker receptor is above the USEPA limit. Estimated cancer risk levels for the construction worker, park worker, and recreational child visitor receptors at SEAD-46 are within the USEPA acceptable range (i.e.,  $1 \times 10^{-4}$  to  $1 \times 10^{-6}$ ) for carcinogenic risk.

Receptor	Hazard Index	Cancer Risk
Park Worker	4.2E-01	1.8E-05
Construction Worker	1.1E+00	1.3E-06
Recreational Child Visitor	2.4E-01	2.0E-06

Three exposure pathways, ingestion of soil (57%), inhalation of dust in ambient air (24%), and intake of groundwater (17%), represent approximately 99% of the HI calculated for the construction worker. Contributions from exposure to aluminum (7.9%), arsenic (17.2%), cobalt (14.5%), iron

(26.5%), and manganese (26.1%) represent more than 98.5% of the construction worker's total estimated HI.

Analyte	EPC (mg/kg)	USEPA RSL (mg/kg)	NYSDEC SCO (mg/kg)	SEDA Soil Avg. (mg/kg)	SEDA Std. Dev. (mg/kg)
Aluminum	14,000	77,000	NA	13,206	4,159
Arsenic	5.3	0.39	13	5.2	2.8
Cobalt	12	23	NA	11	4
Iron	27,000	55,000	NA	24,661	6,854
Manganese	670	1,800	1,600	609	335
NA = none av	ailable				

As summarized in the table below, the EPC used for aluminum, cobalt, iron, and manganese in SEAD-46 soil are below USEPA RSLs for residential soil; the EPC for manganese at

SEAD-46 is also below the New York State (NYS) unrestricted use soil cleanup objective (SCO) values. The EPCs for the five primary COPCs at SEAD-46 are consistent with background soil concentrations found at the Depot, each being within one standard deviation of the accepted average background concentration found in Depot samples.

As such, the estimated HI for the construction worker at SEAD-46 is comparable to, and perhaps lower than that which could be found at a residential site based on federal and state guidance values. EPCs at SEAD-46 are also consistent with concentrations at unaffected sites at the Depot. Further, it is important to note that intake of manganese, iron, and cobalt are considered to be beneficial to human health at moderate doses and that the lack of these metals can have deleterious health effects in adults and children.

As shown in the table below, which summarizes SEAD-46 COPCs exposure pathway contributions to the HI for the construction worker, exposure to manganese via all pathway routes represents the largest portion (percentage basis) of the HI estimated.

Contributions to Construction Worker's Hazard Index							
Analyte	Soil Ingestion	Dermal Contact Soil	Inhalation of Dust	Ingestion of Groundwater	Total	Percentage of Total	
Chrysene	2.0E-04	7.8E-05			2.8E-04	0.0%	
Dieldrin	9.2E-04	2.2E-04			1.1E-03	0.1%	
Aluminum	4.6E-02	1.3E-04	4.2E-02		8.8E-02	7.9%	
Arsenic	6.0E-02	5.1E-03		1.3E-01	2.0E-01	17.7%	
Cobalt	1.3E-01	3.8E-04	3.0E-02		1.6E-01	14.6%	
Iron	2.9E-01	8.6E-04			2.9E-01	26.6%	
Manganese	9.0E-02	6.5E-03	2.0E-01		2.9E-01	26.7%	
Thallium	1.1E-02	3.1E-05		6.1E-02	7.1E-02	6.4%	
Total	6.3E-01	1.4E-02	2.7E-01	1.9E-01	1.1E00	100%	

The most significant portion of the manganese contribution to the construction worker's HI is via inhalation of dust. The inhalation hazard quotient for manganese dust is based on a chronic RfC that was derived in a USEPA (1998) study of the inhalation of manganese dioxide dust by industrial workers in battery manufacturing facilities. The exact composition of the manganese identified at SEAD-46 is

unknown, but it is unlikely that all of the SEAD-46 manganese exists as manganese dioxide. More likely, the manganese present at SEAD-46 is a mixture of various naturally occurring minerals, including oxide, salt, carbonate, and silicate forms. Since manganese dioxide likely contributes only a portion of the risk at SEAD-46, the use of the aforementioned RfC is a very conservative approach; it is likely that the resulting hazard quotient overestimates probable impacts to the construction worker at SEAD-46 where other forms of manganese are likely to be present. Nevertheless, since the exact composition of the manganese at SEAD-46 is unknown, no adjustments to the HI can be made. Lastly, it is important to note that the aforementioned USEPA-promulgated RfC is an uncertain number; the USEPA assigns the RfC an uncertainty factor of 1,000, reflecting a low degree of confidence in its value.

In addition to the RfC, the inhalation HI for manganese is also based on an inhalation RfD. The inhalation RfD used in this risk assessment is 4,000 times lower than the American Conference of Governmental Industrial Hygienists' (ACGIH's) threshold limit value (TLV), where the TLV is the concentration of a substance to which an industrial worker can be exposed without adverse effects. This fact further emphasizes the conservative nature of the risk due to manganese calculated in this assessment.

The EPC and all sample concentrations measured for arsenic in SEAD-46 groundwater are below the USEPA MCL for arsenic in drinking water; the only concentration measured for thallium in SEAD-46 groundwater is above the USEPA MCL for thallium in drinking water.

Analyte	EPC (mg/L)	MCL (mg/L)
Arsenic	0.004	0.010
Thallium	0.004	0.002

Arsenic was found in only 3 of the 12 groundwater samples collected at SEAD-46; thallium was found in only 1 of the 12 groundwater samples. Further, the three times arsenic was detected in SEAD-46 groundwater samples all occurred in the first round of sampling; thallium was detected in the first round of sampling, as well. It is

assumed, then, that the arsenic and thallium found in groundwater at SEAD-46 are artifacts of the initial well installation and development process that likely entrained silt/soil fines that are not associated with dissolved forms of these COPCs.

Aside from the above discussion concerning COPC concentrations in SEAD-46 groundwater, it is unlikely that future receptors at the Depot would ever contact groundwater at the site because groundwater at the Depot is unlikely to be used as a potable water source. As mentioned in Section 5.2, the shallow overburden aquifer that underlies the Depot has not been shown to be productive enough to supply sufficient water to fulfill the potable water needs of potential future occupants. Further, groundwater elevations at the AOC are subject to significant seasonal variations and the overburden aquifer at SEAD-46 periodically disappears dry periods. Finally, the Depot has an existing alternate potable water source that is currently in use.

As discussed in Section 7.1, the USEPA sets a preferred limit of 1 for the non-carcinogenic HI. This value is provided as a limit for the entire human body; however, this limit can also be apportioned at the individual body system or target organ level. With reference to the six largest components of the SEAD-46 construction worker's non-carcinogenic HI: manganese's primary effect is on the central nervous system; iron's primary target organs are the heart, liver, or endocrine glands, with secondary effects to the lungs; arsenic's primary target organ is the skin; cobalt's primary effect is on the lungs with a secondary

affect on the heart; aluminum's is to neuro-development of the brain; and thallium's is to the liver, blood, and hair. As such the maximum effect that is anticipated to impact any single body organ would be toward the construction worker's heart where the hazard quotients determined for iron, cobalt and the other unassigned COPCs would represent a total hazard quotient of less than 0.5. Therefore, the construction worker's apparent non-carcinogenic HI is not above the EPA's limit at the target organ/system level.

Target Organ or Effect	Estimated HI	Contributing COPCs
Central Nervous System or Neuro Development	0.37	Aluminum and Manganese
Skin	0.20	Arsenic
Lungs	0.45	Cobalt and Iron
Heart	0.45	Cobalt and Iron
Liver	0.36	Iron and Thallium
Endocrine Glands	0.29	Iron

# 7.2.2 Residential Scenario

Estimated non-carcinogenic HIs for the adult and child residential receptors at SEAD-46 are above the USEPA limit of 1. Estimated cancer risk levels for the adult and child residential receptors at SEAD-46 are within the USEPA acceptable range (i.e.,  $1x10^{-4}$  to  $1x10^{-6}$ ); however, the estimated cancer risk for a lifetime resident is above the USEPA acceptable range.

Pathway/Receptor	Hazard Index	Cancer Risk
Inhalation of Dust in Ambient Air	7.5E-01	1.9E-06
Ingestion of Soil	2.7E-01	4.1E-06
Intake of Groundwater	5.3E-01	5.6E-05
Dermal Contact to Soil	7.9E-03	5.4E-07
Dermal Contact to Groundwater	9.9E-03	0.0E+00
TOTAL for RESIDENT ADULT	1.6E+00	6.3E-05

Inhalation of Dust in Ambient Air	1.5E+00	9.6E-07
Ingestion of Soil	2.5E+00	9.5E-06
Intake of Groundwater	1.9E+00	4.9E-05
Dermal Contact to Soil	5.2E-02	8.9E-07
Dermal Contact to Groundwater	1.7E-02	5.7E-07
TOTAL for RESIDENT CHILD	6.0E+00	6.1E-05

Inhalation of Dust in Ambient Air	2.8E-06
Ingestion of Soil	1.4E-05
Intake of Groundwater	1.1E-04
Dermal Contact to Soil	1.4E-06
Dermal Contact to Groundwater	1.9E-06
TOTAL for LIFETIME RESIDENT	1.2E-04

The intake of groundwater represents approximately 84% of the cancer risk for the lifetime resident. The COPC representing all (100%) of the carcinogenic risk estimated for the intake of groundwater is arsenic. As discussed above, arsenic was detected three times during the first RI sampling event only. The EPC concentration was detected at 4  $\mu$ g/L which is below the USEPA MCL for arsenic in drinking water and below the NYS Ambient Water Quality Standard and Guidance Value (GA Standard). As has discussed earlier, the use of the groundwater at the Depot is unlikely. Thus, the estimated cancer risk for the lifetime resident is presumed to overestimate what is reasonably likely to exist at SEAD-46.

Three exposure pathways, ingestion of soil, intake of groundwater, and inhalation of dust represent approximately 99% of the non-carcinogenic HIs calculated for the adult and child residential receptors, as shown in the two tables presented below.

Contributions to Adult Resident's Hazard Index							
Analyte	Soil Ingestion (17%)	Dermal Contact Soil (0.5%)	Inhalation of Dust (47.9%)	Ingestion of Groundwater (34%)	Dermal Contact Groundwater (0.6%)	Total	Percentage of Total
Chrysene	8.5E-05	.4.4E-05				1.3E-04	0.01%
Dieldrin	3.9E-04	1.6E-04				5.5E-04	0.03%
Aluminum	1.9E-02	7.7E-05	1.2E-01			1.4E-01	8.64%
Arsenic	2.5E-02	3.0E-03		3.7E-01	8.6E-03	4.0E-01	25.56%
Cobalt	5.5E-02	2.2E-04	8.0E-02			1.4E-01	8.85%
Iron	1.2E-01	5.0E-04				1.2E-01	7.93%
Manganese	3.8E-02	3.8E-03	5.5E-01			6.0E-01	37.84%
Thallium	4.5E-03	1.8E-05		1.7E-01	1.4E-03	1.8E-01	11.14%
Total	2.7E-01	7.9E-03	7.5E-01	5.3E-01	9.9E-03	1.6E00	100%

Contributions to Child Resident's Hazard Index							
	Soil Ingestion (41.9%)	Dermal Contact Soil (0.9%)	Inhalation of Dust (25.6%)	Ingestion of Groundwater (31.4%)	Dermal Contact Groundwater (0.3%)	Total	Percentage of Total
Chrysene	7.9E-04	2.9E-04				1.1E-03	0.0%
Dieldrin	3.6E-03	1.0E-03				4.7E-03	0.1%
Aluminum	1.8E-01	5.1E-04	2.4E-01			4.2E-01	7.0%
Arsenic	2.4E-01	2.0E-02		1.3E00	1.5E-02	1.5E00	26.0%
Cobalt	5.2E-01	1.4E-03	1.7E-01			6.9E-01	11.5%
Iron	1.2E00	3.2E-03				1.2E00	19.5%
Manganese	3.6E-01	2.5E-02	1.1E00			1.5E00	25.2%
Thallium	4.2E-02	1.2E-04		5.9E-01	2.3E-03	6.4E-01	10.7%
Total	2.5E00	5.2E-02	1.5E00	1.9E00	1.7E-02	6.0E00	100%

In each case, the ingestion of groundwater represents approximately one-third of the total hazard index estimated for the resident receptors. As stated above, the groundwater pathway for SEAD-46 is considered incomplete as the shallow aquifer beneath the Depot yields poorly, and is generally inadequate to fulfill domestic use. Further, an alternative, non groundwater-derived supply of potable water is available at the Depot. Finally, the largest component of the groundwater intake HI results from the consumption of groundwater that contains arsenic; however, the concentration of arsenic in the groundwater at SEAD-46 is below the federal MCL and below the state's GA standard. The second largest component of the groundwater intake HI results from the consumption of groundwater that contains thallium; however, thallium was detected only once in the 12 samples characterized. Further, this detection occurred during the first round of sampling only. Therefore, the groundwater intake component of the two residents' HIs are considered to overestimate the actual hazard that exists.

A significant portion of the overall HI for the child and adult resident is due to the intake of soil contaminated with metals at concentrations that are consistent with USEPA RSLs for residential soil and NYS unrestricted use SCOs. However, the EPCs for each of these metals are generally consistent with available guidance values and regional background soil concentrations. Therefore, the level of potential hazard that is estimated cannot be differentiated from that which would be found in a residential environment. Applying the full ingestion of soil value to the overall HI overestimates the level of non-carcinogenic hazard at SEAD-46. A similar argument applies to the HI from the inhalation of dust: the inhalation risk is due to the inhalation of metals that are present at concentrations that are consistent with those that would be found in a residential environment.

Six contaminants, aluminum, arsenic, cobalt, iron, manganese, and thallium represent over 99% of the HI estimated for the residential child receptor. As discussed for the lifetime resident, the contribution of arsenic results from an EPC that is below the USEPA MCL for drinking water; hence, the HI is presumed overestimate the risk that exists at SEAD-46. Also, soil EPCs are consistent with typical background

concentrations at the Depot and are generally below USEPA RSLs and NYS SCOs. Therefore, it is likely that each of these hazard indices overestimates what may reasonably exist at SEAD-46.

Target organ analysis for the adult resident, summarized below, suggests that the largest projected impact for the adult (~ 0.70) will be on the central nervous system due to the presence of aluminum and manganese. As stated above however, these metals are present in the soil at SEAD-46 at levels that are consistent with the SEDA background and acceptable for unrestricted use and residential purposes.

Target Organ or Effect	Estimated HI	Contributing COPCs	
Central Nervous System or	Adult, 0.74   Child, 1.92	Aluminum and Manganese	
Neuro Development			
Skin	Adult, 0.40   Child, 1.5	Arsenic	
Lungs	Adult, 0.26   Child, 1.89	Cobalt and Iron	
Heart	Adult, 0.26   Child, 1.89	Cobalt and Iron	
Liver	Adult, 0.30   Child, 1.84	Iron and Thallium	
Endocrine Glands	Adult, 0.12   Child, 1.2	Iron	

Target organ analysis for the child suggests that there are potential target organ effects at levels above 1 for the central nervous system, heart, liver, endocrine systems, and skin. However, as discussed, these effects result from contaminant levels that are consistent with concentrations that would be found in residential areas that are allowed under prevailing environmental regulations and are consistent with background concentrations found in the area of the Depot. As such, the estimated effects can not be separated from those that are associated with native soils. Therefore, each of the potential risks and hazards identified for the child resident is considered to be an overestimate of the potential impact experienced.

#### 7.2.3 Conclusions

Projected non-carcinogenic hazard indices for the park worker and the recreational child visitor at SEAD-46 are below the USEPA-recommended limit of 1. The projected carcinogenic risk for the park worker, the construction worker, and the recreation child visitor are all within the USEPA acceptable range (i.e.,  $1 \times 10^{-4}$  to  $1 \times 10^{-6}$ ).

Non-carcinogenic HIs for the construction worker and the adult and child residential receptors are estimated to be above the USEPA limit; however, for each receptor the elevated HI can be attributed to SEAD-46 EPCs that are consistent with, and often below, state and federal guidance limits and standards (with the sole exception being for thallium in groundwater). Therefore, the Army believes that the estimated HIs overestimate the non-carcinogenic hazard index that is likely present at SEAD-46.

Similarly, the carcinogenic risk for the lifetime resident, which is estimated to be above the USEPA preferred range, is driven primarily by the intake of arsenic in groundwater. However, the concentration of arsenic in groundwater at SEAD-46 is below its USEPA MCL. As such, the cancer risk level for the SEAD-46 lifetime resident likely overestimates the actual risk that exists at the site, especially if consideration is given to the unlikelihood that groundwater would be used as a potable water source at the

Depot. Therefore, the Army believes that environmental conditions at SEAD-46 do not pose an unacceptable level of risk to any future receptors.

#### 7.3 <u>SEAD-57</u>

Initially, the risk assessment for SEAD-57 was based on the analysis and evaluation of all available soil and groundwater data collected during the ESI and RI events. The estimated non-carcinogenic hazard indices and carcinogenic risks found in this evaluation are summarized below. These results are summarized in **Attachment B**, **Table 1** through **11**.

SEAD-57 Human Health Risk Assessment Summary Based on all ESI and RI Data						
Receptor Hazard Cance Risk						
Park Worker	1.0E00	1.5E-05				
Construction Worker	2.1E00	1.1E-06				
Recreational Child Visitor	5.7E-01	1.7E-06				
Adult Resident	4.0E00	6.6E-05				
Child Resident	1.5E01	5.7E-05				
Lifetime Resident		1.2E-04				

As shown, the risk assessment suggests that elevated non-carcinogenic hazard indices are estimated for the construction worker and the adult and child residents, and that a carcinogenic risk level of greater than 1 in  $10,000 (1 \times 10^{-4})$  is estimated for a lifetime resident.

Further examination of the estimated hazards and risks indicates that a significant component of the projected hazards and risks is due to the varying forms of exposure to groundwater. Groundwater samples collected during the ESI were obtained using bailers, an aggressive sampling technique, whereas samples collected during the RI were collected using low-flow, purge-and-pump sampling, a procedure that is less aggressive and currently recommended by oversight agencies.

After review of the groundwater sample results, it is apparent that there are differences in the quality of the groundwater between the ESI and RI, especially with respect to metal concentrations and a reported result for bis(2-ethylhexyl)phthalate [i.e., also known as Di(2-ethylhexyl)phthalate or DEHP]. With reference to the DEHP, it was detected once in a single well, and when it was detected, it was found at a concentration of 20 µg/L, which exceeds its federal MCL (i.e., 6 µg/L). The single occurrence of this analyte was observed in MW57-3 in the sample that was collected during the ESI event. DEHP was not detected in any of the 18 samples that were collected during the RI events using low-flow, purge-and-pump sampling procedures including two subsequent sampling events conducted at MW57-3. As such, the ESI event result is considered to be non-representative of the quality of the groundwater that remains at the site. It is presumed that this anomalously elevated value results either due to being present in soil or silt that may have been contained in the ESI sample, or due to an artifact of the original well installation and development process that was completed at the time of the ESI.

The evaluation of metal contaminant results from the ESI and RI sampling events also indicates that metal concentrations observed in the ESI samples are higher, frequently by as much as an order of magnitude, than those that are observed in the samples from RI events. This analysis also indicates that the two highest concentrations reported for antimony in groundwater occurred in ESI samples and that both of these results were more than 10 times the only antimony level reported in the RI sampling events. Similarly, the only time cobalt was detected in a groundwater sample from SEAD-57 was during the ESI sampling event. Therefore, it is the Army's contention that the ESI sample results for metals and DEHP are not representative of the groundwater that underlies SEAD-57, and these results have been eliminated from the analysis of risks and hazards that exist at the site.

SEAD-57 Human Health Risk Assessment Summary Based only on RI Data					
Receptor	Hazard Index	Cancer Risk			
Park Worker	3.8E-01	1.4E-05			
Construction Worker	9.5E-01	1.1E-06			
Recreational Child Visitor	2.3E-01	1.6E-06			
Adult Resident	1.3E00	5.0E-05			
Child Resident	5.8E00	4.9E-05			
Lifetime Resident		9.8E-05			

Based on these determinations, the non-carcinogenic hazards and carcinogenic risks that are estimated to remain at SEAD-57 are shown below.

The revised calculations without the ESI groundwater data for antimony and cobalt are presented in Appendix B Tables 1 through 5, 6a, 7, 8a, 9, 10, and 11.

### 7.3.1 Conservation/Recreation Scenario

Estimated non-carcinogenic HIs at SEAD-57 for the park worker, construction worker, and the recreational child visitor receptors are below the USEPA preferred limit (i.e., 1). Estimated cancer risk levels for the park worker, the construction worker, and the recreational child visitor are all within the USEPA acceptable range (i.e.,  $1 \times 10^{-4}$  to  $1 \times 10^{-6}$ )

### 7.3.2 Residential Scenario

Estimated non-carcinogenic hazard indices for the adult and child residential receptors at SEAD-57 are above the USEPA preferred limit of 1 (see **Appendix B Table 11a**). Estimated cancer risk levels for the adult, child, and lifetime residential receptors at SEAD-57 are within the USEPA acceptable range (i.e.,  $1 \times 10^{-4}$  to  $1 \times 10^{-6}$ ) for carcinogenic risk. A summary of the estimated risks and hazards is shown below.

Pathway/Receptor	Hazard Index	Cancer Risk
Inhalation of Dust in Ambient Air	3.0E-01	6.9E-07
Ingestion of Soil	3.0E-01	3.7E-06
Intake of Groundwater	6.6E-01	4.4E-05
Dermal Contact to Soil	7,5E-03	5.2E-07
Dermal Contact to Groundwater	1.9E-02	1.0E-06
TOTAL for RESIDENT ADULT	1.3E00	5.0E-05

Inhalation of Dust in Ambient Air	6.1E-01	3.5E-07
Ingestion of Soil	2.8E00	8.7E-06
Intake of Groundwater	2.3E00	3.8E-05
Dermal Contact to Soil	4.9E-02	8.5E-07
Dermal Contact to Groundwater	3.3E-02	4.4E-07
TOTAL for RESIDENT CHILD	5.8E00	4.9E-05

Inhalation of Dust in Ambient Air	1.0E-06
Ingestion of Soil	1.2E-05
Intake of Groundwater	8.2E-05
Dermal Contact to Soil	1.4E-06
Dermal Contact to Groundwater	1.5E-06
TOTAL for LIFETIME RESIDENT	9.8E-05

intake of groundwater represents approximately 51% of adult resident's carcinogenic HI and 40% of the child resident's HI. In each case, the distribution of the estimated adult and child HIs show that arsenic represents 43%. antimony 31%, and thallium 26% of the HI estimated. The hazard quotients calculated for the intake of groundwater containing arsenic and antimony are associated with exposure point concentrations (i.e., 3.1  $\mu g/L$  and 3.0  $\mu g/L$ , respectively) that are below federal MCLs for drinking water (i.e., 10 µg/L and 6 μg/L, respectively). As such, values are these very conservative and likely overestimate the level of hazard that actually is associated with

the consumption of groundwater at the SEAD-57 site. Further, it is the Army contention that the groundwater pathway does not represent a complete exposure pathway as the shallow aquifer that underlies the SEAD-57 site, and most of the Depot, does not yield a sufficient quantity of water to support potable water needs for a full time residential application. Further, an alternative source of potable water exists within the Depot that is derived from a non-groundwater source, making use of the shallow aquifer unnecessary. If use of groundwater is eliminated as a complete exposure pathway at SEAD-57, the HI for the adult resident drops to 6.0E-01 below the preferred limit, while the HI for the child resident drops to 3.4E00.

The ingestion of soil and the inhalation of dust represent equivalent portions (~23%) of the adult resident's HI at SEAD-57. Comparably, the ingestion of soil (48%) and the inhalation of dust (11%) are the next two largest components of the child resident's HI for SEAD-57. The majority (99.9%) of the soil ingestion hazard quotients estimated for the adult and for the child resident are associated with the ingestion of soil that contains ten metal contaminants (i.e., iron, cobalt, manganese, vanadium, arsenic, aluminum, cadmium, thallium, antimony, and copper listed in order of decreasing contribution). Data for these metals are summarized in the table below.

	EPC	USEPA RSL	NYSDEC SCO	SEDA Soil Aver.	SEDA Std. Dev.
Analyte	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Aluminum	14,450	77,000	NA	13,206	4,159
Antimony	0.82	31	NA	2.7	2.2
Arsenic	5.0	0.39	13	5.2	2.8
Cadmium	2.3	70	2.5	0.54	0.74
Cobalt	11	23	NA	11	4
Copper	21	3,100	50	21	8
Iron	24,890	55,000	NA_	24,661	6,854
Manganese	679	1,800	1,600	609	335
Thallium	2.6	51	NA	0.26	0.23
Vanadium	26.3	390	NA	21	6
NA = not av	ailable				

In each case, exclusive of that for arsenic, the EPC upon which the hazard quotient is based is below the metal's respective USEPA RSL for residential soil. Further in cases where New York has identified unrestricted SCO values for the metal, the SCO value identified for the metal (including arsenic) is higher than the EPC identified for SEAD-57 soil. Finally, in the majority of cases (all except of copper and thallium,

which are minor portions of the overall HI), the EPCs are consistent with background soil concentrations, each being within one standard deviation of the accepted average background concentration found in samples from the area of the Depot. This suggests that the concentrations observed at SEAD-57 are just as likely to be associated with natural soil, and not attributable to contamination that has occurred at the site due to its historic use. Therefore, it is likely that the HIs computed for ingestion of soil at SEAD-57 overestimate the level of non-carcinogenic effect that is likely present for both the adult of the child at SEAD-57. COPC hazard quotients determined for residential SEAD-57 exposures are listed below.

	Contributions to Adult Resident's Hazard Index						
Analyte	Soil Ingestion (22.8%)	Dermal Contact Soil (1.0%)	Inhalation of Dust (23.4%)	Ingestion of Groundwater (51.2%)	Dermal Contact Groundwater (1.6%)	Total	Percentage of Total
Aluminum	2.0E-02	7.9E-05	4.7E-02			6.7E-02	5.2%
Antimony	2.8E-03	7.4E-05		2.0E-01	1.2E-02	2.2E-01	17.1%
Arsenic	2.3E-02	2.7E-03		2.8E-01	6.6E-03	3.2E-01	24.4%
Cadmium	6.2E-02	2.5E-05	3.7E-03			9.9E-03	0.8%
Cobalt	4.9E-02	2.0E-04	2.9E-02			7.9E-02	6.1%
Iron	1.1E-01	4.5E-04				1.1E-01	8.8%
Manganese	3.9E-02	3.9E-03	2.2E-01			2.6E-01	20.4%
Thallium	5.4E-03	2.2E-05		1.7E-01	1.4E-03	1.8E-01	13.8%
Vanadium	3.6E-02	5.5E-03				4.2E-02	3.2%
Other COPCs	1.0E-03	9.0E-05				1.1E-03	0.1%
Total	3.0E-01	1.3E-02	3.0E-01	6.6E-01	2.0E-02	1.3E00	100%

	Contributions to Child Resident's Hazard Index						
Analytes	Soil Ingestion (47.6%)	Dermal Contact Soil (1.5%)	Inhalation of Dust (10.5%)	Ingestion of Groundwater (39.8%)	Dermal Contact Groundwater (0.6%)	Total	Percentage of Total
Aluminum	1.8E-01	5.2E-04	9.6E-02			2.8E-01	4.84%
Antimony	2.6E-02	4.9E-04		7.2E-01	2.1E-02	7.7E-01	13.21%
Arsenic	2.1E-01	1.8E-02		9.9E-01	1.1E-02	1.2E+00	21.26%
Cadmium	5.8E-02	1.6E-04	7.5E-03			6.5E-02	1.13%
Cobalt	4.6E-01	1.3E-03	5.9E-02			5.2E-01	8.96%
Iron	1.1E+00	3.0E-03				1.1E+00	18.32%
Manganese	3.6E-01	2.5E-02	4.5E-01			8.4E-01	14.41%
Thallium	5.1E-02	1.4E-04		6.0E-01	2.4E-03	6.6E-01	11.28%
Vanadium	3.4E-01	3.6E-02				3.7E-01	6.41%
Other COPCs	6.7E-02	5.9E-04	1.9E-09	0.0E+00	0.0E+00	1.0E-02	0.18%
Total	2.8E+00	8.6E-02	6.1E-01	2.3E+00	3.45E-02	5.8E00	100%

In both instances, the ingestion of groundwater represents a significant portion of the total hazard index estimated for the adult and child resident. As has been stated, the groundwater pathway for all of the Munitions Response sites is considered incomplete as the shallow aquifer beneath the Depot yields poorly, and is generally inadequate to fulfill domestic use requirements. Further, an alternative, non groundwater derived supply of potable water is available at the Depot. Additionally, the largest component of the groundwater intake HI results from the consumption of groundwater that contains arsenic and antimony at concentrations that are below the federal MCL and below the state's GA standards. These two analytes represent approximately 75% of the hazard index estimated from the ingestion of groundwater. The hazard quotients derived for thallium is associated with an EPC that is above the federal MCL. As such, the actual impact that results from the groundwater conceivably could be overestimated by at least 75% if it were not totally eliminated on the basis that this exposure pathway is incomplete.

The evaluation of the residents' target organ impacts due to exposure to the COPCs is summarized below.

Target Organ or Effect	Estimated HI	Contributing COPCs
Central Nervous System or Neuro Development	Adult, 0.33   Child, 1.12	Aluminum and Manganese
Skin	Adult, 0.32   Child, 1.20	Arsenic
Lungs	Adult, 0.13   Child, 0.96	Cadmium and Cobalt
Heart	Adult, 0.19   Child, 1.62	Cobalt and Iron
Liver	Adult, 0.30   Child, 1.83	Cadmium, Iron, Thallium
Endocrine Glands	Adult, 0.11   Child, 1.10	Iron
Enzymes	Adult, 0.42   Child, 0.37	Vanadium
Gastro-intestinal	Adult, 0.41   Child, 1.50	Antimony, Cadmium, Thallium

As is seen, none of the adult resident's target organs are subjected to an HI in excess of 1, however, several of the child's organs are potentially affected at levels in excess of 1. However, each of the effects attributable to exposure to soil, exclusive of that estimated for arsenic results from an EPC that is below state and federal guidance values for residential soil or unrestricted use, and below levels that are typical of background soils. With specific reference to arsenic, the primary exposure pathway noted is through the ingestion of groundwater which is probably not a complete pathway at SEAD-57. Further, the groundwater EPC that causes the elevated hazard quotient is below the federal MCL for this contaminant in drinking water. Therefore, the HIs estimated for the adult at SEAD-57 are within allowable limits, whereas the estimated HIs projected for the child resident can not be distinguished from background levels that could be present at a residential site, and are thus considered overly conservative.

### 7.3.3 Conclusions

In conclusion, SEAD-57 estimated non-carcinogenic hazard indices for the park worker, the construction worker, and the recreational child visitor are below the USEPA-recommended limit of 1. Furthermore, the projected carcinogenic risk for the park worker, the construction worker, and the recreation child visitor are within the USEPA acceptable range (i.e.,  $1 \times 10^{-4}$  to  $1 \times 10^{-6}$ ).

The projected carcinogenic risk for the adult, child, and lifetime resident at SEAD-57 are also within the USEPA acceptable range (i.e.,  $1x10^{-4}$  to  $1x10^{-6}$ ). Estimated non-carcinogenic HIs for the adult and child resident exceed the USEPA preferred limit of 1. However, further evaluation of the adult resident's HI indicates that there are no individual target organs that are stressed at a level in excess of 1, but an equivalent evaluation of the distribution of the child resident's HI still indicates that there are possible impacts in excess of the USEPA's limit of 1. All of the hazard quotients for soil effects, except for those estimated for arsenic, are attributed to soil EPCs that are below federal RSL and state SCO values for residential soil or unrestricted use. Further, all soil EPCs are comparable to background soil concentrations that have been identified in the area of the Depot. Additionally, with reference to the estimated hazard quotient for ingestion of groundwater which is driven by the presence of arsenic and antimony, both of these compounds are contained at concentrations that are below federal MCLs and state GA groundwater standards. Therefore, the Army contends that the non-carcinogenic hazard indices projected for the child resident are comparable to those that would be experience in any residential area and are overly conservative.

### 7.4 SEAD-002-R-01 (EOD-2)

# 7.4.1 Conservation/Recreational Scenario

Receptor	Hazard Index	Cancer Risk
Park Worker	3.8E-01	3.6E-06
Construction Worker	1.1E00	5.4E-07
Recreational Child Visitor	2.0E-01	4.3E-07

Estimated non-carcinogenic HIs for the park worker and recreational child visitor receptors at EOD-2 are below the USEPA-preferred limit (i.e., 1); the estimated HI for the construction worker receptor is above the USEPA

limit. Estimated cancer risk levels for the construction worker, park worker, and recreational child visitor

receptors at EOD-2 are all within or below the USEPA acceptable range (i.e., 1x10<sup>-4</sup> to 1x10<sup>-6</sup>) for carcinogenic risk.

Two exposure pathways, ingestion of soil (62%) and inhalation of dust in ambient air (36%) represent approximately 98% of the elevated HI calculated for the construction worker. The distribution of the contributing COPCs to the elevated HI for the construction worker is summarized below.

Contributions to Construction Worker's Hazard Index						
Analyte	Soil Ingestion (62.0%)	Dermal Contact Soil (1.9%)	Inhalation of Dust (36.1%)	Total	Percentage of Total	
Methyl cyclohexane			4.2E-12	4.2E-12	0.0%	
Chrysene	4.7E-03	1.8E-03		6.5E03	0.6%	
Aluminum	5.2E-02	1.6E-04	3.7E-02	8.9E-02	7.9%	
Arsenic	3.9E-02	3.5E-03		4.2E-02	3.7%	
Cobalt	1.3E-01	4.0E-04	2.3E-02	1.6E-01	13.8%	
Iron	2.7E-01	8.1E-04		2.7E-01	23.9%	
Manganese	2.0E-01	1.5E-02	3.5E-01	5.7E-01	50.1%	
Total	7.0E-01	2.2E-02	4.1E-01	1.1E00	100%	

The allocation of the construction worker's elevated HI among target organs or systems is summarized below. As is noted, none of the affected target organs or systems listed show evidence of hazards in excess of the USEPA limit of 1. Therefore, the apparent elevated HI for the construction worker is considered a conservative estimate and no unacceptable level of hazard is present for the construction worker at SEAD-002-R-01 EOD Area 2.

Allocation of Construction Worker's HI to Target Organs/Systems					
Target Organ or Effect	Estimated HI	Contributing COPCs			
Central Nervous System or Neuro Development	0.44	Aluminum and Manganese			
Skin	0.04	Arsenic			
Lungs	0.16	Cobalt			
Heart	0.43	Cobalt and Iron			
Liver	0.27	Iron			
Endocrine Glands	0.27	Iron			

### 7.4.2 Residential Scenario

Estimated cancer risk levels for the adult, child, and lifetime resident at EOD-2 are within the USEPA preferred range (i.e.,  $1x10^{-4}$  to  $1x10^{-6}$ ). Estimated non-carcinogenic hazard indices for the adult and child residential receptors at EOD-2 are above the USEPA preferred limit of 1. The distribution of impacts via the exposure of the adult and child residents to soil at EOD is summarized below.

Pathway/Receptors	Hazard Index	Cancer Risk
Inhalation of Dust in Ambient Air	1.1E+00	1.3E-06
Ingestion of Soil	3.0E-01	4.4E-06
Dermal Contact to Soil	1.2E-02	1.3E-06
TOTAL for RESIDENT ADULT	1.4E+00	7.0E-06
Inhalation of Dust in Ambient Air	2.2E+00	6.8E-07
Ingestion of Soil	2.8E+00	1.0E-05
Dermal Contact to Soil	8.1E-02	2.1E-06
TOTAL for RESIDENT CHILD	5.1E+00	1.0E-05
Inhalation of Dust in Ambient Air		2.0E-06
Ingestion of Soil		1.5E-05
Dermal Contact to Soil		3.3E-06
TOTAL for LIFETIME RESIDENT		2.0E-05

Contributions to the adult and child resident's HI by the COPCs identified at the site are summarized below and the allocation of these to affected target organs or systems is provided in the third table that is below the COPC allocation summaries.

Contributions to Adult Resident's Hazard Index						
Analyte	Soil Ingestion (21.1%)	Dermal Contact Soil (0.9%)	Inhalation of Dust (78.0%)	Total	Percentage of Total	
Methyl cyclohexane			1.1E-11	1.1E-11	0.0%	
Chrysene	2.0E-03	1.0E-03		3.0E-03	0.2%	
Aluminum	2.2E-02	8.8E-05	9.9E-02	1.2E-01	8.6%	
Arsenic	1.6E-02	2.0E-03		1.8E-02	1.3%	
Cobalt	5.6E-02	2.2E-04	6.3E-02	1.2E-01	8.5%	
Iron	1.1E-01	4.6E-04		1.1E-01	8.2%	
Manganese	8.6E-02	8.6E-03	9.3E-01	1.0E00	73.2%	
Total	3.0E-01	1.2E-02	1.1E00	1.4E-02	100%	

Contributions to Child Resident's Hazard Index						
Analyte	Soil Ingestion (54.6%)	Dermal Contact Soil (1.6%)	Inhalation of Dust (43.8%)	Total	Percentage of Total	
Methyl cyclohexane			2.3E-11	2.3E-11	0.0%	
Chrysene	1.8E-02	6.7E-03		2.5E-02	0.5%	
Aluminum	2.1E-01	5.8E-04	2.0E-01	4.1E-01	8.0%	
Arsenic	1.5E-01	1.E-02		1.7E-01	3.3%	
Cobalt	5.2E-01	1.5E-03	1.3E-01	6.5E-01	12.8%	
Iron	1.1E-00	3.0E-03		1.1E00	21.1%	
Manganese	8.1E-01	5.6E-02	1.9E00	2.8E00	54.3%	
Total	2.8E00	8.1E-02		5.1E00	100%	

Allocation of Adult and Child Resident HI to Target Organs/Systems						
Target Organ or Effect	Estima	ited HI	Contributing COPCs			
Central Nervous System or						
Neuro Development	<b>Adult, 1.12</b>	Child, 3.21	Aluminum and Manganese			
Skin	Adult, 0.18	Child, 0.17	Arsenic			
Lungs	Adult, 0.12	Child, 0.65	Cobalt			
Heart	Adult, 0.23	Child, 1.75	Cobalt and Iron			
Liver	Adult, 0.11	Child, 1.10	Iron			
Endocrine Glands	Adult, 0.11	Child, 1.10	Iron			

The summary above suggests that hazard indices in excess of USEPA's limit of 1 are estimated for the adult's and child's central nervous systems, and for the child's heart, liver, and endocrine glands. The largest components of the hazard quotients are associated with soil that contains aluminum, cobalt, iron, and manganese. The soil EPCs generating the elevated hazard indices are summarized below.

Analyte	EPC (mg/kg)	USEPA RSL (mg/kg)	NYSDEC SCO (mg/kg)	SEDA Soil Avg. (mg/kg)	SEDA Std. Dev. (mg/kg)
Aluminum	16,097	77,000	NA	13,206	4,159
Cobalt	12	23	NA	11	4
Iron	25,037	55,000	NA	24,661	6,854
Manganese	1,512	1,800	1,600	609	335

Manganese is the COPC that is the largest contributor to both the adult's and child's elevated HI. Review of the EPC for manganese at EOD Area 2 suggests that the value used is somewhat elevated compared to soil concentrations found at other Munitions Response AOCs and compared to regional background, but the EPC is still below the concentrations identified as acceptable by the USEPA for residential soil and by the state for unrestricted use. The EPC for EOD Area 2 is derived from a sample set that consists of 12

values, of which two (i.e., 2,770 mg/kg and 859 mg/kg) contain manganese at a level that is above the regional background average value. While the average concentration derived from the 12 data points is slightly above the average background levels (648 mg/kg versus 609 mg/kg), the unusual distribution of concentrations in the data set causes the recommended upper confidence limit value to be higher than normal.

Inhalation of dusts containing manganese is also the largest individual hazard quotient estimated for both the adult and child resident's HI. As has been discussed before, the inhalation hazard quotient for manganese is based on an Rfc that is derived from an industrial study of battery manufacturing workers that were exposed to manganese dioxide. While soil may contain some amount of manganese dioxide, it is unlikely that all manganese found exists solely in the form of manganese dioxide. Furthermore the Rfc derived from this study is 4,000 times more stringent than the ACGIH's recommended TLV for manganese in industrial applications which further highlights the extremely conservative nature of this calculation.

With reference to the other major COPCs (i.e., aluminum, cobalt, and iron), each of these is found in the soil at EOD-2 at concentrations that are below USEPA residential soil RSL guidance values, and at concentrations that are consistent with regional background levels, each being within one standard deviation of the accepted average background concentration found in samples from the Depot. This suggests that the concentrations observed at EOD-2 are just as likely to be associated with natural soil, and not attributable to contamination that has occurred at the site due to its historic use.

#### 7.4.3 Conclusion

Estimated carcinogenic risk for conservation/recreation receptors (i.e., parker worker, construction worker, and recreation child visitor) and residential/resort receptors (adult, child and lifetime resident) are within the USEPA acceptable range (i.e.,  $1x10^{-4}$  to  $1x10^{-6}$ ). Elevated non-carcinogenic HIs are estimated for the construction worker and the adult and child resident receptors but the EPCs leading to these results are generally lower than USEPA RSLs for residential soil and applicable state SCO guidance values. Specific target organs or systems which may be affected are the central nervous systems for the adult and child resident, and the child's heart, liver and endocrine systems. However, each of the identified components of the elevated HIs from contaminant levels that are consistent with background concentrations or for contaminants where there is a significant level of uncertainty associated with the reference dose used. Therefore, the elevated non-carcinogenic hazards are believed to overestimate the hazards that actually exist at EOD-2.

# 7.5 SEAD-002-R-01 (EOD-3)

### 7.5.1 Conservation/Recreational Scenario

Estimated non-carcinogenic HIs for the park worker, construction worker, and recreational child visitor receptors at EOD-3 are below the USEPA limit of 1. Estimated cancer risk levels for the construction worker, park worker, and recreational child visitor receptors at EOD-3 are below the USEPA acceptable range (i.e.,  $1 \times 10^{-4}$  to  $1 \times 10^{-6}$ ) for carcinogenic risk.

Receptor	Hazard Index	Cancer Risk
Park Worker	2.3E-01	2.1E-06
Construction Worker	7.3E-01	3.5E-07
Recreational Child Visitor	1.3E-01	2.7E-07

# 7.5.2 Residential Scenario

The estimated non-carcinogenic HI for the adult residential receptor at EOD-3 is below the USEPA limit of 1; the estimated HI for the child resident at EOD-3 is above 1. Estimated cancer risk levels for the adult and child residential receptors at EOD-3 are within the acceptable range (i.e.,  $1x10^{-4}$  to  $1x10^{-6}$ ) for carcinogenic risk.

Pathway/Receptor	Hazard Index	Cancer Risk
Inhalation of Dust in Ambient Air	5.5E-01	1.2E-06
Ingestion of Soil	2.2E-01	3.0E-06
Dermal Contact to Soil	6.4E-03	3.6E-07
TOTAL for RESIDENT ADULT	7.8E-01	4.6E-06

TOTAL for RESIDENT CHILD	3.2E+00	8.2E-06
Dermal Contact to Soil	4.2E-02	5.9E-07
Ingestion of Soil	2.0E+00	7.0E-06
Inhalation of Dust in Ambient Air	1.1E+00	6.0E-07

Inhalation of Dust in Ambient Air	1.9E-06
Ingestion of Soil	 1.0E-05
Dermal Contact to Soil	 9.5E-07
TOTAL for LIFETIME RESIDENT	1.3E-05

Contributions to the child resident's HI by the COPCs identified at the site are summarized below and the allocation of these to affected target organs or systems is provided below the initial COPC analysis.

Contributions to Child Resident's Hazard Index						
	Soil Ingestion (63.7%)	Dust Inhalation (35%)	Dermal Contact (1.3%)	Total	Percentage of Total	
Methyl Cyclohexane		2.9E-11		2.92E-11	0.0%	
Aluminum	2.0E-01	2.1E-01	5.6E-04	4.09E-01	12.7%	
Arsenic	1.8E-01		1.5E-02	1.97E-01	6.1%	
Cobalt	4.1E-01	1.1E-01	1.1E-03	5.14E-01	16.0%	
Iron	9.4E-01		2.6E-03	9.46E-01	29.4%	
Manganese	3.2E-01	8.1E-01	2.2E-02	1.15E00	35.8%	
Total	2.05E00	1.12E00	4.20E-02	3.22E00	100%	

Target Organ or Effect	Estimated HI	Contributing COPCs
Central Nervous System or		
Neuro Development	Child, 1.55	Aluminum and Manganese
Skin	Child, 0.20	Arsenic
Lungs	Child, 0.51	Cobalt
Heart	Child, 1.46	Cobalt and Iron
Liver	Child, 0.95	Iron
Endocrine Glands	Child, 0.95	Iron

The summary of potential effects to target organs or systems suggests that hazard indices in excess of USEPA's preferred limit of 1 are estimated for child's central nervous systems and for the heart. The largest components of the identified hazard quotients are associated with soil that contains aluminum, cobalt, iron, and manganese. The soil EPCs generating the elevated hazard indices are summarized below.

Analyte	EPC (mg/kg)	RSL (mg/kg)	NYSDEC SCO (mg/kg)	SEDA Soil Avg. (mg/kg)	SEDA Std. Dev. (mg/kg)
Aluminum	15,559	77,000	NA	13,206	4,159
Cobalt	9.5	23	NA	11	4
Iron	22,138	55,000	NA	24,661	6,854
Manganese	600	1,800	1,600	609	335

As is noted, the EPC for each of the identified metals is below its listed USEPA RSL for residential soil. The EPC for manganese is also below its respective New York SCO value, and the EPC used for each of the metals generally agrees with the background concentrations at the Depot. The Army reiterates that the hazard quotient derived for manganese is overly conservative as it is based on inhalation of manganese dioxide, which is not the only form of manganese that is likely to be found at the site. Therefore, it is the Army's contention that the observed risk associated with metals at EOD-3 are due to prevailing background conditions and are can not be distinguished with effects that may be associated with the natural setting at the Depot.

## 7.5.3 Conclusion

It is the Army's conclusion that the environmental conditions that remain at EOD-3 pose no unacceptable non-carcinogenic hazards nor carcinogenic risks to conservation / recreational receptors or residential / resort receptors.

#### 7.6 SEAD-007-R-01 (Grenade Range)

### 7.6.1 Conservation/Recreational Scenario

Estimated non-carcinogenic His for the park worker, construction worker, and recreational child visitor receptors at the Grenade Range are below the USEPA limit of 1. Estimated cancer risk levels for the

construction worker, park worker, and recreational child visitor receptors at the Grenade Range are within or below the USEPA acceptable range (i.e.,  $1 \times 10^{-4}$  to  $1 \times 10^{-6}$ ) for carcinogenic risk.

	Hazard	Cancer
Receptor	Index	Risk
Park Worker	2.6E-01	2.1E-06
Construction Worker	8.2E-01	3.2E-07
Recreational Child Visitor	1.4E-01	2.6E-07

# 7.6.2 Residential Scenario

The estimated non-carcinogenic HI for the adult residential receptor at the Grenade Range is below the USEPA preferred limit for non-carcinogenic risk; the child resident's estimated non-carcinogenic HI at the Grenade Range is above the USEPA limit of 1. Estimated cancer risk levels for the adult and child residential receptors at the grenade range are within and below the USEPA acceptable range (i.e.,  $1 \times 10^{-4}$  to  $1 \times 10^{-6}$ ).

Pathway/Receptor	Hazard Index	Cancer Risk
Inhalation of Dust in Ambient Air	7.0E-01	1.6E-06
Ingestion of Soil	2.3E-01	2.8E-06
Dermal Contact to Soil	6.5E-03	3.3E-07
TOTAL for RESIDENT ADULT	9.3E-01	4.7E-06

Inhalation of Dust in Ambient Air	1.4E+00	8.0E-07
Ingestion of Soil	2.2E+00	6.5E-06
Dermal Contact to Soil	4.2E-02	5.4E-07
TOTAL for RESIDENT CHILD	3.6E+00	7.8E-06

TOTAL for LIFETIME RESIDENT	1.3E-05
Dermal Contact to Soil	8.8E-07
Ingestion of Soil	9.2E-06
Inhalation of Dust in Ambient Air	2.4E-06

Five metals contribute to the estimated elevated HI for the child. Their estimated individual contributions are summarized below by exposure pathway.

	Contributions to Child Resident's Hazard Index				
Analyte	Soil Ingestion (59.8%)	Dust Inhalation (39.1%)	Dermal Contact (1.2%)	Total	Percentage of Total
Aluminum	2.0E-01	2.5E-01	5.6E-04	4.55E-01	12.6%
Arsenic	1.7E-01		1.4E-02	1.82E-01	5.0%
Cobalt	4.7E-01	1.5E-01	1.3E-03	6.21E-01	17.2%
Iron	9.8E-01		2.8E-03	9.88E-01	27.3%
Manganese	3.4E-01	1.0E01	2.4E-02	1.37E00	37.9%
Total	2.16E00	1.41E00	4.23E-02	3.62E00	100%

The ingestion of soil represents approximately 60% of the HI for the child residential receptor, while the inhalation of dust accounts for approximately 39% of the estimated HI. As discussed for each AOC, five metal COPCs (aluminum, arsenic, cobalt, iron, and manganese) account for the ingestion hazard. As shown in the table below, each of the EPCs, exclusive of the one for arsenic, are below the USEPA RSLs for residential soil. The EPCs for arsenic and manganese are also below their respective NYS SCO values. Finally, as has also been seen at the other AOCs, the concentrations found at the Grenade Range are in general agreement with the background concentrations found at the Depot.

Analyte	EPC (mg/kg)	RSL (mg/kg)	NYSDEC Soil Obj. (mg/kg)	SEDA Soil Avg. (mg/kg)	SEDA Std. Dev. (mg/kg)
Aluminum	15,771	77,000	NA	13,206	4159
Arsenic	3.9	0.39	13	5.2	2.8
Cobalt	11.1	23	NA	11	4
Iron	23,107	55,000	NA	24,661	6854
Manganese	632	1,800	1,600	609	335

Target organs and systems potential impacted by the exposure of soil containing the identified concentrations are summarized below.

	Estimated	
Target Organ or Effect	HI	Contributing COPCs
Central Nervous System or		
Neuro Development	Child, 1.82	Aluminum and Manganese
Skin	Child, 0.18	Arsenic
Lungs	Child, 0.62	Cobalt
Heart	Child, 1.61	Cobalt and Iron
Liver	Child, 0.99	Iron
Endocrine Glands	Child, 0.99	Iron

Potential effects are again estimated for the child central nervous system and the heart, but in each case these result from the exposure to soil that contains metals at concentrations that are consistent with the regional background. Therefore it is the Army's position that the child resident HIs overestimate the level of hazard that is likely to remain at the site.

### 7.6.3 Conclusion

Environmental conditions at the Grenade Range are not believed to pose any inordinate level of hazard or risk to conservation/recreation or residential receptors. The elevated level of hazard estimated for the resident child results can be attributed to concentrations of contaminants that are generally consistent with regional background concentrations and that are generally below USEPA RSLs and NYS SOC values.

## 7.7 SEAD-70

### 7.7.1 Conservation/Recreational Scenario

	Hazard	Cancer
Receptor	Index	Risk
Park Worker	2.7E-01	4.1E-06
Construction Worker	8.5E-01	6.6E-07
Recreational Child Visitor	1.6E-01	5.3E-07

Estimated non-carcinogenic His for the park worker, construction worker, and recreational child visitor receptors at SEAD-70 are all below the USEPA limit of 1. Estimated cancer risk levels for the construction worker, park worker, and recreational child visitor

receptors at SEAD-70 are all within or below the USEPA acceptable range (i.e., 1x10<sup>-4</sup> to 1x10<sup>-6</sup>) for carcinogenic risk.

### 7.7.2 Residential Scenario

The estimated non-carcinogenic HI for the adult residential receptor at SEAD-70 is below the USEPA limit of 1; the estimated HI for the child residential receptor at SEAD-70 is above 1. Estimated cancer risk levels for the adult, child, and lifetime residential receptors at SEAD-70 are within the USEPA accepted range (i.e.,  $1 \times 10^{-4}$  to  $1 \times 10^{-6}$ ).

Pathway/Receptor	Hazard Index	Cancer Risk
Inhalation of Dust in Ambient Air	4.3E-01	1.5E-06
Ingestion of Soil	2.6E-01	6.0E-06
Intake of Groundwater	2.0E-01	0.0E+00
Dermal Contact to Soil	5.4E-03	7.2E-07
Dermal Contact to Groundwater	4.6E-03	0.0E+00
TOTAL for RESIDENT ADULT	8.9E-01	8.2E-06

TOTAL for RESIDENT CHILD	4.0E+00	1.6E-05
Dermal Contact to Groundwater	7.9E-03	0.0E+00
Dermal Contact to Soil	3.5E-02	1.2E-06
Intake of Groundwater	6.8E-01	0.0E+00
Ingestion of Soil	2.4E+00	1.4E-05
Inhalation of Dust in Ambient Air	8.7E-01	7.8E-07

Inhalation of Dust in Ambient Air	2.3E-06
Ingestion of Soil	2.0E-05
Intake of Groundwater	0.0E00
Dermal Contact to Soil	1.9E-06
Dermal Contact to Groundwater	0.0E00
TOTAL for LIFETIME RESIDENT	2.4E-05

The apportionment of the child's elevated HI by the five COPCs at SEAD-70 is summarized in the table below.

Contributions to Child Resident's Hazard Index								
	Soil Ingestion (59.7%)	Dermal Contact Soil (1.3%)	Inhalation of Dust (21.7%)	Ingestion of Groundwater (17.0%)	Dermal Contact Groundwater (0.2%)	Total	Percentage of Total	
Aluminum	1.6E-01	4.4E-04	1.6E-01			3.16E-01	7.9%	
Arsenic	3.6E-01	3.0E-02				3.92E-01	9.8%	
Cobalt	5.1E-01	1.4E-03	1.3E-01			6.34E-01	15.8%	
Iron	1.1E00	3.1E-03		6.8E-01	7.9E-03	1.82E00	45.2%	
Manganese	2.5E-01	1.7E-02	5.9E-01			8.55E-01	21.3%	
Total	2.40E00	5.27E-02	8.73E-01	6.84E-01	7.85E-03	4.01E00	100%	

The potential effects to the child's target organs or systems are summarized below. As is seen, elevated effects are projected for the child's central nervous system, heart, liver and endocrine glands.

Target Organ or Effect	Estimated HI	Contributing COPCs
Central Nervous System or		
Neuro Development	Child, 1.17	Aluminum and Manganese
Skin	Child, 0.39	Arsenic
Lungs	Child, 0.63	Cobalt
Heart	Child, 2.45	Cobalt and Iron
Liver	Child, 1.82	Iron
Endocrine Glands	Child, 1.82	Iron

Three exposure pathways, ingestion of soil, inhalation of dust in ambient air, and intake of groundwater account for 98% of the HI for the child receptor. The hazard quotients estimated due to exposure to groundwater via either ingestion or dermal contact are derived from a sample set that consists of four samples of groundwater. Each of these samples was collected during the ESI with a bailer. The iron EPC (2.14 mg/L) used for groundwater is the maximum concentration measured in the groundwater which was found in the sample that contained the highest level of turbidity (325 NTUs). Each of the other three samples contained lower levels of turbidity (less than 50 NTUs) and all of the other iron concentrations in groundwater were below the state's GA standard of 300  $\mu$ g/L. Furthermore, as has been discussed previously, the shallow groundwater aquifer underlying the Seneca site is not productive enough to provide water for domestic purposes, so this exposure pathway is considered incomplete.

The ingestion of soil represents approximately 60% of the HI estimated for the child receptor, while the inhalation of dust accounts for approximately 22% of the estimated HI. As discussed for each of the other AOCs, five metal COPCs (aluminum, arsenic, cobalt, iron, and manganese) account for the ingestion hazard. As shown in the table below, each of the EPCs, exclusive of the one for arsenic, are below the USEPA RSLs for residential soil. The EPCs for arsenic and manganese are also below their respective NYS SCO values. Further, the EPCs for aluminum, cobalt, iron, and manganese are consistent with background soil concentrations at the Depot, each being within one standard deviation of the accepted average background concentration found in samples from the Depot. Arsenic was found at an EPC that is slightly above one standard deviation more than the Depot's average, but at a concentration that is within the range of concentrations that are in the Depot's background dataset. Furthermore, the estimated arsenic contribution to the child's HI is not at a level in excess of the USEPA threshold of 1 at the target organ level.

Analyte	EPC (mg/kg)	RSL (mg/kg)	NYSDEC Soil Obj. (mg/kg)	SEDA Soil Avg. (mg/kg)	SEDA Std. Dev. (mg/kg)
Aluminum	12,400	77,000	NA	13,206	4,159
Arsenic	8.5	0.39	13	5.2	2.8
Cobalt	12	23	NA	11	4
Iron	26,300	55,000	NA	24,661	6,854
Manganese	465	1,800	1,600	609	335

### 7.7.3 Conclusion

It is the Army's position that environmental conditions at SEAD-70 do not pose any inordinate level of hazard or risk to conservation/recreation or residential receptors. The elevated level of hazard estimated for the resident child is partially attributable to concentrations that are consistent with regional background concentrations of metals in soils and that are generally below USEPA RSL and NYS SCO values. Further, the apparent hazard for the child resident is associated with an elevated iron concentration in groundwater that was collected from a monitoring well with a bailer. This sample contained significantly more iron than samples from other SEAD-70 wells that contained iron concentrations below  $300~\mu g/L$ .

# 7.8 Risk Characterization Results for Lead Exposures

Risk characterization for exposure to lead was conducted based on a comparison between the estimated blood lead level and the target mean blood level (PbB) of concern. Adult blood lead level was estimated based on the USEPA Adult Lead Model (version 5/19/05). Child blood lead level was estimated based on the USEPA, IEUBK model (IEUBK win v1.1 build 9). The target PbB level of concern is  $10.0 \,\mu\text{g/dL}$  for a child and 25  $\,\mu\text{g/dL}$  for an adult (USEPA, 1994, 2003d). Lead was identified as a COPC in soil at SEAD-46 and SEAD-57. This section presents the results of the quantitative and qualitative assessment of the risk from lead exposure at the sites.

#### 7.8.1 SEAD-46

The concentrations of lead in the blood of adults and of children exposed to soil at SEAD-46 are presented in Attachment-A, Table 12 and Attachment-A, Table 13, respectively. The maximum estimated concentration of lead in the blood of adults exposed to soil at SEAD-46 is 1.5  $\mu$ g/dL; the maximum concentration of lead in the blood of children is 1.3  $\mu$ g/dL.

### 7.8.2 SEAD-57

The concentrations of lead in the blood of adults and of children exposed to soil at SEAD-46 are presented in Attachment-A, Table 12 and Table 13, respectively. The estimated concentrations of lead in the blood of adults exposed to soil at SEAD-46 are equal to or less than 1.6  $\mu$ g/dL; the concentrations of lead in the blood of children are equal to or less than 1.2  $\mu$ g/dL.

#### 8. Uncertainties

## 8.1 General

All risk assessments involve well-founded assumptions and professional judgment to varying degrees. Naturally, "assumptions" and "judgment" imply uncertainty in the final risk estimates. From data collection through risk characterization, there is uncertainty associated with each component of this risk assessment. Parsons addressed these uncertainties by consistently making conservative assumptions with respect to risk and exposure parameters. As a result, this risk assessment provides conservative estimates of the risk to receptors at all five AOCs, and it is unlikely that this assessment underestimates that risk.

### 8.2 Manganese Toxicity Value

The primary site-specific uncertainty associated with this risk assessment is the evaluation of the hazard index for manganese (i.e., the manganese toxicity value). This is a significant uncertainty since the HI for the inhalation of manganese-contaminated dust accounts for 70% or more of the HIs for the inhalation of dust in ambient air at all AOCs.

To obtain the HIs for inhalation of manganese-contaminated dust, Parsons employed calculations using a Reference Concentration (RfC) for chronic inhalation of manganese-contaminated dust (see section 6). The RfC for manganese used by Parsons was derived in a USEPA (1998) study that investigates the inhalation of manganese dioxide dust. The RfC value promulgated by the USEPA is an uncertain number; the USEPA assigns the RfC an uncertainty factor of 1000, reflecting a low degree of confidence in its value. In addition to the USEPA uncertainty in the RfC, it is unlikely that all of the identified manganese in the soil at the five AOCs exists as manganese dioxide. The exact composition of the manganese in the soil at the AOCs is unknown, but it is known that of the source of manganese at the five AOCs is natural soil.

Lastly, it is important to note that the inhalation reference dose used in this risk assessment is 4000 times lower than the American Conference of Governmental Industrial Hygienists' (ACGIH's) threshold limit value, which is the concentration of a substance to which workers in industrial situations can be exposed without adverse effects. This fact further emphasizes the conservative nature of the RfC used in this risk assessment.

# 8.3 Groundwater

# 8.3.1 Analysis of Groundwater

It is uncertain whether or not future occupants at the Depot will ever contact groundwater at any of the AOCs. Three groundwater exposure pathways were analyzed nevertheless, as a conservative approach to ascertaining the potential risk. However, it is unlikely that groundwater would ever be used as a potable water source at the Depot since the aquifer is likely not sufficiently productive and an alternate source of potable water at the Depot already exists (see section 5.2 Receptors, Exposure Pathways, and Exposure profiles). The inclusion of groundwater analysis further emphasizes the conservative nature of this risk assessment.

# 8.3.2 Sample Methods

Another specific uncertainty associated with this risk assessment is the use or disuse of groundwater sample results that were obtained during the ESI sampling event for SEAD-57. Groundwater sample results collected during all ESI sampling events were obtained using bailers instead of low-flow sampling procedures like all other groundwater samples in this risk assessment. Bailers tend to create more turbidity in samples than do low-flow sampling procedures, and, as such, metal concentrations in samples obtained with bailers tend to be greater than metal concentrations obtained with low-flow sampling procedures. The uncertainty over metal concentrations used in this risk assessment is limited to the calculations for SEAD-57; nevertheless, Parsons evaluated both bailer-obtained and low-flow-obtained samples as a conservative approach.

# 9. Conclusion

The evaluation of potential cancer risks at the AOCs suggests that there is a potential risk to the lifetime resident at SEAD-46; there are no carcinogenic risks estimated for the adult or child resident, or conservation/recreational receptors (park worker, construction worker, recreational child visitor) at SEAD-46. Further examination of the lifetime residents' cancer risk indicates that it is derived from the ingestion of groundwater containing arsenic at a concentration that is below the federal MCL for drinking water and is thus suspected to be an overly conservative number. Additionally, groundwater at SEAD-46 and at all of the other Munitions Response AOCs is unlikely to be used as a potable water source since available information indicates that the shallow aquifer that underlies the Depot yields poorly and groundwater levels frequently drop due to inaccessible levels seasonal fluctuations. Furthermore, an alternative municipal potable water supply exists at the Depot that is derived from a non-groundwater source (Lake Seneca). There are no unacceptable levels of cancer risk determined for conservation/recreational or residential receptors at any of the other AOCs evaluated.

The evaluation of non-carcinogenic hazard levels suggests that there are a number of instances where non-carcinogenic hazard levels in excess of the USAEAP preferred limit of 1 are estimated for the construction worker, the adult resident, and the child resident. In many cases, the evaluation of potential effects to target organs or systems of the body indicate that such risks for the construction worker and adult resident are reduced to below 1, but the child resident levels remain at levels in excess of 1. However, in each of these instances, the non-carcinogenic hazard indices are caused by concentrations of metal COPCs in the soil which are below USEPA residential soil RSLs and where available, below New

York SCOs for unrestricted use. Furthermore, in all cases the EPC concentrations are consistent with background soil concentrations. Therefore potential adverse impacts from the Army's historic use of the land can not be separated from natural sources.

Based on the information presented above it is the Army's contention that none of the Munitions Response sites (SEAD-46, SEAD-57, SEAD-002-R-01 [EOD Area 2 or EOD Area 3], SEAD-07-R-001, or SEAD-70) contain residual contamination at levels that pose unacceptable risk or level of hazard to potential conservation/recreational or residential receptors.

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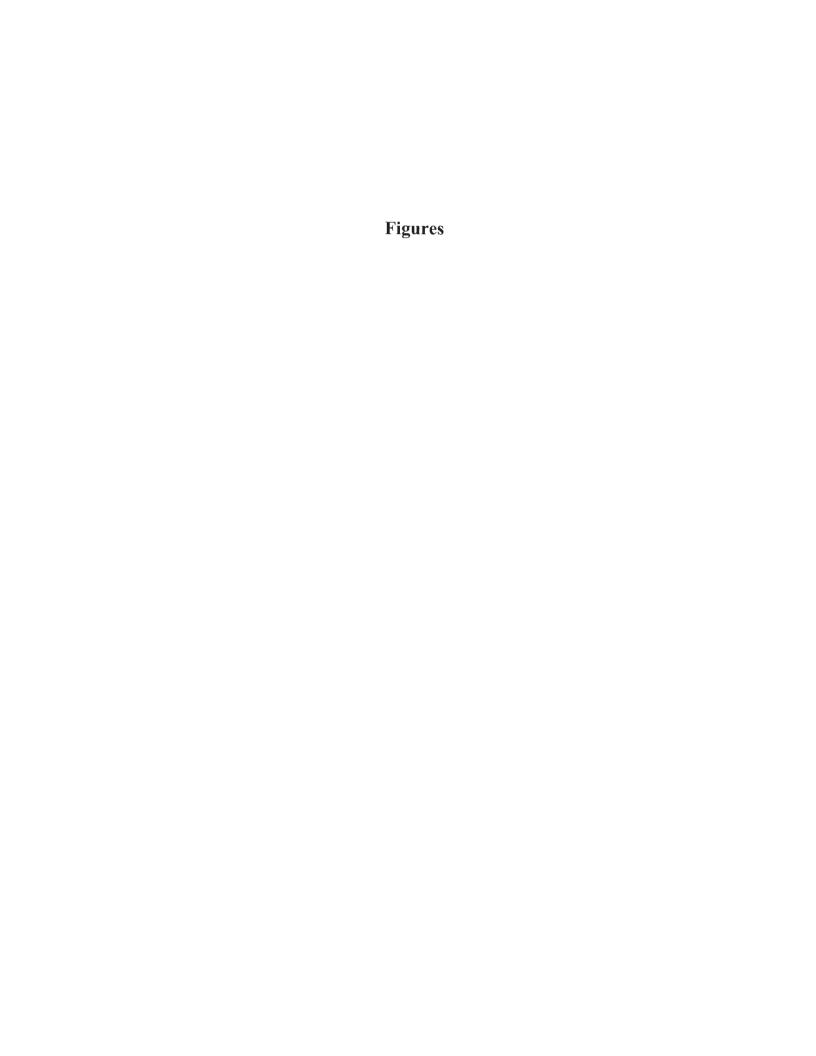
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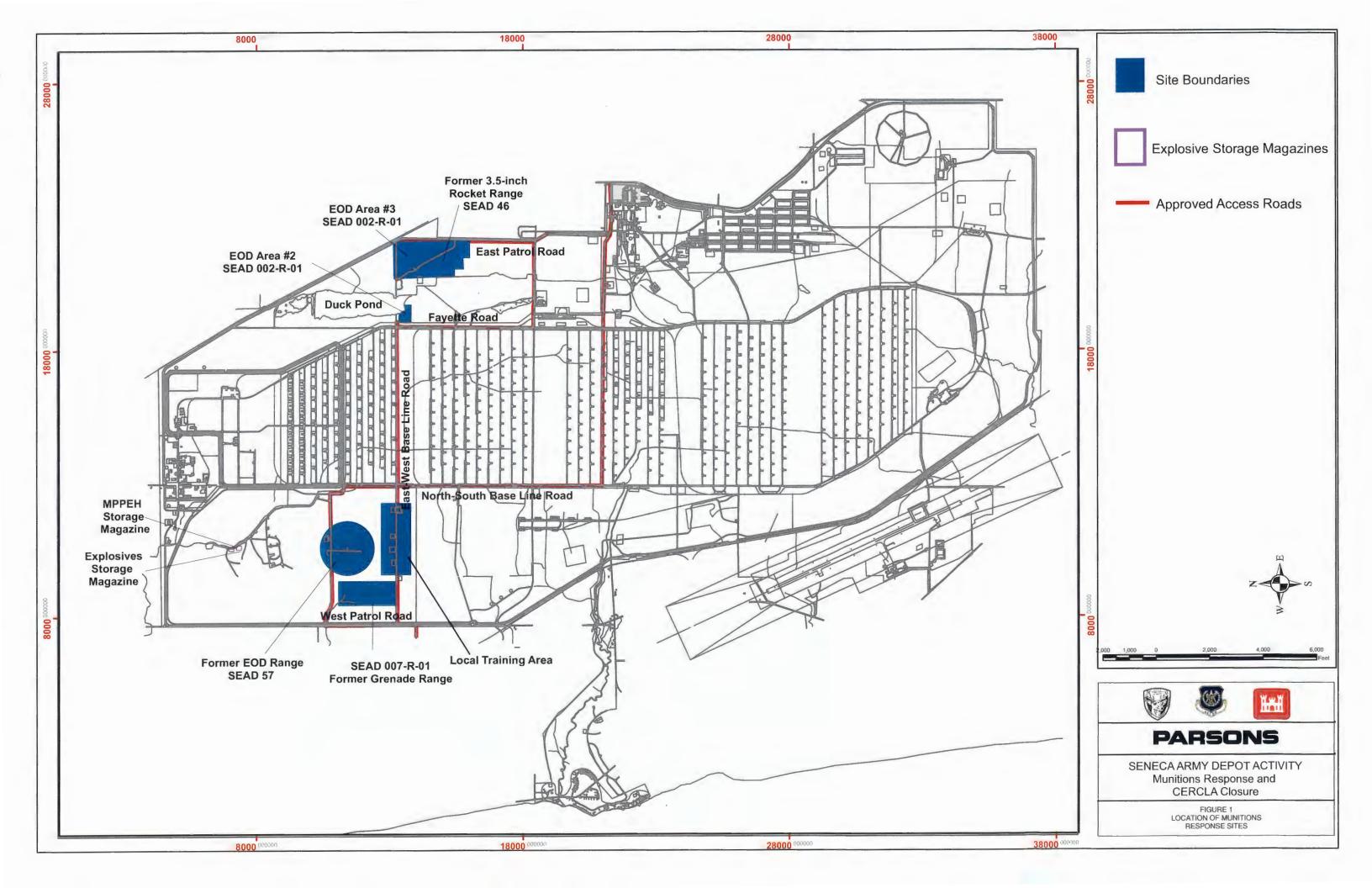
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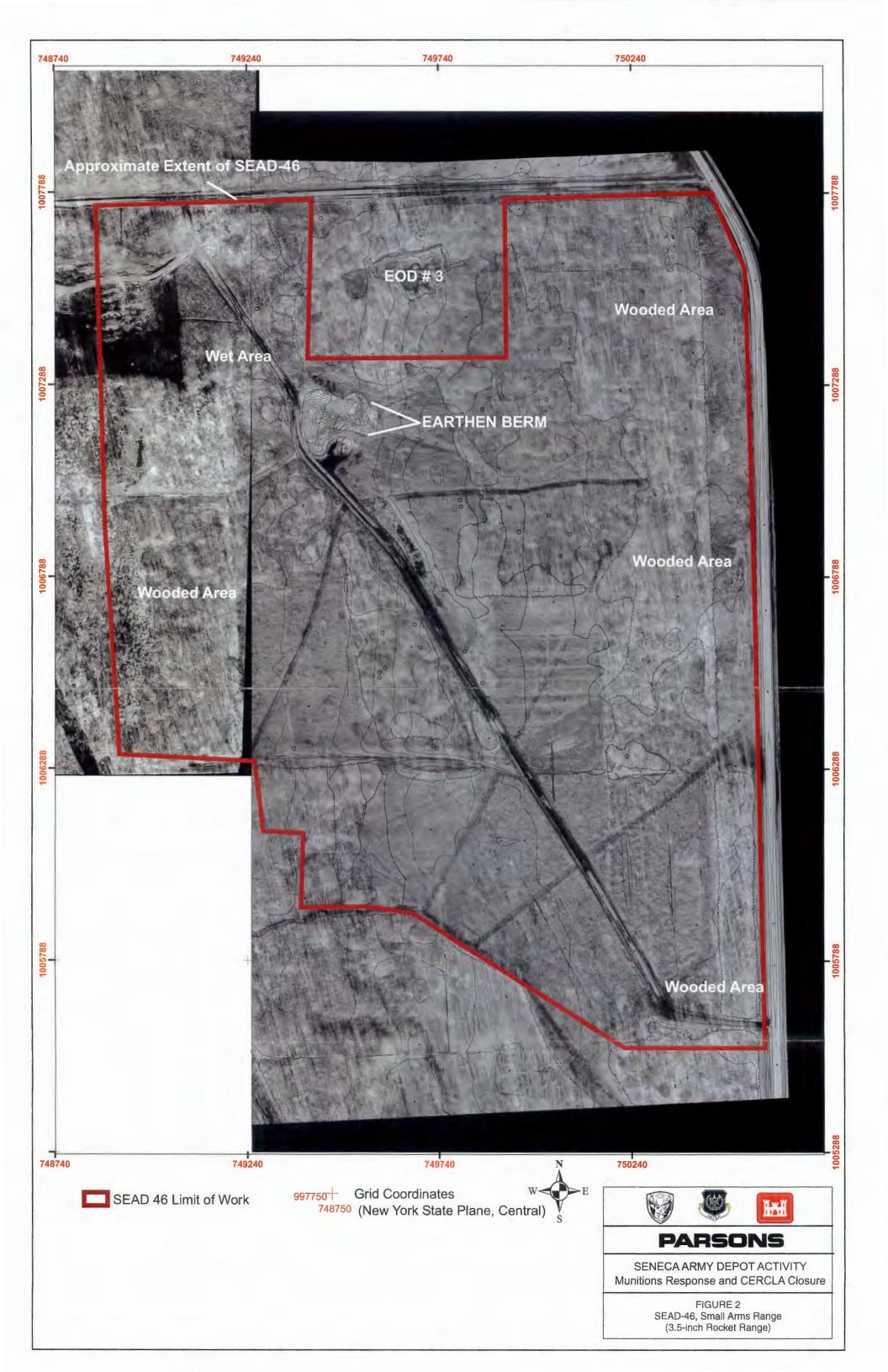
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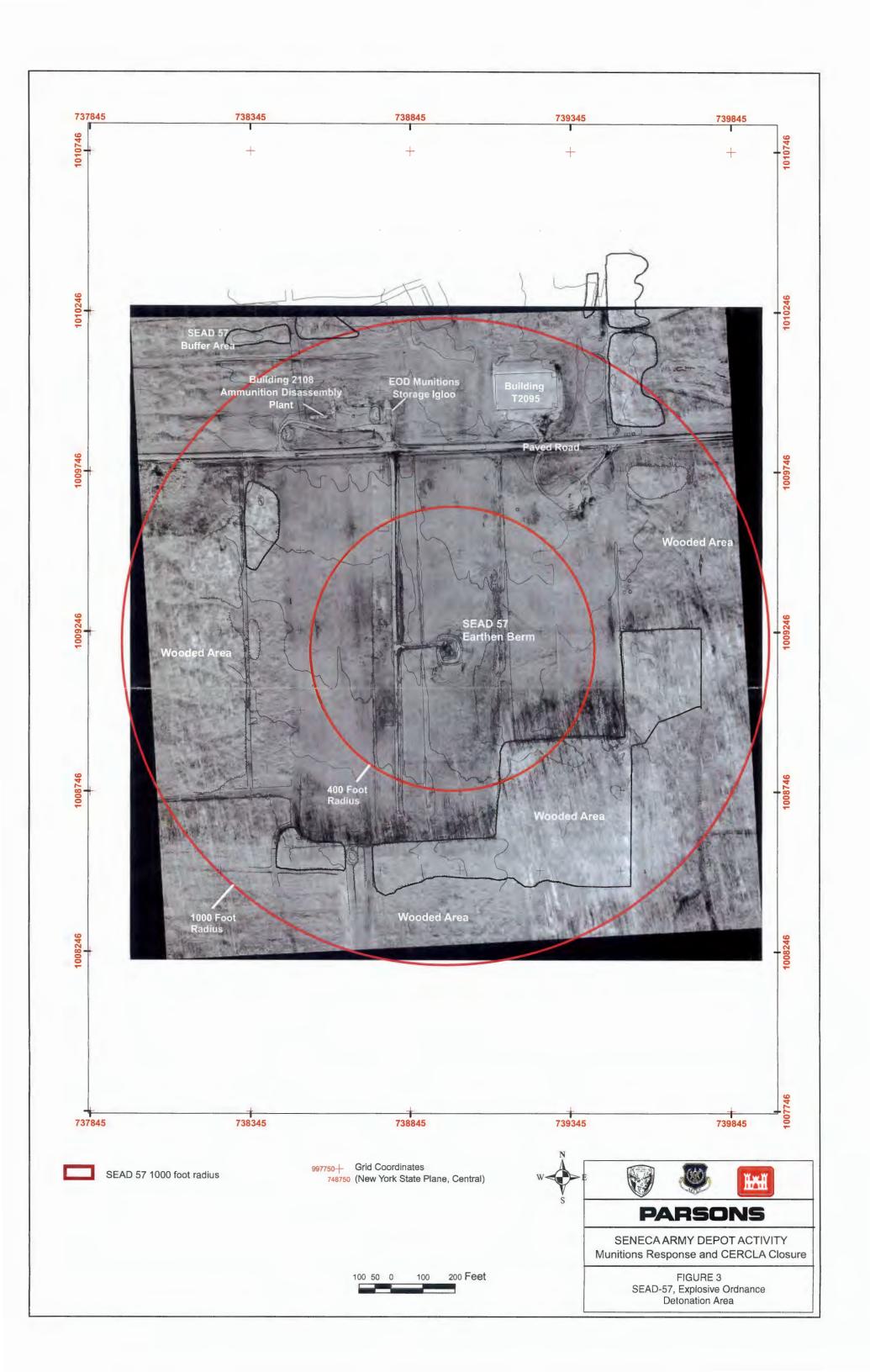
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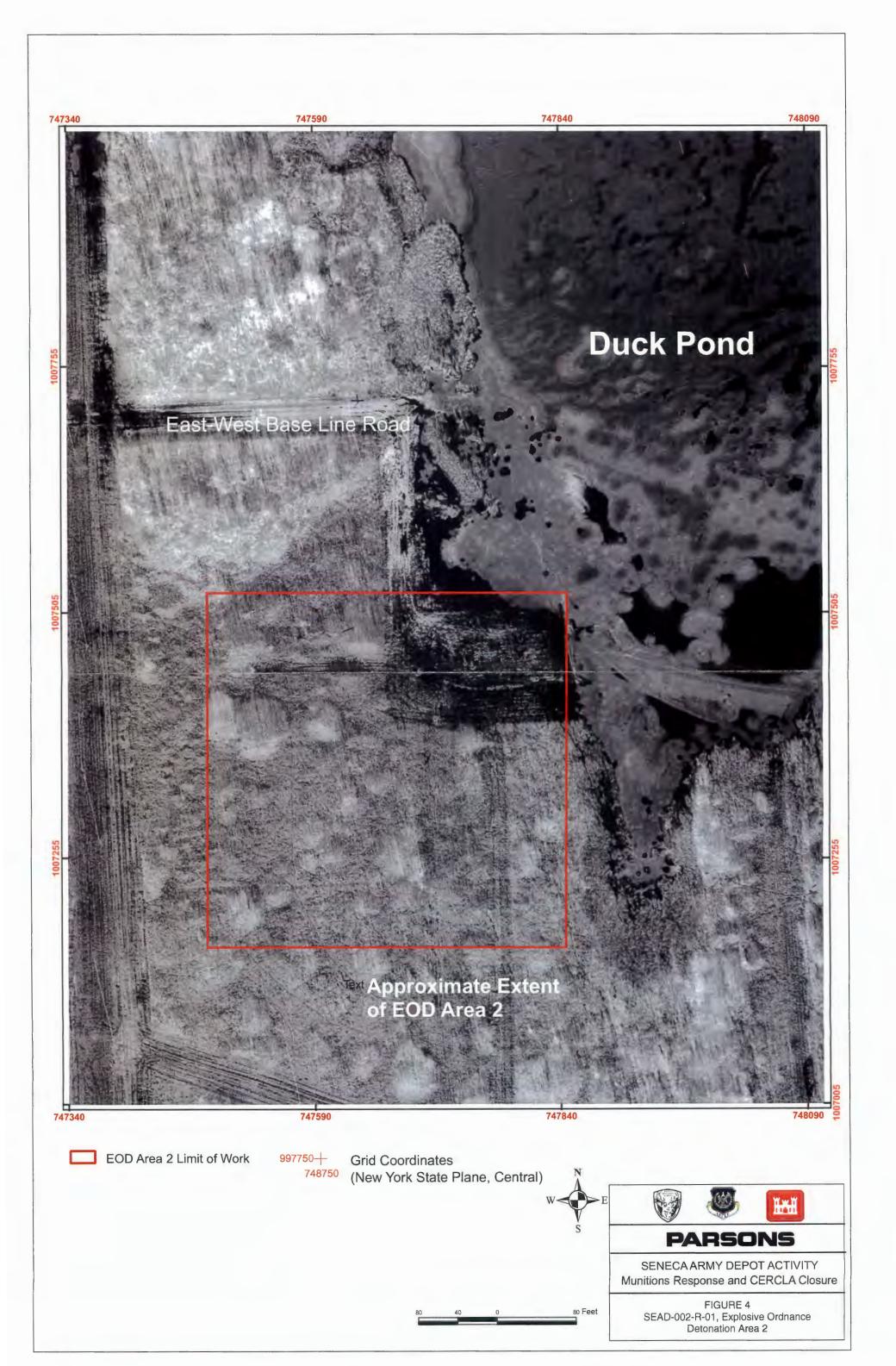
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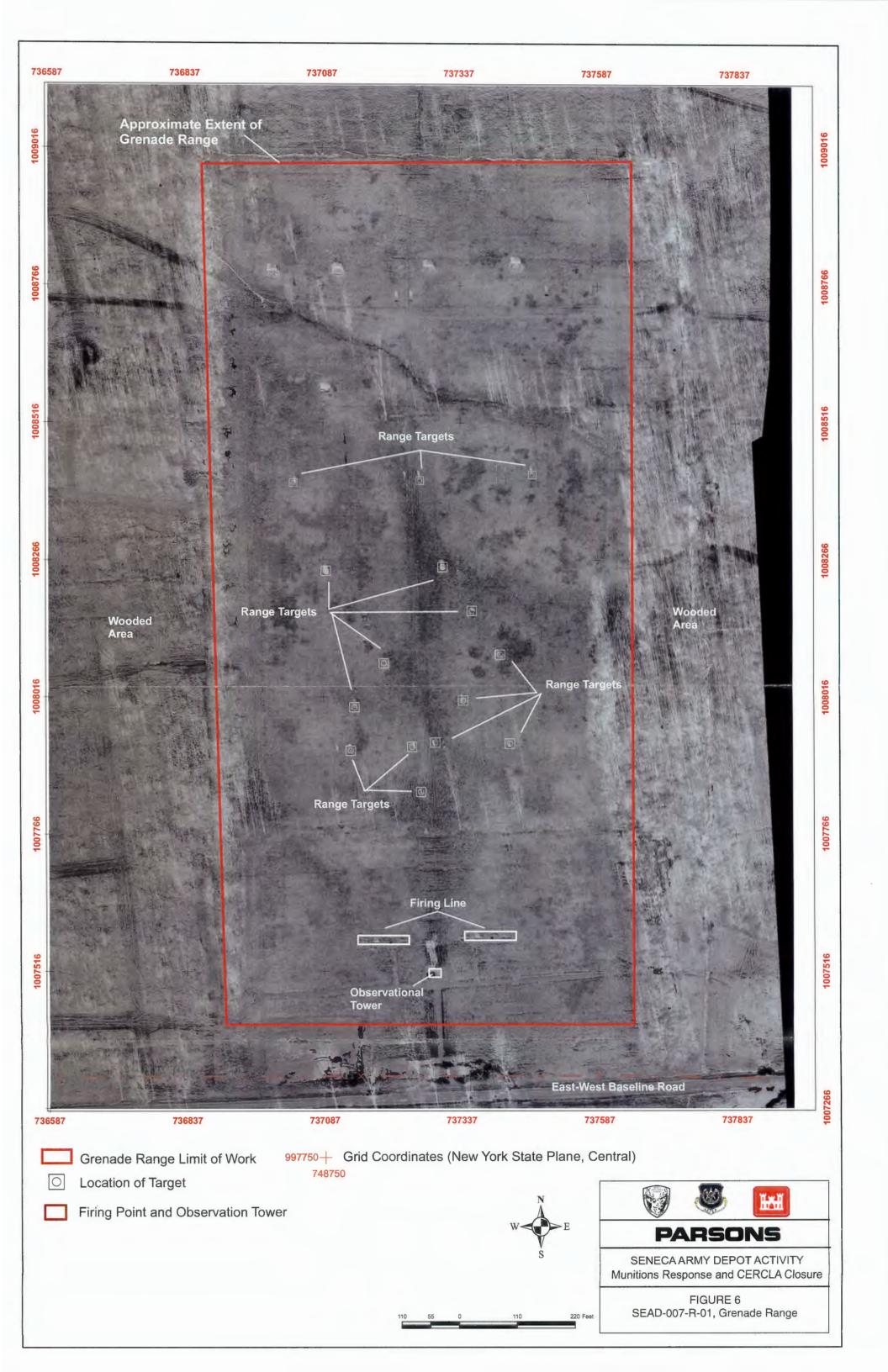












# Attachment A SEAD-46 – 3.5-inch Rocket Range

TABLE I
3.5" ROCKET RANGE (SEAD-46) SOIL SAMPLE RESULTS
SENECA ARMY DEPOT ACTIVITY

Part							N - 1	North	SEAD-46 BE46-1 SOIL 464001 1.8 2.2 36507 SA	SEAD-46 BE46-2 SOIL 464002 1.8 2.2 36507 SA	SEAD-46 BE46-3 SOIL 464003 1.8 2.2 36507 SA	SEAD-46 BE46-4 SOIL 464004 1.8 2.2 36507 SA	SEAD-46 BE46-5 SOIL 464005 1.8 2.2 36507 SA	SEAD-46 BE46-6 SOIL 464006 1.8 2.2 36508 SA	SEAD-46 BE46-7 SOIL 464007 1.8 2.2 36508 SA	SEAD-46 BE46-8 SOIL 464000 1.8 2 2 36508 SA	SEAD-46 SS46-1 SOIL 464023 0 0.5 36509 SA PISLRI
Value   Valu	B	TI-14-		of		of	of Times	of Samples									
1.1.2.7 c)   1.1		Units	Value	Detection	Value	Exceedances	Detected	Anatyzed	Value (Q)								
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1.1-Technisendame					080												
1-1 Declaration-channel   Color   Co					270	-	-										
1.3 Definition enternal   UKKG   0																	
1.2 Declahospender (total)															-		
1. Delinospergene   Click Color   Click Co						-	-										
Actors   Control   Contr																	
Bester   Color   Col					50	27	30										
Binnen-Albrownethance   U.K. C.																2 3	
Persone form																	
Carbon chandland worked						0	0										
Cabon transhinned   Circ Kir						0	12						3 J	8 J	6 J	2 J	14 U
Chieschammenthane   Cirk Cirk   Cirk Cirk Cirk Cirk   Cirk Cirk Cirk Cirk   Cirk Cirk Cirk Cirk Cirk Cirk Cirk Cirk	Carbon tetrachloride	UG/KG		0%	760	0	0	31	11 U	10 U	10 U	9 U	9 U	9 U	9 U	10 U	14 U
Chlosofalare  Ch					1100	0	0			10 U	10 U		9 U	9 U	9 U	10 U	14 U
Cholsoform  CN-13-Dehblogroperse  CN-15-Dehblogroperse  CN-15-Dehblogropers  CN-15-Dehblogroperse  CN-15-Dehblogroperse  CN-15-Dehblogropers  CN-15-D	Chlorodibromomethane	UG KG	0	Ou.º		0	0	31	11 U	10 U	10 U	9 U	9 U	9 U	9 U	10 U	14 U
Control   Cont	Chloroethane	UG/KG	0	0%		0	0	31	11 U	10 U	10 U	9 U	9 U	9 U	9 U	10 U	14 UJ
Ethylesezere	C'hloroform	UG/KG	0	000	370	0	0	31	11 U	10 U	10 U	9 U	9 U	9 U	9 U	10 U	14 U
Ethy bezerge Weighty bronnel Wis Ki 0 0 0 0 1 1 1 1 1 1 1 1 1 0 1 1 0 1 1 0 1 0 0 1 1 1 9 0 1 1 1 9 0 1 1 0 1 1 4 1 1 4 1 1 4 1 1 4 1 1 4 1 1 1 1	Cis-1,3-Dichloropropene	UG, KG	0	0.0		0	0	31	11 U	10 U	10 U	9 U	9 U	9 U	9 []	10 U	14 U
Methylathylatylatorial   Methylatylatorial   Methylathylatorial   GKKG   0		UG/KG	1	3%	1000	0	1	31	11 U	10 U	10 U	9 U	9 U	1 J	9 U	10 U	14 U
Methylschemic UCKG 0 0 0". 0 0 31 11 U 10 U 10 U 9 U 9 U 9 U 9 U 9 U 10 U 16	Methyl bromide	UG KG	0	Ou.b		0	0	31	11 U	10 U	10 U	9 U	9 U	9 U	9 U	10 U	14 U
Methyl inkylkefrome UG-KG 0 0% 0 0 23 31 11 U 9 J 10 U 15 12 9 U 9 U 10 U 16 Methylsnecknylkefrom UG-KG 0 0 0 31 11 U 10 U 10 U 9 U 9 U 9 U 9 U 10 U 14 U 14 U 15 U 10 U 10 U 9 U 9 U 9 U 9 U 10 U 14 U 14 U 15 U 10 U 10 U 9 U 9 U 9 U 9 U 10 U 14 U 14 U 15 U 10 U 15 U 10 U 10 U 9 U 9 U 9 U 9 U 10 U 14 U 14 U 15 U 15 U 15 U 10 U 10 U 10 U 10 U 9 U 9 U 9 U 9 U 10 U 14 U 14 U 15 U 15 U 15 U 15 U 15 U 15	Methyl butyl ketone	UG-KG	0	O° a		0	0	31	11 U	10 U	10 U	9 U	9 U	9 U	9 U	10 U	14 U
Methylacehopk ketone	Methyl chloride	UG KG	0	O° o		0	0	31	11 U	10 U	10 U	9 U					
Methylene chlorate	Methyl ethyl ketone	UG/KG	48	74%	120	0	23	31		9 ]	10 U						
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2-Chlorophenol UG KG 0 0° 0 0 0 31 77 UJ 78 UJ 81 UJ 78 UJ 77 UJ 76 UJ 78 UJ 74 UJ 110 U 2-Methylaphthalene UG KG 0 0° 0 0 0 31 77 UJ 78 UJ 81 UJ 78 UJ 77 UJ 76 UJ 78 UJ 74 UJ 110 U 2-Methylaphthalene UG KG 0 0° 0 0 0 31 77 UJ 78 UJ 78 UJ 77 UJ 76 UJ 78 UJ 74 UJ 110 UJ 2-Methylaphthalene UG KG 0 0° 0 0 0 31 190 UJ 1							0										
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2 Methylphenol UG KG 0 0% 0 0 31 77 UJ 78 UJ 78 UJ 77 UJ 76 UJ 78 UJ 74 UJ 110 UJ 2 Natroaniline UG KG 0 0% 0 0 31 190 UJ						0	0										110 U
2 Natroanline UG KG 0 0% 0 0 31 190 UJ 190 U							0										110 UJ
			0			0	0			190 UJ		190 UJ	190 UJ	180 UJ	190 UJ	180 UJ	270 U
			0	000		0	0	31		78 UJ	81 UJ	78 UJ	77 UJ	76 UJ	78 UJ	74 UJ	110 U

TABLE 1
3.5" ROCKET RANGE (SEAD-46) SOIL SAMPLE RESULTS
SENECA ARMY DEPOT ACTIVITY

								SEAD-46 BE46-1 SOIL 464001 1.8 2.2 36507	SEAD-46 BE46-2 SOIL 464002 1.8 2.2 36507	SEAD-46 BE46-3 SOIL 464003 1.8 2.2 36507	SEAD-46 BE46-4 SOIL 464004 1.8 2.2 36507	SEAD-46 BE46-5 SOIL 464005 1.8 2.2 36507	SEAD-46 BE46-6 SOIL 464006 1.8 2.2 36508	SEAD-46 BE46-7 SOIL 464007 1.8 2.2 36508	SEAD-46 BE46-8 SOIL 464000 1.8 2.2 36508	SEAD-46 SS46-1 SOIL 464023 0 0.5 36509
								SA	SA							
		Maniana	Frequency	Cutanuta	Number	Number	Number	PISI RI	PISI RI	P1S1 RI	PISI RI	PISI RI	PIS1 RI	PISI RI	PISI RI	PIS1 RI
Parameter	Units	Maximum	of	Criteria Value 1	of	of Times	of Samples	*** (6)								
3,3'-Dichlorobenzidine	UG/KG	Value	Detection 0%	V HI UE	Exceedances 0	Detected 0	Analyzed <sup>2</sup> 31	Value (Q) 77 UJ	Value (Q) 78 UJ	Value (Q) 81 UJ	Value (Q) 78 UJ	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
3-Nitroaniline	UG/KG	0	0%		0	0	31	190 UJ	190 UJ	200 UJ	190 UJ	77 UJ 190 UJ	76 UJ 180 UJ	78 UJ 190 UJ	74 UJ 180 UJ	110 U 270 U
4,6-Dinitro-2-methylphenol	UG/KG	0	0%		0	0	31	190 UJ	190 UJ	200 UJ	190 UJ	190 UJ	180 UJ	190 UJ	180 UJ	270 U
4-Bromophenyl phenyl ether	UG/KG	0	0%		0	0	31	77 UJ	78 UJ	81 UJ	78 UJ	77 UJ	76 UJ	78 UJ	74 UJ	110 UJ
4-Chloro-3-methylphenol	UG/KG	0	0%		0	0	31	77 UJ	78 UJ	81 UJ	78 UJ	77 UJ	76 UJ	78 UJ	74 UJ	110 U
4-Chloroaniline	UG/KG	0	0%		0	0	31	77 UJ	78 UJ	81 UJ	78 UJ	77 UJ	76 UJ	78 UJ	74 UJ	110 U
4-Chlorophenyl phenyl ether	UG/KG	0	0%		0	0	31	77 UJ	78 UJ	81 UJ	78 UJ	77 UJ	76 UJ	78 UJ	74 UJ	110 U
4-Methylphenol	UG/KG	13	6%	330	0	2	31	77 UJ	78 UJ	81 UJ	78 UJ	77 UJ	76 UJ	78 UJ	74 UJ	110 U
4-Nitroaniline 4-Nitrophenol	UG/KG UG/KG	0	0%		0	0	31	190 UJ	190 UJ	200 UJ	190 UJ	190 UJ	180 UJ	190 UJ	180 U	270 U
Acenaphthene	UG/KG	0	0%	20000	0	0	31	190 UR	190 UJ	200 UJ	190 UJ	190 UR	180 UR	190 UJ	180 UR	270 UR
Acenaphthylene	UG/KG	0	0%	100000	0	0	31 31	77 UJ 77 UJ	78 UJ 78 UJ	81 UJ 81 UJ	78 UJ	77 UJ	76 UJ	78 UJ	74 UJ	110 U
Anthracene	UG/KG	0	0%	100000	0	0	31	77 UJ	78 UJ	81 UJ	78 UJ 78 UJ	77 UJ 77 UJ	76 UJ 76 UJ	78 UJ 78 UJ	74 UJ 74 UJ	110 U 110 U
Benzo(a)anthracene	UG/KG	34	23%	1000	0	7	31	77 UJ	78 UJ	81 UJ	78 UJ	77 UJ	76 UJ	78 UJ	74 UJ	110 U
Benzo(a)pyrene	UG/KG	30	45%	1000	0	14	31	77 UJ	78 UJ	81 UJ	78 UJ	77 UJ	76 UJ	78 UJ	19 UJ	8.1 J
Benzo(b)fluoranthene	UG/KG	47	48%	1000	0	15	31	77 UJ	12 J	81 UJ	78 UJ	77 UJ	19 J	78 UJ	74 UJ	110 U
Benzo(ghi)perylene	UG/KG	17	3%	100000	0	1	31	77 UJ	78 UJ	81 UJ	78 UJ	77 UJ	76 UJ	78 UJ	74 UJ	110 U
Benzo(k)fluoranthene	UG/KG	33	48%	800	0	15	31	77 UJ	12 J	81 UJ	78 UJ	77 UJ	19 J	78 UJ	74 UJ	110 U
Bis(2-Chloroethoxy)methane	UG/KG	0	0%		0	0	31	77 UJ	78 UJ	81 UJ	78 UJ	77 UJ	76 UJ	78 UJ	74 UJ	110 U
Bis(2-Chloroethyl)ether	UG/KG	0	0%		0	0	31	77 UJ	78 UJ	81 UJ	78 UJ	77 UJ	76 UJ	78 UJ	74 UJ	110 U
Bis(2-Chloroisopropyl)ether	UG/KG	0	0%		0	0	31	77 UJ	78 UJ	81 UJ	78 UJ	77 UJ	76 UJ	78 UJ	74 UJ	110 U
Bis(2-Ethylhexyl)phthalate	UG/KG	780	10%		0	3	31	77 UJ	52 UJ	81 UJ	78 UJ	77 UJ	76 UJ	78 UJ	74 UJ	110 U
Butylbenzylphthalate	UG/KG	0	0%		0	0	31	77 UJ	78 UJ	81 UJ	78 UJ	77 UJ	76 UJ	78 UJ	74 UJ	110 U
Carbazole	UG/KG	0	0%		0	0	31	77 UJ	78 UJ	81 UJ	78 UJ	77 UJ	76 UJ	78 UJ	74 UJ	110 U
Chrysene Di-n-butylphthalate	UG/KG UG/KG	40 1100	32%	1000	0	10	31	77 UJ	78 UJ	81 UJ	78 UJ	77 UJ	76 UJ	78 UJ	74 UJ	110 U
Di-n-outylphthalate	UG/KG	0	19% 0%		0	6	31	77 UJ	78 UJ	81 UJ	78 UJ	77 UJ	76 UJ	78 UJ	74 UJ	110 U
Dibenz(a,h)anthracene	UG/KG	0	0%	330	0	0	31 31	77 UJ 77 UJ	78 UJ	81 UJ	78 UJ	77 UJ	76 UJ	78 UJ	74 UJ	110 U
Dibenzofuran	UG/KG	0	0%	7000	0	0	31	77 UJ	78 UJ 78 UJ	81 UJ 81 UJ	78 UJ 78 UJ	77 UJ 77 UJ	76 UJ	78 UJ	74 UJ	110 U
Diethyl phthalate	UG/KG	11	3%	7000	0	1	31	77 UJ	3.6 UJ	81 UJ	78 UJ	77 UJ	76 UJ 76 UJ	78 UJ 78 UJ	74 UJ 74 UJ	110 U 110 U
Dimethylphthalate	UG/KG	0	0%		0	Ô	31	77 UJ	78 UJ	81 UJ	78 UJ	77 UJ	76 UJ	78 UJ	74 UJ	110 U
Fluoranthene	UG/KG	36	52%	100000	0	16	31	77 UJ	78 UJ	81 UJ	78 UJ	77 UJ	76 UJ	78 UJ	74 UJ	9.4 J
Fluorene	UG/KG	0	0%	30000	0	0	31	77 UJ	78 UJ	81 UJ	78 UJ	77 UJ	76 UJ	78 UJ	74 UJ	110 U
Hexachlorobenzene	UG/KG	11	3%	330	0	1	31	77 UJ	78 UJ	81 UJ	78 UJ	77 UJ	76 UJ	78 UJ	11 J	110 U
Hexachlorobutadiene	UG/KG	0	0%		0	0	31	77 UJ	78 UJ	81 UJ	78 UJ	77 UJ	76 UJ	78 UJ	74 UJ	110 U
Hexachlorocyclopentadiene	UG/KG	0	0%		0	0	31	77 UJ	78 UJ	81 UJ	78 UJ	77 UJ	76 UJ	78 UJ	74 UJ	110 UJ
Hexachloroethane	UG/KG	9.9	3%		0	1	31	77 UJ	78 UJ	81 UJ	78 UJ	77 UJ	76 UJ	78 UJ	9.9 J	110 U
Indeno(1,2,3-cd)pyrene	UG/KG	19	6%	500	0	2	31	77 UJ	78 UJ	81 UJ	78 UJ	77 UJ	76 UJ	78 UJ	12 J	110 U
Isophorone	UG/KG	0	0%		0	0	31	77 UJ	78 UJ	81 UJ	78 UJ	77 UJ	76 UJ	78 UJ	74 UJ	110 U
N-Nitrosodiphenylamine	UG/KG	59	6%		0	2	31	77 UJ	78 UJ	81 UJ	78 UJ	77 UJ	76 UJ	78 UJ	74 UJ	110 U
N-Nitrosodipropylamine Naphthalene	UG/KG UG/KG	0	0%		0	0	31	77 UJ	78 UJ	81 UJ	78 UJ	77 UJ	76 UJ	78 UJ	74 UJ	110 U
Nitrobenzene	UG/KG	3.5	3% 0%	12000	0	1	31	77 UJ	78 UJ	81 UJ	78 UJ	77 UJ	76 UJ	78 UJ	74 UJ	110 U
Pentachlorophenol	UG/KG	0	0%	800	0	0	31	77 UJ	78 UJ	81 UJ	78 UJ	77 UJ	76 UJ	78 UJ	74 UJ	110 U
Phenanthrene	UG/KG	25.1	45%	100000	0	14	31 31	190 UJ 77 UJ	190 UJ 78 UJ	200 UJ 81 UJ	190 UJ 78 UJ	190 UJ 77 UJ	180 UJ	190 UJ	180 UJ	270 U
Phenol	UG/KG	33	32%	330	0	10	31	77 UJ	78 UJ	81 UJ	78 UJ	77 UJ	5.8 J	78 UJ	74 UJ	4.9 J
Pyrene	UG/KG	32	55%	100000	0	17	31	77 UJ	78 UJ	81 UJ	78 UJ		76 UJ	78 UJ	74 UJ	110 U
Explosives	Corno	22	5570	10000	U	11	31	// 03	/8 03	81 03	/8 UJ	77 UJ	76 UJ	78 UJ	14 J	6.2 J
1,3,5-Trinitrobenzene	UG/KG	0	0%		0	0	31	120 U	120 U							
1,3-Dinitrobenzene	UG/KG	0	0%		0	0	31	120 U	120 U							
2,4,6-Trinitrotoluene	UG/KG	0	0%		0	0	31	120 U	120 U							
2,4-Dinitrotoluene	UG/KG	0	0%		0	0	31	120 U	120 U							
2,6-Dinitrotoluene	UG/KG	0	0%		0	0	31	120 U	120 U							

TABLE !
3.5" ROCKET RANGE (SEAD-46) SOIL SAMPLE RESULTS
SENECA ARMY DEPOT ACTIVITY

								SEAD-46 BE46-1 SOIL 464001	SEAD-46 BE46-2 SOIL 464002 1.8	SEAD-46 BE46-3 SOIL 464003	SEAD-46 BE46-4 SOIL 464004 1.8	SEAD-46 BE46-5 SOIL 464005	SEAD-46 BE46-6 SOIL 464006 1.8	SEAD-46 BE46-7 SOIL 464007	SEAD-46 BE46-8 SOIL 464000	SEAD-46 SS46-1 SOIL 464023
								2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	0.5
								36507	36507	36507	36507	36507	36508	36508	36508	36509
			C		Nort	Northern	Number	SA	SA PISI RI	SA	SA PISI RI	SA PISI RI	SA PISI RI	SA PISI RI	SA PISI RI	SA PISI RI
		Maximum	Frequency of	Criteria	Number of	Number of Times	Number of Samples	PISI RI	PISUKI	PISI RI	L121 KI	PISCRI	PISTRI	FISIRI	L121 K1	FISTRI
Parameter	Units	Value	Detection	Value 1	Exceedances	Detected	Analyzed <sup>2</sup>	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (O)	Value (O)	Value (Q)	Value (Q)	Value (Q)
2-Nitrotoluene	UG/KG	()	0%		0	0	31	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U
2 amino-4,6-Dinitrotoluene	UG/KG	0	000		0	0	31	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U
3-Niti otoluene	UG KG	0	$O_{e^{i}}^{a}$		0	O	31	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U
4-Nitrotoluene	UG/KG	0	O <sub>0</sub> ,0		0	0	31	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U
4-amino-2,6-Dinitrotoluene	UG/KG	0	0.0		0	0	31	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U
HMX	UG/KG	0	00.0		0	0	31	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U
Nitrobenzene	UG, KG	0	0° 0		0	0	31	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U
RDX	UG/KG	0	0°°		0	0	31 31	120 U 120 U	120 U 120 U	120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U	120 U 120 U
Tetryl Pesticides and PCBs	UG/KG	U	0.0		U	U	31	120 0	120 0	120 U	120 0	120 0	120 0	120 0	120 0	120 0
4.4'-DDD	UG/KG	12	3%	3.3	1	1	31	3.8 U	3,9 U	41 U	3 9 U	3.8 U	3.8 U	3.9 U	3.7 LT	5.6 U
4.4'-DDE	UG/KG	3.7	10%	3.3	i	3	31	3.8 U	3.9 U	4.1 U	3.9 U	3.8 U	3.8 U	3.9 U	3.7 U	5.6 U
4,4'-DDT	UG/KG	0	Ο <sub>0</sub> .0	3 3	0	0	31	3.8 U	3.9 U	4.1 U	3.9 U	3.8 U	3.8 U	3.9 U	3.7 U	5.6 U
Aldın	UG/KG	0	0°.0	5	0	0	31	2 U	2 U	2.1 U	2 U	2 U	1.9 U	2 U	1.9 U	2.9 []
Alpha-BHC	UG/KG	0	Oo.u	20	0	0	31	2 U	2 U	2.1 U	2 U	2 U	1.9 U	2 U	1.9 U	2.9 U
Alpha-Chlordane	UG/KG	3.5	60,0	94	0	2	31	2 U	2 U	2.1 U	2 U	2 U	1.9 U	2 U	1.9 U	3.5
Aroclos-1016	UG/KG	0	000	100	0	0	31	38 U	39 U	41 U	39 U	38 U	38 U	39 U	37 L1	56 U
Aroctor-1221	UG-KG	0	00,0	100	0	0	31	78 U	80 U	83 U	80 U	78 U	76 U	78 U	75 U	110 U
Atoclor-1232	UG <sup>2</sup> KG	0	Ου υ	100	0	0	31	38 U	39 U 39 U	41 U	39 U 39 U	38 U 38 U	38 U 38 U	39 U 39 U	37 U 37 U	56 U
Aroclot-1242	UG KG	0	On. p	100		0	31	3K U		41 U	39 U	38 U	38 U	39 U	37 U	56 U
Aroclor-1248 Aroclor-1254	UG KG UG KG	0	0°.2	100	0	0	31 31	38 U 38 U	39 U 39 U	41 U 41 U	39 U	38 U	38 U	39 U	37 U	56 U
Aroclor-1260	UG:KG	0	0,0	100	0	0	31	38 U	39 U	41 U	39 U	38 U	38 U	39 U	37 U	56 U
Beta-BHC	UG-KG	0	0.0	36	0	0	31	2 U	2 U	2.1 U	2 U	2 U	1.9 U	2 U	1.9 U	2.9 [1
Delta-BHC	UG KG	0	0"5	30	0	0	31	2 U	2 U	2.1 U	2 U	2 U	1.9 U	2 U	1.9 U	2.9 U
Dieldrin	UG/KG	46	32° 6	40	2	10	31	3.8 U	3.9 U	4.1 U	3.9 U	3.8 U	3.8 U	3.9 U	3.7 U	3 ]
Endosulfan 1	UG:KG	5.8	3%	2400	0	1	31	2 U	2 U	2.1 U	2 U	2 U	1.9 U	2 U	1.9 U	2.9 €
Endosulfan II	UG, KG	2.3	3%₀	2400	0	1	31	3.8 U	3.9 U	4.1 U	3.9 U	3.8 U	3.8 U	3.9 U	3.7 LI	5.6 U
Endosulfan sulfate	UG/KG	0	0%	2400	0	0	31	3.8 U	3.9 U	4.1 U	3.9 U	3.8 U	3.8 U	3.9 U	3.7 U	5.6 U
Endrin	UG KG	5 1	10%	14	0	3	31	3.8 U	3.9 U	4.1 U	3.9 U	3.8 U	3.8 U	3.9 U	3.7 LI	5.6 U
Endrin aldehyde	UG KG	0	000		0	0	31	3.8 U	3.9 U	4.1 U	3.9 U	3.8 U	3.8 U	3.9 U	3.7 U	5.6 U
Endrin ketone	UG KG	3 1	3°,0		0	1	31	3.8 U	3.9 U	4.1 U	3.9 U	3.8 U	3.8 U	3,9 (1	3.7 U	5,6 U 2,9 U
Gamma-BHC/Lindane	UG KG	0	0%	100	0	0	31	2 U 2 U	2 U	2.1 U	2 U 2 U	2 U 2 U	1.9 U 1.9 U	2 U 2 U	1.9 U	2.9 U
Gamma-Chlordane Heptachlor	UG/KG UG KG	1.9	3".5 Ou <sub>v</sub>	94 42	0	ι 0	31 31	2 U	2 U 2 U	2.1 U 2.1 U	2 U	2 U	1.9 U	2 U	1.9 U	2.9 U
Heptachlor epoxide	UG-KG	0	04.0	42	0	0	31	2 U	2 U	2.1 U	2 U	2 U	1.9 U	2 U	1.9 U	2.9 U
Methoxychlor	UG-KG	0	0%		0	0	31	20 U	20 U	21 U	20 U	20 U	19 U	20 U	19 U	29 U
Toxaphene	UG-KG	0	0%		0	0	31	200 U	200 U	210 U	200 U	200 U	190 U	200 U	190 U	290 U
Metals		_														
Aluminum	MG:KG	16500	100%		0	31	31	12600	13800	12100	12100	12900	11100	12700	8890	13000
Antimony	MG KG	0.73	13%		0	4	31	0,42 UJ	0.46 UJ	0.47 UJ	0.47 UJ	0.44 UJ	0.48 UJ	0.51 UJ	0.48 UJ	0 82 UR
Arsenie	MG/KG	7 9	100° e	13	0	31	31	3.6	3.9	7.2	4.1	3.8	3.7	4.3	3.8	4.4
Bartum	MG KG	152	100°.	350	0	31	31	92.6	113	95.8	92	94.4	80.5	88.2	62 7	67.8
Beryllium	MG/KG	1.2	100°.a	7.2	0	31	31	0.85 3	0.95 J	0.85 J	1 8.0	0.88 J	0.88 J	0.9 J	0.62 J	0.48 J
Cadimium	MG/KG	0.09	3%	2.5	0	l N	31	0.06 U	0.07 (1	0.06 U	0.06 U	0.06 U	0.06 U	0.05 U	0.07 U	U 90.0
Calcium	MG/KG	69300	1000	20	0	31	31	27400	14900	26800	39000	7410 20.1	26500 18.5	38000 19.1	38300 15.6	3300 J 16 J
Chromium	MG KG	26.3	100%	30	0	31 31	31	20.9	20 9.3 J	21.9 10.5 J	18.7 10.2 J	20.1 9.8 J	18.5 10.2 J	13.6	6.8 J	6,6 J
('obalt	MG/KG MG/KG	20 41 15	100°°	50	0	31	31	25.6	17.4	20.7	23.2	19.3	21.8	26.1	17.9	14.2
Copper Cyanide	MG/KG	41.12	00,0	27	0	31	31	0.56 U	0.57 U	0.6 U	0.55 U	0.52 U	0.58 U	0.59 U	0.55 U	0.8 U
Iron	MG KG	39100	100%	27	0	31	31	27000 J	26800 J	24900 J	24800 J	25200 J	22900	26700	17900	19600 J
Lead	MG-KG	73	100°s	63	Ĭ	31	31	15.3 J	14.9 J	13.5 J	15.3 J	13.7 J	22.5 J	55.5 J	10.7 J	20.2
					-											

TABLE 1 3.5" ROCKET RANGE (SEAD-46) SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

SEAD-46

BE46-1

SOIL

464001

SEAD-46

BE46-2

SOIL

464002

SEAD-46

BE46-3

SOIL

464003

SEAD-46

BE46-4

SOIL

464004

SEAD-46

BE46-5

SOIL

464005

SEAD-46

BE46-6

SOIL

464006

SEAD-46

BE46-7

SOIL

464007

SEAD-46

BE46-8

SOIL

464000

SEAD-46

SS46-1

SOIL

464023

1.8 1.8	
1.0 1.0	1.8 1.8 1.8 1.8 1.8 0
2.2 2.2	2.2 2.2 2.2 2.2 2.2 2.2 0.5
36507 36507	36507 36507 36507 36508 36508 36508 36509
SA SA	SA SA SA SA SA SA SA
Frequency Number Number Pisi Ri Pisi Ri	PISIRI PISIRI PISIRI PISIRI PISIRI PISIRI PISIRI
	110114 110114 110114 110114 110114
Parameter Units Value Detection Value Exceedances Detected Analyzed Value (Q) Value (Q)	
Magnesium MG/KG 12800 100% 0 31 31 9350 6670	6890 12800 7130 12800 9080 11600 3250
Manganese MG/KG 1170 97% 1600 0 30 31 568 698	593 526 531 618 677 384 307 J
Mercury MG/KG 0.17 81% 0.18 0 25 31 J 0.1 J	
Nickel MG/KG 47.4 100% 30 12 31 31 35A 25.7	30.2 29.9 27.6 26.6 35.3 20.6 18 J
Potassium MG/KG 1770 100% 0 31 31 1190 817 J	1010 974 865 J 1470 980 950 J 1370 J
Selenium MG/KG 0.81 6% 3.9 0 2 31 0.49 UJ 0.53 UJ	
Silver MG/KG 0.3175 3% 2 0 1 31 0.25 UJ 0.27 UJ	J 0.28 UJ 0.28 UJ 0.26 UJ 0.29 UJ 0.3 UJ 0.28 UJ 0.58 UJ
Sodium MG/KG 272 45% 0 14 31 98.8 J 98.6 U	205 J 107 J 94.2 U 272 J 162 J 136 J 135 U
Thallium MG/KG 3.7 97% 0 30 31 1.5 J 1.2 J	3.4 2.7 1.2 J 1.5 J 1.3 J 1.4 J 0.82 U
Vanadium MG/KG 29.3 100% 0 31 31 21.6 24.7	21.7 20.8 22.4 20.8 21.9 17.4 23.1
Zinc MG/KG 115 100% 109 1 31 31 67.8 51.1	85.3 64.6 72.4 66.2 66.7 56.5 62.6 J
Other Analytes	
Nitrate/Nitrite Nitrogen MG/KG 2.2 96% 0 25 26 0.67 1.5	0.94 1.9 1.9 2.2 1.5 0.02
Percent Solids % WW 89.5 100% 0 31 31 86.5 84.2	81.2 83.9 85.7 86.7 84.9 89.5 58.9

#### Notes:

- (1) Criteria based on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives,
- http://www.dec.state.ny.us/website/regs/subpart375\_6.html
- (2) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table.
  (3) A bolded and outlined cell indicates a concentration that exceeded the criteria.

- $\label{eq:U} U = \text{compound was not detected} \\ J = \text{the reported value is an estimated concentration} \\ UJ = \text{the compound was not detected; the associated reporting limit is approximate} \\$
- R = the analytical result was rejected during data validation.

TABLE 1
3.5" ROCKET RANGE (SEAD-46) SOIL SAMPLE RESULTS
SENECA ARMY DEPOT ACTIVITY

Value   Company   Compan			Maximum	Frequency of	Criteria	Number of	Number of Times	Number of Samples	SEAD-46 SS46-11 SOIL 464014 0 0.5 36508 SA PIS1 RI	SEAD-46 SS46-15 SOIL 464024 0 0.5 36509 SA PISI RI	SEAD-46 SS46-16 SOIL 464015 0 0.5 36508 SA P1S1 RI	SEAD-46 SS46-17 SOIL 464029 0 0.5 36510 SA PISI RI	SEAD-46 SS45-18 SOIL 464030 0 0.5 36510 SA P1S1 RI	SEAD-46 SS46-19 SOIL 464025 0 0.5 36509 SA P1S1 RI	SEAD-46 SS46-2 SOIL 464013 0 0.5 36508 SA P1S1 RI	SEAD-46 SS46-20 SOIL 464022 0 0.5 36509 SA P1S1 RI	SEAD-46 SS46-21 SOIL 464026 0 0.5 36509 SA PISI RI
1.1.1-Chichimochanes	Parameter	Units	Value	Detection	Value 1	Exceedances	Detected	Analyzed <sup>2</sup>	Value (Q)	Value (Q)	Value (Q)	Value (Q)					
1.1.3-7-friend-orderate   UCKC   0																	
1.3 Fordiscredis					680	_											
1.3-Dela love channe   COKKO   0   0%   270   0   0   31   11   U   12   U   12   U   13   U   12   U   12   U   14   U   14   U   1.3   U   12   U   14   U   14   U   1.3   U   1.3   U   1.5			_			-											
1.3-Dichlorenthemax   UOKKO   0   9%   330   0   0   31   11 U   12 U   12 U   14 U   13 U   12 U   12 U   14 U   14 U   14 U   15 U   12 U   14 U   14 U   15 U																	
1.3-Delinorethine (100   100																	
1.5 Disclosement (unit)			-				-										
1.2   1.2						-											
Company   Comp					19	-											
Beamse   UGNG   12   23%   60   7   51   11 U   2   11 U   18 U   13 U   12 U   12 U   14 U   14 U   14 U   15 U   15 U   12 U   12 U   14 U   14 U   15 U																	
Beauth-through the continue																	
Remodemen					60	•	,										
Carbon installate  UOKG  0  074  769  0  0  0  12  11  11  11  12  11  12  11  12  11  12  13  13			-			•	-										
Chlorobetranchome   UG/KG   O   0%   760   O   0   31   11 U   12 U   13 U   13 U   12 U   14 U   14 U   14 U   14 U   15 U   15 U   12 U   14 U   14 U   14 U   14 U   15 U   15 U   15 U   12 U   14						U											
Chlorodimensementation					210	0											
Chlorodhremenshase						*											
Chireselment  UOKKG 0 0 0% 970 0 0 31 11 U 12 U 12 U 18 U 13 U 12 U 12 U 14 U 14 U 14 U 14 U 15 U 12 U 12 U 14 U 14 U 14 U 15 U 12 U 12 U 14 U 14 U 14 U 15 U 12 U 12 U 14 U 14 U 14 U 15 U 12 U 12 U 14 U 14 U 14 U 14 U 15 U 15 U 12 U 12 U 14 U 14 U 14 U 15 U 12 U 12 U 12 U 14 U 14 U 14 U 15 U 15 U 12 U 12 U 14 U 14 U 15 U 12 U 12 U 12 U 14 U 14 U 15 U 14 U 14 U 15 U 15 U 12 U 12 U 14 U 14 U 15 U 15 U 12 U 12 U 14 U 14 U 15 U 15 U 12 U 12 U 14 U 14 U 15 U 15 U 12 U 12 U 14 U 14 U 15 U 15 U 15 U 15 U 15 U 15			-		1100		-										
Chilerofrom  UCING  UCING  O  O  S1  11 U  12 U  12 U  18 U  13 U  12 U  12 U  14 U  14 U  15 U  15 U  12 U  14 U  14 U  15 U  15 U  12 U  14 U  14 U  15 U  15 U  12 U  14 U  14 U  15 U  15 U  15 U  12 U  14 U  14 U  15 U  15 U  15 U  12 U  14 U  14 U  14 U  15 U			-			-	-										
CN-1-Dichleropropose UGNKG 0 096 0 0 1 1 31 11 U 12 UR 12 U 18 U 13 U 12 U 12 U 14 U 14 U 14 U 14 U 14 U 14					200	•	-										
Ebyl fearner   UGKC   1   35%   1000   0   1   31   11   U   12   UR   12   U   18   U   13   U   12   U   14   U   14   U   Methyl bunyl ketone   UGKC   0   0%   0   0   0   0   0   0   0			-		370	•											
Methyl braunist			0		1000	-	0										
Methyl Reformer Country (1) (1) (2) (1) (1) (2) (1) (1) (2) (1) (1) (2) (1) (1) (2) (1) (1) (2) (1) (1) (2) (1) (1) (2) (1) (1) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2			1		1000		1										
Methyl etalleride  Working of Alleride  Working deliveride  Working of Alleride  Working of O. 09%  Styles  Working of Alleride  Working of O. 09%  Styles  Working of Alleride  Working of O. 09%  Styles  Working of O. 09%  Working of O.						-											
Methyl eleylateriane						-	-										
Methylateride					120	•											
Methylene chloride  UG/KG  0 0/K  6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0					120												
Styres Chrome    Our   Color   Our					60	-	-										
System   Conference   Confere					30	-											
Toluenes UG/KG 13 90% 700 0 28 31 6J 9J 8J 4J 4J 4J 4J 2U 12U 14U 14U 17 17 18 1 19 1 19 1 19 1 19 1 19 1 19			-		1300	-										14 U	14 U
Total Nytenes UG/KG 7 23% 260 0 7 31 11 U 12 UI 12 U 18 U 13 U 12 U 12 U 14 U 14 U 14 U 17 Trans-1,3-Dichloroprepene UG/KG 0 0% 470 0 0 31 11 U 12 UI 12 U 18 U 13 U 12 U 12 U 14 U 14 U 14 U 17 trichlorocheme UG/KG 0 0% 470 0 0 31 11 U 12 UI 12 U 18 U 13 U 12 U 12 U 14 U 14 U 14 U 17 trichlorocheme UG/KG 0 0% 20 0 0 31 11 U 12 UI 12 U 18 U 13 U 12 U 12 U 14 U 14 U 14 U 14 U 15 trichlorocheme UG/KG 0 0% 20 0 0 31 11 U 12 UI 12 U 18 U 13 U 12 U 12 U 14 U 14 U 14 U 15 U 15 U 12 U 14 U 15 U 15 U 12 U 14 U 14 U 15 U 15 U 15 U 15 U 15 U 15						-										5 J	2 J
Trans-1,3-Dichloropropene UG/KG 0 0% 470 0 0 31 11 U 12 U 12 U 18 U 13 U 12 U 12 U 14 U 14 U 14 U 15 U 15 U 16 U 16 U 16 U 16 U 16 U 16						•											
Trichloresthere UG/KG UG					200	-	,										
Visyletheride					470		-									14 U	14 U
Semivolatile Organic Compounds   1,2,4-Trichlorobenzzne						-								12 UJ	12 U	14 U	14 UJ
1.2Dichlorobenzene UG/KG 0 0% 1100 0 0 31 130 UJ 89 U 88 UJ 100 UJ 93 UJ 90 U 450 UJ 110 U 100 UJ 1.3Dichlorobenzene UG/KG 0 0% 1100 0 0 0 31 130 UJ 89 UJ 88 UJ 100 UJ 93 UJ 90 UJ 450 UJ 110 UJ 100 UJ 1.3Dichlorobenzene UG/KG 0 0% 1800 0 0 31 130 UJ 89 UJ 88 UJ 100 UJ 93 UJ 90 UJ 450 UJ 110 UJ 100 UJ 1.4Dichlorobenzene UG/KG 0 0% 1800 0 0 31 320 UJ 220 UJ		OUNCO	0	070	20	•		•									
1,2-Dichlorobenzene		LIG/KG	0	0%		0	0	31	130 UJ	89 U	88 UJ	100 UJ	93 UJ	90 U	450 UJ	110 U	100 U
1.3-Dichlorobenzene UG/KG 0 0% 2400 0 0 31 130 UJ 89 UJ 88 UJ 100 UJ 93 UJ 90 UJ 450 UJ 110 UJ 100 UJ 1.4-Dichlorobenzene UG/KG 0 0% 1800 0 0 31 320 UJ 220 U 210 UJ 250 UJ 220 UJ 1100 UJ 260 U 250 UJ 2.4,5-Trichlorophenol UG/KG 0 0% 0 0 0 31 320 UJ 220 UJ 220 UJ 250 UJ 220 UJ 1100 UJ 260 UJ 250 UJ 2.4-Dichlorophenol UG/KG 0 0% 0 0 0 31 130 UJ 89 UJ 88 UJ 100 UJ 93 UJ 90 U 450 UJ 110 UJ 100 UJ 2.4-Dichlorophenol UG/KG 0 0% 0 0 0 31 130 UJ 89 U 88 UJ 100 UJ 93 UJ 90 U 450 UJ 110 UJ 100 UJ 2.4-Dichlorophenol UG/KG 0 0 0% 0 0 0 31 130 UJ 89 U 88 UJ 100 UJ 93 UJ 90 U 450 UJ 110 UJ 100 UJ 2.4-Dichlorophenol UG/KG 0 0 0% 0 0 0 31 130 UJ 89 U 88 UJ 100 UJ 93 UJ 90 U 450 UJ 110 UJ 100 UJ 2.4-Dichlorophenol UG/KG 0 0 0% 0 0 0 31 320 UJ 89 U 88 UJ 100 UJ 93 UJ 90 U 450 UJ 110 UJ 100 UJ 2.4-Dichlorophenol UG/KG 0 0 0% 0 0 0 31 320 UJ 89 U 88 UJ 100 UJ 93 UJ 90 U 450 UJ 110 UJ 100 UJ 2.4-Dichlorophenol UG/KG 0 0 0% 0 0 0 31 320 UJ 89 U 88 UJ 100 UJ 93 UJ 90 U 450 UJ 110 UJ 2.4-Dichlorophenol UG/KG 0 0 0% 0 0 0 31 320 UJ 89 U 88 UJ 100 UJ 93 UJ 90 U 450 UJ 110 UJ 2.4-Dichlorophenol UG/KG 0 0 0% 0 0 0 31 320 UJ 89 U 88 UJ 100 UJ 93 UJ 90 U 10 UJ 100 UJ 2.4-Dichlorophenol UG/KG 0 0 0% 0 0 0 31 320 UJ 89 U 88 UJ 100 UJ 93 UJ 90 U 130 J 110 U 100 UJ 2.4-Dichlorophenol UG/KG 0 0 0% 0 0 0 31 130 UJ 89 U 88 UJ 100 UJ 93 UJ 90 UJ 450 UJ 110 UJ 100 UJ 2.4-Dichlorophenol UG/KG 0 0 0% 0 0 0 31 130 UJ 89 UJ 88 UJ 100 UJ 93 UJ 90 UJ 450 UJ 110 UJ 100 UJ 2-Chlorophenol UG/KG 0 0 0% 0 0 0 31 130 UJ 89 UJ 88 UJ 100 UJ 93 UJ 90 UJ 450 UJ 110 UJ 100 UJ 2-Chlorophenol UG/KG 0 0 0% 0 0 0 31 130 UJ 89 UJ 88 UJ 100 UJ 93 UJ 90 UJ 450 UJ 110 UJ 100 UJ 2-Chlorophenol UG/KG 0 0 0% 0 0 0 0 31 130 UJ 89 UJ 88 UJ 100 UJ 93 UJ 90 UJ 450 UJ 110 UJ 100 UJ 2-Chlorophenol UG/KG 0 0 0% 0 0 0 0 31 130 UJ 89 UJ 88 UJ 100 UJ 93 UJ 90 UJ 450 UJ 110 UJ 100 UJ 2-Chlorophenol UG/KG 0 0 0% 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0					1100		0			89 UJ	88 UJ	100 UJ	93 UJ	90 UJ	450 UJ	110 UJ	
1,4-Dichlorobenzeue UG/KG 0 0% 1800 0 0 31 130 UJ 89 UJ 88 UJ 100 UJ 93 UJ 90 UJ 450 UJ 110 UJ 100 UJ 2,4,5-Trichlorophenol UG/KG 0 0% 0 0 31 130 UJ 89 UJ 88 UJ 100 UJ 93 UJ 90 UJ 450 UJ 110 UJ 260 U 2,4,5-Trichlorophenol UG/KG 0 0% 0 0 0 31 130 UJ 89 UJ 88 UJ 100 UJ 93 UJ 90 UJ 450 UJ 110 UJ 100 UJ 2,4-Dichlorophenol UG/KG 0 0% 0 0 0 31 130 UJ 89 UJ 88 UJ 100 UJ 93 UJ 90 UJ 450 UJ 110 UJ 100 UJ 2,4-Dichlorophenol UG/KG 0 0 0% 0 0 0 31 130 UJ 89 UJ 88 UJ 100 UJ 93 UJ 90 UJ 450 UJ 110 UJ 100 UJ 2,4-Dinitrophenol UG/KG 0 0 0% 0 0 0 31 130 UJ 89 UJ 88 UJ 100 UJ 93 UJ 90 UJ 450 UJ 110 UJ 100 UJ 2,4-Dinitrophenol UG/KG 0 0 0% 0 0 0 31 130 UJ 89 UJ 88 UJ 100 UJ 93 UJ 90 UJ 450 UJ 110 UJ 100 UJ 2,4-Dinitrophenol UG/KG 0 0 0% 0 0 0 31 130 UJ 89 UJ 88 UJ 100 UJ 93 UJ 90 UJ 450 UJ 110 UJ 100 UJ 2,4-Dinitrophenol UG/KG 0 0 0% 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			0			0	0	31	130 UJ	89 UJ	88 UJ	100 UJ	93 UJ	90 UJ	450 UJ	110 UJ	100 UJ
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2-Nitroaniline UG/KG 0 0% 0 0 31 320 UJ 220 U 210 UJ 250 UJ 220 UJ 220 U 1100 UJ 260 U 250 U			0			0	0	31	130 UJ								
			0			0	0										
A THE OPPOSITION OF THE PROPERTY OF THE PROPER	2-Nitrophenol	UG/KG	0	0%		0	0	31	130 UJ	89 U	88 UJ	100 UJ	93 UJ	90 U	450 UJ	110 U	100 U

TABLE 1
3.5" ROCKET RANGE (SEAD-46) SOIL SAMPLE RESULTS
SENECA ARMY DEPOT ACTIVITY

								SEAD-46 SS46-11 SOIL 464014 0	SEAD-46 SS46-15 SOIL 464024 0	SEAD-46 SS46-16 SOIL 464015 0	SEAD-46 SS46-17 SOIL 464029 0	SEAD-46 SS46-18 SOIL 464030 0	SEAD-46 SS46-19 SOIL 464025 0 0.5	SEAD-46 SS46-2 SOIL 464013 0	SEAD-46 SS46-20 SOIL 464022 0	SEAD-46 SS46-21 SOIL 464026 0
								36508	36509	36508	36510	36510	36509	36508	36509	36509
								SA	SA	SA	SA	SA	SA	SA	SA	SA
			Frequency		Number	Number	Number	PISI RI	PISI RI	PISI RI	PISI RI					
		Maximum	of	Criteria	of	of Times	of Samples									
Parameter	Units	Value	Detection	Value 1	Exceedances	Detected	Analyzed <sup>2</sup>	Value (Q)	Value (Q)	Value (Q)	Value (Q)					
3,3'-Dichlorobenzidine	UG/KG	0	0%		0	0	31	130 UJ	89 U	88 UJ	100 UJ	93 UJ	90 U	450 UJ	110 U	100 U
3-Nitroaniline	UG/KG	0	0%		0	0	31	320 UJ	220 U	210 UJ	250 UJ	220 UJ	220 U	1100 UJ	260 U	250 U
4,6-Dinitro-2-methylphenol	UG/KG	0	0%		0	0	31	320 UJ	220 U	210 UJ	250 UJ	220 UJ	220 U	1100 UJ	260 U	250 U
4-Bromophenyl phenyl ether	UG/KG	0	0%		0	0	31	130 UJ	89 UJ	88 UJ	100 UJ	93 UJ	90 UJ	450 UJ	110 UJ	100 UJ
4-Chloro-3-methylphenol	UG/KG	0	0%		0	0	31	130 UJ	89 U	88 UJ	100 UJ	93 UJ	90 U	450 UJ	110 U	100 U
4-Chloroaniline	UG/KG	0	0%		0	0	31	130 UJ	89 U	88 M	100 UJ	93 UJ	90 U	450 UJ	110 U	100 U
4-Chlorophenyl phenyl ether	UG/KG UG/KG	0 13	0%	220	0	0	31	130 UJ	89 U	88 UJ	100 UJ	93 UJ	90 U	450 UJ	110 U	100 U
4-Methylphenol 4-Nitrosniline	UG/KG	0	6% 0%	330	0	2	31	130 UJ	89 U	88 UJ	100 UJ	93 UJ	90 U	13 J	110 U	100 U
4-Nitrophenol	UG/KG	0	0%		0	0	31 31	320 UJ 320 UJ	220 U 220 UR	210 UJ	250 UJ	220 UJ	220 U	1100 UJ	260 U	250 U
Acenaphthene	UG/KG	0	0%	20000	0	0	31	130 UJ	89 U	210 UJ 88 UJ	250 UJ 100 UJ	220 UJ	220 UR	1100 UJ	260 UR	250 UR
Acenaphthylene	UG/KG	0	0%	100000	0	0	31	130 UJ	89 U	88 UJ	100 UJ	93 UJ 93 UJ	90 U	450 UJ	110 U	100 U
Anthracene	UG/KG	0	0%	100000	0	0	31	130 UJ	89 U	88 UJ	100 UJ	93 UJ	90 U	450 UJ 450 UJ	110 U 110 U	100 U 100 U
Benzo(a)anthracene	UG/KG	34	23%	1000	0	7	31	5.1 J	34 J	88 UJ	100 UJ	93 UJ	90 U	450 UJ	110 U	100 U
Benzo(a)pyrene	UG/KG	30	45%	1000	0	14	31	7.1 J	30 J	7.9 J	6.7 J	6.5 J	5.9 J	450 UJ	8.1 J	100 U
Benzo(b)fluoranthene	UG/KG	47	48%	1000	0	15	31	7.1 J	47 J	9 J	5.7 J	7.4 J	90 U	450 UJ	6.1 J	100 U
Benzo(ghi)perylene	UG/KG	17	3%	100000	0	1	31	130 UJ	17 J	88 UJ	100 UJ	93 UJ	90 U	450 UJ	110 U	100 U
Benzo(k)fluoranthene	UG/KG	33	48%	800	0	15	31	6.1 J	33 J	6.6 J	7.2 J	4.4 J	90 U	450 UJ	7.4 J	100 U
Bis(2-Chloroethoxy)methane	UG/KG	0	0%		0	0	31	130 UJ	89 U	88 UJ	100 UJ	93 UJ	90 U	450 UJ	110 U	100 U
Bis(2-Chloroethyl)ether	UG/KG	0	0%		0	0	31	130 UJ	89 U	88 UJ	100 UJ	93 UJ	90 U	450 UJ	110 U	100 U
Bis(2-Chloroisopropyl)ether	UG/KG	0	0%		0	0	31	130 UJ	89 U	88 UJ	100 UJ	93 UJ	90 U	450 UJ	110 U	100 U
Bis(2-Ethylhexyl)phthalate	UG/KG	780	10%		0	3	31	780 J	160	28 J	100 UJ	93 UJ	90 U	450 UJ	110 U	100 U
Butylbenzylphthalate	UG/KG	0	0%		0	0	31	130 UJ	89 U	88 UJ	100 UJ	93 UJ	90 U	450 UJ	110 U	100 U
Carbazole	UG/KG	0	0%		0	0	31	130 UJ	89 U	88 UJ	100 UJ	93 UJ	90 U	450 UJ	110 U	100 U
Chrysene	UG/KG	40	32%	1000	0	10	31	5.9 J	40 J	6.5 J	100 UJ	93 UJ	90 U	450 UJ	110 U	100 U
Di-n-butylphthalate	UG/KG	1100	19%		0	6	31	130 UJ	12 J	88 UJ	100 UJ	93 UI	90 U	1100 J	5.8 J	6.4 J
Di-n-octylphthalate	UG/KG	0	0%		0	0	31	130 UJ	89 U	88 UJ	100 UJ	93 UJ	90 U	450 UJ	110 U	100 U
Dibenz(a,b)anthracene	UG/KG	0	0%	330	0	0	31	130 UJ	89 U	88 UJ	100 UJ	93 UJ	90 U	450 UJ	110 U	100 U
Dibenzofuran	UG/KG	0	0%	7000	0	0	31	130 UJ	89 U	88 UJ	100 UJ	93 UJ	90 U	450 UJ	110 U	100 U
Diethyl phthalate	UG/KG	11	3%		0	1	31	11 J	89 U	88 UJ	100 UJ	93 UJ	90 U	450 UJ	110 U	100 U
Dimethylphthalate	UG/KG	0	0%	100000	0	0	31	130 UJ	89 U	88 UJ	100 UJ	93 UJ	90 U	450 UJ	110 U	100 U
Fluoranthene Fluorene	UG/KG UG/KG	36 0	52% 0%	100000	0	16	31	10 J	36 J	9.3 J	7.5 J	9.5 J	7.8 J	450 UJ	10 J	100 U
Hexachlorobenzene	UG/KG	11	3%	30000 330	0	0	31	130 UJ	89 U	88 UJ	100 UJ	93 UJ	90 U	450 UJ	110 U	100 U
Hexachlorobutadiene	UG/KG	0	0%	330	0	0	31 31	130 UJ	89 U	88 UJ	100 UJ	93 UJ	90 U	450 UJ	110 U	100 U
Hexachlorocyclopentadiene	UG/KG	0	0%		0	0	31	130 UJ 130 UJ	89 UJ	88 UJ	100 UJ 100 UJ	93 UJ 93 UJ	90 U 90 UJ	450 UJ	110 U	100 U
Hexachloroethane	UG/KG	9.9	3%		0	1	31	130 UJ	89 U	88 UJ	100 UJ	93 UJ	90 U	450 UJ 450 UJ	110 UJ	100 UJ
Indeno(1,2,3-cd)pyrene	UG/KG	19	6%	500	0	2	31	130 UJ	19 J	88 UJ	100 UJ	93 UJ	90 U	450 UJ	110 U	100 U 100 U
Isophorone	UG/KG	0	0%	500	0	0	31	130 UJ	89 U	88 UJ	100 UJ	93 UJ	90 U	450 UJ	110 U	100 U
N-Nitrosodiphenylamine	UG/KG	59	6%		0	2	31	130 UJ	15 J	88 UJ	100 UJ	93 UJ	90 U	59 J	110 U	100 U
N-Nitrosodipropylamine	UG/KG	0	0%		0	0	31	130 UJ	89 U	88 UJ	100 UJ	93 UJ	90 U	450 UJ	110 U	100 U
Naphthalene	UG/KG	3.5	3%	12000	0	1	31	130 UJ	3.5 J	88 UJ	100 UJ	93 UJ	90 U	450 UJ	110 U	100 U
Nitrobenzene	UG/KG	0	0%		0	0	31	130 UJ	89 U	88 UJ	100 UJ	93 UJ	90 U	450 UJ	110 U	100 U
Pentachlorophenol	UG/KG	0	0%	800	0	0	31	320 UJ	220 U	210 UJ	250 UJ	220 UJ	220 U	1100 UJ	260 U	250 U
Phenanthrene	UG/KG	25.1	45%	100000	0	14	31	5.2 J	12 J	5.6 J	100 UJ	5.3 J	90 UJ	450 UJ	7.1 3	100 UJ
Phenol	UG/KG	33	32%	330	0	10	31	130 UJ	89 U	88 UJ	17 J	6 J	90 U	450 UJ	110 U	100 U
Pyrene	UG/KG	32	55%	100000	0	17	31	6.1 J	32 J	9.1 J	8.6 J	9 J	5 J	450 UJ	9.3 J	100 U
Explosives													- 1			
1,3,5-Trinitrobenzene	UG/KG	0	0%		0	0	31	120 U	120 U	120 UJ	120 U					
1,3-Dinitrobenzene	UG/KG	0	0%		0	0	31	120 U	120 U	120 UJ	120 U					
2,4,6-Trinitrotoluene	UG/KG	0	0%		0	0	31	120 U	120 U	120 UJ	120 U					
2,4-Dinitrotoluene	UG/KG	0	0%		0	0	31	120 U	120 U	120 UJ	120 U					
2,6-Dinitrotoluene	UG/KG	0	0%		0	0	31	120 U	120 U	120 UJ	120 U					

TABLE I
3.5" ROCKET RANGE (SEAD-46) SOIL SAMPLE RESULTS
SENECA ARMY DEPOT ACTIVITY

								SEAD-46 SS46-11 SOIL 464014	SEAD-46 SS46-15 SOIL 464024	SEAD-46 SS46-16 SOIL 464015	SEAD-46 SS46-17 SOIL 464029	SEAD-46 SS46-18 SOIL 464030	SEAD-46 SS46-19 SOIL 464025	SEAD-46 SS46-2 SOIL 464013	SEAD-46 SS46-20 SOIL 464022	SEAD-46 SS46-21 SOIL 464026
								0 0.5	0.5	0.5	0.5	0	0.5	0.5	0.5	0 5
								36508	36509	36508	36510	36510	36509	36508	36509	36509
								SA	SA	SA	SA	SA	SA	SA	SA	SA
			Frequency of	C d'annel e	Number of	Number of Times	Number of Samples	PISI RI	PISI RI	PISI RI	PISI RI	P1S1 R1	PISI RI	PISI RI	PIS! RI	PISI RI
Parameter	Units	Maximum Value	Detection	Criteria Value <sup>1</sup>	Exceedances	Detected	Analyzed 2	Value (Q)	Value (O)	Value (Q)	Value (O)	Value (O)	Value (O)	Value (O)	Value (Q)	Value (Q)
2-Nitrotoluene	UG:KG	0	0%	V Alue	0	0	31	120 U	120 U	120 U	120 UJ	120 UJ	120 U	120 U	120 L <sup>1</sup> J	120 U
2-amino-4,6-Diniti otoluene	UG'KG	0	0%		0	0	31	120 U	120 U	120 UJ	120 L1					
3-Nitrotoluene	UG/KG	0	On.º		0	0	31	120 U	120 U	120 UJ	120 U					
4-Nitrotoluene	UG/KG	0	O° 0		0	0	31	120 U	120 U	120 U	120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 UJ 120 UJ	120 U 120 U
4 ammo-2,6-Dinitrotoluene HMX	UG KG UG KG	0	00.0		0	0	31 31	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U	120 U	120 U	120 UJ	120 U
Nitrobenzene	UG/KG	0	0.0		0	0	31	120 U	120 U	120 UJ	120 U					
RDX	UG/KG	0	0°6		0	0	31	120 U	120 U	120 UJ	120 U					
Tetryl	UG/KG	0	Oa é		0	0	31	120 U	120 U	120 UJ	120 U					
Pesticides and PCBs																
4,4'-DDD	UG KG	12	30.0	3.3	1	1	31	4.3 UJ	4.4 U	4.4 U	5.2 U	12	4.5 U	4.5 U	5.4 U	5.2 U 5.2 U
4.4'-DDE	UGKG	3.7	10%	3.3	1	3	31 31	4.3 UJ 4.3 UJ	2 J 4.4 U	4.4 U 4.4 U	5.2 U 5.2 U	4.6 U 4.6 U	1.8 J 4.5 U	4.5 U 4.5 U	5.4 U 5.4 U	5.2 U
4,4'-DDT Aldrin	UG:KG UG:KG	0	0°°	5.5	0	0	31	2.2 UJ	2.3 U	2.2 U	2.6 U	2.4 U	2.3 U	2.3 U	2.8 U	2.6 U
Alpha-BHC	UG KG	0	0.0	20	0	0	31	2.2 UJ	2.3 U	2.2 U	2.6 U	2.4 U	2.3 U	2.3 U	2.8 U	2.6 U
Alpha-Chlordane	UG-KG	3.5	6%	94	0	2	31	1 3 UJ	2.3 U	1.5 J	2.6 U	2.4 U	2.3 U	2.3 U	28 U	2.6 U
Aroclor-1016	UG, KG	0	0%	100	0	0	31	43 UJ	44 U	44 U	52 U	46 U	45 U	45 U	54 U	52 U
Atoclor-1221	UG/KG	0	0.0	100	0	0	31	88 UJ	90 U	88 U	100 U	94 U	92 U	91 U	110 U	100 U
Aroclor 1232	UGKG	0	00%	100	0	0	31	43 UJ	44 U	44 U	52 U	46 U	45 U	45 U	54 U 54 U	52 U 52 U
Aroclor-1242	UG-KG	0	0ª.°	100	0	0	31 31	43 UJ 43 UJ	44 U 44 U	44 U 44 U	52 U 52 U	46 U	45 U 45 U	45 U 45 U	54 U	52 U
Aroclor-1248 Aroclor-1254	UG/KG UG/KG	0	0°°	100 100	0	0	31	43 UJ	44 U	44 U	52 U	46 U	45 U	45 U	54 U	52 U
Aroclor-1260	UG/KG	0	00.0	100	0	0	31	43 UJ	44 U	44 U	52 U	46 U	45 U	45 U	54 U	52 U
Beta-BHC	UG/KG	0	0,0	36	0	0	31	2.2 UJ	2.3 U	2.2 U	2.6 U	2.4 U	2.3 U	2.3 U	2.8 U	2.6 U
Delta-BHC	UG/KG	0	0,0		0	0	31	2.2 UJ	2.3 U	2.2 U	2.6 U	2.4 U	2.3 U	2.3 U	2.8 U	2.6 U
Dieldrin	UG:KG	46	32%	40	2	10	31	46 J	4.4 U	4.4 U	5.2 U	28 J	4.3 J	4.5 U	5.4 U	5.2 U 2.6 U
Endosulfan I	UG: KG	5.8	300	2400	0	1	31	2.2 UJ 4.3 UJ	2.3 U 4.4 U	2.2 U 4.4 U	2.6 U 5.2 U	2.4 U 4.6 U	2.3 U 4.5 U	2.3 U 4.5 U	2.8 U 5.4 U	5.2 U
Endosulfan II	UG KG UG/KG	2.3	3°., 0%	2400 2400	0	0	31 31	4.3 UJ	4.4 U	4.4 U	5.2 U	4.6 U	4.5 U	4.5 U	5.4 U	5.2 U
Endosulfan sulfate Endrin	UG/KG	5 1	10%	14	0	3	31	4.3 UJ	4.4 U	4.4 U	5.2 U	3.1 J	4.5 U	4.5 U	5.4 U	5.2 U
Endrin aldehyde	UG:KG	0	0.0		0	0	31	4.3 UJ	4.4 U	4.4 U	5.2 U	4.6 U	4.5 U	4.5 U	5.4 U	5.2 U
Endrin ketone	UG/KG	3.1	3° o		0	1	31	4.3 UJ	4.4 U	4.4 U	5.2 U	4.6 U	4.5 U	4.5 U	5.4 U	5.2 U
Gamma-BHC/Lindane	UG. KG	0	0° v	100	0	0	31	2.2 UJ	2.3 U	2.2 U	2.6 U	2.4 U	2.3 U	2.3 U	2.8 U	2.6 U
Gamma-C'hlordane	UG-KG	1.9	3%	94	0	1	31	2.2 UJ	2.3 U	2.2 U	2.6 U 2.6 U	2.4 U 2.4 U	2.3 U 2.3 U	2.3 U 2.3 U	2,8 U 2,8 U	1.9 J 2.6 U
Heptachlor	UG/KG	0	0° a	42	0	0	31 31	2.2 UJ 2.2 UJ	2.3 U 2.3 U	2.2 U 2.2 U	2.6 U	2.4 U	2.3 U	2.3 U	2.8 U	2.6 U
Heptachlor epoxide Methoxychlor	UG/KG UG/KG	0	000		0	0	31	22 UJ	23 U	22 U	26 U	24 U	23 U	23 U	28 U	26 U
Toxaphene	UG'KG	0	0%		0	0	31	220 UJ	230 U	220 U	260 U	240 U	230 U	230 U	280 U	260 U
Metals	0111211															
Aluminum	MG/KG	16500	100°.0		0	31	31	13900	9020	11100	14400	12600	13500	12000	14400	15300
Antimony	MG/KG	0.73	13%		0	4	31	0.53 UJ	0.73 UR	0.57 UJ	0.56 UR	0.51 J	0.72 UR	0.52 UJ	0.85 UR	0.8 UR 7.9
Arsenic	MG/KG	7.9	100%	13	0	31	31	6.1	2,9 20.5 J	4.1 77.5	4 149	5.7 67.4	5.1 67.2	4.8 95	5.2 93.9	134
Barum	MG/KG MG/KG	1.2	100% 100%	350 7.2	0	31 31	31 31	96.6 1.1 J	0.31 J	0.79 J	0.82 J	0.73 J	0.56 J	0.93 J	0.51 J	0.58 J
Beryllaum Cadmuum	MG KG	0.09	3%	2.5	0	ï	31	0.07 U	0.09 J	0.07 U	0.05 U	0.04 U	0.08 U	0.07 U	0.09 U	0.09 U
Calcium	MG·KG	69300	100%	2.5	0	31	31	4060	18400 J	2610	7400 J	2520 J	6660 J	5740	4390 J	6480 J
Chromum	MG'KG	26.3	100°-	30	0	31	31	22.7	16.9 J	16	13	14.1 J	26.3 J	19.9	19 1	20 9 J
Cobalt	MG/KG	20	100%		0	31	31	12.3	9.6 J	10.1 J	6.1 J	10.1 J	11.2 J	11 J	11 J	13.5 J
Copper	MG KG	41 15	100°°	50	0	31	31	30.3	37.8	16.5	21.4 J 0.75 U	20.1 J 0.68 U	29.1 0.65 U	24.2 0.62 U	20.3 0.69 U	30.6 0.76 U
Cyanide	MG KG	0	Da' a	27	0	0 31	31 31	0.65 U 28600 J	0.59 U 20800 J	0.65 U 19500 J	19200 J	0.68 U 21200 J	0.65 U 25000 J	25000 J	24300 J	30800 J
Iron	MG/KG MG/KG	39100 73	100%	63	1	31	31	31.6 J	34.8	26.4 J	22.1	24.4	27.9	22.1 J	26.8	28.1
Lead	vici.VO	7.3	100.50	0.3	1	21	21	,71.0 3	37.0	20.7 3						****

TABLE 1
3.5" ROCKET RANGE (SEAD-46) SOIL SAMPLE RESULTS
SENECA ARMY DEPOT ACTIVITY

SEAD-46

SS46-11

SOIL

464014

0

SEAD-46

SS46-15

SOIL

0

464024

SEAD-46

SS46-16

SOIL

464015

0

SEAD-46

SS46-17

SOIL

464029

SEAD-46

SS46-18

SOIL

464030

0

SEAD-46

SS46-19

SOIL

0

464025

SEAD-46

SS46-2

464013

SOIL

0

SEAD-46

SS46-20

SOIL

464022

SEAD-46

\$\$46-21

SOIL

464026

										•	0	•	0	0	•	•
								0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
								36508	36509	36508	36510	36510	36509	36508	36509	36509
								SA								
			Frequency		Number	Number	Number	PISI RI								
		Maximum	of	Criteria	of	of Times	of Samples									
Parameter	Units	Value	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)	Value (O)	Value (Q)	Value (Q)	Value (Q)				
				A WITTE	Exceedances	Detected										
Magnesium	MG/KG	12800	100%		0	31	31	4490	4910	2850	3880 J	3310 J	5210	4180	3890	6230
Manganese	MG/KG	1170	97%	1600	0	30	31	672	0.11 UJ	750	245 J	368 J	404 J	700	741 J	1170 J
Mercury	MG/KG	0.17	81%	0.18	0	25	31	0.12 J	0.06 U	0.17 J	0.07 J	0.1 J	0.11 J	0.16 J	0.07 U	0.11 J
Nickel	MG/KG	47.4	100%	30	12	31	31	35.7	34.5 J	19.1	18.7 J	23 J	35.7	29.4	25.6 J	44.7 J
Potassium	MG/KG	1770	100%		0	31	31	1310	1020 J	976 J	1260 J	1350	1510	1410	1450 J	1690
Selenium	MG/KG	0.81	6%	3.9	0	2	31	0.55 UJ	0.64 U	0.55 UJ	0.81 J	0.54 U	0.64 U	0.55 UJ	0.76 U	0.71 U
Silver	MG/KG	0.3175	3%	2	0	1	31	0.31 UJ	0.51 UJ	0.34 UJ	0.33 UJ	0.28 UJ	0.5 UJ	0.31 UJ	0.6 UJ	0.56 UJ
Sodium	MG/KG	272	45%		0	14	31	127 J	193 J	108 J	75.1 J	62.4 U	118 U	102 U	140 U	132 U
Thallium	MG/KG	3.7	97%		0	30	31	2 J	2 J	1.6 J	0.91 J	1.6 J	1.9 J	1.9 J	2.2 J	3.3
Vanadium	MG/KG	29.3	100%		0	31	31	25.4	12.5 J	19.6	23.3	21.7	22,2	22.4	25.4	28.6
Zinc	MG/KG	115	100%	109	1	31	31	83.2	65.7 J	58	69.1 J	64.4 J	77 J	84.7	84.1 J	97.3 J
Other Analytes																
Nitrate/Nitrite Nitrogen	MG/KG	2.2	96%		0	25	26		0.04		0.94	0.01	0.01		0.05	0.01 U
Percent Solids	% WW	89.5	100%		0	31	31	75.8	73.7	75.3	63.7	71.2	73.1	72.9	61	63.6

#### Notes:

- (1) Criteria based on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives,
- http://www.dec.state.ny.us/website/regs/subpart375\_6.html
- (2) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table.
- (3) A bolded and outlined cell indicates a concentration that exceeded the criteria.
- U = compound was not detected
- J = the reported value is an estimated concentration
- UJ = the compound was not detected; the associated reporting limit is approximate
- R = the analytical result was rejected during data validation.

TABLE 1
3.5" ROCKET RANGE (SEAD-46) SOIL SAMPLE RESULTS
SENECA ARMY DEPOT ACTIVITY

								SEAD-46 SS46-22 SOIL 464031 0 0.5 36510 SA	SEAD-46 SS46-23 SOIL 464032 0 0.5 36510 SA	SEAD-46 SS46-24 SOIL 464033 0 0.5 36510 SA	SEAD-46 SS46-3 SOIL 464010 0 0.5 36508 SA	SEAD-46 SS46-4 SOIL 464009 0 0.5 36508 SA	SEAD-46 SS46-5 SOIL 464008 0 0.5 36508 SA	SEAD-46 SS46-6 SOIL 464021 0 0.5 36509 SA	SEAD-46 SS46-7 SOIL 464020 0 0.5 36509 SA	SEAD-46 SW/SD46-1 SEDIMENT 463000 0 0.2 36511 SA
		Maximum	Frequency of	Criteria	Number of	Number of Times	Number of Samples	PISI RI	PISI RI	PISI RJ	PISI RI	P1S1 RJ	PISI RI	PISI RI	PISI RI	PISI RI
Parameter	Units	Value	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds																
1,1,1-Trichloroethane	UG/KG	0	0%	680	0	0	31	13 U	13 U	12 U	12 U	11 U	12 U	17 U	12 U	12 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%		0	0	31	13 U	13 U	12 U	12 U	11 U	12 U	17 U	12 U	12 U
1,1,2-Trichloroethane	UG/KG	0	0%		0	0	31	13 U	13 U	12 U	12 U	11 U	12 U	17 U	12 U	12 U
1,1-Dichloroethane	UG/KG	0	0%	270	0	0	31	13 U	13 U	12 U	12 U	11 U	12 U	17 U	12 U	12 U
1,1-Dichloroethene	UG/KG	0	0%	330	0	0	31	13 U	13 U	12 U	12 U	11 U	12 U	17 U	12 U	12 U
1,2-Dichloroethane	UG/KG	0	0%	20	0	0	31	13 U	13 U	12 U	12 U	11 U	12 U	17 U	12 U	12 U
1,2-Dichloroethene (total)	UG/KG	0	0%	19	0	0	31	13 U	13 U	12 U	12 U	11 U	12 U	17 U	12 U	12 U
1,2-Dichloropropane	UG/KG	0	0%		0	0	31	13 U	13 U	12 U	12 U	11_U	12 U	17 U	12 U	12 U
Acetone	UG/KG	410	100%	50	27	30	30	410 J		260 J	210 J	160 J	280 J	380 J	320	280 J
Benzene	UG/KG	12	23%	60	0	7	31	13 U	13 U	12 U	12 U	11 U	12 U	17 U	2 J	12 U
Bromodichloromethane	UG/KG	0	0%		0	0	31	13 U	13 U	12 U	12 U	11 U	12 U	17 U	12 U	12 U
Bromoform	UG/KG	0	0%		0	0	31	13 U	13 U	12 U	12 U	11 U	12 U	17 U 4 J	12 U	12 U 2 J
Carbon disulfide	UG/KG	20	39%		0	12	31	13 UJ	13 UJ	12 UJ 12 U	12 U 12 U	11 U 11 U	12 U 12 U	17 U	11 J 12 U	12 U
Carbon tetrachloride	UG/KG UG/KG	0	0%	760 1100	0	0	31 31	13 U 13 U	13 U 13 U	12 U	12 U	11 U	12 U	17 U	12 U	12 U
Chlorobenzene		0	0%	1100	0	0	31	13 U	13 U	12 U	12 U	11 U	12 U	17 U	12 U	12 U
Chlorodibromomethane Chloroethane	UG/KG UG/KG	0	0%		0	0	31	13 UJ	13 UJ	12 UJ	12 U	11 U	12 U	17 U	12 U	12 UJ
Chloroform	UG/KG	0	0%	370	0	0	31	13 U	13 U	12 U	12 U	11 U	12 U	17 U	12 U	12 U
Cis-1,3-Dichloropropene	UG/KG	0	0%	370	0	0	31	13 U	13 U	12 U	12 U	11 U	12 U	17 U	12 U	12 U
Ethyl benzene	UG/KG	1	3%	1000	0	1	31	13 U	13 U	12 U	12 U	11 U	12 U	17 U	12 U	12 U
Methyl bromide	UG/KG	0	0%	1000	0	0	31	13 U	13 U	12 U	12 U	11 U	12 U	17 U	12 U	12 U
Methyl butyl ketone	UG/KG	0	0%		0	0	31	13 U	13 U	12 U	12 U	11 U	12 U	17 U	12 U	12 U
Methyl chloride	UG/KG	0	0%		0	0	31	13 UJ	13 UJ	12 UJ	12 UJ	11 UJ	12 UJ	17 UJ	12 UJ	12 UJ
Methyl ethyl ketone	UG/KG	48	74%	120	0	23	31	43 J	40 J	26 J	25	18	27	35	35	22 J
Methyl isobutyl ketone	UG/KG	0	0%		0	0	31	13 U	13 U	12 U	12 U	11 U	12 U	17 U	12 U	12 U
Methylene chloride	UG/KG	0	0%	50	0	0	31	13 UJ	13 UJ	12 UJ	12 U	11 U	12 U	17 U	12 U	12 UJ
Styrene	UG/KG	0	0%		0	0	31	13 U	13 U	12 U	12 U	11 U	12 U	17 U	12 U	12 U
Tetrachloroethene	UG/KG	0	0%	1300	0	0	31	13 U	13 U	12 U	12 U	11 U	12 U	17 U	12 U	12 U
Toluene	UG/KG	13	90%	700	0	28	31	10 J	5 J	6 J	7 J	4 J	6 J	9 J	5 J	6 J
Total Xylenes	UG/KG	7	23%	260	0	7	31	13 U	13 U	12 U	12 U	11 U	12 U	17 U	3 J	12 U
Trans-1,3-Dichloropropene	UG/KG	0	0%		0	0	31	13 U	13 U	12 U	12 U	11 U	12 U	17 U	12 U	12 U
Trichloroethene	UG/KG	0	0%	470	0	0	31	13 U	13 U	12 U	12 U	11 U	12 U	17 U	12 U	12 U
Vinyl chloride	UG/KG	0	0%	20	0	0	31	13 UJ	13 UJ	12 UJ	12 U	11 U	12 U	17 U	12 U	12 UJ
Semivolatile Organic Compounds								04 711	00 111	00 717	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ
1,2,4-Trichlorobenzene	UG/KG	0	0%	1100	0	0	31	94 UJ 94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 UJ	87 UJ	80 UJ
1,2-Dichlorobenzene	UG/KG	0	0%	1100 2400	0	0	31 31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 UJ	87 UJ	80 UJ
1,3-Dichlorobenzene	UG/KG	_	0%	1800	0	0	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 UJ	87 UJ	80 UJ
1,4-Dichlorobenzene	UG/KG UG/KG	0	0%	1800	0	0	31	230 UJ	240 UJ	220 UJ	220 UJ	210 UJ	220 UJ	250 U	210 U	200 UJ
2,4,5-Trichlorophenol 2,4,6-Trichlorophenol	UG/KG	0	0%		0	0	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ
2,4-Dichlorophenol	UG/KG	0	0%		0	0	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ
2,4-Dimethylphenol	UG/KG	0	0%		0	0	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ
2,4-Dinitrophenol	UG/KG	0	0%		0	0	31	230 UR	240 UR	220 UR	220 UJ	210 UJ	220 UJ	250 UR	210 UR	200 UR
2,4-Dinitrotoluene	UG/KG	0	0%		0	0	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ
2,6-Dinitrotoluene	UG/KG	130	3%		0	1	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ
2-Chloronaphthalene	UG/KG	0	0%		0	0	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 UJ	87 UJ	80 UJ
2-Chlorophenol	UG/KG	0	0%		0	0	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ
2-Methylnaphthalene	UG/KG	0	0%		0	0	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ
2-Methylphenol	UG/KG	0	0%		0	0	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 UJ	87 UJ	
2-Nitroaniline	UG/KG	0	0%		0	0	31	230 UJ	240 UJ	220 UJ	220 UJ	210 UJ	220 UJ	250 U	210 U	200 UJ
2-Nitrophenol	UG/KG	0	0%		0	0	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ

TABLE 1
3.5" ROCKET RANGE (SEAD-46) SOIL SAMPLE RESULTS
SENECA ARMY DEPOT ACTIVITY

								SEAD-46 SS46-22 SOIL 464031 0	SEAD-46 SS46-23 SOIL 464032 0 0.5	SEAD-46 SS46-24 SOIL 464033 0 0.5	SEAD-46 SS46-3 SOIL 464010 0	SEAD-46 SS46-4 SOIL 464009 0	SEAD-46 SS46-5 SOIL 464008 0 0.5	SEAD-46 SS46-6 SOIL 464021 0 0.5	SEAD-46 SS46-7 SOIL 464020 0	SEAD-46 SW/SD46-1 SEDIMENT 463000 0
								36510	36510	36510	36508	36508	36508	36509	36509	36511
					None	N7	Marshau	SA	SA	SA	SA	SA	SA	SA	SA P1S1 RI	SA PISI RI
		Maximum	Frequency	Criteria	Number	Number of Times	Number of Samples	PISI RI	PISI RI	PISI RI	PISI RI	PISI RI	PISI RI	PISI RI	PISI KI	PISI RI
Beremeter	Units	Value	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (O)	Value (Q)	Value (O)	Value (O)	Value (O)	Value (O)	Value (O)	Value (Q)	Value (Q)
Parameter 3.3'-Dichlorobenzidine	UG/KG	0	0%	Value	0	0	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ
3-Nitroaniline	UG/KG	0	0%		0	0	31	230 UJ	240 UJ	220 UJ	220 UJ	210 UJ	220 UJ	250 U	210 U	200 UJ
4,6-Dinitro-2-methylphenol	UG/KG	0	0%		0	0	31	230 UJ	240 UJ	220 UJ	220 UJ	210 UJ	220 UJ	250 U	210 U	200 UJ
4-Bromophenyl phenyl ether	UG/KG	0	0%		0	0	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 UJ	87 UJ	80 UJ
4-Chloro-3-methylphenol	UG/KG	0	0%		0	0	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ
4-Chloroaniline	UG/KG	0	0%		0	0	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ
4-Chlorophenyl phenyl ether	UG/KG	0	0%	***	0	0	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ
4-Methylphenol	UG/KG UG/KG	13	6%	330	0	2	31 31	94 UJ 230 UJ	98 UJ 240 UJ	90 UJ 220 UJ	93 UJ 220 UJ	87 UJ 210 UJ	90 UJ 220 UJ	100 U 250 U	6.2 J 210 U	80 UJ 200 UJ
4-Nitroaniline 4-Nitrophenol	UG/KG	0	0% 0%		0	0	31	230 UJ	240 UJ	220 UJ	220 UJ	210 UJ	220 UJ	250 UR	210 UR	200 UJ
Acenaphthene	UG/KG	0	0%	20000	0	0	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ
Acenaphthylene	UG/KG	0	0%	100000	0	0	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ
Anthracene	UG/KG	0	0%	100000	0	0	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ
Benzo(a)anthracene	UG/KG	34	23%	1000	0	7	31	4.3 J	98 UJ	6.3 J	93 UJ	87 UJ	90 UJ	8.9 J	4.7 3	80 UJ
Benzo(a)pyrene	UG/KG	30	45%	1000	0	14	31	6.6 J	98 UJ	7.4 J	93 UJ	87 UJ	9.5 J	16 J	7.8 J	80 UJ
Benzo(b)fluoranthene	UG/KG	47	48%	1000	0	15	31	5.5 J	98 UJ	8.8 J	93 UJ	87 UJ	11 J	14 J	7.5 J	80 UJ
Benzo(ghi)perylene	UG/KG UG/KG	17	3%	100000	0	1	31 31	94 UJ 6.5 J	98 UJ 98 UJ	90 UJ 7,8 J	93 UJ 93 UJ	87 UJ 87 UJ	90 UJ 6.8 J	100 U 15 J	87 U 6.4 J	80 UJ
Benzo(k)fluoranthene Bis(2-Chloroethoxy)methane	UG/KG	33	48% 0%	800	0	15	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ
Bis(2-Chloroethyl)ether	UG/KG	0	0%		0	0	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ
Bis(2-Chloroisopropyl)ether	UG/KG	0	0%		0	0	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ
Bis(2-Ethylhexyl)phthalate	UG/KG	780	10%		0	3	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ
Butylbenzylphthalate	UG/KG	0	0%		0	0	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ
Carbazole	UG/KG	0	0%		0	0	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ
Chrysene	UG/KG	40	32%	1000	0	10	31	5.4 J	5.3 J	7 J	93 UJ	87 UJ	90 UJ	14 J	6.1 J	80 UJ
Di-n-butylphthalate	UG/KG	1100	19%		0	6	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	5.7 J 87 U	80 UJ
Di-n-octylphthalate	UG/KG	0	0%	220	0	0	31	94 UJ 94 UJ	98 UJ 98 UJ	90 UJ	93 UJ 93 UJ	87 UJ 87 UJ	90 UJ	100 U	87 U	80 UJ
Dibenz(a,h)anthracene Dibenzofuran	UG/KG UG/KG	0	0%	330 7000	0	0	31 31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ
Diethyl phthalate	UG/KG	11	3%	7000	n	1	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ
Dimethylphthalate	UG/KG	0	0%		0	0	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ
Fluoranthene	UG/KG	36	52%	100000	0	16	31	9.8 J	7.9 J	6.2 J	93 UJ	87 UJ	12 J	23 J	13 J	80 UJ
Fluorene	UG/KG	0	0%	30000	0	0	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ
Hexachlorobenzene	UG/KG	11	3%	330	0	1	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ
Hexachlorobutadiene	UG/KG	0	0%		0	0	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ
Hexachlorocyclopentadiene	UG/KG UG/KG	9.9	0% 3%		0	0	31 31	94 UJ 94 UJ	98 UJ	90 UJ	93 UJ 93 UJ	87 UJ 87 UJ	90 UJ	100 UJ 100 U	87 UJ 87 U	80 UJ 80 UJ
Hexachloroethane Indeno(1,2,3-cd)pyrene	UG/KG	19	6%	500	0	2	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ
Isophorone	UG/KG	0	0%	300	0	0	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ
N-Nitrosodiphenylamine	UG/KG	59	6%		0	2	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ
N-Nitrosodipropylamine	UG/KG	0	0%		0	0	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ
Naphthalene	UG/KG	3.5	3%	12000	0	1	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ
Nitrobenzene	UG/KG	0	0%		0	0	31	94 UJ	98 UJ	90 UJ	93 UJ	87 UJ	90 UJ	100 U	87 U	80 UJ
Pentachlorophenol	UG/KG	0	0%	800	0	0	31	230 UJ	240 UJ	220 UJ	220 UJ	210 UJ	220 UJ	250 U	210 U	200 UJ
Phenanthrene	UG/KG	25.1	45%	100000	0	14	31	6.4 J	4.9 J	90 UJ	93 UJ 93 UJ	87 UJ 87 UJ	6.6 J 90 UJ	12 J 100 U	6.2 J 87 U	80 UJ 4.2 J
Phenol	UG/KG UG/KG	33 32	32% 55%	330 100000	0	10 17	31 31	4.9 J 9.5 J	16 J 8.7 J	9.9 J 5.5 J	93 UJ	87 UJ	13 J	16 J	8.2 J	80 UJ
Pyrcue Explosives	OUNG	32	3370	100000	U	17	31	9.5 J	6.7 J	3.3 1	93 01	87 03	13 J	10 1	0.2 J	80 01
1,3,5-Trinitrobenzene	UG/KG	0	0%		0	0	31	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U
1,3-Dinitrobenzene	UG/KG	0	0%		0	0	31	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U
2,4,6-Trinitrotoluene	UG/KG	0	0%		0	0	31	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U
2,4-Dinitrotoluene	UG/KG	0	0%		0	0	31	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U
2,6-Dinitrotoluene	UG/KG	0	0%		0	0	31	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U

TABLE 1
3.5" ROCKET RANGE (SEAD-46) SOIL SAMPLE RESULTS
SENECA ARMY DEPOT ACTIVITY

								SEAD-46 SS46-22 SOIL 464031	SEAD-46 SS46-23 SOIL 464032	SEAD-46 SS46-24 SOIL 464033	SEAD-46 SS46-3 SOIL 464010	SEAD-46 SS46-4 SOIL 464009	SEAD-46 SS46-5 SOIL 464008	SEAD-46 SS46-6 SOIL 464021	SEAD-46 SS46-7 SOIL 464020	SEAD-46 SW SD46-1 SEDIMENT 463000
								0	0 0.5	0 0.5	0.5	0 0.5	0.5	0.5	0	0 0.2
								36510	36510	36510	36508	36508	36508	36509	36509	36511
								SA	SA	SA	SA	SA	SA	SA	SA	SA
			Frequency		Number	Number	Number	PISI RI	PISI RI	PISI RI	PISI RI	PISI RI	PISI RI	P1S1 R1	PISI RI	PISI RI
		Maximum	of	Criteria	of	of Times	of Samples									
Parameter	Units	Value	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)	Value (Q)	Value (Q)	Value (Q) 120 U	Value (Q) 120 UJ				
2 Nitrotoluene 2-amino-4,6-Dinatrotoluene	UG/KG UG/KG	0	0°.0		Ð 0	0	31 31	120 UJ 120 U	120 UJ 120 U	120 UJ 120 U	120 U	120 U	120 U	120 U	120 U	120 U
3-Nitrotoluene	UG-KG	0	0		0	0	31	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U
4-Nitrotoluene	UG-KG	0	000		0	0	31	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U
4-amino-2,6-Diniti otoluene	UG/KG	0	0° o		0	0	31	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U
HMX	UG: KG	0	Oo. 0		0	0	31	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U
Nittobenzene	UG/KG	0	0° ь		0	0	31	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U
RDX	UG/KG	0	Οο υ		0	0	31	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U 120 U	120 U 120 U
Tetryl	UG:KG	0	00.0		G	0	31	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 0	120 0
Pesticides and PCBs 4,4'-DDD	UGʻKG	12	3%	3.3	1	1	31	4.7 U	4.9 U	4.5 U	4.6 U	4.3 U	4.5 U	5.1 U	4.3 U	4 U
4,4-DDE	UG/KG	3 7	10%	3.3	i	3	31	4.7 U	4.9 U	4.5 U	4.6 U	4.3 U	4.5 U	5.1 U	3.7 J	4 U
4,4'-DDT	UG/KG	0	00.9	3.3	0	0	31	4.7 U	4.9 U	4.5 U	4.6 U	4.3 U	4.5 U	5.1 U	4.3 U	4 U
Aldrin	UG/KG	0	On-o	5	0	0	31	2.4 U	2.5 U	2.3 U	2.4 U	2.2 U	2.3 U	2.6 U	2.2 U	2 1 U
Alpha-BHC	UG KG	0	00.0	20	0	0	31	2.4 U	2.5 U	2.3 U	2.4 U	2.2 U	2.3 U	2.6 U	2.2 U	2.1 U
Alpha-Chlordane	UG/KG	3.5	60.0	94	0	2	31	2.4 U	2.5 U	2,3 U	2.4 U	2.2 U	2.3 U	2.6 U	2.2 U	2.1 U
Aroclor-1016	UG/KG	0	0.0	100	0	0	31	47 U	49 U	45 U	46 U	43 U	45 U 91 U	51 U 100 U	43 U 88 U	40 U 82 U
Aroclor-1221	UG/KG	0	0°6	100	0	0	31 31	96 U 47 U	100 U 49 U	92 U 45 U	94 U 46 U	88 U 43 U	45 U	51 U	43 U	40 U
Aroclor-1232 Aroclor-1242	UG KG UG KG	0	0° °	100	0	0	31	47 U	49 U	45 U	46 U	43 U	45 U	51 U	43 U	40 U
Atoclot-1248	UG/KG	0	0.0	100	0	0	31	47 U	49 U	45 U	46 U	43 U	45 U	51 U	43 U	40 CI
Aroclot-1254	UG-KG	0	000	100	0	0	31	47 U	49 U	45 U	46 U	43 U	45 U	51 U	43 LF	40 U
Aroclor-1260	UG/KG	0	00,0	100	0	0	31	47 U	49 U	45 U	46 U	43 U	45 U	51 U	43 U	40 U
Beta-BHC	UG. KG	0	0%	36	0	0	31	2.4 U	2.5 U	2.3 U	2.4 U	2.2 U	2.3 U	2.6 U	2.2 U	2.1 U
Delta-BHC	UG/KG	0	0.5		0	0	31	2.4 U	2.5 U	2.3 U	2.4 U	2.2 U	2.3 U	2.6 U	2.2 U	2.1 U
Dieldim	UG/KG	46	32° o	40	2	10	31	16 J	4.9 U	4.5 U	10 J	4.6 2.2 U	4.5 U 2.3 U	9 J 2.6 U	45 J 5.8 J	4 U 2.1 U
Endosulfan I	UG/KG	5.8	3° 0	2400 2400	0	1	31 31	2.4 U 4.7 U	2.5 U 4.9 U	2.3 U 4.5 U	2.4 U 4.6 U	4.3 U	4.5 U	5.1 U	2.3 J	4 U
Endosulfan II Endosulfan sulfate	UG/KG UG/KG	2.3	3°.5 0°.0	2400	0	1	31	4.7 U	4.9 U	4.5 U	4.6 U	4.3 U	4.5 U	5.1 U	4.3 U	4 U
Endrin	UG:KG	5 1	10%	14	0	3	31	4.7 U	4.9 U	4.5 U	2.4 J	4.3 U	4.5 U	5.1 U	5.1 J	4 U
Endrin aldehyde	UG/KG	0	Ou,0		0	0	31	4.7 U	4.9 U	4.5 U	4.6 U	4.3 U	4.5 U	5.1 U	4.3 U	4 U
Endrin ketone	UG/KG	3.1	3"6		0	1	31	4.7 U	4.9 U	4.5 U	4.6 U	4.3 U	4.5 U	5.1 U	3.1 3	4 (1
Gamma-BHC/Lindane	UG/KG	0	()°(-′a	100	0	0	31	2.4 U	2.5 U	2.3 U	2.4 U	2.2 U	2.3 U	2.6 U	2.2 U	2.1 U
Gamma-Chlordane	UG/KG	1.9	3%	94	0	1	31	2.4 U	2.5 U	2.3 U	2.4 U	2.2 U	2.3 U	2.6 U	2.2 U	2.1 U 2.1 U
Heptachlos	UG/KG	0	0%	42	0	0	31	2.4 U	2.5 U	2.3 U 2.3 U	2.4 U 2.4 U	2.2 U 2.2 U	2.3 U 2.3 U	2.6 U 2.6 U	2.2 U 2.2 U	2.1 U
Heptachlor epoxide	UG/KG	0	00.5		0	0	31 31	2.4 U 24 U	2.5 U 25 U	2.3 U	2.4 U	2.2 U	2.3 U	26 U	22 U	21 U
Methoxychlor Toxaphene	UG/KG UG/KG	0	0".0		0	0	31	240 U	250 U	230 U	240 U	220 U	230 U	260 U	220 U	210 U
Metals	OG/RG	0	0 '0		o o	0	, ·	210 0	250 0	200						
Alummum	MG/KG	16500	100° 6		0	31	31	14100	12900	15300	12100	12500	12500	13900	11600	14600
Antimony	MG/KG	0.73	13°6		0	4	31	0.52 UR	0.48 UR	0.4 UR	0.55 UJ	0.56 UJ	0.57 UJ	0.81 UR	0.59 UR	
Arsenic	MG/KG	7.9	100°6	13	0	31	31	5.6	5.5	6.2	4.4	4.5	4.2	4.2	4.7	3,4
Bartum	MG-KG	152	f ()() <sub>a</sub> , <sub>a</sub>	350	0	31	31	139	119	109	95.1	99.6	97.2 0.94 J	115 0.64 J	79.1 0.46 J	56.1 0.88
Beryllium	MG/KG	1.2	100°	7.2	0	31	31	1 J	0.95 J 0.04 U	1.2 0.04 U	0.84 J 0.06 U	0.84 J 0.07 U	0.94 J 0.06 U	0.09 U	0.46 J	0.03 [1
Cadmum	MG/KG	0.09	3%	2.5	0	31	31 31	0.05 U 4110 J	4330 J	3390 J	7000	3340	5510	8090 J	23200 J	4940 J
Calcium	MG KG	69300 26.3	100% 100%	30	0	31	31	15.5 J	12.2 J	16,9 3	18.3	19.2	19.7	18.3 J	17.3 J	19.3 J
Chromium Cobalt	MG KG	20.5	100%	30	0	31	31	9.3 J	9 J	16.2	9.8 J	9.9 J	10.4 J	8.5 J	11.1	12.1
Coppei	MG-KG	41.15	100°	50	0	31	31	22 J	21.8 J	27.6 J	22.9	21.3	22.1	26.5	24.4	21.5 J
Cyanide	MG/KG	0	0°.0	27	0	0	31	0.71 U	0.75 U	0.61 U	0.7 U	0.63 U	0.66 €	0.74 U	0.61 U	0.54 U
Iron	MG KG	39100	10000		0	31	31	24200 J	23400 J	32300 J	23700 J	24800	24400	22900 J	22400 J	30300 J
Lead	MG-KG	73	100°°	63	l l	31	31	21.7	23.9	20.9	22.8 J	73 J	30.1 J	37	49 7	21.3

TABLE 1 3.5" ROCKET RANGE (SEAD-46) SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

SEAD-46

SS46-22

SOIL

SEAD-46

SS46-24

SOIL

SEAD-46

SS46-3

SOIL

SEAD-46

SS46-4

SOIL

SEAD-46

SS46-5

SOIL

SEAD-46

SS46-6

SOIL

SEAD-46

SS46-7

SOIL

SEAD-46

SS46-23

SOIL

								SOIL	SOIL	BOIL	SOIL	SOIL	BOIL	SOIL	SOIL	SEDIMENT
								464031	464032	464033	464010	464009	464008	464021	464020	463000
								0	0	0	0	0	0	0	0	0
								0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.2
								36510	36510	36510	36508	36508	36508	36509	36509	36511
								SA	SA	SA	SA	SA	SA	SA	SA	SA
			Frequency		Number	Number	Number	PISI RI	PISI RI	PISI RI	PISI RI	PISI RI	PISI RI	PISI RI	PISI RI	PISI RI
		Maximum	of	Criteria	of	of Times	of Samples									
Parameter	Units	Value	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (O)	Value (O)	Value (O)	Value (Q)	Value (O)	Value (Q)	Value (Q)	Value (O)	Value (Q)
Magnesium	MG/KG	12800	100%		0	31	31	3720 J	3400 J	4860 J	4580	3490	4460	4550	11100	5450 J
Manganese	MG/KG	1170	97%	1600	0	30	31	577 J	498 J	1000 J	475	531	569	345 J	611 J	371 J
Mercury	MG/KG	0.17	81%	0.18	0	25	31	0.09 J	0.12	0.06 U	0.15 J	0.13 J	0.15 J	0.1 J	0.08 J	0.07 J
Nickel	MG/KG	47.4	100%	30	12	31	31	25.3 J	24.5 J	<b>43.3</b> J	27.2	24.6	27.6	28.6 J	29.4 J	39.1 J
Potassium	MG/KG	1770	100%		0	31	31	1630	1630	1320	1310	1390	1230	1770	1500	887
Selenium	MG/KG	0.81	6%	3.9	0	2	31	0.6 U	0.57 J	0.45 U	0.48 UJ	0.52 UJ	0.49 UJ	0.72 U	0.53 U	0.41 U
Silver	MG/KG	0.3175	3%	2	0	1	31	0.31 UJ	0.28 UJ	0.24 UJ	0.32 UJ	0.33 UJ	0.33 UJ	0.57 UJ	0.42 UJ	0.21 UJ
Sodium	MG/KG	272	45%		0	14	31	68.8 U	63.3 U	52.6 U	89.1 U	96.4 U	91.1 U	133 U	97.8 U	86.8 J
Thallium	MG/KG	3.7	97%		0	30	31	1.2 J	2.3	2.5	1.4 J	1.1 J	1.6 J	1.3 J	1.7 J	1.9
Vanadium	MG/KG	29.3	100%		0	31	31	24.7	23.7	26.7	21.5	22.2	22.8	23.7	20.3	21.6
Zinc	MG/KG	115	100%	109	1	31	31	79.2 J	78 J	115 J	75.6	71.8	70.9	89.2 J	71 J	64.6 J
Other Analytes																
Nitrate/Nitrite Nitrogen	MG/KG	2.2	96%		0	25	26	0.16	0.43	0.05		2.1	0.63	0.23	0.7	0.09
Percent Solids	% ww	89.5	100%		0	31	31	70	67.1	73.3	70.7	75.5	73.3	65.4	75.7	81.8

#### Notes:

- (1) Criteria based on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives, http://www.dec.state.ny.us/website/regs/subpart375\_6.html
- (2) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table.
- (3) A bolded and outlined cell indicates a concentration that exceeded the criteria.
- U = compound was not detected
- O compound was not detected:

  J = the reported value is an estimated concentration

  UJ = the compound was not detected; the associated reporting limit is approximate

  R = the analytical result was rejected during data validation.

SEAD-46

SW/SD46-1

SEDIMENT

# TABLE 1 3.5" ROCKET RANGE (SEAD-46) SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

								SEAD-46 SW/SD46-2 SEDIMENT 463001	SEAD-46 SW/SD46-3 SEDIMENT 463002	SEAD-46 SW/SD46-4 SEDIMENT 463003	SEAD-46 SS46-13 SOIL 464027-464028
								0	0	0	0
								0.2 36511	0.2	0.2	0.5
								36311 SA	36511 SA	36510 SA	36510 SADU
		Maximum	Frequency of	Criteria	Number of	Number of Times	Number of Samples	PISI RI	PISI RI	PISI RI	PISI RI
Parameter	Units	Value	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds	110.10			400							
1.1,1-Trichloroethane 1,1,2,2-Tetrachloroethane	UG/KG UG/KG	0	0% 0%	680	0	0	31	13 U	14 UR	12 U	12.5 U
1,1,2-Trichloroethane	UG/KG	0	0%		0	0	31	13 U	14 UR	12 U	12.5 U
1,1-Dichloroethane	UG/KG	0	0%	270	0	0	31 31	13 U	14 UR	12 U	12.5 U
1.1-Dichloroethene	UG:KG	0	0%	330	0	0	31	13 U 13 U	14 UR 14 UR	12 U	12.5 U
1,2-Dichloroethane	UG/KG	0	0%	20	0	0	31	13 U	14 UR	12 U 12 U	12.5 U 12.5 U
1,2-Dichloroethene (total)	UG/KG	0	0%	19	0	0	31	13 U	14 UR	12 U	12.5 U
1,2-Dichloropi opane	UG, KG	0	0%		0	0	31	13 U	14 UR	12 U	12.5 U
Acetone	UG/KG	410	100%	50	27	30	30	250 J	27 J	160	210
Benzene	UG. KG	12	23%	60	0	7	31	13 U	14 UR	12 U	12.5 U
Bromodichloromethane	UG'KG	0	0%		0	o	31	13 U	14 UR	12 U	12.5 U
Bromoform	UG/KG	0	0%		0	0	31	13 U	14 UR	12 U	12.5 U
Carbon disulfide	UG/KG	20	39°.0		0	12	31	13 UJ	2 J	12 UJ	12.5 UJ
Carbon tetrachloride	UG/KG	0	00%	760	0	0	31	13 U	14 UR	12 U	12.5 U
Chlorobenzene	UG-KG	O	060	1100	0	0	31	13 U	14 UR	12 U	12.5 U
Chlorodibromomethane	UG.KG	0	0%		0	0	31	13 U	14 UR	12 U	12.5 U
Chloroethane	UG/KG	0	00.0		0	0	31	13 UJ	14 UR	12 UJ	12.5 UJ
C'hlor aform	UG/KG	0	0%	370	0	0	31	13 U	i4 UR	12 U	12.5 U
Cis-1,3-Dichloropropene	UG/KG	0	$0_{a^{,o}}$		0	0	31	13 U	14 UR	12 U	12.5 U
Ethyl benzene	UG/KG	1	3 u. o	1000	0	1	31	13 U	14 UR	12 U	12.5 U
Methyl bromide	UG/KG	0	0%		0	0	31	13 U	14 UR	12 U	12.5 U
Methyl butyl ketone	UG/KG	0	0%		0	0	31	13 U	14 UR	12 U	12.5 U
Methyl chloride	UG-KG	0	000		0	0	31	13 UJ	14 UR	12 UJ	12.5 UJ
Methyl ethyl ketone	UG/KG	48	74%	120	0	23	31	25 J	14 UR	19 J	21.5 J
Methyl isobutyl ketone	UG'KG	0	00.0		0	0	31	13 U	14 UR	12 U	12.5 U
Methylene chloride	UG/KG	0	0°6	50	0	0	31	13 UJ	14 UR	12 UJ	12.5 UJ
Styrene	UG:KG	0	0%		0	0	31	13 U	14 UR	12 U	12.5 U
Tetrachloroethene	UG/KG	0	00.0	1300	0	0	31	13 U	14 UR	12 U	12.5 U
Toluene	UG/KG	13	90%	700	0	28	31	13 J	12 J	13	3.5 J
Total Xylenes	UG/KG	7	23%	260	0	7	31	13 U	3 J	12 U	12.5 U
Trans-1,3-Dichloropropene	UG/KG	0	0%	.20	0	0	31	13 U	14 UR	12 U	12.5 U
Trichloroethene	UG/KG	0	0°6	470	0	0	31	13 U	14 UR	12 U	12.5 U
Vinyl chloride	UG <sup>,</sup> KG	0	0%	20	0	0	31	13 UJ	14 UR	12 UJ	12.5 UJ
Semivolatile Organic Compounds 1,2,4-Trichlorobenzene	UG/KG	0	006		0	0	31	97 UJ	100 111	00.111	01.111
1,2-Dichlorobenzene	UG/KG	0	0.2	1100	0	0	31	97 UJ	100 UJ 100 UJ	92 UJ 92 UJ	91 UJ
1,3-Dichlorobenzene	UG/KG	0	0%	2400	0	0	31	97 UJ	100 UJ	92 UJ	91 UJ 91 UJ
1,4-Dichlorobenzene	UG-KG	0	0.0	1800	0	0	31	97 UJ	100 U)	92 UJ	91 UJ
2,4.5-Trichtorophenol	UG/KG	0	0%	11100	0	0	31	240 UJ	250 UJ	220 UJ	220 UJ
2,4,6-Trichlorophenol	UG/KG	0	0 a.o		0	0	31	97 UJ	100 UJ	92 UJ	91 UJ
2.4-Dichlorophenol	UG KG	0	0%		0	0	31	97 UJ	100 UJ	92 UJ	91 UJ
2,4-Dimethylphenol	UG/KG	0	0%		0	0	31	97 UJ	100 UJ	92 UJ	91 UJ
2.4-Diniti ophenol	UG:KG	0	Go."		0	0	31	240 UR	250 UR	220 UJ	220 UR
2,4-Dmitrotoluene	UG'KG	0	00.0		0	0	31	97 UJ	100 UJ	92 UJ	91 UJ
2,6-Dinitrotoluene	UG/KG	130	300		0	Ĭ	31	97 UJ	100 UJ	92 UJ	91 UJ
2-Chloronaphthalene	UG-KG	0	0°.		0	0	31	97 UJ	100 UJ	92 UJ	91 UJ
2-Chlorophenol	UG KG	0	0°°		0	0	31	97 UJ	100 UJ	92 UJ	91 UJ
2-Methylnaphthalene	UG/KG	0	00.0		0	0	31	97 UJ	100 UJ	92 UJ	91 UJ
2-Methylphenol	UG/KG	0	00.0		0	0	31	97 UJ	100 UJ	92 UJ	91 UJ
2-Nitroaniline	UG/KG	0	00.0		0	0	31	240 UJ	250 UJ	220 UJ	220 UJ
2-Nitrophenol	UG,KG	0	0° a		0	0	31	97 UJ	100 UJ	92 UJ	91 UJ

# TABLE 1 3.5" ROCKET RANGE (SEAD-46) SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

								SEAD-46 SW/SD46-2 SEDIMENT	SEAD-46 SW/SD46-3 SEDIMENT	SEAD-46 SW/SD46-4 SEDIMENT	SEAD-46 SS46-13 SOIL
								463001 0	463002 0	463003 0	464027/464028
								0.2	0.2	0.2	0.5
								36511	36511	36510	36510
								SA	SA	SA	SADU
			Frequency		Number	Number	Number	PISI RI	PISI RI	PISI RI	PISI RI
		Maximum	of	Criteria	of	of Times	of Samples	110114	110110	110114	110114
Parameter	Units	Value	Detection	Value 1	Exceedances	Detected	Analyzed <sup>2</sup>	Value (O)	Value (O)	Value (O)	Value (Q)
3,3'-Dichlorobenzidine	UG/KG	0	0%	V III UC	O	Detecteu	31	97 UJ	100 UJ	92 UJ	91 UJ
3-Nitrosniline	UG/KG	0	0%		0	0	31	240 UJ	250 UJ	220 UJ	220 UJ
4,6-Dinitro-2-methylphenol	UG/KG	0	0%		0	0	31	240 UJ	250 UJ	220 UJ	220 UJ
4-Bromophenyl phenyl ether	UG/KG	0	0%		0	0	31	97 UJ	100 UJ	92 UJ	91 UJ
4-Chloro-3-methylphenol	UG/KG	0	0%		0	0	31	97 UJ	100 UJ	92 UJ	91 UJ
4-Chloroaniline	UG/KG	0	0%		0	0	31	97 UJ	100 UJ	92 UJ	91 UJ
4-Chlorophenyl phenyl ether	UG/KG	0	0%		0	0	31	97 UJ	100 UJ	92 UJ	91 UJ
4-Methylphenol	UG/KG	13	6%	330	0	2	31	97 UJ	100 UJ	92 UJ	91 UJ
4-Nitroaniline	UG/KG	0	0%		0	0	31	240 UJ	250 UJ	220 UJ	220 UJ
4-Nitrophenol	UG/KG	0	0%		0	0	31	240 UJ	250 UJ	220 UJ	220 UJ
Acenaphthene	UG/KG	0	0%	20000	0	0	31	97 UJ	100 UJ	92 UJ	91 UJ
Acenaphthylene	UG/KG	0	0%	100000	0	0	31	97 UJ	100 UJ	92 UJ	91 UJ
Anthracene	UG/KG	0	0%	100000	0	0	31	97 UJ	100 UJ	92 UJ	91 UJ
Benzo(a)authracene	UG/KG	34	23%	1000	0	7	31	3.3 J	100 UJ	92 UJ	91 UJ
Benzo(a)pyrene	UG/KG	30	45%	1000	0	14	31	97 UJ	100 UJ	92 UJ	6.6 J
Benzo(b)fluoranthene	UG/KG	47	48%	1000	0	15	31	6 J	100 UJ	92 UJ	25.95 J
Benzo(ghi)perylene	UG/KG UG/KG	17 33	3% 48%	100000	0	1	31	97 UJ	100 UJ	92 UJ	91 UJ
Benzo(k)fluoranthene Bis(2-Chloroethoxy)methane	UG/KG	0	0%	800	0	15 0	31 31	7.4 J 97 UJ	100 UJ 100 UJ	92 UJ 92 UJ	25.9 J
Bis(2-Chloroethyl)ether	UG/KG	0	0%		0	0	31	97 UJ	100 UJ	92 UJ	91 UJ 91 UJ
Bis(2-Chloroisopropyl)ether	UG/KG	0	0%		0	0	31	97 UJ	100 UJ	92 UJ	91 UJ
Bis(2-Ethylhexyl)phthalate	UG/KG	780	10%		0	3	31	97 UJ	100 UJ	92 UJ	91 UJ
Butylbenzylphthalate	UG/KG	0	0%		0	0	31	97 UJ	100 UJ	92 UJ	91 UJ
Carbazole	UG/KG	0	0%		0	0	31	97 UJ	100 UJ	92 UJ	91 UJ
Chrysene	UG/KG	40	32%	1000	0	10	31	7.2 J	100 UJ	92 UJ	25.75 J
Di-n-butylphthalate	UG/KG	1100	19%		0	6	31	97 UJ	100 UJ	92 UJ	25.1 J
Di-n-octylphthalate	UG/KG	0	0%		0	0	31	97 UJ	100 UJ	92 UJ	91 UJ
Dibenz(a,h)anthracene	UG/KG	0	0%	330	0	0	31	97 UJ	100 UJ	92 UJ	91 UJ
Dibenzofuran	UG/KG	0	0%	7000	0	0	31	97 UJ	100 UJ	92 UJ	91 UJ
Diethyl phthalate	UG/KG	11	3%		0	1	31	97 UJ	100 UJ	92 UJ	91 UJ
Dimethylphthalate	UG/KG	0	0%		0	0	31	97 UJ	100 UJ	92 UJ	91 UJ
Fluoranthene	UG/KG	36	52%	100000	0	16	31	8.9 J	100 UJ	92 UJ	8 J
Fluorene	UG/KG	0	0%	30000	0	0	31	97 UJ	100 UJ	92 UJ	91 UJ
Hexachlorobenzene	UG/KG	11	3%	330	0	1	31	97 UJ	100 UJ	92 UJ	91 UJ
Hexachlorobutadiene	UG/KG	0	0%		0	0	31	97 UJ	100 UJ	92 UJ	91 UJ
Hexachlorocyclopentadiene	UG/KG	0	0% 3%		0	0	31	97 UJ	100 UJ	92 UJ	91 UJ
Hexachloroethane	UG/KG UG/KG	9.9 19		500	0	1	31	97 UJ	100 UJ	92 UJ	91 UJ
Indeno(1,2,3-cd)pyrene Isophorone	UG/KG	0	6% 0%	500	0	2	31 31	97 UJ 97 UJ	100 UJ	92 UJ 92 UJ	91 UJ 91 UJ
N-Nitrosodiphenylamine	UG/KG	59	6%		0	2	31	97 UJ	100 UJ	92 UJ	91 UJ
N-Nitrosodipropylamine	UG/KG	0	0%		0	0	31	97 UJ	100 UJ	92 UJ	91 UJ
Naphthalene	UG/KG	3.5	3%	12000	0	1	31	97 UJ	100 UJ	92 UJ	91 UJ
Nitrobenzene	UG/KG	0	0%	12000	0	0	31	97 UJ	100 UJ	92 UJ	91 UJ
Pentachlorophenol	UG/KG	0	0%	800	0	0	31	240 UJ	250 UJ	220 UJ	220 UJ
Phenanthrene	UG/KG	25.1	45%	100000	0	14	31	5 J	100 UJ	92 UJ	25.1 J
Phenol	UG/KG	33	32%	330	0	10	31	7.6 J	8.9 J	33 J	8.7 J
Pyrene	UG/KG	32	55%	100000	0	17	31	8 J	100 UJ	92 UJ	8 J
Explosives											,
1,3,5-Trinitrobenzene	UG/KG	0	0%		0	0	31	120 U	120 U	120 U	120 U
1,3-Dinitrobenzene	UG/KG	0	0%		0	0	31	120 U	120 U	120 U	120 U
2,4,6-Trinitrotoluene	UG/KG	0	0%		0	0	31	120 U	120 U	120 U	120 U
2,4-Dinitrotoluene	UG/KG	0	0%		0	0	31	120 U	120 U	120 U	120 U
2,6-Dinitrotoluene	UG/KG	0	0%		0	0	31	120 U	120 U	120 U	120 U

### TABLE I 3.5" ROCKET RANGE (SEAD-46) SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

								SEAD-46 SW/SD46-2 SEDIMENT	SEAD-46 SW/SD46-3 SEDIMENT	SEAD-46 SW/SD46-4 SEDIMENT	SEAD-46 SS46-13 SOIL
								463001	463002	463003	464027, 464028
								0	0	0	0
								0.2	0.2	0.2	0.5
								36511	36511	36510	36510
								SA	SA	SA	SADU
		Maximum	Frequency of	Criteria	Number of	Number of Times	Number of Samples	PISI RI	PISI RI	PIS! RI	PISI RI
Parameter	Units	Value	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)	Value (Q)	Value (Q)	Value (Q)
2-Nitrotoluene	UG/KG	0	0° o		0	0	31	120 UJ	120 UJ	120 UJ	120 UJ
2-amino-4,6-Diniti otoluene	UG:KG	0	0%		0	0	31	120 U	120 U	120 U	120 U
3-Nitrotoluene	UG/KG	0	0.0.0		0	0	31	120 U	120 U	120 U	120 U
4-Nitrotoluene	UG/KG	0	00.0		0	0	31	120 U	120 U	120 U	120 U
4-amino-2,6-Dinitiotoluene	UG.KG	0	00,0		0	0	31	120 U	120 U	120 U	120 U
HMX	UG/KG	0	0,0		0	0	31	120 U	120 U	120 U	120 U
Nitrobenzene	UG <sup>*</sup> KG	0	On. o		0	0	31	120 U	120 U	120 U	120 U
RDX	UG/KG	0	0.0		0	0	31	120 U	120 U	120 U	120 U
Teti yl	UG/KG	0	0° o		0	0	31	120 U	120 U	120 U	120 U
Pesticides and PCBs											
4,4'-DDD	UG/KG	12	39.0	3.3	1	1	31	4.8 U	5.1 U	4.5 U	4.55 U
4,4'-DDE	UG. KG	3.7	10° a	3.3	1	3	31	4.8 U	5.1 U	4.5 U	4.55 U
4,4'-DDT	UG/KG	0	Od.º	3.3	0	0	31	4.8 U	5.1 U	4.5 U	4.55 U
Aldrin	UG:KG	0	Oa,a	5	0	0	31	2.5 U	2.6 U	2.3 U 2.3 U	2.35 U 2.35 U
Alpha-BHC	UG/KG	0	00.6	20	0	0	31	2.5 U	2.6 U		2.35 U
Alpha-C'hloidane	UG/KG	3.5	6° 6	94	0	2	31 31	2.5 U 48 U	2.6 U 51 U	2.3 U 45 U	45.5 U
Aroclor-1016	UG KG	0	0%	100	0	0	31		100 U	45 U 92 U	92.5 []
Aroclor-1221	UG/KG	0	0%	100	0	0	31	48 U 98 U	51 U	45 U	45.5 U
Aroclor-1232	UG/KG	0	0°°	100	0	0	31	48 U	51 U	45 U	45.5 U
Aroclot-1242	UG/KG	_			a	0	31	48 U	51 U	45 U	45.5 U
Aroclor-1248	UG/KG	0	Oa.º	100 100	0	0	31	48 U	51 U	45 U	45.5 U
Aroclor-1254	UG/KG	0	0°.6	100	0	0	31	48 U	51 U	45 U	45.5 U
Aroclor-1260	UG/KG UG/KG	0	0%	36	0	0	31	2.5 U	2.6 U	2.3 U	2.35 U
Beta-BHC	UG/KG	0	0%	30	0	0	31	2.5 U	2.6 U	2.3 U	2.35 U
Delta-BHC Dieldrin	UG/KG	46	32%	40	2	10	31	4.8 U	5.1 U	4.5 U	8.5 J
Endosulfan I	UG/KG	5.8	300	2400	0	1	31	2.5 U	2.6 U	2.3 U	2.35 U
Endosulfan II	UG/KG	2.3	3° o	2400	0	1	31	4.8 U	5.1 U	4.5 U	4.55 U
Endosulfan sulfate	UG/KG	0	09 a	2400	0	0	31	4.8 U	5.1 U	4.5 U	4.55 U
Endun	UG/KG	5.1	10%	14	0	3	31	4.8 U	5.1 U	4.5 U	4.55 U
Endrin aldehyde	UG. KG	0	0%		0	0	31	4.8 U	5.1 U	4.5 U	4.55 U
Endrin ketone	UG/KG	3.1	3%		0	ī	31	4.8 U	5.1 U	4.5 U	4,55 U
Gamma-BHC-Lindane	UG/KG	0	0%	100	0	0	31	2.5 U	2.6 U	2.3 U	2.35 U
Gamma-Chlordane	UG/KG	1.9	3%	94	0	1	31	2.5 U	2.6 U	2.3 U	2.35 U
Heptachlor	UG/KG	0	0%	42	0	0	31	2.5 U	2.6 U	2.3 U	2.35 U
Heptachlor epoxide	UG.KG	0	0°6		0	0	31	2.5 U	2.6 U	2.3 U	2.35 U
Methoxychlor	UG-KG	0	0°6		0	0	31	25 U	26 U	23 U	23.5 U
Тохарћене	UG/KG	0	O <sub>d</sub> , a		0	0	31	250 U	260 U	230 U	235 U
Metals											
Alummum	MG/KG	16500	1000,0		0	31	31	15200	16500	16000	14250
Antimony	MG/KG	0.73	13%		0	4	31	0.64 UR		0.57 UR	
Arsenic	MG/KG	7.9	1000-0	13	0	31	31	6.1	7.2	6.2	5.2
Barrum	MG/KG	152	100°,	350	0	31	31	152	127	84 7	81.7
Beryllium	MG:KG	1.2	100%	7.2	0	31	31	1.1 J	1.2	1.1 J	0.835 J
Cadimum	MG/KG	0.09	3%	2.5	0	1	31	0.06 U	0.04 U	0.05 U	0.045 U
Calcium	MG/KG	69300	100° o		0	31	31	3470 J	69300 J	2640 J	2970 J
Chromaum	MG KG	26.3	100%	30	0	31	31	15.9 J	23.1 J	22.6 J	16
Cobalt	MG/KG	20	0000		0	31	31	12.8 J	20	13.9	9.65 J
Соррег	MG/KG	41.15	1000.0	50	0	31	31	19.5 J	32.5 J	29.9	41.15 J
Cyanide	MG/KG	0	Co o	27	0	0	31	0.73 U	0.77 U	0.67 U	0.675 U
Iton	MG/KG	39100	100%		0	31	31	29700 J	39100 J	30100 J	24450 J
Lend	MG/KG	73	100%	63	1	31	31	15.4	22	20.2	50.75

#### TABLE 1 3.5" ROCKET RANGE (SEAD-46) SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

SEAD-46 SW/SD46-2

SEDIMENT

463001

SEAD-46

SW/SD46-3

SEDIMENT

463002

SEAD-46

SW/SD46-4

SEDIMENT

463003

SEAD-46 SS46-13

464027/464028

SOIL

								0	0	0	0
								0.2	0.2	0.2	0.5
								36511	36511	36510	36510
								SA	SA	SA	SADU
			Frequency		Number	Number	Number	PISI RI	PISI RI	PISI RI	PISI RI
		Maximum	of	Criteria	of	of Times	of Samples				
Parameter	Units	Value	Detection	Value 1	Exceedances	Detected	Analyzed <sup>2</sup>	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Magnesium	MG/KG	12800	100%		0	31	31	4770 J	8910 J	4680	3580 J
Manganese	MG/KG	1170	97%	1600	0	30	31	1070 J	756 J	537 J	408 J
Mercury	MG/KG	0.17	81%	0.18	0	25	31	0.05 U	0.08 U	0.07 J	0.065 U
Nickel	MG/KG	47.4	100%	30	12	31	31	31.8 J	47.A J	38.2 J	22.8 J
Potassium	MG/KG	1770	100%		0	31	31	1410 Ј	1260	1120 J	1135 J
Selenium	MG/KG	0.81	6%	3.9	0	2	31	0.73 U	0.55 U	0.65 U	0.57 U
Silver	MG/KG	0.3175	3%	2	0	1	31	0.38 UJ	0.29 UJ	0.34 UJ	0.3175 J
Sodium	MG/KG	272	45%		0	14	31	116 J	66.8 J	75 U	64.8 J
Thallium	MG/KG	3.7	97%		0	30	31	2.4 J	3.7	1.6 J	2 J
Vanadium	MG/KG	29.3	100%		0	31	31	29.3	27.1	26.4	24.8
Zinc	MG/KG	115	100%	109	1	31	31	71.2 J	82.5 J	76.3 J	69.05 J
Other Analytes											
Nitrate/Nitrite Nitrogen	MG/KG	2.2	96%		0	25	26	0.09	0.06	0.03	0.055 J
Percent Solids	% WW	89.5	100%		0	31	31	67.9	64.9	72.7	72.4

#### Notes:

- Notes:

  (1) Criteria based on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives, http://www.dec.state.ny.us/website/regs/subpart375\_6.html

  (2) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table.

  (3) A bolded and outlined cell indicates a concentration that exceeded the criteria.

- $\label{eq:U} U = compound \ was not detected \\ J = the reported value is an estimated concentration \\ UI = the compound \ was not detected; the associated reporting limit is approximate \\ R = the analytical result was rejected during data validation.$

TABLE 2
3.5" ROCKET RANGE (SEAD-46) GROUNDWATER SAMPLE RESULTS
SENECA ARMY DEPOT ACTIVITY

								SEAD-46 MW46-1	SEAD-46 MW46-1	SEAD-46 MW-46-2	SEAD-46 MW46-2	SEAD-46 MW46-3
								GW	WW46-1 GW	.VIW-40-2 GW	,VI W 40-2 GW	.vi w 46-3 GW
								462000	462100	462004	462101	462005
								16	16	10.5	10.5	13
								16	16	10.5	10.5	13
								1·22;2000 SA	4.25/2000 SA	1 22/2000 SA	4·25/2000 SA	1·23 2000 SA
			Frequency		Number	Number	Number	RI PHASE I STEP I	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	RI PHASE I STEP I	RI PHASE I STEP I
		Maximum	of	Criteria	of	of Times	of Samples	1	2	1	2	1
Parameter	Units	Value	Detection	Level	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds												
1.1.1.2-Tetrachloroethane 1.1.1-Trichloroethane	UG L UG L	0	0°.0	5	0	0	12 12	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U	0.5 U	0.5 U
1.1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	10	0.5 U	0.5 UJ	0.5 U 0.5 U	0.5 U 0.5 UJ	0.5 U 0.5 U
1,1,2-Trichloroethane	UG-L	0	Ono	Ī	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1.1-Dichloroethane	UG/L	0	0.00	5	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1.1-Dichloroethene	UG/L	0	00,0	5	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloropi opene	UG, L	0	000	5	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene 1,2,3-Trichloropropane	UG:L UG:L	0	0o." 0a.º	5 0 04	0	0	12 12	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U 0.5 U
1,2,4-Trichlorobenzene	UG/L	0	0.0	5	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trimethylbenzene	UG.L	0	00.0	5	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibiomo-3-chloropropane	UG/L	0	000	0.04	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibiomoethane	UG-L	0	000	0.0006	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	UG/L	0	0%	0.6	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane 1,3,5-Trimethylbenzene	UG/L UG/L	0	0%	5	0	0	12 12	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U 0.5 U
1,3-Dichlorobenzene	UG/L	0	00.0	3	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	UG/L	0	O° "	5	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	UG/L	0	0.0	3	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	UG/L	0	000		0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Chlorotoluene	UG/L	0	000	5	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Nitropropane	UG/L UG/L	0	0°6		0	0	12 12	25 U	25 U	25 U	25 U	25 U
Acetone Acrylonitrile	UG/L	0	0%	5	0	0	12	5 U 0.5 U	5 U 0.5 U	5 U 0.5 U	5 U 0.5 U	5 U 0.5 U
Allyl chloride	UG L	0	000	5	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene	UG L	0	0%	1	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromobenzene	UG-L	0	00.0	5	0	0	12	0.5 U	0,5 U	0.5 U	0.5 U	0.5 U
Bromochloi omethane	UG/L	0	0° 0	5	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	UG/L	0	Oo.;	80	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform Butyl chloride	UG/L UG/L	0	040	80 5	0	0	12 12	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U 0.5 U
Carbon disulfide	UG:L	0	0%		0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 11
Carbon tetrachloride	UG/L	0	00.0	5	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroacetonitiile	UG L	0	0%		0	0	12	25 U	25 U	25 U	25 U	25 U
Chlorobenzene	UG/L	0	Go. a	5	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorodibromomethane Chloroethane	UG/L UG/L	0	0°6	80	0	0	12 12	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U 0.5 U
Chloroform	UG/L	0	0%	7	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cis-1,2-Dichloroethene	UG/L	0	00,0	5	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cis-1,3-Dichloropropene	UG/L	0	0°,	0.4	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane	UG L	0	0%	5	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichloromethyl methyl ketone	UG/L UG/L	0	000	5	0	0	11	25 U 0.5 U	25 UJ 0.5 U	25 U 0.5 U	25 UJ 0.5 U	25 U 0.5 U
Ethyl benzene Ethyl ether	UG.L	0	0%	5	0	0	12 12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethyl methaciylate	UG/L	0	0%		0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexachlorobotadiene	UG/L	0	00.0	0.5	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexachloroethane	UG:L	0	0%	5	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Isopropylbenzene	UG L	0	0° v	5	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 (1
Meta-Para Xylene	UG L	0	0%,0	4	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U 0.5 U
Methaciylonitrile Methyl 2-propenoate	UG-L UG-L	0	On. o	5	0	0	12 12	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U
Methyl Tertbutyl Ether	UG L	0	0%		0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl bromide	UG-L	0	0,0	5	Ü	Ů.	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl butyl ketone	UG/L	0	00.0		0	0	12	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Methyl chloride	UG·L	0	$O_{\Omega^{i_D}}$	5	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl ethyl ketone	UG L	0	0%		0	0	12	5 U	5 U	5 U	5 U	5 U
Methyl rodide	UG:L	0	$O_{\alpha}{}^{\alpha}$	5	0	0	12	0.5 U	0.5 U	0.5 U	0.5 th	0.5 (1

### TABLE 2 3.5" ROCKET RANGE (SEAD-46) GROUNDWATER SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

								SEAD-46 MW46-1 GW 462000 16 16	SEAD-46 MW46-1 GW 462100 16	SEAD-46 MW46-2 GW 462004 10.5 10.5	SEAD-46 MW46-2 GW 462101 10.5 10.5	SEAD-46 MW46-3 GW 462005 13
			Frequency		Number	Number	Number	1/22/2000 SA RI PHASE 1 STEP 1	4/25/2000 SA RI PHASE 1 STEP 1	1/22/2000 SA RI PHASE 1 STEP 1	4/25/2000 SA RI PHASE 1 STEP 1	1/23/2000 SA RI PHASE 1 STEP 1
Parameter	Units	Maximum Value	of Detection	Criteria Level	of Exceedances	of Times Detected	of Samples Analyzed	l Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/L	0	0%	Dever	0	0	12	2.5 U	2.5 U	2.5 U	2.5 U	2,5 U
Methyl methacrylate	UG/L	0	0%	50	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methylene bromide	UG/L	0	0%	5	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methylene chloride	UG/L	0	0%	5	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Naphthalene Nitrobenzene	UG/L UG/L	0	0% 0%	0.4	0	0	12 12	0.5 U 25 UJ	0.5 U 25 U	0.5 U	0.5 U	0.5 U
Ortho Xylene	UG/L	0	0%	5	0	0	12	0.5 U	0.5 U	25 UJ 0.5 U	25 U 0.5 U	25 UJ 0.5 U
Pentachloroethane	UG/L	0	0%	5	0	0	6	0.5 UJ	2 UR	0.5 UJ	2 UR	0.5 UJ
Propionitrile	UG/L	0	0%		0	0	12	25 U	25 U	25 U	25 U	25 U
Propylbenzene	UG/L	0	0%	5	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	UG/L	0	0%	5	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachioroethene	UG/L	0	0%	5	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrahydrofuran	UG/L	0	0%		0	0	12	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Toluene Total Xylenes	UG/L UG/L	0	0%	5	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trans-1,2-Dichloroethene	UG/L	0	0%	5	0	0	12 12	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U 0.5 U
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trans-1,4-Dichloro-2-butene	UG/L	0	0%	0.4	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	UG/L	0	0%	5	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichlorofluoromethane	UG/L	0	0%	5	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	UG/L	0	0%	2	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
n-Butylbenzene	UG/L	0	0%	5	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
p-Chlorotoluene	UG/L	0	0%	5	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
p-Isopropyltoluene sec-Butylbenzene	UG/L UG/L	0	0% 0%	5	0	0	12 12	0.5 U 0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
tert-Butylbenzene	UG/L	0	0%	5	0	0	12	0.5 U	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U 0.5 U
Semivolatile Organic Compounds	002	0	070	3	v	· ·	12	0.5 0	0.3 0	0.5 0	0.5 0	0.5 0
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	12	1.1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	12	1.1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	12	1.1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	12	1.1 U	1 U	1 U	1 U	1 U
2,4,5-Trichlorophenol 2,4,6-Trichlorophenol	UG/L UG/L	0	0% 0%	1	0	0	12 12	2.6 U	2.6 U 1 U	2.5 U	2.5 U	2.6 U
2,4,0-1 richtorophenol	UG/L	0	0%	5	0	0	12	1.1 U 1.1 U	1 U	1 U 1 U	1 U 1 U	1 U 1 U
2,4-Dimethylphenol	UG/L	0	0%	3	0	0	12	1.1 U	1 U	1 U	1 U	1 U
2,4-Dinitrophenol	UG/L	0	0%		0	0	12	2.6 UJ	2.6 U	2.5 UJ	2.5 U	2.6 UJ
2,4-Dinitrotoluene	UG/L	0	0%	5	0	0	12	1.1 U	1 U	1 U	1 U	1 U
2,6-Dinitrotoluene	UG/L	0	0%	5	0	0	12	1.1 U	1 U	1 U	1 U	1 U
2-Chloronaphthalene	UG/L	0	0%		0	0	12	1.1 U	1 U	1 U	1 U	1 U
2-Chlorophenol	UG/L	0	0%		0	0	12	1.1 U	1 U	1 U	1 U	1 U
2-Methylnaphthalene	UG/L	0	0%		0	0	12	1.1 U	1 U	1 U	1 U	1 U
2-Methylphenol 2-Nitroaniline	UG/L UG/L	0	0% 0%	5	0	0	12 12	1.1 U 2.6 U	1 U 2.6 U	1 U 2.5 U	1 U	1 U 2.6 U
2-Nitrophenol	UG/L	0	0%	1	0	0	12	1.1 U	2.0 U	2.5 U	2.5 U 1 U	1 U
3,3'-Dichlorobenzidine	UG/L	0	0%	5	0	0	6	1.1 U	1 UR	1 U	1 UR	1 U
3-Nitroaniline	UG/L	0	0%	5	0	0	12	2.6 UJ	2,6 UJ	2.5 UJ	2.5 UJ	2.6 UJ
4,6-Dinitro-2-methylphenol	UG/L	0	0%	1	0	0	12	2.6 U	2.6 U	2.5 U	2.5 U	2.6 U
4-Bromophenyl phenyl ether	UG/L	0	0%		0	0	12	1.1 U	1 U	1 U	1 U	1 U
4-Chloro-3-methylphenol	UG/L	0	0%	1	0	0	12	1.1 U	1 U	1 U	1 U	1 U
4-Chlorophend shoul other	UG/L UG/L	0	0%	5	0	0	12	1.1 U	1 UJ	1 U	1 UJ	1 U
4-Chlorophenyl phenyl ether 4-Methylphenol	UG/L	0	0%		0	0	12 12	1.1 U	1 U 1 U	1 U	1 U	1 U
4-Nitroaniline	UG/L	0	0%	5	0	0	12	1.1 U 2.6 UJ	2.6 UJ	1 U 2.5 UJ	1 U 2.5 UJ	1 U 2.6 UJ
4-Nitrophenol	UG/L	0	0%	1	0	0	12	2.6 U	2.6 U	2.5 U	2.5 U	2.6 U
Acenaphthene	UG/L	0	0%	•	0	0	12	1.1 U	1 U	1 U	1 U	1 U
Acenaphthylene	UG/L	0	0%		0	0	12	1.1 U	i U	i U	î U	1 U
Anthracene	UG/L	0	0%		0	0	12	1.1 U	I U	1 U	1 U	1 U
Benzo(a)anthracene	UG/L	0	0%		0	0	12	1.1 U	1 U	1 U	1 U	1 U
Benzo(a)pyrene	UG/L	0	0%	0	0	0	12	1.1 U	1 U	1 U	1 U	1 U

# TABLE 2 3.5" ROCKET RANGE (SEAD-46) GROUNDWATER SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

								SEAD-46	SEAD-46	SEAD-46	SEAD-46	SEAD-46
								MW46-1	MW46-1	MW46-2	MW46-2	MW46-3
								GW	GW	GW	GW	G/A.
								462000	462100	462004	462101	462005
								16	16	10.5	10.5	13
								16 1/22/2000	16 4,25-2000	10.5 1/22/2000	10.5 4-25/2000	1.23.2000
			Frequency		Number	Number	Number	SA RI PHASE 1 STEP 1	SA STANTA	SA SA	SA SA	SA STEP I
		Maximum	of	Criteria	of	of Times	of Samples	RI PHASE I STEP I	RI PHASE 1 STEP 1 2	RI PHASE I STEP I	RI PHASE 1 STEP 1 2	RI PHASE 1 STEP 1
Parameter	Units	Value	Detection	Level	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Benzo(b)fluoranthene	UG.L	0	On'o		0	0	12	1.1 U	1 Ü	1 U	1 U	1 U
Benzo(ghr)perylene	UG L	0	O° 0		0	0	12	1.1 U	1 U	1 U	ΙU	I U
Benzo(k)flooranthene	UG-L	0	0,0		0	0	12	1.1 U	1 U	1 U	ιυ	1 U
Bis(2-Chloroethoxy)methane	UG·L	0	0%	5	0	0	12	1.1 U	1 U	i U	ΙU	1 U
Bis(2-Chloroethyl)ether	UG. L UG. L	0	0°.	1 5	0	0	12	1.1 U	1 U	1 0	1 U	1 U
Bis(2-C'hlorersopropyl)ether Bis(2-Ethylhexyl)phthalate	UG.L	0	0%	5	0	0	12 12	1.1 U 1.1 U	1 U 1 U	1 U 1 U	1 U 1 U	1 U
Butylbenzylphthalate	UG/L	0.057	8%	3	0	ı	12	0.057 J	1 U	1 U	1.0	1 U
Carbazole	UG/L	0.057	0°0		0	0	12	1.1 U	I UJ	! U	i UJ	t U
Chrysene	UGL	0	00.0		0	0	12	1.1 U	1 0	i U	U I	1 U
Di-n-butylphthalate	UG.L	0	0,0	50	0	0	12	1.1 U	1 U	1 U	i U	1 U
Di-n-octylphthalate	UG/L	0	Oa.;		0	0	12	1.1 U	1 U	1 U	ΙÜ	Ü
Dibenz(a,h)anthracene	UG/L	0	0%		0	0	12	1.1 U	l U	1 U	1 U	1 U
Dibenzofuran	UG/L	0	0.0		0	0	12	1.1 U	1 U	ΙU	1 U	1 U
Diethyl phthalate	UG:L	0	000		0	0	12	1.1 U	1 U	1 U	1 U	i U
Dimethylphthalate	UG L	0	00.0		0	0	12	1.1 U	1 U	1 U	ıυ	LU
Fluoranthene	UG/L	0	0.0		0	0	12	1.1 U	1 U	1 U	1 U	1 U
Fluorenc	UG-L	0	0%		0	0	12	1.1 U	1 U	ιU	1 U	1 U
Hexachlorobenzene	UG, L	0	0.0	0.04	0	0	12	1.1 U	1 U	1 U	1 U	1 U
Hexachlorobutadiene	UG/L	0	00,0	0.5	0	0	12	1.1 U	1 U	1 U	ιυ	1.0
Hexachlor ocyclopentadiene	UG/L	0	04.0	5	0	0	12	1.1 U	1 U	1 U	1 U	i U
Hexachlor oethane	UG·L UG/L	0	0%	,	0	0	12	1.1 U	I U	i U	ı U	1 U
Indeno(1,2,3-cd)pyrene Isophorone	UG/L	0	On.º		0	0	12 12	1.1 U 1.1 U	1 U 1 U	1 U 1 U	1 U 1 U	1 U L U
N-Nitrosodiphenylamine	UG/L	0	0".5		0	0	12	1.1 U	1 U	1 U	1 U	1 U
N-Nitrosodipropylamine	UG'L	0	0.0		0	0	12	1.1 U	1 U	1 0	1 U	1 U
Naphthalene	UG/L	0	0%		0	0	12	1.1 U	1 U	1 U	1 U	1 U
Nitrobenzene	UG:L	0	0°.0	0.4	0	0	12	1.1 U	I U	1 U	i U	iΰ
Pentachlotophenol	UG L	0	00.0	1	0	0	12	2.6 U	2.6 U	2.5 U	2.5 U	2.6 U
Phenanthiene	UG/L	0	00.5		0	0	12	1.1 U	1 U	ιυ	l U	1 U
Phenol	UG. L	0	0,0	1	0	0	12	1.1 U	1 U	1 U	1 U	1 U
Pyrene	UG'L	0	O <sup>o</sup> 0		0	0	12	1.1 U	1 U	1 U	1 U	1 U
Explosives												
1,3,5-Trinitrobenzene	UG/L	0	0° o	5	0	0	12	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U
1,3-Dinitrobenzene	UG/L	0	00,0	5	0	0	12	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U
2,4,6-Trinitrotoluene	UG/L	0	Ou 0	5	0	0	12	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U
2,4-Dinitrotoluene	UG·L	0	00.0	5	0	0	12	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U
2,6-Dinitiotoluene	UG-L	0	000	5	0	0	12	0.25 U	0.25 UJ	0.25 U	0.25 U	0 25 U
2-Nitrotuluene	UG:L		000	5			12	0.25 U	0.25 UJ	0.25 U	0.25 U	0 25 U
2-amino-4,6-Diniti otoluene 3-Nitrotoluene	UG/L UG/L	0	0°°	5	0	0	12 12	0.25 U 0.25 U	0.25 UJ 0.25 UJ	0.25 U 0.25 U	0.25 U 0.25 U	0.25 U 0.25 U
4-Nitrotoluene	UG/L	0	0%	5	0	0	12	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U
4-amino-2.6-Diniti otoluene	UG/L	0	0°°°	3	0	0	12	0.25 U	0,25 UJ	0.25 U	0.25 U	0.25 U
HMX	UG, L	0	0%		0	0	12	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U
Nitrobenzene	UG/L	0	0%	0.4	0	0	12	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U
RDX	UG. L	0	00/0		0	0	12	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U
Tetryl	UG·L	0	Go.,		0	0	12	0.25 ป	0.25 UJ	0.25 U	0.25 U	0.25 U
Pesticides and PCBs												
4,4'-DDD	UG/L	0	00,0	0.3	0	0	12	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
4.4'-DDE	UG/L	0	0.00	0.2	0	0	12	0.01 U	0.01 U	0.01 U	0.01 U	0.01
4.4'-DDT	UG, L	0	Oo. a	0.2	0	0	12	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Aldım	UG/L	0	00.0	0	0	0	12	0.0052 U	0.005 U	0.0051 U	0.005 U	0.0052 U
Alpha-BHC	UG. L	0	00.0	0.01	0	0	12	0.0052 U	0.005 U	0.0051 U	0.005 U	0.0052 U
Alpha-Chlordane	UG, L	0	00.0	0.00	0	0	12	0.0052 U	0.005 U	0.0051 U	0.005 U	0.0052 U
Aroclor-1016	UG/L	0	000	0.09	0	0	12	0.1 U	0.1 U	0.1 U	0.1 U	01 U
Aroclor-1221	UG-L	0	O"-0	0.09	0	0	12	0.21 U	0.2 U	0.2 U	0.2 U	0.21 U
Aroclor-1232 Aroclor-1242	UG/L UG/L	0	0°,	0.09	0	0	12 12	0.1 U 0.1 U	0.1 U 0.1 U	U 1.0	0.1 U 0.1 U	0.1 U 0.1 U
Aroclor-1242 Aroclor-1248	UG L	0	000	0.09	0	0	12	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
. 104101-12-70	O() L		0.0	0.07	V	V		0.1	0.7 0	0.1	0.1	47 4 %

TABLE 2 3.5" ROCKET RANGE (SEAD-46) GROUNDWATER SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

								SEAD-46 MW46-1	SEAD-46 MW46-1	SEAD-46 MW46-2	SEAD-46 MW46-2	SEAD-46 MW46-3
								GW	GW	GW	GW	GW
								462000	462100	462004	462101	462005
								16	16	10.5	10.5	13
								16	16	10.5	10.5	13
								1/22/2000	4/25/2000	1/22/2000	4/25/2000	1/23/2000
								SA	SA	SA	SA	SA
			Frequency		Number	Number	Number	RI PHASE 1 STEP 1				
		Maximum	of	Criteria	of	of Times	of Samples	1	2	1	2	1
Parameter	Units	Value	Detection	Level	Exceedances	Detected	Analyzed	Value (Q)				
Aroclor-1254	UG/L	0	0%	0.09	0	0	12	0.1 U				
Aroclor-1260	UG/L	0	0%	0.09	0	0	12	0.1 U				
Beta-BHC Delta-BHC	UG/L UG/L	0	0%	0.04	0	0	12	0.0052 U	0.005 U	0.0051 U	0.005 U	0.0052 U
Dieldrin		0	0%	0.04	0	0	12	0.0052 U	0.005 U	0.0051 U	0.005 U	0.0052 U
Endosulfan I	UG/L UG/L	0	0%	0.004	0	0	12 12	0.01 U				
Endosulfan II	UG/L	0	0%		0	0	12	0.0052 U	0.005 U	0.0051 U	0.005 U	0.0052 U
Endosulfan sulfate	UG/L	0	0%		0	0	12	0.01 U 0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Endrin	UG/L	0	0%	0	0	0	12	0.01 U 0.01 U				
Endrin aldehyde	UG/L	0	0%	5	0	0	12	0.01 U	0.01 U 0.01 U	0.01 U	0.01 U	0.01 U
Endrin ketone	UG/L	0	0%	5	0	0	12	0.01 U				
Gamma-BHC/Lindane	UG/L	0	0%	0.05	0	0	12	0.0052 U	0.01 U	0.0051 U	0.01 U	0.0052 U
Gamma-Chlordane	UG/L	0	0%	0.05	0	0	12	0.0052 U	0.005 U	0.0051 U	0.005 U	0.0052 U
Heptachlor	UG/L	0	0%	0.04	0	0	12	0.0052 U	0.005 U	0.0051 U	0.005 U	0.0052 U
Heptachlor epoxide	UG/L	0	0%	0.03	0	0	12	0.0052 U	0.005 U	0.0051 U	0.005 U	0.0052 U
Hexachlorobenzene	UG/L	0	0%	0.04	0	0	12	0.01 U				
Methoxychlor	UG/L	0	0%	35	0	o o	12	0.052 U	0.05 U	0.051 U	0.05 U	0.052 U
Toxaphene	UG/L	0	0%	0.06	0	0	12	0.52 U	0.5 U	0.51 U	0.5 U	0.52 U
Metals					_							
Aluminum	UG/L	500	100%		0	12	12	73.9 J	342 J	498 J	170 J	500
Antimony	UG/L	5.5	8%	3	1	1	12	5.5 J	4.6 U	5.4 U	4.6 U	5.4 U
Arsenic	UG/L	4	25%	10	0	3	12	2.6 J	2.5 U	2.4 U	2.5 U	2.4 U
Barium	UG/L	79.5	100%	1000	0	12	12	79.5 J	70.2 J	43.3 Ј	41.2 J	45.4 J
Beryllium	UG/L	0	0%	4	0	0	12	0.6 U	0.3 U	0.6 U	0.3 U	0.6 U
Cadmium	UG/L	0	0%	5	0	0	12	0.8 U	0.3 U	0.8 U	0.3 U	0.8 U
Calcium	UG/L	98400	100%		0	12	12	81700	86500 J	83500	87200 J	88100
Chromium	UG/L	2.5	50%	50	0	6	12	1.4 3	2.2 U	2.4 Ј	2.2 U	2.5 J
Cobalt	UG/L	0	0%		0	0	12	3.5 U	3 U	3.5 U	3 U	3.5 U
Copper	UG/L	7	8%	200	0	1	12	1.6 U	2.1 U	1.6 U	2.1 U	1.6 U
Cyanide	UG/L	0	0%		0	0	12	10 U				
ron	UG/L	568	100%	300	4	12	12	204 J	398 J	485 J	120 J	568 J
ron+Manganese	UG/L UG/L	641.4	100%	500	2	12	12	308 J	497.1 Ј	\$13.8 J	128.1 J	641.4 J
Lead Magnesium	UG/L	0 24600	0% 100%	15	0	12	12 12	1 U 24600	2.3 U 22800	1 U 17200	2.3 U 17400	1 U 17400
Manganese	UG/L	104	100%	300	0	12	12	104	99.1			
Mercury	UG/L	0	0%	0.7	0	0	12	0.1 U	0.1 U	28.8 0.1 U	8.1 J 0.1 U	73.4 0.1 U
Nickel	UG/L	0	0%	100	0	0	12	4.2 U	2.9 U	4.2 U	2.9 U	4.2 U
Potassium	UG/L	5890	100%	100	0	12	12	5890	3050 J	615 J	840 J	4.2 U 1720 J
Selenium	UG/L	2.4	8%	10	0	1	12	2.2 U	4 UJ	2.2 U	4 UJ	2.2 U
Silver	UG/L	2.2	17%	50	0	2	12	1 U	1.9 U	1 U	2.1 J	1 U
Sodium	UG/L	4980	100%	20000	0	12	12	4980 J	4430 J	2640 J	688 J	865 J
Challium	UG/L	4	8%	2	1	1	12	3.6 U	3.9 UJ	3.6 U	3.9 UJ	3.6 U
Vanadium	UG/L	3.7	17%	-	0	2	12	3.5 J	2.9 U	3.7 J	2.9 U	2.8 U
Zinc	UG/L	3.9	67%		o	8	12	2.9 J	2.8 J	3.8 J	1.5 U	2.7 J
Other Analytes					-				2.3 \$		0	
COD	MG/L	8	33%		0	2	6		5 U		5 U	
Nitrate/Nitrite Nitrogen	MG/L	0.25	100%	10000	0	12	12	0.02	0.03	0.03	0.02	0.13
Total Dissolved Solids	MG/L	364	100%		0	6	6		334		314	
Total Hardness-CaCO3	MG/L	290	100%		0	6	6		290		280	

<sup>(1)</sup> GA = NYSDEC Class GA Groundwater Standard (TOGS 1.1.1, June 1998)

MCL = Maximum Contaminant Level - Drinking Water Standards and Health Advisory (EPA 822-B-00-001)

(2) Shading indicates a concentration above the groundwater standard.

U = compound was not detected

J = the reported value is an estimated concentration
R = the analytical result was rejected during data validation.

								SEAD-46 MW46-3 GW 462102	SEAD-46 MW46-4 GW 462003	SEAD-46 MW46-4 GW 462103	SEAD-46 MW46-5 GW 462002	SEAD-46 MW46-5 GW 462104
								13 13	23 23	23 23	10 10	10 10
								4/25/2000	1/22.2000	4/25/2000	1.22 2000	4 25 2000
		Maximum	Frequency of	Criteria	Number	Number of Times	Number of Samples	SA RI PHASE I STEP I	SA RI PHASE I STEP I I	SA RI PHASE I STEP I 2	SA RI PHASE I STEP I	SA RI PHASE I STEP I 2
Parameter	Units	Value	Detection	Level	Exceedances	Detected	Analyzed	Value (Q)				
Volatile Organic Compounds			0.0									
1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane	UG/L UG/L	0	0° °	5 5	0	0	12 12	0.5 U 0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	UG-L	0	0-0	5	0	0	10	0.5 UR	0.5 U 0.5 U	0.5 U 0.5 UJ	0.5 U 0.5 U	0.5 U 0.5 UJ
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	12	0.5 U				
1,1-Dichloroethane	UG-L	0	000	5	0	0	12	0.5 U				
1.1-Dichloroethene	UG/L	0	0 ο ο	5	0	0	12	0.5 U				
1,1-Dichloropropene	UG/L	0	O°."	5	0	0	12	0.5 U				
1.2,3-Trichlorobenzene	UG/L	0	0%	5	0	0	12	0.5 U				
1,2,3-Trichloropi opane 1,2,4-Trichlorobenzene	UG. L UG. L	0	0% 0~°	0.04	0	0	12	0.5 U				
1,2,4-Trimethylbenzene	UG/L	0	0%	5	0	0	12 12	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromo-3-chloropropane	UG.L	0	0%	0.04	0	0	12	0.5 U	0.5 U	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U 0.5 U
1,2-Dibiomoethane	UG/L	0	0%	0.0006	0	0	12	0.5 U				
1,2-Dichlorobenzene	UGL	0	0%	3	0	0	12	0.5 U				
1,2-Dichloroethane	UG L	0	00%	0.6	0	0	12	0.5 U				
1,2-Dichloropropane	UG/L	0	00.0	1	0	0	12	0.5 U				
1,3,5-Trimethylbenzene	UG·L	0	O <sup>0</sup> -0	5	0	0	12	0.5 U				
1,3-Dichlorobenzene	UG. L	0	00.0	3	0	0	12	0.5 U				
1,3-Dichloropi opane 1,4-Dichlorobenzene	UG/L UG/L	0	0 <sub>6</sub> .0	5	0	Ð 0	12 12	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropiopane	UG'L	0	0.9	3	0	0	12	0.5 U	0.5 U	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U 0.5 U
2-Chlorotoluene	UG·L	0	000	5	0	0	12	0.5 U				
2-Nitropropane	UG/L	0	00.9	-	0	0	12	25 UJ	25 U	25 U	25 U	25 U
Acetone	UG-L	0	0.0		0	0	12	5 U	5 U	5 U	5 U	5 U
Actylonitrile	UG/L	0	000	5	0	0	12	0.5 U				
Allyl chloride	UG-L	0	0.0	5	0	0	12	0.5 U				
Benzene	UG-L	0	Ga.o	1	0	0	12	0.5 U				
Bromobenzene Bromochloromethane	UG/L UG/L	0	0% 0%	5	0	0	12	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	UG-L	0	0%	80	0	0	12	0.5 U	0.5 U	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U 0.5 U
Bromoform	UG/L	Ü	0%	80	0	0	12	0.5 U				
Butyl chloride	UG/L	0	00,0	5	D	0	12	0.5 U				
Carbon disulfide	UG, L	0	O°ú		0	0	12	0.5 U				
Carbon tetrachloride	UG/L	0	0%	5	0	0	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 L <sup>†</sup>
Chloroacetonitule	UGiL	0	00.0		0	0	12	25 U				
Chlorobenzene	UG/L	0	0%	5	0	0	12	0.5 U				
Chlorodibromomethane Chloroethane	UG/L UG/L	0	0°°	80 5	0	0	12 12	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	UG/L	0	0%	7	0	0	12	0.5 U	0.5 U	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U 0.5 U
Cis-1,2-Dichloroethene	UG/L	0	0%	5	0	0	12	0.5 U				
Cis-1,3-Dichloropropene	UG/L	0	0%6	0.4	0	0	12	0.5 U				
Dichlorodifluoromethane	UG/L	0	000	5	0	0	12	0.5 U				
Dichloromethyl methyl ketone	UG:L	0	On, a		0	0	11	25 UJ	25 U	25 UJ	25 U	25 UJ
Ethyl benzene	UG/L	0	000	5	0	0	12	0.5 U				
Ethyl ether	UG-L	0	0.0		0	0	12	0.5 U				
Ethyl methacrylate Hexachlorobutadiene	UG/L UG·L	0	0%	0.5	0	0	12 12	0.5 U 0.5 U	0.5 U	0.5 U	0.5 U	0 S U
Hexachloroethane	UG·L	0	0%	5	0	0	12	0.5 U	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U 0.5 U
Isopropylbenzene	UG-L	0	0%	5	0	0	12	0.5 U	0.5 U	0.5 U	0,5 U	0.5 U
Meta/Para Xylene	UG/L	0	0.0	-	0	0	12	0.5 U				
Methaerylonitiile	UG-L	0	00.0	5	0	0	12	0.5 U				
Methyl 2-propenoate	UG-L	0	Ou.o		0	0	12	0.5 U				
Methyl Tertbutyl Ether	UG, L	0	00.0		0	0	12	0.5 U				
Methyl bromide	UG-L	0	00.0	5	0	0	12	0.5 U				
Methyl butyl ketone	UG/L	0	0° 0	5	0	0	12	2.5 U				
Methyl chlonde Methyl ethyl ketone	UG/L UG/L	0	0° o	5	0	0	12 12	0.5 U 5 U				
Methyl iodide	UG/L	0	0.0	5	0	0	12	0.5 U				

								SEAD-46 MW46-3 GW 462102	SEAD-46 MW46-4 GW 462003	SEAD-46 MW46-4 GW 462103	SEAD-46 MW46-5 GW 462002	SEAD-46 MW46-5 GW 462104
								13	23	23	10	10
								13 4/25/2000	1/22/2000	23 4/25/2000	10 1/22/2000	10 4/25/2000
								4/25/2000 SA	1/22/2000 SA	4/25/2000 SA	1/22/2000 SA	4/25/2000 SA
			Frequency		Number	Number	Number	RI PHASE 1 STEP 1				
Parameter	Units	Maximum Value	of Detection	Criteria Level	of Exceedances	of Times Detected	of Samples Analyzed	Value (Q)	Value (Q)	2 Value (Q)	l Value (Q)	2
Methyl isobutyl ketone	UG/L	0	0%	Level	O	0	12	2.5 U	2.5 U	2.5 U	2.5 U	Value (Q) 2.5 U
Methyl methacrylate	UG/L	0	0%	50	0	0	12	0.5 U				
Methylene bromide	UG/L	0	0%	5	0	0	12	0.5 U				
Methylene chloride	UG/L	0	0%	5	0	0	12	0.5 U				
Naphthalene	UG/L	0	0%		0	0	12	0.5 U				
Nitrobenzene	UG/L	0	0%	0.4	0	0	12	25 UJ	25 UJ	25 U	25 UJ	25 U
Ortho Xylene	UG/L	0	0%	5	0	0	12	0.5 U				
Pentachloroethane	UG/L	0	0%	5	0	0	6	2 UR	0.5 UJ	2 UR	0.5 UJ	2 UR
Propionitrile	UG/L UG/L	0	0%	5	0	0	12	25 U 0.5 U	25 U 0.5 U	25 U	25 U	25 U
Propylbenzene Styrene	UG/L	0	0%	5	0	0	12 12	0.5 U	0.5 U	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U 0.5 U
Tetrachloroethene	UG/L	0	0%	5	0	0	12	0.5 U				
Tetrahydrofuran	UG/L	0	0%	,	0	0	12	2.5 U				
Toluene	UG/L	ő	0%	5	ő	0	12	0.5 U				
Total Xylenes	UG/L	0	0%	5	0	0	12	0.5 U				
Trans-1,2-Dichloroethene	UG/L	0	0%	5	0	0	12	0.5 U				
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	12	0.5 U				
Trans-1,4-Dichloro-2-butene	UG/L	0	0%		0	0	12	0.5 U				
Trichloroethene	UG/L	0	0%	5	0	0	12	0.5 U				
Trichlorofluoromethane	UG/L	0	0%	5	0	0	12	0.5 U				
Vinyl chloride	UG/L	0	0%	2	0	0	12	0.5 U				
n-Butylbenzene	UG/L	0	0%	5	0	0	12	0.5 U				
p-Chlorotoluene	UG/L UG/L	0	0%	5	0	0	12	0.5 U				
p-Isopropyltoluene sec-Butylbenzene	UG/L	0	0%	5	0	0	12 12	0.5 U 0.5 U				
tert-Butylbenzene	UG/L	0	0%	5	0	0	12	0.5 U				
Semivolatile Organic Compounds	00.2		0,0		•	· ·	12	0.5 0	0.5 0	0.5 0	0.5 0	0.5 0
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	12	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	12	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	12	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	12	1 U	1 U	1 U	1 U	1 U
2,4,5-Trichlorophenol	UG/L	0	0%	1	0	0	12	2.5 U	2.5 U	2.5 U	2.6 U	2.5 U
2,4,6-Trichlorophenol	UG/L	0	0%	1	0	0	12	1 U	1 U	1 U	1 U	1 U
2,4-Dichlorophenol	UG/L	0	0%	5	0	0	12	1 U	1 U	1 U	1 U	1 U
2,4-Dimethylphenol 2,4-Dinitrophenol	UG/L UG/L	0	0% 0%		0	0	12 12	1 U 2.5 U	1 U 2.5 UJ	1 U 2.5 U	1 U 2.6 UJ	1 U 2.5 U
2,4-Dinitrophenol	UG/L	0	0%	5	0	0	12	2.5 U	2.5 UJ	2.5 U	2.8 U	2.3 U
2,6-Dinitrotoluene	UG/L	0	0%	5	0	0	12	1 U	1 U	1 U	1 U	1 U
2-Chloronaphthalene	UG/L	0	0%		0	0	12	1 U	1 U	1 U	1 U	1 U
2-Chlorophenol	UG/L	0	0%		0	0	12	1 U	1 U	1 U	1 U	ı U
2-Methylnaphthalene	UG/L	0	0%		0	0	12	1 U	1 U	1 U	1 U	1 U
2-Methylphenol	UG/L	0	0%		0	0	12	1 U	1 U	1 U	1 U	1 U
2-Nitroaniline	UG/L	0	0%	5	0	0	12	2.5 U	2.5 U	2.5 U	2.6 U	2.5 U
2-Nitrophenol	UG/L	0	0%	1	0	0	12	1 U	1 UI	1 U	1 U	1 U
3,3'-Dichlorobenzidine	UG/L	0	0%	5	0	0	6	1 UR	1 U	1 UR	1 U	1 UR
3-Nitrosniline	UG/L	0	0%	5	0	0	12	2.5 UJ	2.5 UJ	2.5 UJ	2.6 UJ	2.5 UJ
4,6-Dinitro-2-methylphenol 4-Bromophenyl phenyl ether	UG/L UG/L	0	0%	1	0	0	12 12	2,5 U 1 U	2.5 U 1 U	2.5 U 1 U	2.6 U 1 U	2.5 U 1 U
4-Chloro-3-methylphenol	UG/L	0	0%	1	0	0	12	1 U	1 U	1 U	I U	1 U
4-Chloroaniline	UG/L	0	0%	5	0	0	12	1 UJ	1 U	i UJ	1 U	1 UJ
4-Chlorophenyl phenyl ether	UG/L	0	0%	,	0	0	12	1 U	1 U	1 U	1 U	1 U
4-Methylphenol	UG/L	0	0%		o	0	12	1 U	1 U	1 U	1 U	1 U
4-Nitroaniline	UG/L	0	0%	5	0	0	12	2.5 UJ	2.5 UJ	. 2.5 UJ	2.6 UJ	2.5 UJ
4-Nitrophenol	UG/L	0	0%	1	0	0	12	2.5 U	2.5 U	2.5 U	2.6 U	2.5 U
Acenaphthene	UG/L	0	0%		0	0	12	1 U	1 U	1 U	1 U	1 U
Acenaphthylene	UG/L	0	0%		0	0	12	1 U	1 U	1 U	1 U	1 U
Anthracene	UG/L	0	0%		0	0	12	1 U	1 U	1 U	1 U	1 U
Benzo(a)anthracene	UG/L	0	0%		0	0	12	1 U	1 U	1 U	1 U	1 U
Benzo(a)pyrene	UG/L	0	0%	0	0	0	12	1 U	1 U	1 U	1 U	1 U

								SEAD-46 MW46-3	SEAD-46 MW46-4	SEAD-46 MW46-4	SEAD-46 MW46-5	SEAD-46 MW46-5
								GW 462102	GW 462003	GW 462103	GW 462002	GW 462104
								13 13	23 23	23 23	10 10	10 10
								4 25/2000	1 22 2000	4 25 2000	1 22:2000	4 25 2000
		Maximum	Frequency of	Criteria	Number of	Number of Times	Number of Samples	SA RI PHASE 1 STEP 1 2	SA RI PHASE I STEP I	SA RI PHASE I STEP I 2	SA RI PHASE 1 STEP 1	SA RI PHASE I STEP I 2
Parameter	Units	Value	Detection	Level	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (O)
Benzo(b)fluoranthene Benzo(ghr)perylene	UG/L UG L	0	0% 0%		0	0	12	1 U	1 U	1 U	l U	1 U
Benzo(k)fluoranthene	UG/L	0	00/0		0	0	12 12	1 U 1 U	1 U 1 U	1 U 1 U	1 U	1 U
Bis(2-Chloroethoxy)methane	UG-L	0	Oo. a	5	0	0	12	1 U	1 U	1 U	1 U 1 U	1 U 1 U
Bis(2-Chloroethyl)ether	UG/L	0	O <sup>to</sup> is	l	0	0	12	1 U	i U	i Ü	i u	. U
Bis(2-Chloroisopi opyl)ether Bis(2-Ethylhexyl)phthalate	UG/L UG/L	0	0%	5	0	0	12	1 U	1 U	1 U	ιυ	ΙU
Butylbenzylphthalate	UG/L	0.057	0% 8%	5	0	0	12 12	1 U 1 U	1 U	1 U	ιυ	1.0
Carbazole	UG/L	0	0%		0	0	12	1 UJ	1 U 1 U	1 U 1 UJ	1 U 1 U	1 U
Chrysene	UG/L	0	$0^{\alpha_{p_0}}$		0	0	12	i U	1 U	1 0	1 U	1 UJ 1 U
Di-n-butylphthalate	UG/L	0	000	50	0	0	12	1.0	1 U	i U	1 U	l U
Di-n-octylphthalate	UG/L	0	0%		0	0	12	l U	1 U	1 U	ιU	iũ
Dibenz(a,h)anthracene Dibenzofuran	UG·L UG·L	0	0% 0%		0	0	12	1 U	1 U	1 U	1 U	1 U
Diethyl phthalate	UG/L	0	0%		0	0	12 12	1 U 1 U	U I	1 U	1 U	1 U
Dimethylphthalate	UG/L	0	0%		0	0	12	1 U	1 U	1 U 1 U	1 U 1 U	1 U 1 U
Fluoranthene	UG/L	0	06.0		0	0	12	i U	1 U	1 U	1 U	1 U
Fluorene	UG/L	0	0%		0	0	12	1 U	1 U	1 U	i Ū	1 U
Hexachlurobenzene Hexachlorobutadiene	UG/L UG/L	0	Oo. a	0.04	0	0	12	1 0	1 U	1 U	1 U	1 U
Hexachlorocyclopentadiene	UG L	0	0°,	5	0	0	12 12	1 U 1 U	1 U 1 U	1 U	1 U	1 U
Hexachloroethane	UG/L	0	0%	5	0	0	12	1 U	1 U	1 U 1 U	1 U 1 U	1 U 1 U
Indeno(1,2,3-cd)pyrene	UG/L	0	0%		0	0	12	U I	i U	1 U	1 U	LU
Isophorone	UG/L	0	00.0		0	0	12	1 U	! U	1 U	ίυ	i Ü
N-Nitrosodiphenylamine N-Nitrosodipropylamine	UG/L UG/L	0	0° a		0	0	12	1 U	ιU	1 U	ΙU	1.41
Naphthalene	UG/L	0	0°6		0	0	12 12	1 U 1 U	I U	1 U	1 U	ιυ
Nitrobenzene	UG/L	0	000	0.4	0	0	12	1 U	ו U ו U	1 U 1 U	1 U 1 U	! U
Pentachlorophenol	UG L	0	O°. u	1	0	0	12	2.5 U	2.5 U	2.5 U	2.6 U	2.5 U
Phenanthrene	UG/L	0	O <sup>10</sup> / <sub>11</sub>		0	0	12	1 U	1 U	Ι Ü	1 U	1.0
Phenol	UG/L	0	00.0	1	0	0	12	ιυ	1 U	ιυ	1 U	1.0
Pyrene Explosives	UG/L	0	00,0		0	0	12	ΙU	1 U	1 U	1 U	1 U
1.3.5-Temitrobenzene	UG/L	0	0° o	5	0	0	12	0.25 U	0.25 U	0.25 U	0.00.11	
1.3-Dinitiobenzene	UG/L	0	0,0	5	0	0	12	0.25 U	0.25 U	0.25 U 0.25 U	0.25 U 0.25 U	0.25 U 0.25 U
2.4,6-Trinitrotoluene	UG·L	0	000	5	0	0	12	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
2,4-Dmitrotoluene	UG/L	0	0,0	5	0	0	12	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
2,6-Dmiti otoluene 2-Nitrotoluene	UG/L UG/L	0	Oa.º	5	0	0	12	0.25 U	0.25 U	0.25 U	0.25 U	0 25 U
2-amino-4,6-Dinitrotoluene	UG-L	0	0.0	5	0	0	12 12	0.25 U 0.25 U	0.25 U 0.25 U	0.25 U	0.25 U	0.25 U
3-Nitrotoluene	UG/L	0	Oa'o	5	0	0	12	0.25 U	0.25 U	0.25 U 0.25 U	0.25 U 0.25 U	0.25 U 0.25 U
4-Nitrotoluene	UG/L	0	00.0	5	0	0	12	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
4-amino-2,6-Dinitrotoluene	UG <sup>,</sup> L	0	0° 0		0	0	12	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
HMX Nitrobenzene	UG/L	0	0%		0	0	12	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
RDX	UG-L UG-L	0	0% 0%	0.4	0	0	12 12	0.25 U 0.25 U	0.25 U 0.25 U	0.25 U	0.25 U	0.25 U
Tetryl	UG/L	0	000		0	0	12	0.25 U	0.25 U	0.25 U 0.25 U	0.25 U 0.25 U	0.25 U 0.25 U
Pesticides and PCBs					-	-		V.E. 0	0.25 0	0.25 (	0.25 0	025 0
4,4'-DDD	UG/L	0	$0^{\alpha_0}$	0.3	0	0	12	0.01 U	0,01 U	0.011 U	0.01 U	0.012 U
4,4'-DDE 4,4'-DDT	UG-L	0	0° o	0.2	0	0	12	0.01 U	0.01 U	0.011 U	0.01 U	0.012 U
Aldrin	UG/L UG L	0	0°°	0 2	0	0	12 12	0.01 U	0.01 U	0.011 U	0.01 U	0.012 U
Alpha-BHC	UG-L	0	0°0	0.01	0	0	12	0.0052 U 0.0052 U	0.0052 U 0.0052 U	0.0054 U 0.0054 U	0.0053 U 0.0053 U	0.0058 U 0.0058 U
Alpha-Chlordane	UG/L	0	0.0	-101	0	0	12	0.0052 U	0.0052 U	0.0054 U 0.0054 U	0,0053 U 0,0053 U	0.0058 U 0.0058 U
Aroclos-1016	UG/L	0	0.0	0.09	0	0	12	0.1 U	0.1 U	0.11 U	0.1 U	0.003% C
Aroclor-1221	UGL	U	0.0	0.09	0	0	12	0.21 U	0.21 U	0.22 U	0.21 U	0.23 U
Aroclor-1232 Aroclor-1242	UG.L	0	0°6	0.09	0	0	12	0.1 U	0.1 U	0.11 U	0.1 U	0.12 U
Aroclor-1242 Aroclor-1248	UG/L UG/L	0	0% 0%	0.09	0	0	12 12	0.1 U 0.1 U	0.1 U	0.11 U	0.1 U	0.12 U
	5000	,	0.70	0.07	u u	U	14	0.1 0	0.1 U	0.11 U	0.1 U	0.12 U

TABLE 2 3.5" ROCKET RANGE (SEAD-46) GROUNDWATER SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

SEAD-46

SEAD-46

								SEAU-46	MW46-4	MW46-4	MW46-5	MW46-5
								MW46-3 GW	GW	GW	GW	GW
									462003	462103	462002	462104
								462102 13	462003	23	10	10
								13	23	23	10	10
								4/25/2000	1/22/2000	4/25/2000	1/22/2000	4/25/2000
								SA	SA	SA	SA	SA
			Frequency		Number	Number	Number	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1
		Maximum	of	Criteria	of	of Times	of Samples	2	1	2	1	2
Parameter	Units	Value	Detection	Level	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Aroclor-1254	UG/L	0	0%	0.09	0	0	12	0.1 U	0.1 U	0.11 U	0.1 U	0.12 U
Aroclor-1260	UG/L	0	0%	0.09	0	0	12	0.1 U	0.1 U	0.11 U	0.1 U	0.12 U
Beta-BHC	UG/L	0	0%	0.04	0	0	12	0.0052 U	0.0052 U	0.0054 U	0.0053 U	0.0058 U
Delta-BHC	UG/L	0	0%	0.04	0	0	12	0.0052 U	0.0052 U	0.0054 U	0.0053 U	0.0058 U
Dieldrin	UG/L	0	0%	0.004	0	0	12	0.01 U	0.01 U	0.011 U	0.01 U	0.012 U
Endosulfan I	UG/L	0	0%		0	0	12	0.0052 U	0.0052 U	0.0054 U	0.0053 U	0.0058 U
Endosulfan II	UG/L	0	0%		0	0	12	0.01 U	0.01 U	0.011 U	0.01 U	0.012 U
Endosulfan sulfate	UG/L	0	0%		0	0	12	0.01 U	0.01 U	0.011 U	0.01 U	0.012 U 0.012 U
Endrin	UG/L	0	0%	0	0	0	12	0.01 U	0.01 U	0.011 U	0.01 U	0.012 U
Endriu aldehyde	UG/L	0	0%	5	0	0	12	0.01 U	0.01 U	0.011 U	0.01 U 0.01 U	0.012 U
Endrin ketone	UG/L	0	0%	5	0	0	12	0.01 U	0.01 U 0.0052 U	0.011 U 0.0054 U	0.0053 U	0.012 U
Gamma-BHC/Lindane	UG/L	0	0%	0.05	0	0	12 12	0.0052 U 0.0052 U	0.0052 U	0.0054 U	0.0053 U	0.0058 U
Gamma-Chlordane	UG/L	0	0%	0.04	0	0	12	0.0052 U	0.0052 U	0.0054 U	0.0053 U	0.0058 U
Heptachlor	UG/L UG/L	0	0% 0%	0.04	0	0	12	0.0052 U	0.0052 U	0.0054 U	0.0053 U	0.0058 U
Heptachlor epoxide	UG/L	0	0%	0.03	0	0	12	0.01 U	0.01 U	0.011 U	0.01 U	0.012 U
Hexachlorobenzene Methoxychlor	UG/L	0	0%	35	0	0	12	0.052 U	0.052 U	0.054 U	0.053 U	0.058 U
Toxaphene	UG/L	0	0%	0.06	0	0	12	0.52 U	0.52 U	0.54 U	0.53 U	0.58 U
Metals	OG/L	0	076	0.00	0	0	12	0.52 0	0.32 0	0,21		
Aluminum	UG/L	500	100%		0	12	12	120 J	105 J	205 J	206	123 J
Antimony	UG/L	5.5	8%	3	1	1	12	4.6 U	5.4 U	4.6 U	5.4 U	4.6 U
Arsenic	UG/L	4	25%	10	0	3	12	2.5 U	2,4 U	2.5 U	4 J	2.5 U
Barium	UG/L	79.5	100%	1000	0	12	12	37.8 J	45.6 J	43.9 J	50.3 J	50 J
Beryllium	UG/L	0	0%	4	0	0	12	0.3 U	0.6 U	0.3 U	0.6 U	0.3 U
Cadmium	UG/L	0	0%	5	0	0	12	0.3 U	0.8 U	0.3 U	0.8 U	0.3 U
Calcium	UG/L	98400	100%		0	12	12	77900 J	90500	85600 J	98400	97400 J
Chromium	UG/L	2.5	50%	50	0	6	12	2.2 U	1.5 J	2.2 U	1.1 J	2.2 U
Cobalt	UG/L	0	0%		0	0	12	3 U	3.5 U	3 U	3.5 U	3 U
Copper	UG/L	7	8%	200	0	1	12	2.1 U	1.6 U	2.1 U	1.6 U	2.1 U
Cyanide	UG/L	0	0%		0	0	12	10 U	10 U	10 U	10 U	10 U
Iron	UG/L	568	100%	300	4	12	12	89.2 J	183 J	208 J	267 J	111 J 117.7 J
Iron+Manganese	UG/L	641.4	100%	500	2	12	12	99.5 J	233.3 J	217.8 J	341.4 J 1 U	2.3 U
Lead	UG/L	0	0%	15	0	0	12	2.3 U	1 U 16100	2.3 U 14700	17100	16200
Magnesium	UG/L	24600	100%	***	0	12	12	15000 10.3 J	50.3	9.8 J	74.4	6.7 J
Manganese	UG/L	104	100%	300	0	12	12 12	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Mercury	UG/L UG/L	0	0%	0.7 100	0	0	12	2.9 U	4.2 U	2.9 U	4.2 U	2.9 U
Nickel Potassium	UG/L	5890	100%	100	0	12	12	1050 J	1540 J	1480 J	1240 J	1110 J
Selenium	UG/L	2.4	8%	10	0	1	12	4 UJ	2.4 J	4 UJ	2.2 U	4 UJ
Silver	UG/L	2.2	17%	50	0	2	12	1.9 U	1 U	1.9 U	1 U	1.9 U
Sodium	UG/L	4980	100%	20000	0	12	12	897 J	4060 J	948 J	3190 J	1110 Ј
Thallium	UG/L	4	8%	2	1	1	12	3.9 UJ	3.6 U	3.9 UJ	3.6 U	3.9 UJ
Vanadium	UG/L	3.7	17%	-	Ô	2	12	2.9 U	2.8 U	2.9 U	2.8 U	2.9 U
Zinc	UG/L	3.9	67%		0	8	12	2 J	2.1 U	1.8 J	2.9 J	1.5 U
Other Analytes	00/2		0,,,		-	-						
COD	MG/L	8	33%		0	2	6	5 U		8		5 U
Nitrate/Nitrite Nitrogen	MG/L	0.25	100%	10000	0	12	12	0.02	0.15	0.19	0.02	0.25
Total Dissolved Solids	MG/L	364	100%		0	6	6	266		312		364
Total Hardness-CaCO3	MG/L	290	100%		0	6	6	250		250		290

SEAD-46

SEAD-46

SEAD-46

<sup>(1)</sup> GA = NYSDEC Class GA Groundwater Standard (TOGS 1.1.1, June 1998)
MCL = Maximum Contaminant Level - Drinking Water Standards and Health Advisory (EPA 822-B-00-001)
(2) Shading indicates a concentration above the groundwater standard.

U = compound was not detected

J = the reported value is an estimated concentration

R = the analytical result was rejected during data validation.

SEAD-46 SEAD-46 MW46-6 MW46-6 GW GW 462001 462105 13 13 13 1/22 2000 4-26/2000

								1/22.2000	4/26/2000	
								SA	SA	
			Frequency		Number	Number	Number	RI PHASE I STEP I	RI PHASE I STEP I	
_		Maximum	of	Criteria	of	of Times	of Samples	1	2	
Parameter	Units	Value	Detection	Level	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	
Volatile Organic Compounds	110.1		00		0		10	0.5.11	0.5.11	
1,1,1,2-Tetrachloroethane	UG/L	0	0%	5	0	0	12	0.5 U	0.5 U	
1,1,1-Trichloroethane	UG/L	0	0%	5	0	0	12	0.5 U	0.5 U	
1,1,2,2-Tetrachloroethane 1,1,2-Trachloroethane	UG/L UG/L	0	0%	5 1	0	0	10 12	0.5 U 0.5 U	0.5 UR	
1,1,2-trichloroethane	UG/L	0	0%	5	0	0	12	0.5 U	0.5 U 0.5 U	
1,1-Dichloroethene	UG/L	0	0%	5	0	0	12	0.5 U	0.5 U	
1,1-Dichloropropene	UG, L	0	0%	5	0	0	12	0.5 U	0.5 U	
1,2,3-Trichlorobenzene	UG/L	0	0%	5	0	0	12	0.5 U	0.5 U	
1,2,3-Trichloropropane	UG/L	0	0%	0.04	0	0	12	0.5 U	0.5 U	
1,2,4-Trichlorobenzene	UG:L	0	00.0	5	0	0	12	0.5 U	0.5 U	
1,2,4-Trimethylbenzene	UG:L	0	000	5	0	0	12	0.5 U	0.5 U	
1,2-Dibromo-3-chloropropane	UG.L	0	00.0	0.04	0	0	12	0.5 U	0.5 UJ	
1,2-Dibromoethane	UG·L	0	00.0	0.0006	0	0	12	0.5 U	0.5 U	
1.2-Dichlorobenzene	UGL	0	00.0	3	0	0	12	0.5 U	0.5 U	
1,2-Dichloroethane	UG/L	0	0%	0.6	0	0	12	0.5 U	0.5 U	
1,2-Dichloropropane	UG/L	0	0"6	1	0	0	12	0.5 U	0.5 U	
1.3,5-Trunethylbenzene	UG/L	0	0°°	5	0	0	12	0.5 U	0.5 U	
1,3-Dichlorobenzene	UG.L	0	0%	3	0	0	12	0.5 U	0.5 U	
1,3-Dichlotopropane	UG-L	0	00.0	5	0	0	12	0.5 U	0.5 U	
1,4-Dichlorobenzene	UG/L	0	000	3	0	D	12	0.5 U	0.5 U	
2,2-Dichloropropane	UG L	0	00.0		0	0	12	0.5 U	0.5 U	
2-C'hlorotoluene	UG-L	0	00.0	5	0	0	12	0.5 U	0.5 U	
2-Nitropropane	UG/L	0	On, p		0	0	12	25 U	25 UJ	
Acetone	UG/L	0	0%		0	0	12	5 U	5 U	
Acrylonitiile	UG:L	0	000	5	0	0	12	0.5 U	0.5 U	
Allyl chloride	UG.L	0	0%	5	0	0	12	0.5 U	0.5 U	
Benzene	UG.L	0	0%	l.	0	0	12	0.5 U	0.5 U	
Bromobenzene	UG:L	0	O <sup>13</sup> -a	5	0	0	12	0.5 U	0.5 U	
Bromochloromethane	UG/L	0	00.0	5	0	0	12	0.5 U	0.5 U	
Bromodichloromethane	UG/L	0	0%	80	0	0	12	0.5 U	0.5 U	
Bromoform	UG'L	0	00/9	80	0	0	12	0.5 U	0.5 U	
Butyl chloride	UG. L	0	Ou n	5	0	0	12	0.5 U	0.5 U	
Carbon disulfide	UG/L	0	0, 0		0	0	12	0.5 U	0.5 U	
Carbon tetrachloride	UG, L	0	0.0	5	0	0	12	0.5 U	0.5 U	
Chloroacetonitrile	UG/L	0	0.0		0	0	12	25 U	25 U	
Chlorobenzene	UG/L	0	0%	5	0	0	12	0.5 U	0.5 U	
Chlorodibromomethane	UG/L	0	00.0	80	0	0	12	0.5 U	0.5 U	
Chloroethane	UG:L	G	0%	5	0	()	12	0.5 U	0.5 U	
Chloroform	UG-L	0	Oa o	7	0	0	12	0.5 U	0.5 U	
Cis-1,2-Dichloroethene	UG/L	0	000	5	0	0	12	0.5 U	0.5 U	
Cis-1,3-Dichloropropene	UG/L	0	Oo.a	0.4	0	0	12	0.5 U	0.5 U	
Dichlor odifluor omethane	UG, L	0	000	5	0	0	12	0.5 U	0.5 U	
Dichloromethyl methyl ketone	UG/L	0	0%		0	0	11	25 U	25 UR	
Ethyl benzene	UG/L	0	0.5	5	0	0	12	0.5 U	0.5 U	
Ethyl ether	UG, L	0	000		0	0	12	0.5 U	0.5 U	
Ethyl methaciylate	UG-L	0	0%		0	0	12	0.5 U	0.5 U	
Hexachlorobutadiene	UG·L	0	$0_{o'o}$	0.5	0	C	12	0.5 U	0.5 U	
Hexachloroethane	UG/L	0	Oo. a	5	0	0	12	0.5 U	0.5 U	
lsopi opylbenzene	UG/L	0	00.0	5	0	0	12	0.5 U	0.5 U	
Meta Para Xylene	UG/L	0	0,0		0	0	12	0.5 U	0.5 U	
Methacrylonitrile	UG-L	0	Oa 0	5	0	0	12	0.5 U	0.5 U	
Methyl 2-propenoate	UG. L	0	00.0		0	0	12	0.5 U	0.5 U	
Methyl Tertbutyl Ether	UG·L	0	0.0		0	0	12	0.5 U	0.5 U	
Methyl bromide	UG/L	0	Oo. a	5	0	0	12	0.5 U	0.5 U	
Methyl butyl ketone	UG/L	0	00,0		0	0	12	2.5 U	2.5 U	
Methyl chloride	UG L	0	Ou.o	5	0	0	12	0.5 U	0.5 U	
Methyl ethyl ketone	UG-L	0	0.00		0	0	12	3 U	5 U	
Methyl todide	UG/L	0	0,0	5	0	0	12	0.5 U	0.5 U	

SEAD-46 SEAD-46 MW46-6 MW46-6 GW GW 462001 462105 13 13 13 13 1/22/2000 4/26/2000

								SA	SA	
			Frequency		Number	Number	Number	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	
		Maximum	of	Criteria	of	of Times	of Samples	1	2	
Parameter	Units	Value	Detection	Level	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	
Methyl isobutyl ketone	UG/L	0	0%	20101	0	0	12	2.5 U	2,5 U	
Methyl methacrylate	UG/L	0	0%	50	0	0	12	0.5 U	0.5 U	
Methylene bromide	UG/L	0	0%	5	0	0	12	0.5 U	0.5 U	
Methylene chloride	UG/L	0	0%	5	0	0	12	0.5 U	0.5 U	
Naphthalene	UG/L	o	0%	-	0	0	12	0.5 U	0.5 U	
Nitrobenzene	UG/L	0	0%	0.4	0	0	12	25 UJ	25 U	
Ortho Xylene	UG/L	0	0%	5	0	o	12	0.5 U	0.5 U	
Pentachloroethane	UG/L	0	0%	5	0	0	6	0.5 UJ	2 UR	
Propionitrile	UG/L	0	0%	,	0	0	12	25 U	25 U	
Propylbenzene	UG/L	0	0%	5	0	0	12	0.5 U	0.5 U	
Styrene	UG/L	0	0%	5	0	0	12	0.5 U	0.5 U	
Tetrachloroethene	UG/L	0	0%	5	0	0	12			
Tetrahydrofuran	UG/L	0	0%	3	0	0		0.5 U	0.5 U	
Toluene	UG/L	0	0%	5	0	_	12	2.5 U	2.5 U	
		0			0	0	12	0.5 U	0.5 U	
Total Xylenes	UG/L		0%	5	-	_	12	0.5 U	0.5 U	
Trans-1,2-Dichloroethene	UG/L	0	0%	5	0	0	12	0.5 U	0.5 U	
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	12	0.5 U	0.5 U	
Trans-1,4-Dichloro-2-butene	UG/L		0%		0	0	12	0.5 U	0.5 U	
Trichloroethene	UG/L	0	0%	5	0	0	12	0.5 U	0.5 U	
Trichlorofluoromethane	UG/L	0	0%	5	0	0	12	0.5 U	0.5 U	
Vinyl chloride	UG/L	0	0%	2	0	0	12	0.5 U	0.5 U	
n-Butylbenzene	UG/L	0	0%	5	0	0	12	0.5 U	0.5 U	
p-Chlorotoluene	UG/L	0	0%	5	0	0	12	0.5 U	0,5 U	
p-Isopropyltoluene	UG/L	0	0%	5	0	0	12	0.5 U	0.5 U	
sec-Butylbenzene	UG/L	0	0%	5	0	0	12	0.5 U	0.5 U	
tert-Butylbenzene	UG/L	0	0%	5	0	0	12	0.5 U	0.5 U	
Semivolatile Organic Compounds										
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	12	1 U	1.1 U	
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	12	1 U	1.1 U	
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	12	1 U	1.1 U	
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	12	1 U	1.1 U	
2,4,5-Trichlorophenol	UG/L	0	0%	1	0	0	12	2.6 U	2.7 U	
2,4,6-Trichlorophenol	UG/L	0	0%	1	0	0	12	1 U	1.1 U	
2,4-Dichlorophenol	UG/L	0	0%	5	0	0	12	1 U	1.1 U	
2,4-Dimethylphenol	UG/L	0	0%		0	0	12	1 U	1.1 U	
2,4-Dinitrophenol	UG/L	0	0%		0	0	12	2.6 UJ	2.7 U	
2,4-Dinitrotoluene	UG/L	0	0%	5	0	0	12	1 U	1.1 U	
2,6-Dinitrotoluene	UG/L	0	0%	5	0	0	12	1 U	1.1 U	
2-Chloronaphthalene	UG/L	0	0%		0	0	12	1 U	1.1 U	
2-Chlorophenol	UG/L	0	0%		0	0	12	1 U	1.1 U	
2-Methylnaphthalene	UG/L	0	0%		0	0	12	1 U	1.1 U	
2-Methylphenol	UG/L	0	0%		0	0	12	1 U	1.1 U	
2-Nitroaniline	UG/L	0	0%	5	0	0	12	2.6 U	2.7 U	
2-Nitrophenol	UG/L	0	0%	1	0	0	12	1 U	1.1 U	
3,3'-Dichlorobenzidine	UG/L	0	0%	5	0	0	6	1 U	1.1 UR	
3-Nitroaniline	UG/L	0	0%	5	0	0	12	2.6 UJ	2.7 UJ	
4,6-Dinitro-2-methylphenol	UG/L	0	0%	1	0	0	12	2.6 U	2.7 U	
4-Bromophenyl phenyl ether	UG/L	0	0%		0	0	12	1 U	1.1 U	
4-Chloro-3-methylphenol	UG/L	0	0%	1	0	0	12	1 U	1.1 U	
4-Chloroaniline	UG/L	0	0%	5	0	0	12	1 U	1.1 UJ	
4-Chlorophenyl phenyl ether	UG/L	0	0%		0	0	12	1 U	1.1 U	
4-Methylphenol	UG/L	0	0%		0	0	12	î U	1.1 U	
4-Nitroaniline	UG/L	0	0%	5	0	0	12	2.6 UJ	2.7 UJ	
4-Nitrophenol	UG/L	0	0%	1	0	0	12	2,6 U	2.7 U	
Acenaphthene	UG/L	0	0%	-	0	0	12	1 U	1.1 U	
Acenaphthylene	UG/L	0	0%		0	0	12	ı U	1.1 U	
Anthracene	UG/L	0	0%		0	0	12	1 U	1.1 U	
Benzo(a)anthracene	UG/L	0	0%		0	0	12	1 U	1.1 U	
Benzo(a)pyrene	UG/L	0	0%	0	0	0	12	1 U	1.1 U	
2-12-(2)/27-040	COL	•	070	•	· ·	v	12	1 0	1.1 0	

SEAD-46	SEAD-46
MW46-6	MW46-6
GW	GW
462105	462001
13	13
13	13
4/26/2000	1 22/2000

								1 22/2000	4/26/2000	
			_					SA	SA	
		Maximum	Frequency of	Criteria	Number of	Number of Times	Number	RI PHASE I STEP I	RI PHASE 1 STEP 1 2	
Parameter	Units	Value	Detection	Level	or Exceedances	Of Times Detected	of Samples Analyzed	Value (Q)	Value (Q)	
Benzo(b)fluoranthene	UG/L	0	0%	DETEL	0	0	12	1 U	I.I U	 
Benzo(ghi)perylene	UG-L	0	0°,′u		0	0	12	1 U	1.1 U	
Benzo(k)fluoranthene	UG/L	0	Oo. a		0	0	12	I U	1.1 U	
Bis(2-Chloroethoxy)inethane	UG/L	0	O <sup>q</sup> , á	5	0	0	12	1 U	I.I U	
Bis(2-Chloroethyl)ether	UG/L	0	00.0	1	0	0	12	1 U	1.1 U	
Bis(2-Chloroisopi opyl)ethei	UG/L	0	0%	5	0	0	12	1 U	1.1 U	
Bis(2-Ethylhexyl)phthalate	UG/L	0	(Jo. o	5	0	0	12	1 U	1.1 U	
Butylbenzylphthalate	UG/L	0.057	8%		0	1	12	1 U	1.1 U	
Carbazole	UG-L	0	00/0		0	0	12	1 U	1.1 UJ	
Chrysene	UG/L	0	0%		0	0	12	1 U	1.1 U	
Di-n-butylphthalate	UG/L	0	0%	50	0	0	12	1 U	1.1 U	
Di-n-octylphthalate	UG/L	0	0%	2.0	0	0	12	1 0	1.1 U	
Dibenz(a,h)anthracene	UG, L	0	00.0		o o	0	12	iυ	1.1 U	
Dibenzofuran	UG/L	0	040		0	0	12	1 U	1.1 U	
Diethyl phthalate	UG/L	0	00,0		0	0	12	1 U	1.1 U	
Dimethylphthalate	UG/L	0	On.0		0	0	12	1 U	1.1 U	
Fluoranthene	UG/L	0	0%		0	0	12	1 U		
Fluorene	UG.L	0	0%		0	U			ι.ι υ	
Hexachlorobenzene	UG/L	0	0%	0.04	0		12	1 U	1.1 U	
Hexachlorobutadiene						0	12	1 U	1.1 U	
	UG/L	0	0°6	0.5	0	0	12	1 U	1.1 U	
Hexachlorocyclopentadiene	UG/L	0	00,0	5	0	0	12	1 U	1.1 U	
Hexachloroethane	UG/L	0	0°6	5	0	0	12	ιυ	1.1 U	
Indeno(1,2,3-cd)pyrene	UG/L	0	00,6		0	0	12	ιυ	1.1 U	
Isophorone	UG/L	0	0.0		0	0	12	1 U	1.1 U	
N-Nitrosodiphenylamine	UG/L	0	0%6		0	0	12	1 U	1.1 U	
N-Nitrosodipropylamine	UG/L	0	0,00		0	0	12	1 U	1.1 U	
Naphthalene	UG/L	0	00.0		0	0	12	1 U	1.1 U	
Nitrobenzene	UG:L	0	00.6	0.4	0	0	12	1 U	l.1 U	
Pentachlor ophenol	UG:L	0	0%	1	0	0	12	2.6 U	2.7 U	
Phenanthrene	UG/L	0	0.0		0	0	12	1 U	1.1 U	
Phenol	UG/L	0	0°6	1	Ð	0	12	1 U	1.1 U	
Pyrene	UG/L	0	0%		0	0	12	1 U	1.1 U	
Explosives										
1,3,5-Trimtrobenzene	UG/L	0	000	5	0	0	12	0.25 U	0.25 U	
1,3-Dinitiobenzene	UG/L	0	0%	5	0	0	12	0.25 U	0.25 U	
2,4,6-Trinstrotoluene	UGL	0	0%	5	0	0	12	0.25 U	0.25 U	
2,4-Dinitrotoluene	UG/L	0	0%	5	0	0	12	0.25 U	0.25 U	
2,6-Dinitrotoluene	UG/L	0	0%	5	0	0	12	0.25 U	0.25 U	
2-Nitrotoluene	UG/L	0	0%	5	0	0	12	0.25 U	0.25 U	
2-amino-4,6-Dinstrotoluene	UG/L	0	0.0	2	0	0	12			
3-Niti otoluene	UG/L	0	0° a	5	0	0	12	0.25 U	0.25 U	
				5				0.25 U	0.25 U	
4-Nitrotoluene	UG/L	0	0%	5	0	0	12	0.25 U	0.25 U	
4-amino-2,6-Diniti otoluene	UG/L	0	0%		0	0	12	0.25 U	0.25 U	
HMX	UG/L	0	0%		0	0	12	0.25 U	0.25 U	
Nitrobenzene	UG/L	0	0%	0.4	0	0	12	0.25 U	0.25 U	
RDX	UG/L	0	04.0		0	0	12	0.25 U	0.25 U	
Tetryl	UG/L	0	0%		0	0	12	0.25 U	0.25 U	
Pesticides and PCBs										
4.4'-DDD	UG/L	0	0%	0.3	0	0	12	0.01 U	0.01 U	
4,4'-DDE	UG·L	0	00.0	0.2	0	0	12	0.01 U	0.01 U	
4.4'-DDT	UG·L	0	0°.6	0.2	0	0	12	0.01 U	0.01 U	
Aldrin	UG/L	0	Ou .	0	0	0	12	0.0052 U	0.0053 U	
Alpha-BHC	UG/L	0	0.0	0.01	0	0	12	0.0052 (/	0.0053 U	
Alpha-Chlordane	UG/L	0	0°%		0	0	12	0.0052 U	0.0053 U	
Aroclor-1016	UG, L	0	0%	0.09	0	0	12	0.1 U	0.1 U	
Aroclor-1221	UG/L	0	0%	0.09	0	0	12	0.21 U	0.21 U	
Aroclor-1232	UG/L	0	0.0	0.09	0	0	12	0.1 U	0.1 U	
Aroclor-1242	UG/L	0	0.0	0.09	0	0	12	0.1 U	0.1 U	
Atoclor-1248	UG/L	n	0°a	0.09	0	0	12	0.1 U	0.1 U	
	JUL	U	V 0	0.07	0	U	1.2	0.1 0	0.1 0	

SEAD-46 MW46-6

SEAD-46 MW46-6

								GW	GW	
								462001	462105	
								13	13	
								13	13	
								1/22/2000	4/26/2000	
								1/22/2000 SA	\$A	
			Frequency		Number	Number	Number	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	
		Maximum	of	Criteria	of	of Times	of Samples	1	2	
Parameter	Units	Value	Detection	Level	Exceedances	Detected	Analyzed	Value (Q)	Value (O)	
Aroclor-1254	UG/L	0	0%	0.09	0	0	12	0.1 U	0.1 U	
Aroclor-1260	UG/L	0	0%	0.09	0	0	12	0.1 U	0.1 U	
Beta-BHC	UG/L	0	0%	0.09	0	0	12	0.0052 U	0.1 U 0.0053 U	
Delta-BHC	UG/L	0	0%	0.04	0	0	12	0.0052 U	0.0053 U	
						0				
Dieldrin	UG/L	0	0%	0.004	0		12	0.01 U	0.01 U	
indosulfan I	UG/L	0	0%		0	0	12	0.0052 U	0.0053 U	
endosulfan II	UG/L	0	0%		0	0	12	0.01 U	0.01 U	
ndosulfan sulfate	UG/L	0	0%		0	0	12	0.01 U	0.01 U	
ndrin	UG/L	0	0%	0	0	0	12	0.01 U	0.01 U	
ndrin aldehyde	UG/L	0	0%	5	0	0	12	0,01 U	0.01 U	
ndrin ketone	UG/L	0	0%	5	0	0	12	0.01 U	0.01 U	
amma-BHC/Lindane	UG/L	0	0%	0.05	0	0	12	0.0052 U	0.0053 U	
amma-Chlordane	UG/L	0	0%		0	0	12	0.0052 U	0.0053 U	
Ieptachlor	UG/L	0	0%	0.04	0	0	12	0.0052 U	0.0053 U	
leptachlor epoxide	UG/L	0	0%	0.03	0	0	12	0.0052 U	0.0053 U	
lexachlorobenzene	UG/L	0	0%	0.04	0	0	12	0.01 U	0.01 U	
fethoxychlor	UG/L	0	0%	35	0	0	12	0.052 U	0.053 U	
oxaphene	UG/L	0	0%	0.06	ō	o	12	0.52 U	0.53 U	
detals	COL	•	0,0	0.00	•	•		0.02 0	0.03	
luminum	UG/L	500	100%		0	12	12	341	86.2 J	
	UG/L	5.5	8%	3	1	1	12	5.4 U	4.6 U	
ntimony			25%	10	0	3	12			
rsenic	UG/L	4			0	12	12	2.7 J 42.6 J	2.5 U 40,6 J	
Sarium	UG/L	79.5	100%	1000	-					
Beryllium	UG/L	0	0%	4	0	0	12	0.6 U	0.3 U	
admium	UG/L	0	0%	5	0	0	12	0.8 U	0.3 U	
alcium	UG/L	98400	100%		0	12	12	82200	81000 J	
Chromium	UG/L	2.5	50%	50	0	6	12	1.9 J	2.2 U	
obalt	UG/L	0	0%		0	0	12	3.5 U	3 U	
оррег	UG/L	7	8%	200	0	1	12	7 3	2.1 U	
yanide	UG/L	0	0%		0	0	12	10 U	10 U	
on	UG/L	568	100%	300	4	12	12	337	88.9 J	
on+Manganese	UG/L	641.4	100%	500	2	12	12	350.6 J	93 J	
ead	UG/L	0	0%	15	0	0	12	1 U	2.3 U	
fagnesium	UG/L	24600	100%		0	12	12	15200	14500	
langanese	UG/L	104	100%	300	0	12	12	13.6 J	4.1 J	
fercury	UG/L	0	0%	0.7	0	0	12	0.1 U	0.1 U	
lickel	UG/L	0	0%	100	0	0	12	4,2 U	2,9 U	
otassium	UG/L	5890	100%		0	12	12	1070 J	729 J	
elepium	UG/L	2.4	8%	10	0	1	12	2.2 U	4 U	
ilver	UG/L	2.2	17%	50	0	2	12	1 U	2.2 J	
odium	UG/L	4980	100%	20000	0	12	12	1890 J	784 J	
hallium	UG/L	4	8%	2	1	1	12	4 J	3.9 U	
anadium	UG/L	3.7	17%	4	0	2	12	2.8 U	2.9 U	
	UG/L				0	8	12	3.9 J	2.9 U	
Cinc	UG/L	3.9	67%		U	0	12	٦٠٥ ل	1.3 0	
Other Analytes	1407	0	2224				,		0	
COD	MG/L	8	33%	10000	0	2	6	0.10	8	
Vitrate/Nitrite Nitrogen	MG/L	0.25	100%	10000	0	12	12	0.19	0.16	
Total Dissolved Solids	MG/L	364	100%		0	6	6		273	
Total Hardness-CaCO3	MG/L	290	100%		0	6	6		250	

<sup>(1)</sup> GA = NYSDEC Class GA Groundwater Standard (TOGS 1.1.1, June 1998)

MCL = Maximum Contaminant Level - Drinking Water Standards and Health Advisory (EPA 822-B-00-001)

(2) Shading indicates a concentration above the groundwater standard.

U = compound was not detected

J = the reported value is an estimated concentration
R = the analytical result was rejected during data validation.

## TABLE 3A OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN IN SEAD-46 SOIL SENECA ARMY DEPOT ACTIVITY

Scenario Time frame: Cuurent/Future

Medium: Soil

Exposure Medium: Soil

Exposure Point: SEAD-46

CAS Number	Chemical	Minimum Detected Concentration <sup>1</sup> (mg/kg)	Q	Maximum Detected Concentration 1 (mg/kg)	Q	Location of Maximum Concentration		tection		Lin	Reporting nits <sup>1</sup> g/kg)	Concentration Used for Screening <sup>2</sup> (mg/kg)	Background Value <sup>3</sup> (mg/kg)	Screening Value <sup>4</sup> (mg/kg)	Potential ARAR/TBC Source	ARAR / TBC Value <sup>5</sup> (mg/kg)	COPC Flag	Rationale for Contaminant Deletion or Selection <sup>6</sup>
OC																		
67-64-1	Acetone	0.027	J		J	SS46-22	30		30	0	- 0	0.41		6100	NYSDEC Subpart 375-6	0.05	NO	BSL
71-43-2	Benzene	0.001	J		-	BE46-6	7	_	30	0.009	- 0.018	0.012		1.1	NYSDEC Subpart 375-6	0.06	NO	BSL
75-15-0	Carbon disulfide	0.002	J		1	SS46-19	12	/	31	0.009	- 0.018	0.02		67			NO	BSL
	Ethyl benzene	0.001	J		J	BE46-6	1	/	29	0.009	- 0.018	0.001		5.7	NYSDEC Subpart 375-6	1	NO	BSL
78-93-3	Methyl ethyl ketone	0.009	1			SS46-2	23	/	30	0.009	- 0.012	0.048		2800	NYSDEC Subpart 375-6	0.12	NO	BSL
	Toluene	0.002	J		J	SW/SD46-2	28		31	0.009	- 0.01	0.013		500	NYSDEC Subpart 375-6	0.7	NO	BSL
	Total Xylenes	0.001	J	0.007	J	BE46-6	7	/	30	0.009	- 0.018	0.007		60	NYSDEC Subpart 375-6	0.26	NO	BSL
VOC	0.4 m/ / /	0.10	-	0.40		22112		-	21	0.074	0.10	0.10					NO	DCI
	2,6-Dinitrotoluene	0.13	J		J	SS46-2	1		31	0.074	- 0.13	0.13		6.1	VIII CONTROL OF THE C	0.00	NO	BSL
	4-Methylphenol	0.0062	J		J	SS46-2	2		31	0.074	- 0.13	0.013		31	NYSDEC Subpart 375-6	0.33	NO	BSL
	Benzo(a)anthracene	0.0033	J		J	SS46-15	7	_	31	0.074	- 0.45	0.034		0.15	NYSDEC Subpart 375-6	A	NO	CSG
	Benzo(a)pyrene	0.0059	J		J	SS46-15	14		31	0.019	- 0.45	0.03		0.015	NYSDEC Subpart 375-6	1	YES	ASL
	Benzo(b)fluoranthene	0.0055	J		J	SS46-15	15		31	0.074	- 0.45 - 0.45	0.047		0.15	NYSDEC Subpart 375-6	100	NO	CSG NSV
	Benzo(ghi)perylene	0.017	J		J	SS46-15		<u> </u>	31		- 0.45	0.017		1.5	NYSDEC Subpart 375-6 NYSDEC Subpart 375-6	0.8	NO	CSG
	Benzo(k)fluoranthene	0.0044	1		J	SS46-15 SS46-11	3	/	31	0.074	- 0.45	0.033		35	NYSDEC Subpart 3/5-6	0.8	NO	BSL
	Bis(2-Ethylhexyl)phthalate	0.028	7		J		10	1	31	0.032	- 0.45	0.78		15	NIVEDEC Submert 275 6	1	NO	CSG
	Chrysene	0.0057	J		J	SS46-15 SS46-2	6	/	31	0.074	- 0.13	1.1		610	NYSDEC Subpart 375-6	1	NO	BSL
	Di-n-butylphthalate	0.0057	-		j	SS46-11	1	/	31	0.0036	- 0.13	0.011		4900			NO	BSL
	Diethyl phthalate	0.0062	J		J	SS46-11	16	1	31	0.0036	- 0.45	0.036		230	NYSDEC Subpart 375-6	100	NO	BSL
	Fluoranthene Hexachlorobenzene	0.0062	J		J	BE46-8	10	1	31	0.074	- 0.45	0.036		0,3	NYSDEC Subpart 375-6	0.33	NO	BSL
67-72-1	Hexachloroethane	0.0099	j		J	BE46-8	1	1	31	0.076	- 0.45	0.0099		35	N 13DEC Subpart 373-0	0.55	NO	BSL
67-72-1	Indeno(1,2,3-cd)pyrene	0.012	J		J	SS46-15	2	1	31	0.076	+ 0.45	0.019		35	NYSDEC Subpart 375-6	0.5	NO	CSG
	N-Nitrosodiphenylamine	0.012	J		J	SS46-2	2	7	31	0.074	- 0.13	0.059		99	N 1 Stelle Suopait 373-0	0.5	NO	BSL
91-20-3	Naphthalene	0.0035	J		J	SS46-15	1	1	31	0.074	- 0.45	0.0035		3.9	NYSDEC Subpart 375-6	12	NO	BSL
85-01-8	Phenanthrene	0.0049	J		J	SS46-13	14	_	31	0.074	- 0.45	0.0251		0.7	NYSDEC Subpart 375-6	100	110	NSV
108-95-2		0.0042	J		J	SW/SD46-4	10	7	31	0.074	- 0.45	0.033		1800	NYSDEC Subpart 375-6	0.33	NO	BSL
129-00-0		0.005	J		J	SS46-15	17	1	31	0.076	- 0.45	0.032		170	NYSDEC Subpart 375-6	100	NO	BSL
Pesticides/		0.000	-	0.002					-									
	4,4'-DDD	0.012		0.012		SS46-18	1	1	31	0.0037	- 0.0056	0.012		2	NYSDEC Subpart 375-6	0.0033	NO	BSL
	4,4'-DDE	0.0018	J		J	SS46-7	3	1	31	0.0037	- 0.0056	0.0037		1.4	NYSDEC Subpart 375-6	0.0033	NO	BSL
	Alpha-Chlordane	0.0015	J			SS46-1	2	1	31	0.0013	- 0.0028	0.0035		1.6	NYSDEC Subpart 375-6	0.094	NO	BSL
60-57-1		0.003	J		J	SS46-11	10	1	31	0.0037	- 0.0054	0.046		0.03	NYSDEC Subpart 375-6	0.04	YES	ASL
	Endosulfan I	0.0058	J	0.0058	3	SS46-7	1	1	31	0.0019	- 0.0029	0.0058		37	NYSDEC Subpart 375-6	2.4	NO	BSL
	Endosulfan II	0.0023	J	0.0023	J	SS46-7	1	1	31	0.0037	- 0.0056	0.0023		37	NYSDEC Subpart 375-6	2.4	NO	BSL
72-20-8	Endrin	0.0024	J	0.0051	J	SS46-7	3	1	31	0.0037	- 0.0056	0.0051		1.8	NYSDEC Subpart 375-6	0.014	NO	BSL
3494-70-5	Endrin ketone	0.0031	J	0.0031	J	SS46-7	1	1	31	0.0037	- 0.0056	0.0031						NSV
2789-03-0	6 Gamma-Chlordane	0.0019	J	0.0019	J	SS46-21	1	1	31	0.0019	- 0.0029	0.0019		1.6	NYSDEC Subpart 375-6	0.094	NO	BSL
Aetals																		
7429-90-5	Aluminum	8890		16500		SW/SD46-3	31		31	0	- 0	16500	20,500	7700			YES	ASL
	Antimony	0.51	J		J	SW/SD46-1	4	_	18	0.42	- 0.57	0.73	6.55	3.1			NO	BSL
7440-38-2	Arsenic	2.9		7.9		SS46-21	31		31	0	- 0	7.9	21.5	0.39	NYSDEC Subpart 375-6	13	YES	ASL
7440-39-3	Barium	20.5	3			SW/SD46-2	31	1	31	0	- 0	152	159	1500	NYSDEC Subpart 375-6	350	NO	BSL
	Beryllium	0.31	J			SS46-24	31	1	31	0	- 0	1.2	1.4	16	NYSDEC Subpart 375-6	7.2	NO	BSL
	Cadmium	0.09	J		J	SS46-15	1	1	31	0.03	- 0.09	0.09	2.9	7	NYSDEC Subpart 375-6	2.5	NO	BSL
	Calcium	2520	J		J	SW/SD46-3	31	1	31	0	- 0	69300	293,000				1	NUT
	Chromium	12.2	J		J	SS46-19	31	/	31	0	- 0	26.3	32.7	280	NYSDEC Subpart 375-6	30	NO	BSL
7440-48-4		6.1	J			SW/SD46-3	31	/	31	0	- 0	20	29.1	2.3			YES	ASL
7440-50-8	Copper	14.2		41.15	J	SS46-13	31	/	31	0	- 0	41.15	62.8	310	NYSDEC Subpart 375-6	50	NO	BSL

## TABLE 3A OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN IN SEAD-46 SOIL SENECA ARMY DEPOT ACTIVITY

Scenario Time frame:	Cuurent/Future
Medium:	Soil
Exposure Medium:	Soil
Exposure Point:	SEAD-46

CAS Chemical Number	Minimum Detected Concentration <sup>1</sup> (mg/kg)	Q	Maximum Detected Concentration <sup>1</sup> (mg/kg)	Q	Location of Maximum Concentration			tion ency 1		of R Limi (mg/		Concentration Used for Screening <sup>2</sup> (mg/kg)	Background Value <sup>3</sup> (mg/kg)	Screening Value <sup>4</sup> (mg/kg)	Potential ARAR/TBC Source	ARAR / TBC Value <sup>5</sup> (mg/kg)	COPC Flag	Rationale for Contaminant Deletion or Selection <sup>6</sup>
7439-89-6 Iron	17900		39100	J	SW/SD46-3	31	1	31	0	-	0	39100	381,600	5500			YES	ASL
7439-92-1 Lead	10.7	J	73	J	SS46-4	31	1	31	0	-	0	73	266	40	NYSDEC Subpart 375-6	63	YES	ASL
7439-95-4 Magnesium	2850		12800		BE46-4	31	1	31	0	-	0	12800	29,100					NSV
7439-96-5 Manganese	245	J	1170	J	SS46-21	30	1	31	0.11	- 5	0.11	1170	2,380	180	NYSDEC Subpart 375-6	1600	YES	ASL
7439-97-6 Mercury	0.07	J	0.17	J	SS46-16	25	1	31	0.05	-	0.08	0.17	0.13	0.43	NYSDEC Subpart 375-6	0.18	NO	BSL
7440-02-0 Nickel	18	J	47.4	J	SW/SD46-3	31	1/	31	0	-	0	47.4	62.3	150	NYSDEC Subpart 375-6	30	NO	BSL
7440-09-7 Potassium	817	J	1770		SS46-6	31	7	31	0	-	0	1770	3,160					NUT
7782-49-2 Selenium	0.57	J	0.81	J	SS46-17	2	7	31	0.41	T-	0.76	0.81	1.7	39	NYSDEC Subpart 375-6	3.9	NO	BSL
7440-22-4 Silver	0.3175	J	0.3175	J	SS46-13	1	1	31	0.21	-	0.6	0.3175	0.87	39	NYSDEC Subpart 375-6	2	NO	BSL
122-34-9 Sodium	64.8	J	272	J	BE46-6	14	1	31	52.6	-	140	272	269	4			YES	NUT
7440-28-0 Thallium	0.91	J	3.7		SW/SD46-3	30	1	31	0.82	-	0.82	3.7	1.2	0.51			YES	ASL
7440-62-2 Vanadium	12.5	J	29.3		SW/SD46-2	31	1	31	0	-	0	29.3	32.7	55			NO	BSL
7440-66-6 Zinc	51.1		115	j	SS46-24	31	17	31	0	-	0	115	126	2300	NYSDEC Subpart 375-6	109	NO	BSL
Other Analytes		T																
14797-55-8 Nitrate/Nitrite Nitrogen	0.01		2.2		BE46-7	25	1	26	0.01	-	0.01	2.2		13000			NO	BSL

#### Notes

- 1. Field duplicate pairs were averaged as a discrete sample. Laboratory duplicates were not included in the assessment. Range of reporting limits were presented for nondetects only.
- 2. The maximum detected concentration was used for screening.
- 3. Background value is the maximum Seneca background concentration.
- 4. EPA Regional Screening Levels for residential soil. On-line resources available at http://www.epa.gov/region09/superfund/prg/index.html. Last updated April 2009. Region 9 PRGs were derived based on Direct contact exposure (ingestion and dennal contact) and a target Cancer Risk of 1E-6 or a Target Hazard Quotient of 0.1.

Screening values for calcium, magnesium, potassium, and sodium were calculated based on an assumption of 200 mg/day soil ingestion and recommended dietary allowances and adequate intakes for 1-3 yr children

(500 mg/day and 80 mg/day for calcium and magnesium) and minimum requirements for 1 yr children (225 mg/day and 1000 mg/day for sodium and potassium) from Marilyn Wright (2001) Dietary Reference Intakes. PRG for total chromium (1:6 ratio Cr VI: Cr III) was used as screening value for chromium.

PRG for nickel (soluble salts) was used as screening value for nickel.

- 5. Potential ARAR/TBC values are from NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives, http://www.dec.state.ny.us/website/regs/subpart375\_6.html
- 6. Rationale codes Selection Reason: Above Screening Levels (ASL)

Chemicals in the Same Group were retained as COPC (CSG)

Deletion Reason: Essential Nutrient (NUT)
Below Screening Level (BSL)

No Screening Value (NSV)

Definitions: COPC = Chemical of Potential Concern

ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered

Q = Qualifier

J = Estimated Value

#### TABLE 3B

#### OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN IN SEAD-46 GROUNDWATER SENECA ARMY DEPOT ACTIVITY

Scenario Time frame: Current/Future Medium: Groundwater Groundwater Exposure Medium: Exposure Point: Aquifer -- Tap Water

CAS Number	Chemical	Minimum Detected Concentration (ug/L)	Q	Maximum Detected Concentration 1 (ug/L)	Q	Location of Maximum Concentration		Detection requency	Re <sub>I</sub>	nge o portin mits <sup>1</sup>	ıg I	Concentration Used for Screening <sup>2</sup> (ug/L)	Background Value <sup>3</sup> (ug/L)	Screening Value <sup>4</sup> (ug/L)	Potential ARAR /TBC Value (ug/L)	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection 5
SVOC		T					+	TT	+									
85-68-7	Butylbenzylphthalate	0.057	J	0.057	J	MW46-1		1 / 12	1	-	1.1	0.057		35			NO	BSL
Metals																		
7429-90-5	Aluminum	73.9	J	500		MW46-3	1.	2 / 12	0	-	0	500	2,730	37,000			NO	BSL
7440-36-0	Antimony	5.5	J	5.5	J	MW46-1		1 / 12	4.6	-	5.4	6	8	15	3	GA	NO	BSL
7440-38-2	Arsenic	2.6	J	4	J	MW46-5		3 / 12	2.4	-	2.5	4	2	0.05	10	MCL	YES	ASL
7440-39-3	Barium	37.8	J	79.5	J	MW46-1	1.	2 / 12	0	-	0	80	78.2	7,300	1,000	GA	NΩ	BSL
7440-70-2	Calcium	77900	J	98400		MW46-5	1:	2 / 12	0	-	0	98,400	116,000				YES	NUT
7440-47-3	Chromium	1.1	J	2.5	J	MW46-3		6 / 12	2.2	-	2.2	3	4.7		50	GA	NO	NSV
7440-50-8	Copper	7	J	7	J	MW46-6		1 / 12	1.6	-	2.1	7	3.3	1,500	200	GA	NO	BSL
7439-89-6	Iron	88.9	J	568	J	MW46-3	1:	2 / 12	0	-	0	568	4,480	26,000	300	GA	NO	BSL
	Iron+Manganese	93	J	641.4	J	MW46-3	1.	2 / 12	0	-	0	641			500	GA	YES	NA
7439-95-4	Magnesium	14500		24600		MW46-1	1	2 / 12	0	-	0	24,600	28,600				YES	NSV
7439-96-5	Manganese	4.1	J	104		MW46-1	1	2 / 12	0	-	0	104	224	880			NΩ	BSL
'7440-09-7	Potassium	615	J	5890		MW46-1	1	2 / 12	0	-	0	5,890	3,830				YES	NUT
7782-49-2	Selenium	2.4	J	2.4	J	MW46-4		1 / 12	2.2	-	4	2	2	180	10	GA	NO	BSL
7440-22-4	Silver	2.1	J	2,2	J	MW46-6		2 / 12	1	-	1.9	2	1	180	50	GA	NO	BSL
122-34-9	Sodium	688	J	4980	J	MW46-1	1	2 / 12	0	-	0	4,980	14,600	1	20,000	GA	YES	NUT
7440-28-0	Thallium	4	J	4	J	MW46-6		1 / 12	3.6	-	3.9	4	2	2	2	MCL	YES	ASL
7440-62-2	Vanadium	3.5	J	3.7	J	MW46-2		2 / 12	2.8	-	2.9	3.7	5.2	260			NO	BSL
7440-66-6	Zinc	1.8	J	3.9	J	MW46-6		8 / 12	1.5	-	2.1	3.9	23.1	11,000			NO	BSL
Other Analytes																		
14797-55-8	Nitrate/Nitrite Nitrogen	20		250		MW46-5	1	2 / 12	0	-	0	250	23.1	58,000	10,000	GA	NO	BSL

- 1. Analytical results are from the 2000 RI sampling rounds.
- Laboratory duplicates were not included in the assessment. Range of reporting limits were presented for nondetects only.
- 2. The maximum detected concentration was used for screening.
- 3. Background values are average concentrations of background sample results.
- 4. EPA Regional Screening Levels for tap water. On-line resources available at

http://www.epa.gov/region09/superfund/prg/index.html. Last updated April 2009.

Target Cancer Risk = 1E-6; Target Hazard Quotient =0.1. Ingestion from drinking and inhalation of volatiles during showering are evaluated to derive the PRGs.

Screening values for calcium, magnesium, potassium, and sodium were calculated based on an assumption of 2L/day water intake

and recommended dietary allowances and adequate intakes for 1-3 yr children (500 mg/day and 80 mg/day for calcium and magnesium) and

minimum requirements for 2-5 yr children (1400 mg/day for potassium) from Marilyn Wright (2001) Dietary Reference Intakes.

For sodium, an upper limit intake of 2,400 mg/day (http://www.mealformation.com/dailyval.html) was used.

PRG for chromium (VI) was used as screening value for chromium.

5. Rationale codes Selection Reason: Above Screening Levels (ASL) No Screening Value (NSV) Deletion Reason: Essential Nutrient (NUT) Below Screening Level (BSL)

COPC = Chemical of Potential Concern Definitions:

ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered

MCL = Federal Maximum Contaminant Level

GA = New York State Class GA Groundwater Standard (TOGS 1.1.1, June 1998 with updates)

NA = Not Applicable

Q = Qualifier

J = Estimated Value

# TABLE 4A SURFACE SOIL EXPOSURE POINT CONCENTRATION SUMMARY FOR SEAD-46 SENECA ARMY DEPOT ACTIVITY

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Soil
Exposure Point:	SEAD-46

	Chemical	Units	Arithmetic	EPA ProUCL	Maximum	Q	EPC	Ro	casonable Maximum Exposure	c (2)
CAS#	of		Mean	Student-t 95th	Detected		Units	EPA ProUCL	Medium	Medium
	Potential		(1)	UCL Value	Concentration			Recommended	EPC	EPC
	Concern			(1, 2, 4)	(1)			UCL Value	Statistic	Rationale
56-55-3	Benzo(a)anthracene	mg/kg	0.010	0.017	0.034	J	mg/kg	0.017	95% KM Student-t	Non-parametric
50-32-8	Benzo(a)pyrene	mg/kg	0.010	0.013	0.030	J	mg/kg	0.013	95% KM Student-t	Non-parametric
205-99-2	Benzo(b)fluoranthene	mg/kg	0.012	0.018	0.047	J	mg/kg	0.018	95% KM Student-t	Non-parametric
191-24-2	Benzo(ghi)perylene	mg/kg	-(3)	-(3)	0.017	J	mg/kg	0.017	-	-
207-08-9	Benzo(k)fluoranthene	mg/kg	0.011	0.015	0.033	J	mg/kg	0.015	95% KM Student-t	Non-parametric
218-01-9	Chrysene	mg/kg	12.3	0.019	0.040	J	mg/kg	0.019	95% KM Student-t	Non-parametric
67-72-1	Indeno(1,2,3-cd)pyrene	mg/kg	-(3)	-(3)	0.019	J	mg/kg	0.019	95% KM Student-t 5	Non-parametric
85-01-8	Phenanthrene	mg/kg	0.008	0.011	0.025	J	mg/kg	0.011	95% KM Student-t	Non-parametric
60-57-1	Dicldrin	mg/kg	0.017	0.014	0.046	J	mg/kg	0.014	95% KM Student-t	Non-parametric
53494-70-5	Endrin ketone	mg/kg	-(3)	-(3)	0.003	J	mg/kg	0.003	-	-
7429-90-5	Aluminum	mg/kg	13507	14126	16,500		mg/kg	14126	95% Student's-t UCL	Normal
7440-38-2	Arsenic	mg/kg	5.1	5.5	7.90		mg/kg	5.547	95% Student's-t UCL	Normal
7440-48-4	Cobalt	mg/kg	11.1	12.2	20		mg/kg	12.150	95% Student's-t UCL	Normal
7439-89-6	Iron	mg/kg	25467	27,224	39,100	J	mg/kg	27224	95% Student's-t UCL	Normal
7439-92-1	Lead	mg/kg	29.3	33.9	73	J	mg/kg	33.910	95% Approximate Gamma	Gamma
7439-96-5	Manganese	mg/kg	595.7	670.8	1,170	J	mg/kg	670.8	95% KM Student-t	Non-parametric
7440-28-0	Thallium	mg/kg	1.9	2.1	3.70		mg/kg	2.114	95% KM (BCA) UCL	Non-parametric

#### Notes:

- 1. Field duplicates were not averaged and presented as discreet samples. Laboratory duplicates were not included in the assessment. Non-detectes were included in the dataset and 95% UCL analysis was performed as 'With ND' in ProUCL.
- 2. The EPCs were calculated using the ProUCL (Version 4.00.02) and the EPCs were selected in accordance with the ProUCL Version 4.0 User Guide (USEPA, 2004) and the Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites (USEPA, 2002).
  - Q qualifier
  - J = Estimated Value

KM = Kaplan-Meier statistical method

- 3. Insufficient number of detects in the dataset to perform 95th UCL analysis in ProUCL. This typical means there was a single detect in the dataset for this compound.
- 4. Bold values represent ProUCL recommende values that are greater than maximum detected value for a compound.
- 5. Insufficient number of detects in dataset to get meaningful results from ProUCL. Warning message from ProUCL regarding dataset:
- "This may not be adequate enough to compute meaningful and reliable test statistics and estimates."
- "The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods."

# TABLE 4B SUBFACE SOIL EXPOSURE POINT CONCENTRATION SUMMARY FOR SEAD-46 SENECA ARMY DEPOT ACTIVITY

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Soil
Exposure Point:	SEAD-46

	Chemical	Units	Arithmetic	EPA ProUCL	Maximum	Q	EPC	P	Reasonable Maximum Exposur	e (2)
CAS#	of		Mean	Student-t 95th	Detected		Units	EPA ProUCL	Medium	Medium
CAS#	Potential		(1)	UCL Value	Concentration			Recommended	EPC	EPC
	Concern			(1, 2, 4)	(1)			UCL Value	Statistic	Rationale
56-55-3	Benzo(a)anthracene	mg/kg	0.010	0.017	0.034	J	mg/kg	0.017	95% KM Student-t	Non-parametric
50-32-8	Benzo(a)pyrene	mg/kg	0.010	0.012	0.030	J	mg/kg	0.012	95% KM Student-t	Non-parametric
205-99-2	Benzo(b)fluoranthene	mg/kg	0.013	0.018	0.047	J	mg/kg	0.018	95% KM Student-t	Non-parametric
191-24-2	Benzo(ghi)perylene	mg/kg	-(3)	-(3)	0.017	J	mg/kg	0.017	-	-
207-08-9	Benzo(k)fluoranthene	mg/kg	0.011	0.015	0.033	J	mg/kg	0.015	95% KM Student-t	Non-parametric
218-01-9	Chrysene	mg/kg	0.012	0.019	0.040	J	mg/kg	0.019	95% KM Student-t	Non-parametric
67-72-1	Indeno(1,2,3-cd)pyrene	mg/kg	0.0155	0.021	0.019	J	mg/kg	0.021	95% KM Student-t 5	Non-parametric
85-01-8	Phenanthrene	mg/kg	0.008	0.010	25.100	J	mg/kg	0.010	95% KM Student-t	Non-parametric
60-57-1	Dieldrin	mg/kg	0.017	0.011	0.046	J	mg/kg	0.011	95% KM Student-t	Non-parametric
53494-70-5	Endrin ketone	mg/kg	-(3)	-(3)	0.003	J	mg/kg	0.003	-	-
7429-90-5	Aluminum	mg/kg	13125	13665	16,500		mg/kg	13665	95% Student's-t UCL	Normal
7440-38-2	Arsenic	mg/kg	4.9	5.3	7.90		mg/kg	5.285	95% Student's-t UCL	Normal
7440-48-4	Cobalt	mg/kg	10.9	11.7	20		mg/kg	12	95% Student's-t UCL	Normal
7439-89-6	Iron	mg/kg	25224	26,565	39,100	J	mg/kg	26565	95% Student's-t UCL	Normal
7439-92-1	Lead	mg/kg	26.9	31.1	73	J	mg/kg	31	95% Approximate Gamma	Gamma
7439-96-5	Manganese	mg/kg	590.0	646.4	1,170	J	mg/kg	646	95% KM Student-t	Non-parametric
7440-28-0	Thallium	mg/kg	1.9	2.1	3.70		mg/kg	2.059	95% KM (BCA) UCL	Non-parametric

#### Notes:

- Field duplicates were not averaged and presented as discreet samples. Laboratory duplicates were not included in the assessment.
   Non-detectes were included in the dataset and 95% UCL analysis was performed as 'With ND' in ProUCL.
- 2. The EPCs were calculated using the ProUCL (Version 4.00.02) and the EPCs were selected in accordance with the ProUCL Version 4.0 User Guide (USEPA, 2004) and the Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites (USEPA, 2002).

Q - qualifier

J = Estimated Value

KM = Kaplan-Meier statistical method

- 3. Insufficient number of detects in the dataset to perform 95th UCL analysis in ProUCL. This typical means there was a single detect in the dataset for this compound.
- 4. Bold values represent ProUCL recommened values that are greater than maximum detected value for a compound.
- 5. Insufficient number of detects in dataset to get meaningful results from ProUCL. Warning message from ProUCL regarding dataset:
- "This may not be adequate enough to compute meaningful and reliable test statistics and estimates."
- "The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods."

### **TABLE 4C**

## GROUNDWATER EXPOSURE POINT CONCENTRATION SUMMARY SEAD-46 SENECA ARMY DEPOT ACTIVITY

Scenario Timeframe:	Current/Future
Medium:	Groundwater
Exposure Medium:	Groundwater
Exposure Point:	AquiferTap Water

	Chemical	Units	Arithmetic	Maximum		Rea	sonable Maximum Exposi	are (2)
CACH	of		Mean	Detected	Q	Medium	Medium	Medium
CAS#	Potential			Concentration		EPC	EPC	EPC
	Concern			mg/L		Value (mg/L)	Statistic	Rationale
7440-38-2	Arsenic	mg/L	3.1E-03	0.004	J	0.004	MDC	See note
7440-28-0	Thallium	mg/L	4.0E-03	0.004	J	0.004	MDC	See note

#### Notes:

1. Laboratory duplicates were not included in the assessment.

Non-detectes were included in the dataset and 95% UCL analysis was performed as 'With ND' in ProUCL.

2. The maximum detected concentration was used as EPC for the RME scenario.

As residential use of groundwater has been based on the assumption that a single private well can be placed anywhere in the contaminated plume, the MDC across several rounds of monitoring was used as the EPC for groundwater as a conservative step for both the RME scenario.

EPC = Exposure Point Concentration

MDC = Maximum Detected Concentration

RME = Reasonable Maximum Exposure

 $3.\ In sufficient\ number\ of\ detects\ in\ dataset\ to\ get\ meaningful\ results\ from\ ProUCL.\ Warning\ message\ from\ ProUCL\ regarding\ dataset:$ 

"This may not be adequate enough to compute meaningful and reliable test statistics and estimates,"

"The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods."

#### **TABLE 4D**

### AMBIENT AIR EXPOSURE POINT CONCENTRATIONS FOR PARK WORKERS, VISITORS, & RESIDENTS AT SEAD-46 SENECA ARMY DEPOT ACTIVITY

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Air
Exposure Point:	SEAD-46

Equation for Air EPC from Surface Soil (mg/m³) =

CSsurf x PM10 x CF

Variables:

CSsurf = Chemical Concentration in Surface Soil, from EPC data (mg/kg)

PM10 = Average Measured PM10 Concentration = 43.02 ug/m<sup>3</sup>

CF = Conversion Factor = 1E-9 kg/ug

	Reasonable M	aximum Exposure
Amaluta	EPC Data for	Calculated Air EPC
Analyte	Surface Soil	Surface Soil
	(mg/kg)	(mg/m³)
Benzo(a)anthracene	1.7E-02	7.1E-10
Benzo(a)pyrene	1.3E-02	5.4E-10
Benzo(b)fluoranthene	1.8E-02	7.7E-10
Benzo(ghi)perylene	1.7E-02	7.3E-10
Benzo(k)fluoranthene	1.5E-02	6.4E-10
Chrysene	1.9E-02	8.0E-10
Indeno(1,2,3-cd)pyrene	1.9E-02	8.2E-10
Phenanthrene	1.1E-02	4.7E-10
Dieldrin	1.4E-02	6.1E-10
Endrin ketone	3.1E-03	1.3E-10
Aluminum	1.4E+04	6.1E-04
Arsenic	5.5E+00	2.4E-07
Cobalt	1.2E+01	5.2E-07
Iron	2.7E+04	1.2E-03
Lead	3.4E+01	1.5E-06
Manganese	6.7E+02	2.9E-05
Thallium	2.1E+00	9.1E-08

#### TABLE 4E

### AMBIENT AIR EXPOSURE POINT CONCENTRATIONS FOR CONSTRUCTION WORKER AT SEAD-46 SENECA ARMY DEPOT ACTIVITY

Scenario Timeframe: Current/Future

Medium: Soil
Exposure Medium: Air
Exposure Point: SEAD-46

Equation for Air EPC from Total Soils (mg/m³) = CStot x PM10 x CF

Variables

CStot = Chemical Concentration in Total Soils, from EPC data (mg/kg)
PM10 = PM10 Concentration Calculated for Construction Worker= 373 ug/m³
CF = Conversion Factor = 1E-9 kg/ug

	Reasonable Ma	ximum Exposure
Analyte	EPC Data for Surface and	Calculated Air EPC Surface
	Subsurface Soil	and Subsurface Soil
	(mg/kg)	(mg/m³)
Benzo(a)anthracene	1.7E-02	7.1E-10
Benzo(a)pyrene	1.2E-02	5.3E-10
Benzo(b)fluoranthene	1.8E-02	7.6E-10
Benzo(ghi)perylene	1.7E-02	7.3E-10
Benzo(k)fluoranthene	1.5E-02	6.5E-10
Chrysene	1.9E-02	8.0E-10
Indeno(1,2,3-cd)pyrene	2.1E-02	9.2E-10
Phenanthrene	1.0E-02	4.5E-10
Dieldrin	1.1E-02	4.9E-10
Endrin ketone	3.1E-03	1.3E-10
Aluminum	1.4E+04	5.9E-04
Arsenie	5.3E+00	2.3E-07
Cobalt	1.2E+01	5.0E-07
Iron	2.7E+04	1.1E-03
Lead	3.1E+01	1.3E-06
Manganese	6.5E+02	2.8E-05
Thallium	2.1E+00	8.9E-08

#### TABLE 4F

# CALCULATION OF AIR CONCENTRATION IN SHOWER FROM VOLATILIZATION OF GROUNDWATER (DAILY) REASONABLE MAXIMUM EXPOSURE (RME) SEAD-46 SENECA ARMY DEPOT ACTIVITY

Scenario Timeframe: Current/Future
Medium: Groundwater
Exposure Medium: Air
Exposure Point: SEAD-46

	Residential Adult	Residential Adult	Residential Child	Residential Child	Shower - Fw				RI	EASONABLE				
Analyte	Time of	EPC Air	Time of	EPC Air	Flow Rate of	EPC	Flow Rate of	Volume of	Henry Laws	Asymptotic	Rate	Efficiency	Efficiency of	Henry Laws
1 Alliany vo	Shower -Tevent		Shower -			Groundwater	in Shower-Fa	Bathroom-Vb	Constant-H	ConcCinf	Constant-	Release-E	Release for	Constant- H-TCE
	(min)	(mg/m³)	(min)	(mg/m³)	(L/min)	(mg/l)	(m³/min)	(m³)	(m³-atm/mol)	$(mg/m^3)$	(1/min)	(unitless)	TCE - E-TCE	(m³-atm/mol)
Arsenic	35	1.89E-02	60	1.89E-02	19	4.00E-03	2.4	12	9.85E-03	2.06E-02	0.20	6.49E-01	0.6	0.0091
Thallium	35	NA	60	NA	19	4.00E-03	2.4	12	NA					
		Concentration	in Air (mg/m³)	= Cinf[1+(1/(k))]	Ts)(exp(-kTs)-1)]		Variables:				Assumption	is:		

Concentration in Air (mg/m³) = Cinf[1+(1/(kTs)(exp(-kTs)-1)]

Asymptotic Air Conc. - Cinf (mg/m³) = [(E)(Fw)(EPCgw)]/Fa

CA = Chemical Concentration in Air (mg/m³)

EPC - Groundwater Data - RME

Pote Country Is (I/min) - Fo (I/h

Ts = Time of Shower (minutes)
Fw = Flow Rate of Shower (L/min)

35 and 60 minutes for adult and child, respectively

Rate Constant - k (l/min) = Fa/Vb

Fa = Flow Rate of Shower (L/min)
Fa = Flow Rate of Air in Shower (m<sup>3</sup>/min)

2.4 (Average Air Flow)
12 (Average Bathroom Volume)

Efficiency of Release - E (unitless) = (E-tce)(H)/(H-tce)

Vb = Volume of Bathroom (m<sup>3</sup>)

Note:

Henry's law constants not available for the inorganic COPC.

#### TABLE 5 CALCULATION OF INTAKE AND RISK FROM THE INGESTION OF SOIL REASONABLE MAXIMUM EXPOSURE (RME) SEAD-46 SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) =

EPC x IR x CF x FI x EF x ED x B

BW x AT

Variables (Assumptions for Each Receptor are Listed at the Bottom):
EPC = Exposure Point Concentration in Soil, mg/kg
EF

EF = Exposure Frequency

IR = Ingestion Rate

ED = Exposure Duration

CF = Conversion Factor

B = Bioavailability BW = Bodyweight

FI = Fraction Ingested

AT = Averaging Time

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Oral	Carc. Slope		EPC		Park V	Vorker			Constructi	on Worker		Re	ecreational	Child Visit	or
Analyte	RfD	Oral	Bioavailability	Surface Soil	Int	ake	Hazard	Cancer	Int	ake	Hazard	Cancer	Int	ake	Hazard	Cancer
1					(mg/k	g-day)	Quotient	Risk	(mg/kg	g-day)	Quotient	Risk	(mg/k	g-day)	Quotient	Risk
	(mg/kg-day)	(mg/kg-day)-1	(unitless)	(mg/kg)	(Nc)	(Car)			(Nc)	(Car)			(Nc)	(Car)		
Benzo(a)anthracene	N/A	7.3E-01	1	1.7E-02		4.07E-09		3E-09		7.67E-10		6E-10		6.07E-10		4E-10
Benzo(a)pyrene	N/A	7.3E+00	1	1.3E-02	1	3.07E-09		2E-08		5.80E-10		4E-09		4.59E-10		3E-09
Benzo(b)fluoranthene	N/A	7.3E-01	]	1.8E-02		4.40E-09		3E-09		8.29E-10		6E-10		6.57E-10		5E-10
Benzo(ghi)perylene	N/A	N/A	1 1	1.7E-02	i											
Benzo(k)fluoranthene	N/A	7.3E-02	1	1.5E-02	1	3.66E-09		3E-10		6.91E-10		5E-11		5.47E-10		4E-11
Chrysene	3.00E-04	7.3E-03	1	1.9E-02	1.28E-08	4.55E-09	4E-05	3E-11	6.01E-08	8.59E-10	2E-04	6E-12	9.52E-09	6.80E-10	3E-05	5E-12
Indeno(1,2,3-cd)pyrene	N/A	7.3E-01	1	1.9E-02		4.65E-09		3E-09		8.76E-10		6E-10		6.94E-10		5E-10
Phenanthrene	N/A	N/A	1	1.1E-02	I											
Dieldrin	5.00E-05	1.6E+01	1	1.4E-02	9.75E-09	3.48E-09	2E-04	6E-08	4.60E-08	6.57E-10	9E-04	1E-08	7.28E-09	5.20E-10	1E-04	8E-09
Endrin ketone	N/A	N/A	1	3.1E-03	1	1										
Aluminum	1.00E+00	N/A	1	1.4E+04	9.68E-03		1E-02		4.56E-02		5E-02		7.22E-03		7E-03	
Arsenic	3.00E-04	1.5E+00	1	5.5E+00	3.80E-06	1.36E-06	1E-02	2E-06	1.79E-05	2.56E-07	6E-02	4E-07	2.84E-06	2.03E-07	9E-03	3E-07
Cobalt	3.00E-04	N/A	1	1.2E+01	8.32E-06	1	3E-02		3.92E-05		1E-01		6.21E-06		2E-02	
Iron	3.00E-01	N/A	1	2.7E+04	1.86E-02		6E-02		8.79E-02		3E-01		1.39E-02		5E-02	
Lead	NA	N/A	1	3.4E+01		1										
Manganese	2.40E-02	N/A	1	6.7E+02	4.59E-04		2E-02		2.17E-03		9E-02		3.43E-04		1E-02	
Thallium	6.47E-04	N/A	1	2.1E+00	1.45E-06		2E-03		6.83E-06		1E-02		1.08E-06		2E-03	
Total Hazard Quotient	and Cancer	Risk:					1E-01	2E-06			6E-01	4E-07			1E-01	3E-07

	Assumptions for Park Worker	Ass	umptions for Construction Worker	Assur	mptions for Recreational Child Visitor
CF =	1E-06 kg/mg	CF =	1E-06 kg/mg	CF =	1E-06 kg/mg
EPC=	EPC Surface Only	EPC=	EPC Surface and Subsurface	EPC=	EPC Surface Only
BW ≃	70 kg	BW =	70 kg	BW =	15 kg
1R =	100 mg/day	IR =	330 mg/day	1R =	200 mg/day
F1 =	1 unitless	F1 =	1 unitless	F1 =	1 unitless
EF =	175 days/year	EF =	250 days/year	EF =	14 days/year
ED =	25 years	ED =	I years	ED =	5 years
AT (Nc) =	9,125 days	AT (Nc) =	365 days	AT (Nc) =	1,825 days
AT (Car) =	25,550 days	AT (Car) =	25,550 days	AT (Car) =	25,550 days

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

NA= Information not available.

#### TABLE 5 CALCULATION OF INTAKE AND RISK FROM THE INGESTION OF SOIL REASONABLE MAXIMUM EXPOSURE (RME) SEAD-46 SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) =

EPC x IR x CF x Fl x EF x ED x B

BW x AT

Variables (Assumptions for Each Receptor are Listed at the Bottom):

EPC = Exposure Point Concentration in Soil, mg/kg

EF = Exposure Frequency

IR = Ingestion Rate

ED = Exposure Duration

CF = Conversion Factor

B = Bioavailability BW = Bodyweight

FI = Fraction Ingested

AT = Averaging Time

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Oral	Carc. Slope		EPC		Resident	t (Adult)			Residen	t (Child)		Resident
Analyte	RfD	Oral	Bioavailability	Surface Soil		ake g-day)	Hazard Quotient	Cancer Risk		ake g-day)	Hazard Quotient	Cancer Risk	Total Lifetime
	(mg/kg-day)	(mg/kg-day)-1	(unitless)	(mg/kg)	(Nc)	(Car)			(Nc)	(Car)			Cancer Risk
Benzo(a)anthracene	N/A	7.3E-01	1	1.7E-02		7.81E-09		6E-09		1.82E-08		1E-08	2E-08
Benzo(a)pyrene	N/A	7.3E+00	1	1.3E-02		5.90E-09		4E-08		1.38E-08		1E-07	1E-07
Benzo(b)fluoranthene	N/A	7.3E-01	1	1.8E-02		8.44E-09		6E-09		1.97E-08		1E-08	2E-08
Benzo(ghi)perylene	N/A	N/A	1	1.7E-02									
Benzo(k)fluoranthene	N/A	7.3E-02	1	1.5E-02		7.03E-09		5E-10		1.64E-08		1E-09	2E-09
Chrysene	3.00E-04	7.3E-03	1 1	1.9E-02	2.55E-08	8.75E-09	9E-05	6E-11	2.38E-07	2.04E-08	8E-04	1E-10	2E-10
Indeno(1,2,3-cd)pyrene	N/A	7.3E-01	1	1.9E-02		8.92E-09		7E-09		2.08E-08		2E-08	2E-08
Phenanthrene	N/A	N/A	1	1.1E-02									
Dieldrin	5.00E-05	1.6E+01	1	1.4E-02	1.95E-08	6.69E-09	4E-04	1E-07	1.82E-07	1.56E-08	4E-03	2E-07	4E-07
Endrin ketone	N/A	N/A	1	3.1E-03									
Aluminum	1.00E+00	N/A	1	1.4E+04	1.94E-02		2E-02		1.81E-01		2E-01		
Arsenic	3.00E-04	1.5E+00	1	5.5E+00	7.60E-06	2.61E-06	3E-02	4E-06	7.09E-05	6.08E-06	2E-01	9E-06	1E-05
Cobalt	3.00E-04	N/A	1	1.2E+01	1.66E-05		6E-02		1.55E-04		5E-01		
Iron	3.00E-01	N/A	1	2.7E+04	3.73E-02		1E-01		3.48E-01		1E+00		
Lead	NA	N/A	1	3.4E+01									
Manganese	2.40E-02	N/A	1	6.7E+02	9.19E-04		4E-02		8.58E-03		4E-01		
Thallium	6.47E-04	N/A	1	2.1E+00	2.90E-06		4E-03		2.70E-05		4E-02		
Total Hazard Quotien	t and Cancer	Risk:					3E-01	4E-06			2E+00	1E-05	1E-05

As	sumptions for Resident (Adult)	Ass	sumptions for Resident (Child)
CF =	1E-06 kg/mg	CF =	1E-06 kg/mg
EPC=	EPC Surface Only	EPC=	EPC Surface Only
BW =	70 kg	BW =	15 kg
IR =	100 mg/day	IR =	200 mg/day
FI =	1 unitless	FI =	l unitless
EF =	350 days/year	EF =	350 days/year
ED =	24 years	ED =	6 years
AT (Nc) =	8,760 days	AT (Nc) =	2,190 days
AT (Car) =	25,550 days	AT (Car) =	25,550 days

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

NA= Information not available.

#### TABLE 6 CALCULATION OF INTAKE AND RISK FROM THE INTAKE OF GROUNDWATER REASONABLE MAXIMUM EXPOSURE (RME) SEAD-46 SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) =

EPC x IR x EF x ED

BWxAT

Variables (Assumptions for Each Receptor are Listed at the Bottom):

EPC = Exposure Point Concentration in Groundwater (mg/L)

ED=Exposure Duration BW=Bodyweight

EF = Exposure Frequency

IR = Intake Rate

AT=Averaging Time

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Oral	Carc. Slope	EPC		Park V	Worker		C	construct	ion Worke	er	Re	creation	al Child Vi	stor
Analyte	RfD	Oral	Groundwater	Int	ake	Hazard	Cancer	Inta	ke	Hazard	Cancer	Inta	ke	Hazard	Cancer
				(mg/k	g-day)	Quotient	Risk	(mg/kg	-day)	Quotient	Risk	(mg/kg	-day)	Quotient	Risk
	(mg/kg-day)	(mg/kg-day)-1	(mg/liter)	(Nc)	(Car)			(Nc)	(Car)			(Nc)	(Car)		
Arsenic	3.E-04	1.5E+00	0.004	2.7E-05	9.8E-06	9E-02	1E-05	3.9E-05	5.6E-07	1E-01	8E-07	1.5E-05	1.1E-06	5E-02	2E-06
Thallium	6.E-04	N/A	0.004	2.7E-05	9.8E-06	4E-02		3.9E-05	5.6E-07	6E-02		1.5E-05	1.1E-06	2E-02	
<b>Total Hazard Quotient</b>	and Cancer R	lisk:				1E-01	1E-05			2E-01	8E-07			7E-02	2E-06
				Ass	umptions fo	or Park Worl	ker	Assump	tions for C	Construction	Worker	Assumpti	ons for Re	creational C	hild Visito
				BW =	70	kg		BW =	70	kg		BW =	15	kg	
				IR =	1	liters/day		IR =	1	liters/day		1R =	1.5	liters/day	
				EF =	175	days/year		EF =	250	days/year		EF =	14	days/year	
				ED =	25	years		ED =	1	years		ED =	5	years	
				AT (Nc) =	9,125	days		AT (Nc) =	365	days		AT (Nc) =	1,825	days	
				AT (Car) =	25,550	days		AT (Car) =	25,550	days		AT (Car) =	25,550	days	

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

N/A= Information not available.

#### TABLE 6

#### CALCULATION OF INTAKE AND RISK FROM THE INTAKE OF GROUNDWATER REASONABLE MAXIMUM EXPOSURE (RME) SEAD-46 SENECA ARMY DEPOT ACTIVITY

EPC x IR x EF x ED Equation for Intake (mg/kg-day) = BWxAT Variables (Assumptions for Each Receptor are Listed at the Bottom): ED=Exposure Duration

EPC = Exposure Point Concentration in Groundwater (mg/L) IR = Intake Rate

BW=Bodyweight EF = Exposure Frequency AT=Averaging Time Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Oral	Carc. Slope	EPC		Resident	(Adult)			Residen	t (Child)		Resident
Analyte	RfD	Oral	Groundwater	Intake (mg/kg-day)		Hazard Quotient	Cancer Risk	Intake (mg/kg-day)		Hazard Quotient	Cancer Risk	Total Lifetime
	(mg/kg-day)	(mg/kg-day)-1	(mg/liter)	(Nc)	(Car)			(Nc)	(Car)			Cancer Risk
Arsenic	3.E-04	1.5E+00	0.004	1.1E-04	3.8E-05	4E-01	6E-05	3.8E-04	3.3E-05	1E+00	5E-05	1E-04
Thallium	6.E-04	N/A	0.004	1.1E-04	3.8E-05	2E-01		3.8E-04	3.3E-05	6E-01		
Total Hazard Quotie	ent and Cancer R	lisk:				5E-01	6E-05			2E+00	5E-05	1E-04

Assı	imptions for Resident Adult	Assumptions for Resident Child						
BW =	70 kg	BW =	15 kg					
IR =	2 liters/day	IR =	1.5 liters/day					
EF =	350 days/year	EF =	350 days/year					
ED =	24 years	ED =	6 years					
AT (Nc) =	8,760 days	AT (Nc) =	2,190 days					
AT (Car) =	25,550 days	AT (Car) =	25,550 days					

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

N/A= Information not available.

# TABLE 7 CALCULATION OF ABSORBED DOSE AND RISK FROM DERMAL CONTACT TO SOIL REASONABLE MAXIMUM EXPOSURE (RME) SEAD-46 SOIL SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) =

EPC x CF x SA x AF x ABS x EV x EF x ED

BWxAT

Variables (Assumptions for Each Receptor are Listed at the Bottom):

EPC = Chemical Concentration in Soil, mg/kg

CF = Conversion Factor

SA = Surface Area Contact

AF = Adherence Factor

ABS = Absorption Factor

EV = Event Frequency

EF = Exposure Frequency ED = Exposure Duration

BW = Bodyweight

AT = Averaging Time

Equation for Hazard Quotient = Chronic Daily Intake (Ne)/Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Dermal	Carc. Slope	Absorption	EPC	EPC from		Park V	Vorker			Constructi	on Worker		Re	creational	Child Visit	or
Analyte	RfD	Dermal	Fraction*	Surface Soil	Total Soils	Absorb	ed Dose	Hazard	Cancer		ed Dose	Hazard	Cancer	Absorb		Hazard	Cancer
			1			(mg/k		Quotient	Risk	(mg/k		Quotient	Risk	(mg/k		Quotient	Risk
	(mg/kg-day)	(mg/kg-day)-1	(unitless)	(mg/kg)	(mg/kg)	(Nc)	(Car)			(Nc)	(Car)			(Nc)	(Car)		
Benzo(a)anthracene	N/A	7.3E-01	1.3E-01	1.7E-02	1.7E-02		3.49E-09		3E-09		2.98E-10		2E-10		2.21E-10		1.61E-10
Benzo(a)pyrene	N/A	7.3E+00	1.3E-01	1.3E-02	1.2E-02		2.64E-09		2E-08		2.20E-10		2E-09		1.67E-10		1.22E-09
Benzo(b)fluoranthene	N/A	7.3E-01	1.3E-01	1.8E-02	1.8E-02		3.77E-09		3E-09	i	3.17E-10		2E-10		2.39E-10		1.75E-10
Benzo(ghi)perylene	N/A	N/A	1.3E-01	1.7E-02	1.7E-02												
Benzo(k)fluoranthene	N/A	7.3E-02	1.3E-01	1.5E-02	1.5E-02		3.14E-09		2E-10		2.72E-10	1	2E-11		1.99E-10		1.45E-11
Chrysene	3.00E-04	7.3E-03	1.3E-01	1.9E-02	1.9E-02	1.09E-08	3.91E-09	4E-05	3E-11	2.34E-08	3.34E-10	8E-05	2E-12	3.47E-09	2.48E-10	1.16E-05	1.81E-12
Indeno(1,2,3-cd)pyrene	N/A	7.3E-01	1.3E-01	1.9E-02	2.1E-02		3.99E-09		3E-09	1	3.86E-10		3E-10	l	2.53E-10		1.84E-10
Phenanthrene	N/A	N/A	1.3E-01	1.1E-02	1.0E-02	1											
Dieldrin	5.00E-05	1.6E+01	1E-01	1.4E-02	1.1E-02	6.44E-09	2.30E-09	1E-04	4E-08	1.09E-08	1.56E-10	2E-04	3 E-09	2.04E-09	1.46E-10	4.08E-05	2.33E-09
Endrin ketone	N/A	N/A	4E-02	3.1E-03	3.1E-03			1			1	1					
Aluminum	1.00E+00	N/A	1E-03	1.4E+04	1.4E+04	6.39E-05	1	6E-05		1.32E-04		1E-04		2.02E-05		2.02E-05	
Arsenic	3.00E-04	1.5E+00	3E-02	5.5E+00	5.3E+00	7.52E-07	2.69E-07	3E-03	4E-07	1.54E-06	2.19E-08	5E-03	3E-08	2.38E-07	1.70E-08	7.94E-04	2.55E-08
Cobalt	3.00E-04	N/A	1E-03	1.2E+01	1.2E+01	5.49E-08	l .	2E-04		1.13E-07		4E-04	l	1.74E-08		5.80E-05	
Iron	3.00E-01	N/A	1E-03	2.7E+04	2.7E+04	1.23E-04		4E-04	i	2.57E-04	1	9E-04	1	3.90E-05		1.30E-04	
Lead	N/A	N/A	1E-03	3.4E+01	3.1E+01					1			İ				
Manganese	9.60E-04	N/A	1E-03	6.7E+02	6.5E+02	3.03E-06	1	3E-03	İ	6.26E-06	1	7E-03		9.61E-07		1.00E-03	
Thallium	6.47E-04	N/A	1E-03	2.1E+00	2.1E+00	9.56E-09		1E-05		1.99E-08		3E-05		3.03E-09		4.68E-06	
Total Hazard Quotien	t and Cancer R	isk:						7E-03	5E-07			1E-02	4E-08			2E-03	3E-08

	Assumptions for Park Worker	,	Assumptions for Construction Worker	Ass	umptions for Recreational Child Visitor
CF-	1E-06 kg/mg	CF -	1E-06 kg/mg	CF-	1E-06 kg/mg
CS -	EPC Surface Only	EPC -	EPC Surface and Subsurface	EPC =	EPC Surface Only
BW-	70 kg	BW -	70 kg	BW -	15 kg
SA -	3,300 cm <sup>2</sup>	SA -	3,300 cm <sup>2</sup>	SA	2,800 cm <sup>2</sup>
AF~	0.2 mg/cm <sup>2</sup> -event	AF-	0.3 mg/cm <sup>2</sup> -event	AF -	0.2 mg/cm <sup>2</sup> -event
EV -	1 event/day	EV -	l event/day	EA -	l event/day
EF -	175 days/year	Et -	250 days/year	EE-	14 days/year
ED -	25 years	ED -	1 years	ED -	5 years
AT (Nc) -	9,125 days	AT (Nc) -	365 days	AT (Nc) -	1,825 days
AT (Car) =	25,550 days	AT (Car) =	25,550 days	AT (Car) -	25,550 days

Note: Cells in this table were intentionally left blank due to a lack of toxicity data. NA= Information not available.

Absorption factor for VOC was assumed to be 0.01 and metals not presented in the EPA (2004) document, assumed to be 0.001 in accordance with the USEPA Region 4 (2000)

Supplemental Guidance to RAGS: Region 4 Bulletins, Human Health Risk Assessment Bulletins (http://www.epa.gov/region4/waste/ots/healtbul.htm).

Absorption factor for pesticides was assumed to be 0.037 in accordance with the average absorption factor of colordane (0.03), DDT (0.04), and lindane (0.04) in accordance with USEPA Region 4 (2000).

Absorption factors from Exhibit 3-4 of USEPA (2004) Supplemental Guidance for Dermal Risk Assessment, Part E of Risk Assessment Guidance for Superfund, Human Health Evaluation Manual (Volume I).

#### TABLE 7

### CALCULATION OF ABSORBED DOSE AND RISK FROM DERMAL CONTACT TO SOIL REASONABLE MAXIMUM EXPOSURE (RME) SEAD-46 SOIL

SENECA ARMY DEPOT ACTIVITY

EPC x CF x SA x AF x ABS x EV x EF x ED Equation for Intake (mg/kg-day) = BWxAT Variables (Assumptions for Each Receptor are Listed at the Bottom):

EPC = Chemical Concentration in Soil, mg/kg

EV = Event Frequency CF = Conversion Factor EF = Exposure Frequency SA = Surface Area Contact ED = Exposure Duration AF = Adherence Factor BW = Bodyweight ABS = Absorption Factor AT = Averaging Time

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Dermal	Carc. Slope	Absorption	EPC	EPC from		Residen	t (Adult)			Residen	t (Child)		Resident
Analyte	RfD	Dermal	Fraction*	Surface Soil	Total Soils		ed Dose g-day)	Hazard Quotient	Cancer Risk	1	ed Dose (g-day)	Hazard Quotient	Cancer Risk	Total Lifetime
	(mg/kg-day)	(mg/kg-day)-1	(unitless)	(mg/kg)	(mg/kg)	(Nc)	(Car)			(Nc)	(Car)			Cancer Risk
Benzo(a)anthracene	N/A	7.3E-01	1.3E-01	1.7E-02	1.7E-02		4.05E-09		3E-09		6.63E-09		4.84E-09	8E-09
Benzo(a)pyrene	N/A	7.3E+00	1.3E-01	1.3E-02	1.2E-02		3.06E-09		2E-08		5.01E-09		3.66E-08	6E-08
Benzo(b)fluoranthene	N/A	7.3E-01	1.3E-01	1.8E-02	1.8E-02		4.38E-09		3E-09		7.17E-09	1.5	5.24E-09	8E-09
Benzo(ghi)perylene	N/A	N/A	1.3E-01	1.7E-02	1.7E-02									
Benzo(k)fluoranthene	N/A	7.3E-02	1.3E-01	1.5E-02	1.5E-02		3.65E-09		3E-10		5.97E-09		4.36E-10	7E-10
Chrysene	3.00E-04	7.3E-03	1.3E-01	1.9E-02	1.9E-02	1.32E-08	4.54E-09	4E-05	3E-11	8.67E-08	7.43E-09	2.89E-04	5.42E-11	9E-11
Indeno(1,2,3-cd)pyrene	N/A	7.3E-01	1.3E-01	1.9E-02	2.1E-02		4.63E-09		3E-09		7.58E-09		5.53E-09	9E-09
Phenanthrene	N/A	N/A	1.3E-01	1.1E-02	1.0E-02									
Dieldrin	5.00E-05	1.6E+01	1E-01	1.4E-02	1.1E-02	7.78E-09	2.67E-09	2E-04	4E-08	5.10E-08	4.37E-09	1.02E-03	6.99E-08	1E-07
Endrin ketone	N/A	N/A	4E-02	3.1E-03	3.1E-03									
Aluminum	1.00E+00	N/A	1E-03	1.4E+04	1.4E+04	7.72E-05		8E-05		5.06E-04		5.06E-04		
Arsenic	3.00E-04	1.5E+00	3E-02	5.5E+00	5.3E+00	9.10E-07	3.12E-07	3E-03	5E-07	5.96E-06	5.11E-07	1.99E-02	7.66E-07	1E-06
Cobalt	3.00E-04	N/A	1E-03	1.2E+01	1.2E+01	6.64E-08		2E-04		4.35E-07		1.45E-03		
Iron	3.00E-01	N/A	1E-03	2.7E+04	2.7E+04	1.49E-04		5E-04		9.75E-04		3.25E-03		
Lead	N/A	N/A	1E-03	3.4E+01	3.1E+01									
Manganese	9.60E-04	N/A	1E-03	6.7E+02	6.5E+02	3.67E-06		4E-03		2.40E-05		2.50E-02		
Thallium	6.47E-04	N/A	1E-03	2.1E+00	2.1E+00	1.16E-08		2E-05		7.57E-08		1.17E-04		
Total Hazard Quotien	t and Cancer R	isk:						8E-03	5E-07			5E-02	9E-07	1E-06

	Assumptions for Resident (Adult)	Ass	sumptions for Resident (Child)
CF =	1E-06 kg/mg	CF-	1E-06 kg/mg
EPC -	EPC Surface Only	EPC =	EPC Surface Only
BW-	70 kg	BW-	15 kg
SA =	5,700 cm <sup>2</sup>	SA -	2,800 cm <sup>2</sup>
AF-	0.07 mg/cm <sup>2</sup> -event	AF-	0.2 mg/cm <sup>2</sup> -event
EV ~	1 event/day	EV =	1 event/day
EF=	350 days/year	EF-	350 days/year
ED -	24 years	ED -	6 years
AT (Nc) =	8,760 days	AT (Nc) -	2,190 days
AT (Car) =	25,550 days	AT (Car) =	25,550 days

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

NA= Information not available.

Supplemental Guidance to RAGS: Region 4 Bulletins, Human Health Risk Assessment Bulletins (http://www.epa.gov/region4/waste/ots/healtbul.htm).

Absorption factor for pesticides was assumed to be 0.037 in accordance with the average absorption factor ofchlordane (0.03), DDT (0.04), and lindane (0.04) in accordance with USEPA Region 4 (2000).

<sup>\*</sup> Absorption factors from Exhibit 3-4 of USEPA (2004) Supplemental Guidance for Dermal Risk Assessment, Part E of Risk Assessment Guidance for Superfund, Human Health Evaluation Manual (Volume I).

Absorption factor for VOC was assumed to be 0.01 and metals not presented in the EPA (2004) document, assumed to be 0.001 in accordance with the USEPA Region 4 (2000)

#### TABLE 8 CALCULATION OF ABSORBED DOSE AND RISK FROM DERMAL CONTACT TO GROUNDWATER REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-46

SENECA ARMY DEPOT ACTIVITY

Equation for Dermal (mg/kg-day)	DAXSAX EFXEDXEV BW XAT	E	p - Perincability Coefficient, cm/hr PC - EPC in Groundwater, mg/L - Conversion Factor, 10 <sup>-3</sup> L/cm <sup>3</sup> Cx C ( (6 t <sub>extol</sub> x t <sub>extol</sub> / p) <sup>1/2</sup>
Variables (Assumptions for Each Receptor are Listed at	the Bottom);	if $t_{event} = t^*$ , then: $DA_{event} = FA \times K_p \times EPC \times T$	$C [ (t_{evens} / 1 + B) + 2 t_{event} ( (1 + 3 B + 3 B^2) / (1 + B)^2 ) ]$
DA – Absorbed Dose per Event, mg/cm²-event SA – Surface Area Contact EF – Exposure Frequency	ED - Exposure Duration BW - Bodyweight AT - Averaging Time		oefficient of a compound through the stratum corneum ses the viable epidermis (ve) (dimensionless) )
EV - Event Frequency		$B = Kp (MW)^{1-2} / 2.6$	If B: = 0.6, then $t^*-2.4 t_{event}$
		$t_{event}$ is Lag Time per event (hr/event) = 0.105 x $10^{(0.0056MV)}$	
		t* is time to reach steady-state (hr)  t <sub>event</sub> = doration of event, hr/event	$b = ((2(1+B)^2)/p) \cdot c$ $c = (1+3B+3B^2)/3(1+B)$
		teggii doloron oz czolit, ilizachi	- , , ,

Equation for Hazard Quotient - Chronic Daily Intake (Nc) Reference Dose Equation for Cancer Risk - Chronic Daily Intake (Car)

	Dermal	Carc. Slope	Permeability		Fraction			EPC	Absorbed	Parl	Worker			Construction	n Worker		Recreatio	nal Child Vis	itor
Analyte	RfD	Dermal	Coefficient	tevent	Absorbed	В	t*	Ground	Dose/Even:	Intake	Hazard	Cancer	In	take	Hazard	Cancer	Intake	Hazard	Cancer
			Кp		Water			Water		(ung/hg-day)	Quadent	ŘISK	(mg/	Kg-day)	Quotient	Risk	(mg/kg-day)	Quotient	Risk
	(mg/kg-day)	(mg/kg-day)-1	(cm/hr)_	(hr/event)			(hour)	(mg/L)	(mg/cm2-event)	(Nc) (Car)			(Nc)	(Car)			(Ne) (Car)		
Arsenic	3.E-04	1.5E+00	1.00E-03	8.9.E-01	1.00E+00	5.0.E-03	2.1.E+00	4.E-03	7.4.E-09				7E-08	1E-09	2E-04	2E-09			
Thallium	6.E-04	N/A	1.00E-03	i.1.E-01	1.00E+00	0.0.E+00	2.5.E-01	4.E-03	2.5.E-09				2E-08		4E-05				
Total Hazard Quotient an	tal Hazard Quotient and Cancer Risk:														3E-04	2E-09			

Assumptions for Construction Worker BW -SA ~ EV-EF -ED -70 kg 2,490 cm2 1 event/day 100 days/year l years 0.5 hr/event t<sub>event</sub> -AT (Nc) 365 days AT (Car) = 25,550 days

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

NA- Information not available.

Kp value from Exhibit B1 or B-2 of "Supplemental Guidance for Dermal Risk Assessment". Part E of Risk Assessment Guidance for Superfund, Human Health Evaluation Manual (Volume 1), August 16, 2004. For chemicals that did not have a Kp value listed in Exibit B-1 or B-2, Kp was calculated using:

Kp = 10\*(-2.80+0.66(logKow)-0.0056(MW))

# TABLE 8 CALCULATION OF ABSORBED DOSE AND RISK FROM DERMAL CONTACT TO GROUNDWATER REASONABLE MAXIMUM EXPOSURE (RME) SEAD-46 SENECA ARMY DEPOT ACTIVITY

Equation for Dermal (mg/kg-day) =	DA x SA x EF x ED x EV BW x AT	Equation for Absorbed Dose per Event (DA):	K <sub>p</sub> = Permeability Coefficient, cm/hr EPC = EPC in Groundwater, mg/L
		For inorgani DA = $Kp \times EPC \times t_{event} \times C$	C = Conversion Factor, 10 <sup>-3</sup> L/cm <sup>3</sup>
		For organics If tevent <= t*, then: DA event = 2 FA x Kp	x EPC x C ( (6 t <sub>event</sub> x t <sub>event</sub> ) / p ) <sup>1/2</sup>
Variables (Assumptions for Each Receptor are Listed at	the Bottom):	if $t_{event} > t^*$ , then: $DA_{event} = FA \times K_p \times E$	PC x C [ $(t_{event} / 1 + B) + 2 t_{event} ( (1 + 3 B + 3 B^2) / (1 + B)^2 ) ]$
DA = Absorbed Dose per Event, mg/cm²-event SA = Surface Area Contact EF = Exposure Frequency	ED = Exposure Duration BW = Bodyweight AT = Averaging Time		lity coefficient of a compound through the stratum comeum t across the viable epidermis (ve) (dimensionless) mless)
EV = Event Frequency		$B = Kp (MW)^{1/2} / 2.6$	If B<= 0.6, then t*=2.4 t <sub>event</sub>
		$t_{\text{event}}$ is Lag Time per event (hr/event) = 0.105 x 10 <sup>(0.0)</sup>	0056MW) If B > 0.6, then $t^* = 6t_{event} (b-SQRT(b^2-c^2))$
		t* is time to reach steady-state (hr)	$b = ((2(1+B)^2)/p) - c$
		t <sub>event</sub> = duration of event, hr/event	$c = (1+3B+3B^2)/3(1+B)$

Equation for Hazard Quotient = Chronic Daily Intake (Nc)

Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Dermal	Carc. Slope	Permeability		Fraction			EPC	Absorbed		Reside	nt Adult			Reside	ent Child		Resident
Analyte	RfD	Dermal	Coefficient	tevent	Absorbed	В	t*	Ground	Dose/Event	Inta	ke	Hazard	Cancer	Inta	ke	Hazard	Cancer	Total
			Кр		Water		1 1	Water		(mg/kg	(-day)	Quotient	Risk	(mg/kg-	day)	Quotient	Risk	Lifetime
	(mg/kg-day)	(mg/kg-day)-1	(cm/hr)	(hr/event)			(hour)	(mg/L)	(mg/cm <sup>2</sup> -event)	(Nc)	(Car)			(Nc)	(Car)			Cancer Risk
Arsenic	3.E-04	1.5E+00	1.00E-03	8.9.E-01	1.00E+00	5.0.E-03	2.1.E+00	4.E-03	1.0.E-08	3E-06	9E-07	9E-03	1E-06	4E-06	4E-07	1E-02	6E-07	2E-06
Thallium	6.E-04	N/A	1.00E-03	1.1.E-01	1.00E+00	0.0.E+00	2.5.E-01	4.E-03	3.6.E-09	9E-07		1E-03		2E-06		2E-03		0E+00
Total Hazard Quotient	and Cancer	Risk:										1E-02	1E-06			2E-02	6E-07	2E-06

Assun	nptions fo	r Resident Adult	Ass	umptions fo	or Resident Child	
BW =	70	kg	BW =	15	kg	
SA =	18,000	cm2	SA=	6,600	cm2	
EV=	1	event/day	EV=	1	event/day	
EF=	350	days/year	EF =	350	days/year	
ED =	24	years	ED =	6	years	
t <sub>event</sub> =	0.58	hr/event	t <sub>event</sub> =	1	hr/event	
AT(Nc) =	8,760	days	AT(Nc) =	2,190	days	
AT (Car) =	25,550	days	AT (Car) =	25,550	days	

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

NA= Information not available.

Kp value from Exhibit B1 or B-2 of "Supplemental Guidance for Dermal Risk Assessment", Part E of Risk Assessment Guidance for Superfund, Human Health Evaluation Manual (Volume 1), August 16, 2004. For chemicals that did not have a Kp value listed in Exibit B-1 or B-2, Kp was calculated using: Kp = 10^(-2.80+0.66(logKow)-0.0056(MW))

# TABLE 9 CALCULATION OF INTAKE AND RISK FROM INHALATION OF GROUNDWATER (WHILE SHOWERING) REASONABLE MAXIMUM EXPOSURE (RME) SEAD-46 SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) =	EPC x IR x t <sub>event</sub> x EV x EF x ED
	B W x AT
Variables (Assumptions for Each Receptor are Listed at the Bottom):	
EPC =Exposure Point Concentration in Air (mg/m³)	ED=Exposure Duration
t <sub>event</sub> = Event Duration	EV = Event Frequency
IR = Inhalation Rate	BW=Body Weight
EF = Exposure Frequency	AT = Averaging Time

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Inhalation	Carc. Slope	EPC*	EPC*		Reside	ent Adult			Reside	ent Child		Resident
Analyte	RfD	Inhalation	Air	Air	Int	ake	Hazard	Contribution	Int	take	Hazard	Contribution	Total
			Adult	Child	(mg/k	(g-day)	Quotient	to Lifetime	(mg/k	(g-day)	Quotient	to Lifetime	Lifetime
	(mg/kg-day)	(mg/kg-day)-1	(mg/m³)	$(mg/m^3)$	(Nc)	(Car)		Cancer Risk	(Nc)	(Car)	<u> </u>	Cancer Risk	Cancer Risk
Arsenic	N/A	4.30E-03	1.89E-02	1.89E-02									
Thallium	N/A	N/A	NA	NA_									
Total Hazard Quotient	and Cancer I	Risk:											
					Assu	Assumptions for Future Reside			Assu	imptions for F	uture Residen	t (Child)	
					BW =	70	kg		BW =	15	kg		
					IR =	1.0	m³/hr		IR =	1.0	m³/hr		
					t <sub>event</sub> =	0.58	hr/event		t <sub>event</sub> =	0.1	hr/event		
					EV =	1	event/day		EV =	1	event/day		l
					EF=	350	days/year		EF =	350	days/year		
					ED =	24	years		ED =	6	years		
					AT (Nc) =	8,760	days		AT (Nc) =	2,190	days		
					AT (Car) =	25,550	days		AT (Car) =	25,550	days		

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

NA= Information not available.

<sup>\*</sup> EPC air is the concentration of chemical available for inhalation after accounting for partitioning between the air and water in the shower.

#### TABLE 10 CALCULATION OF INTAKE AND RISK FROM INHALATION OF DUST IN AMBIENT AIR REASONABLE MAXIMUM EXPOSURE (RME) SEAD-46 SOIL SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) =

EPC x IR x EF x ED

BW x AT

Variables (Assumptions for Each Receptor are Listed at the Bottom); EPC = EPC in Air, mg/m3

IR = Inhalation Rate

ED = Exposure Duration

BW = Bodyweight

EF = Exposure Frequency

AT = Averaging Time

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Inhalation	Carc. Slope	Air EPC from	Air EPC from		Park V	Vorker			Constructi	on Worker		Re	ecreational	Child Visit	or
Analyte	RfD	Inhalation	Surface Soil	Total Soils	Int	ake	Hazard	Cancer	Int	ake	Hazard	Cancer	Int	ake	Hazard	Cancer
					(mg/k	g-day)	Quotient	Risk	(mg/k	g-day)	Quotient	Risk	(mg/k	g-day)	Quotient	Risk
	(mg/kg-day)	(mg/kg-day)-1	(mg/m3)	(mg/m3)	(Nc)	(Car)			(Nc)	(Car)			(Nc)	(Car)		
Benzo(a)anthracene	N/A	N/A	7.1E-10	7.1E-10												
Benzo(a)pyrene	N/A	3.85E+00	5.4E-10	5.3E-10		1.06E-11		4E-11		7.64E-13		3E-12		8.59E-13		3E-12
Benzo(b)fluoranthene	N/A	3.85E-01	7.7E-10	7.6E-10		1.51E-11		6E-12		1.10E-12		4E-13		1.23E-12		5E-13
Benzo(ghi)perylene	N/A	N/A	7.3E-10	7.3E-10												
Benzo(k)fluoranthene	N/A	3.85E-01	6.4E-10	6.5E-10		1.26E-11		5E-12		9.44E-13		4E-13		1.02E-12		4E-13
Chrysene	N/A	3.85E-02	8.0E-10	8.0E-10		1.57E-11		6E-13		1.16E-12		4E-14		1.27E-12		5E-14
Indeno(1,2,3-cd)pyrene	N/A	3.85E-01	8.2E-10	9.2E-10		1.60E-11		6E-12		1.34E-12		5E-13		1.30E-12		5E-13
Phenanthrene	N/A	N/A	4.7E-10	4.5E-10											·	
Dieldrin	N/A	1.61E+01	6.1E-10	4.9E-10		1.20E-11		2E-10		7.07E-13		11-31		9.73E-13		2E-11
Endrin ketone	N/A	N/A	1.3E-10	1.3E-10	i										!	
Aluminum	1.43E-03	N/A	6.1E-04	5.9E-04	3.33E-05		2E-02		5.98E-05		4E-02		1.35E-05		9E-03	
Arsenic	N/A	1.51E+01	2.4E-07	2.3E-07		4.67E-09		7E-08		3.31E-10		5E-09		3.79E-10		6E-09
Cobalt	1.71E-06	3.15E+01	5.2E-07	5.0E-07	2.86E-08	1.02E-08	2E-02	3E-07	5.12E-08	7.32E-10	3E-02	2E-08	1.16E-08	8.31E-10	7E-03	3E-08
Iron	N/A	N/A	1.2E-03	1.1E-03												
Lead	N/A	N/A	1.5E-06	1.3E-06									1			
Manganese	1.43E-05	N/A	2.9E-05	2.8E-05	1.58E-06		1E-01		2.83E-06		2E-01		6.42E-07		4E-02	
Thallium	N/A	N/A	9.1E-08	8.9E-08												
Total Hazard Quotient	otal Hazard Quotient and Cancer Risk:						2E-01	4E-07			3E-01	3E-08			6E-02	3E-08
	X X X X X X X X X X X X X X X X X X X															

	Assumptions for Park Worker	Assum	ptions for Construction Worker	Assumptio	ns for Recreational Child Visitor
CA =	EPC Surface Only	CA =	EPC Surface and Sub-Surface	CA =	EPC Surface Only
BW =	70 kg	BW =	70 kg	BW =	15 kg
IR =	8 m3/day	1R =	10.4 m3/day	IR =	8.7 m3/day
EF =	175 days/year	EF =	250 days/year	EF =	14 days/year
ED =	25 years	ED =	1 year	ED =	5 years
AT (Nc) =	9,125 days	AT (Nc) =	365 days	AT (Nc) =	1,825 days
AT (Car) =	= 25,550 days	AT (Car) =	25,550 days	AT (Car) =	25,550 days

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

NA= Information not available.

#### TABLE 10

# CALCULATION OF INTAKE AND RISK FROM INHALATION OF DUST IN AMBIENT AIR REASONABLE MAXIMUM EXPOSURE (RME) SEAD-46 SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) =

CA x IR x EF x ED

BWxAT

Variables (Assumptions for Each Receptor are Listed at the Bottom):

CA = Chemical Concentration in Air from Stockpile Soil, mg/m<sup>3</sup>

ED = Exposure Duration, year

IR = Inhalation Rate, m<sup>3</sup>/day

BW = Bodyweight, kg

EF = Exposure Frequency, day/year

AT = Averaging Time, day

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Inhalation	Carc. Slope	Air EPC		Resid	ent Adult			Resid	lent Child		Resident
Analyte	RfD	Inhalation		Int	ake	Hazard	Contribution	Inta	ake	Hazard	Contribution	Total
				(mg/k	g-day)	Quotient	to Lifetime	(mg/k	g-day)	Quotient	to Lifetime	Lifetime
	(mg/kg-day)	(mg/kg-day)-1	$(mg/m^3)$	(Nc)	(Car)		Cancer Risk	(Nc)	(Car)		Cancer Risk	Cancer Risk
Benzo(a)anthracene	N/A	N/A	7.1E-10						-			
Benzo(a)pyrene	N/A	3.85E+00	5.4E-10		5.08E-11		2E-10		2.58E-11		1E-10	3E-10
Benzo(b)fluoranthene	N/A	3.85E-01	7.7E-10	1	7.27E-11		3E-11	İ	3.69E-11		1E-11	4E-11
Benzo(ghi)perylene	N/A	N/A	7.3E-10								; 	
Benzo(k)fluoranthene	N/A	3.85E-01	6.4E-10	1 1	6.05E-11		2E-11		3.07E-11		1E-11	4E-11
Chrysene	N/A	3.85E-02	8.0E-10		7.52E-11		3E-12		3.82E-11		1E-12	4E-12
Indeno(1,2,3-cd)pyrene	N/A	3.85E-01	8.2E-10		7.68E-11	1	3E-11		3.90E-11		2E-11	4E-11
Phenanthrene	N/A	N/A	4.7E-10									
Dieldrin	N/A	1.61E+01	6.1E-10		5.75E-11		9E-10	ļ	2.92E-11		5E-10	1E-09
Endrin ketone	N/A	N/A	1.3E-10							İ		
Aluminum	1.43E-03	N/A	6.1E-04	1.66E-04		1E-01		3.38E-04		2E-01		
Arsenic	N/A	1.51E+01	2.4E-07		2.24E-08		3E-07		1.14E-08		2E-07	5E-07
Cobalt	1.71E-06	3.15E+01	5.2E-07	1.43E-07	4.91E-08	8E-02	2E-06	2.91E-07	2.49E-08	2E-01	8E-07	2E-06
Iron	N/A	N/A	1.2E-03					1				
Lead	N/A	N/A	1.5E-06									
Manganese	1.43E-05	N/A	2.9E-05	7.91E-06		6E-01		1.60E-05		1E+00		
Thallium	N/A	N/A	9.1E-08									
Total Hazard Quotie	nt and Canc	er Risk:				8E-01	2E-06			2E+00	1E-06	3E-06

A	Assumptions for Resident Adult		Assumptions for Resident Child	$\exists$
CA =	EPC Surface Only	CA =	EPC Surface Only	
BW=	70 kg	BW =	15 kg	Į
1R =	20 m3/day	IR =	8.7 m3/day	- 1
EF =	350 days/year	EF =	350 days/year	
ED =	24 years	ED =	6 years	1
AT (Nc) =	8,760 days	AT (Nc) =	2,190 days	
AT (Car) =	25,550 days	AT (Car) =	25,550 days	l

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

N/A= Information not available.

# TABLE 11 CALCULATION OF TOTAL NONCARCINOGENIC AND CARCINOGENIC RISKS SEAD-46 REASONABLE MAXIMUM EXPOSURE (RME) SENECA ARMY DEPOT ACTIVITY

				EXPOSURE (RME)	
RECEPTOR	EXPOSURE ROUTE	HAZARE INDEX	1		KCER ISK
		Hazard Index	Percent	Cancer Risk	Percent
PARK WORKER	Inhalation of Dust in Ambient Air	2E-01	35%	4E-07	2%
	Ingestion of Soil	1E-01	32%	2E-06	12%
	Intake of Groundwater	1E-01	31%	1E-05	83%
	Dermal Contact to Soil	7E-03	2%	5E-07	3%
	Dermal Contact to Groundwater	NA		NA	
	TOTAL RECEPTOR RISK (Nc & Car)	<u>4E-01</u>	100%	2E-05	100%
CONSTRUCTION WORKER	Inhalation of Dust in Ambient Air	3E-01	24%	3E-08	2%
	Ingestion of Soil	6E-01	57%	4E-07	31%
	Intake of Groundwater	2.E-01	17%	8E-07	64%
	Dermal Contact to Soil	1E-02	1%	4E-08	3%
	Dermal Contact to Groundwater	3E-04	0%	2E-09	0%
	TOTAL RECEPTOR RISK (Nc & Car)	<u>1E+00</u>	100%	<u>1E-06</u>	100%
RECREATIONAL CHILD VISITOR	Inhalation of Dust in Ambient Air	6E-02	26%	3E-08	2%
	Ingestion of Soil	1E-01	42%	3E-07	16%
	Intake of Groundwater	7E-02	31%	2E-06	81%
	Dermal Contact to Soil	2E-03	1%	3E-08	1%
	Dermal Contact to Groundwater	NA		NA	
	TOTAL RECEPTOR RISK (No & Car)	2E-01	100%	2E-06	100%
RESIDENT (ADULT)	Inhalation of Dust in Ambient Air	8E-01	48%	2E-06	3%
	Inhalation of Groundwater	NA		NA	
	Ingestion of Soil	3E-01	17%	4E-06	6%
	Intake of Groundwater	5E-01	34%	6E-05	88%
	Dermal Contact to Soil	8E-03	0%	5E-07	1%
	Dermal Contact to Groundwater	1E-02	1%	1€-06	2%
	TOTAL RECEPTOR RISK (Nc & Car)	2E+00	100%	6E-05	100%
RESIDENT (CHILD)	Inhalation of Dust in Ambient Air	2E+00	26%	1E-06	2%
	Inhalation of Groundwater	NA		NA	
	Ingestion of Soil	2E+00	42%	1E-05	16%
	Intake of Groundwater	2E+00	31%	5E-05	81%
	Dermal Contact to Soil	5E-02	1%	9E-07	1%
	Dermal Contact to Groundwater	2E-02	0%	6E-07	1%
	TOTAL RECEPTOR RISK (Nc & Car)	6E+00	100%	6E-05	100%
RESIDENT (TOTAL)	Inhalation of Dust in Ambient Air			3E-06	2%
	Inhalation of Groundwater			0E+00	0%
	Ingestion of Soil			1E-05	11%
	Intake Groundwater			1E-04	84%
	Dermal Contact to Soil			1E-06	1%
	Dermal Contact to Groundwater			2E-06	2%
	TOTAL RECEPTOR CANCER RISK			<u>1E-04</u>	100%

#### TABLE 12 SEAD-57 RESIDENT ADULT LEAD BLOOD CALCULATION SENECA ARMY DEPOT ACTIVITY

Calculations of Blood Lead Concentrations (PbBs)
U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee
Version date 6/21/09

Variable	Description of Variable	Units	GSDi and PbEo from Analysis of NIVANES 1999-2004	GSDi and PbBo from Analysis of NHANES III (Phases 1&2)
PbS	Soil lead concentration	ug/g or ppm	31.0	31.0
R <sub>fetal/maternal</sub>	Fetal/maternal PbB ratio		0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4
GSD,	Geometric standard deviation PbB		1.8	2.1
PbB <sub>0</sub>	Baseline PbB	ug/dL	1.0	1.5
$IR_S$	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.050	0.050
$IR_{S+D}$	Total ingestion rate of outdoor soil and indoor dust	g/day		
Ws	Weighting factor; fraction of IR <sub>S+D</sub> ingested as outdoor soil			_
K <sub>SD</sub>	Mass fraction of soil in dust		_	
AF <sub>S, D</sub>	Absorption fraction (same for soil and dust)	-	0.12	0.12
EF <sub>S, D</sub>	Exposure frequency (same for soil and dust)	days/yr	219	219
AT <sub>S, D</sub>	Averaging time (same for soil and dust)	days/yr	365	365
PbB <sub>adult</sub>	PbB of adult worker, geometric mean	ug/dL	1.0	1.5
PbB <sub>fetal, 0.95</sub>	95th percentile PbB among fetuses of adult workers	ug/dL	2.5	4.7
PbB <sub>t</sub>	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	10.0	10.0
$PbB_{fetal} > PbB_{t}$	Probability that fetal PbB > PbB, assuming lognormal distribution	%	0.0%	0.4%

#### **LEAD MODEL FOR WINDOWS Version 1.1**

Model Version: 1.1 Build9
User Name:
Date:
Site Name:
Operable Unit:
Run Mode: Research

\*\*\*\*\* Air \*\*\*\*\*

Indoor Air Pb Concentration: 30.000 percent of outdoor. Other Air Parameters:

Age	Time	Ventilation	Lung	Outdoor Air
	Outdoors	Rate	Absorption	n Pb Conc
	(hours)	(m³/day)	(%)	(μg Pb/m³)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

\*\*\*\*\* Diet \*\*\*\*\*

Age	Diet Intake(µg/day
.5-1	2.260
1-2	1.960
2-3	2.130
3-4	2.040
4-5	1.950
5-6	2.050
6-7	2.220

\*\*\*\*\* Drinking Water \*\*\*\*\*

#### Water Consumption: Age Water (L/day)

Age	water (L/day)	
.5-1	0.200	
1-2	0.500	
2-3	0.520	
3-4	0.530	
4-5	0.550	
5-6	0.580	
6-7	0.590	

Drinking Water Concentration: 4.000 µg Pb/L

\*\*\*\*\* Soil & Dust \*\*\*\*\*

**Multiple Source Analysis Used** 

Average multiple source concentration: 33.730 µg/g

Mass fraction of outdoor soil to indoor dust conversion factor: 0.700 Outdoor airborne lead to indoor household dust lead concentration: 100.000

Use alternate indoor dust Pb sources? No

Age	Soil (µg Pb/g)	House Dust (µg Pb/g)
.5-1	33.900	33.730
1-2	33.900	33.730
2-3	33.900	33.730
3-4	33.900	33.730
4-5	33.900	33.730
5-6	33.900	33.730
6-7	33.900	33.730

\*\*\*\*\* Alternate Intake \*\*\*\*\*

Age	Alternate (µg Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5 <i>-</i> 6	0.000
6-7	0.000

\*\*\*\*\*\* Maternal Contribution: Infant Model \*\*\*\*\*\*

Maternal Blood Concentration: 1.000 µg Pb/dL

\*\*\*\*\*\*\*\*\*

### CALCULATED BLOOD LEAD AND LEAD UPTAKES:

\*\*\*\*\*\*\*\*\*\*\*\*

Year	Air (µg/day)	Diet (µg/day)	Alternate (μg/day)	Water (µg/day)
.5-1	0.021	1.101	0.000	0.390
1-2	0.034	0.953	0.000	0.972
2-3	0.062	1.039	0.000	1.014
3-4	0.067	0.999	0.000	1.038
4-5	0.067	0.959	0.000	1.082
5-6	0.093	1.010	0.000	1.143
6-7	0.093	1.095	0.000	1.164
Year	Soil+Dust	Total	Blood	
	(µg/day)	(µg/day)	(µg/dĽ)	
.5-1	0.840	2.351	1.3	
1-2	1.331	3.290	1.4	
2-3	1.335	3.450	1.3	
3-4	1.340	3.443	1.2	
4-5	0.998	3.105	1.1	
5-6	0.899	3.146	1.0	
6-7				

# Attachment B SEAD-57 – Explosive Ordinance Detonation Area

TABLE 1 SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

SEAD-57 SEAD-57 SEAD-57 SEAD-57 SEAD-57 SEAD-57 SEAD-57 SEAD-57 SEAD-57

								SD57-11	SD57-10	SD57-16	SD57-13	SD57-24	SD57-14	SD57-17	SD57-18	SD57-26	SD57-11	
								Ditchsoil	Ditchsoil	Ditchsoil	Ditchsoil	Ditchsoil	Ditchsoil	Ditchsoil	Ditchsoil	Ditchsoil	Ditchsoil	
								573008	573031 0	573000 0	573001	573002 0	573003 0	573004	573005	573006	573007	
								0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
								01/05/00	01/10/00	01/04/00	01/04/00	01/04/00	01/05/00	01/05/00	01/05/00	01/05/00	01/05/00	
			W					DU	DU	SA								
		Maximum	Frequency of of	Criteria	Number	Number of Times	Number of Samples	PISI RI	PISI RI	PISI RI	PISI RI	PISI RI	PISI RI	PISI RI	PISI RI	PISI RI	PISI RI	
Parameter	Units	Concentration	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (O)	1/-1 (0)	1/-1 (0)	1/-1- (0)	11.1 (0)	111	
Volatile Organic Compounds	0	Concent adop	Detection	V 21.00	Lacecuances	Detected	Analyzeu	value (Q)	value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	
1,1,1-Trichloroethane	UG/KG	0	0%	680	0	0	127	14 U	11 U	13 U	13 U	13 U	13 U	12 U	17 U	16 U	15 U	
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	0	0	0	127	14 U	11 U	13 U	13 U	13 U	13 U	12 U	17 U	16 U	15 U	
1,1,2-Trichloroethane 1,1-Dichloroethane	UG/KG UG/KG	0	0%	0	0	0	127	14 U	11 U	13 U	13 U	13 U	13 U	12 U	17 U	16 U	15 U	
1,1-Dichloroethene	UG/KG	0	0%	270 330	0	0	127 127	14 U 14 U	11 U 11 U	13 U 13 U	13 U 13 U	13 U	13 U	12 U	17 U	16 U	15 U	
1,2-Dichloroethane	UG/KG	0	0%	20	0	0	127	14 U	11 U	13 U	13 U	13 U 13 U	13 U 13 U	12 U 12 U	17 U 17 U	16 U	15 U 15 U	
1,2-Dichloroethene (total)	UG/KG	0	0%	190	0	0	127	14 U	11 U	13 U	13 U	13 U	13 U	12 U	17 U	16 U	15 U	
1,2-Dichloropropane	UG/KG	0	0%	0	0	0	127	14 U	11 U	13 U	13_U	13_U	13 U	12 U	17 U	16 U	15 U	
Acetone Benzene	UG/KG UG/KG	700	74%	50	87	94	127	AL -4810 J	A 12 1 52 270	300 J	210 J	220 J		100 J	260 J	330	100 J	
Bromodiehloromethane	UG/KG	1	2% 0%	60	0	2	127 127	14 U 14 U	11 U 11 U	13 U 13 U	13 U	13 U	13 U	12 U	17 U	16 U	15 U	
Bromoform	UG/KG	0	0%	0	0	0	127	14 U	11 U	13 U	13 U 13 U	13 U 13 U	13 U 13 U	12 U 12 U	17 U 17 U	16 U	15 U	
Carbon disulfide	UG/KG	22	11%	0	0	14	127	14 U	11 U	3 J	2 J	2 J	2 J	12 U	17 U	16 U 2 J	15 U 15 U	
Carbon tetrachloride	UG/KG	0	0%	760	0	0	127	14 U	11 U	13 U	13 U	13 U	13 U	12 U	17 U	16 U	15 U	
Chlorobenzene	UG/KG	0	0%	1100	0	0	127	14 U	11 U	13 U	13 U	13 U	13 U	12 U	17 U	16 U	15 U	
Chlorodibromomethane	UG/KG	0	0%	0	0	0	127	14 U	11 U	13 U	13 U	13 U	13 U	12 U	17 U	16 U	15 U	
Chloroethane Chloroform	UG/KG UG/KG	7	0% 1%	0 370	0	0	127	14 U	11 U	13 U	13 U	13 U	13 U	12 U	17 U	16 U	15 U	
Cis-1,3-Dichloropropene	UG/KG	0	0%	0	0	0	127 127	14 U 14 U	11 U 11 U	13 U 13 U	13 U 13 U	13 U 13 U	13 U 13 U	12 U 12 U	17 U 17 U	16 U	15 U 15 U	
Ethyl benzene	UG/KG	0	0%	1000	0	0	127	14 U	11 U	13 U	13 U	13 U	13 U	12 U	17 U	16 U	15 U	
Methyl bromide	UG/KG	0	0%	0	0	0	127	14 U	11 U	13 U	13 U	13 U	13 U	12 U	17 U	16 U	15 U	
Methyl butyl ketone	UG/KG	0	0%	0	0	0	127	14 U	11 U	13 U	13 U	13 U	13 U	12 U	17 U	16 U	15 U	
Methyl chloride Methyl cthyl ketone	UG/KG UG/KG	0 64	0% 62%	0 120	0	0 79	127	14 U 14	11 U	13 U	13 U	13 U	13 U	12 U	17 U	16 U	15 U	
Methyl isobutyl ketone	UG/KG	0	0%	0	0	0	127 127	14 U	12 11 U	36 J 13 U	20 J 13 U	19 J 13 U	25 J 13 U	13 12 U	26 J 17 U	49 J 16 U	13 J 15 U	
Methylene chloride	UG/KG	1	2%	50	0	2	127	14 U	11 U	13 U	13 U	13 U	13 U	12 U	17 U	16 U	15 U	
Styrene	UG/KG	0	0%	0	0	0	127	14 U	11 U	13 U	13 U	13 U	13 U	12 U	17 U	16 U	15 U	
Tetrachloroethene	UG/KG	6	6%	1300	0	7	127	14 U	11 U	13 U	13 U	13 U	13 U	12 U	17 U	16 U	15 U	
Toluene Total Xylenes	UG/KG UG/KG	33 2	65% 2%	700 260	Q.	82	127	2 J	6 J	10 J	8 J	7 J	3 J	4 J	8 J	6 J	5 J	
Trans-1,3-Dichloropropene	UG/KG	0	0%	0	0	0	127 127	14 U 14 U	11 U 11 U	13 U 13 U	13 U 13 U	13 U 13 U	13 U 13 U	12 U 12 U	17 U	16 U	15 U 15 U	
Trichloroethene	UG/KG	0	0%	470	0	0	127	14 U	11 U	13 U	13 U	13 U	13 U	12 U	17 U	16 U	15 U	
Vinyl chloride	UG/KG	0	0%	20	0	0	127	14 U	11 U	13 U	13 U	13 U	13 U	12 U	17 U	16 U	15 UJ	
Semivolatile Organic Compound			***															
1,2,4-Trichlorobenzene 1,2-Dichlorobenzene	UG/KG UG/KG	0	0%	0 1100	0	0	119 119	97 U 97 U	94 UJ 94 UJ	90 U	91 U	89 U	97 U	90 U	92 U	95 U	91 U	
1,3-Dichlorobenzene	UG/KG	0	0%	2400	0	0	119	97 U	94 UJ	90 U	91 U 91 U	89 U	97 U 97 U	90 U	92 U 92 U	95 U 95 U	91 U 91 U	
1,4-Dichlorobenzene	UG/KG	0	0%	1800	0	0	119	97 U	94 UJ	90 U	91 U	89 U	97 U	90 U	92 U	95 U	91 U	
2,2'-oxybis(1-Chloropropane)	UG/KG	0	0%	0	0	0	18							,,,,	,,,	,,,	7. 0	
2,4,5-Trichlorophenol	UG/KG	0	0%	0	0	0	119	240 U	240 UJ	220 U	230 U	220 U	240 U	220 U	230 U	240 U	230 U	
2,4,6-Trichlorophenol 2,4-Dichlorophenol	UG/KG UG/KG	0	0% 0%	0	0	0	119	97 U	94 UJ	90 U	91 U	89 U	97 U	90 U	92 U	95 U	91 U	
2,4-Dimethylphenol	UG/KG	0	0%	0	0	0	119 119	97 U	94 UJ 94 UJ	90 U 90 U	91 U 91 U	89 U	97 U 97 U	90 U 90 U	92 U 92 U	95 U 95 U	91 U 91 U	
2,4-Dinitrophenol	UG/KG	0	0%	0	0	0	119	240 UJ	240 UR	220 UR	230 UR	220 UR	240 UR	220 UR	230 UR	240 UR	230 UJ	
2,4-Dinitrotoluene	UG/KG	0	0%	0	0	0	119	97 U	94 UJ	90 U	91 U	89 U	97 U	90 U	92 U	95 U	91 U	
2,6-Dinitrotoluene	UG/KG	0	0%	0	0	0	119	97 U	94 UJ	90 U	91 U	89 U	97 U	90 U	92 U	95 U	91 U	
2-Chloronaphthalene	UG/KG	0	0%	0	0	0	119	97 U	94 UJ	90 U	91 U	89 U	97 U	90 U	92 U	95 U	91 U	
2-Chlorophenol 2-Methylnaphthalene	UG/KG UG/KG	0 750	0% 3%	0	0	0	119 119	97 U 97 U	94 UJ 94 UJ	90 U	91 U 91 U	89 U 89 U	97 U	90 U	92 U	95 U	91 U	
2-Methylphenol	UG/KG	0	0%	330	0	0	119	97 U	94 UJ	90 U	91 U	89 U	97 U 97 U	90 U 90 U	92 U 92 U	95 U 95 U	91 U 91 U	
2-Nitroaniline	UG/KG	0	0%	0	0	0	119	240 U	240 UJ	220 U	230 U	220 U	240 U	220 U	230 U	240 U	230 U	
2-Nitrophenol	UG/KG	0	0%	0	0	0	119	97 U	94 UJ	90 U	91 U	89 U	97 U	90 U	92 U	95 U	91 U	
3,3'-Dichlorobenzidine	UG/KG	0	0%	0	0	0	119	97 UJ	94 UJ	90 UJ	91 UJ	89 UJ	97 UJ	90 UJ	92 UJ	95 UJ	91 UJ	
3-Nitroaniline 4,6-Dinitro-2-methylphenol	UG/KG UG/KG	0	0%	0	0	0	119 119	240 UJ 240 U	240 UJ 240 UJ	220 UJ 220 UJ	230 UJ 230 UJ	220 UJ 220 UJ	240 UJ 240 UJ	220 UJ 220 UJ	230 UJ 230 UJ	240 UJ 240 UJ	230 UJ 230 U	
4-Bromophenyl phenyl ether	UG/KG	0	0%	0	0	0	119	97 U	94 UJ	90 U	91 U	89 U	97 U	90 U	92 U	240 UJ 95 U	230 U 91 U	
4-Chloro-3-methylphenol	UG/KG	0	0%	o	0	0	119	97 U	94 UJ	90 U	91 U	89 U	97 U	90 U	92 U	95 U	91 U	
4-Chloroaniline	UG/KG	0	0%	0	0	0	119	97 UJ	94 UJ	90 UJ	91 UJ	89 UJ	97 UJ	90 UJ	92 UJ	95 UJ	91 UJ	
4-Chlorophenyl phenyl ether	UG/KG	0	0%	0	0	0	119	97 U	94 UJ	90 U	91 U	89 U	97 U	90 U	92 U	95 U	91 U	
4-Methylphenol 4-Nitroaniline	UG/KG UG/KG	13	3%	330	0	3	119 119	97 U 240 U	94 UJ 240 UJ	90 U	91 U	89 U	97 U	90 U	92 U	95 U	91 U	
4-Nitrophenol	UG/KG	0	0%	0	0	0	119	240 U 240 UJ	240 UJ 240 UJ	220 U 220 UJ	230 U 230 UJ	220 U 220 UJ	240 U 240 UJ	220 U 220 UJ	230 U 230 UJ	240 U 240 UJ	230 U 230 UJ	
Acenaphthene	UG/KG	o	0%	20000	0	0	119	97 U	94 UJ	90 U	91 U	89 U	97 U	90 U	92 U	95 U	91 U	
Acenaphthylene	UG/KG	0	0%	100000	0	0	119	97 U	94 UJ	90 U	91 U	89 U	97 U	90 U	92 U	95 U	91 U	

TABLE 1 SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

								SEAD-57 SD57-11 Ditchsoil 573008	SEAD-57 SD57-10 Ditchsoil 573031	SEAD-57 SD57-16 Ditchsoil 573000	SEAD-57 SD57-13 Ditchsoil 573001	SEAD-57 SD57-24 Ditchsoil 573002	SEAD-57 SD57-14 Ditchsoil 573003	SEAD-57 SD57-17 Ditchsoil 573004	SEAD-57 SD57-18 Ditchsoil 573005	SEAD-57 SD57-26 Ditchsoil 573006	SEAD-57 SD57-11 Ditchsoil 573007
								0 0.2 01/05/00 DU	0 0.2 01/10/00 DU	0 0.2 01/04/00 SA	0 0.2 01/04/00 SA	0 0,2 01/04/00 SA	0 0.2 01/05/00 SA	0 0.2 01/05/00 SA	0 0.2 01/05/00 SA	0 0.2 01/05/00 SA	0 0.2 01/05/00 SA
		Maximum	Frequency of	Criteria	Number	Number of Times	Number of Samples	PISI RI	PI\$1 RJ	PISI RI	PISI RJ	PISI RI	PISI RI				
Parameter	Units	Concentration	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)									
Anthracene Benzo(a)anthracene	UG/KG UG/KG	8.2 62	3% 21%	100000	0	3 25	119 119	97 U 11 J	94 UJ 5.5 J	90 U 50 J	5.1 J 43 J	89 U 89 U	6.9 J 52 J	90 U 8,5 J	8.2 J 62 J	95 U 18 J	91 U 91 U
Benzo(a)pyrene	UG/KG	76	17%	1000	0	20	119	97 U	94 UJ	66 J	59 J	89 U	52 J	12 J	76 J	22 J	91 U
Benzo(b)fluoranthene	UG/KG UG/KG	67 54	24% 13%	1000 100000	0	29 15	119 119	13 J 97 U	94 UJ 94 UJ	59 J 43 J	43 J 35 J	89 U	36 J 30 J	9.5 J 10 J	67 J 54 J	22 J 15 J	91 U) 91 U
Benzo(ghi)perylene Benzo(k)fluoranthene	UG/KG	50	24%	800	0	29	119	12 J	94 UJ	41 J	43 J	89 U	39 J	11 J	50 J	15 J 17 J	91 UJ
Bis(2-Chloroethoxy)methane	UG/KG	0	0%	0	0	0	119	97 U	94 UJ	90 U	91 U	89 U	97 U	90 U	92 U	95 U	91 U
Bis(2-Chloroethyl)ether	UG/KG	0	0%	0	0	0	119	97 U	94 UJ	90 U	91 U	89 U	97 U	90 U	92 U	95 U	91 U
Bis(2-Chloroisopropyl)ether Bis(2-Ethylhexyl)phthalate	UG/KG UG/KG	3400	0% 15%	0	0	0 18	101 119	97 U 97 UJ	94 UJ 94 UJ	90 U 90 U	91 U 14 J	89 U	97 U	90 U	92 U 92 U	95 U 7.9 J	91 U 14 J
Butylbenzylphthalate	UG/KG	0	0%	0	ō	0	119	97 U	94 UJ	90 U	91 U	89 U	97 U	90 U	92 U	95 U	91 U
Carbazole	UG/KG	0	0%	0	0	0	119	97 U	94 UJ	90 U	91 U	89 U	97 U	90 U	92 U	95 U	91 U
Chrysene	UG/KG UG/KG	110 390	33% 34%	1000	0	39 40	119 119	12 J 97 U	6.6 J 28 J	80 J 4.9 J	72 J 8.4 J	89 U 4.9 J	78 J 9.3 J	17 J	110	26 J 95 U	91 U 6.7 J
Di-n-butylphthalate Di-n-octylphthalate	UG/KG	2,6	1%	0	0	1	119	97 UJ	94 UJ	90 UJ	91 UJ	89 UJ	97 UJ	6.5 J 90 UJ	6.7 J 92 UJ	95 UJ	91 UJ
Dibenz(a,h)anthracene	UG/KG	24	6%	330	0	7	119	97 U	94 UJ	17 J	17 J	89 U	14 J	5 J	24 J	95 U	91 U
Dibenzofuran	UG/KG	0	0%	7000	0	0	119	97 U	94 UJ	90 U	91 U	89 U	97 U	90 U	92 U	95 U	91 U
Diethyl phthalate Dimethylphthalate	UG/KG UG/KG	8.8	2% 0%	0	0	2	119 119	97 U 97 U	94 UJ 94 UJ	90 U 90 U	91 U 91 U	89 U 89 U	97 U 97 U	90 U 90 U	92 U 92 U	95 U 95 U	91 U 91 U
Fluoranthene	UG/KG	150	50%	100000	0	60	119	97 U	94 UJ	100	73 3	5 3	100	20 1	150	40 J	91 U
Fluorene	UG/KG	120	2%	30000	0	2	119	97 U	94 UJ	90 U	91 U	89 U	97 U	90 U	8.1 J	95 U	91 U
Hexachlorobenzene	UG/KG	0	0%	330	0	0	119	97 U	94 UJ	90 U	91 U	89 U	97 U	90 U	92 U	95 U	91 U
Hexachlorobutadiene Hexachlorocyclopentadiene	UG/KG UG/KG	0	0%	0	0	0	119 119	97 U 97 U	94 UJ 94 UJ	90 U 90 U	91 U 91 U	89 U 89 U	97 U 97 U	90 U 90 U	92 U 92 U	95 U 95 U	91 U 91 U
Hexachloroethane	UG/KG	0	0%	0	0	0	119	97 U	94 UJ	90 U	91 U	89 U	97 U	90 U	92 U	95 U	91 U
Indeno(1,2,3-cd)pyrene	UG/KG	37	13%	500	0	15	119	97 U	94 UJ	34 J	28 J	89 U	25 J	10 J	37 J	16 )	91 U
Isophorone	UG/KG	0	0%	0	0	0	119	97 U	94 UJ	90 U	91 U	89 U	97 U	90 U	92 U	95 U	91 U
N-Nitrosodiphenylamine N-Nitrosodipropylamine	UG/KG UG/KG	75 0	2% 0%	0	0	0	119 119	97 U 97 U	94 UJ 94 UJ	90 U 90 U	91 U 91 U	89 U 89 U	97 U 97 U	90 U 90 U	92 U 92 U	95 U 95 U	91 U 91 U
Naphthalene	UG/KG	180	1%	12000	0	1	119	97 U	94 UJ	90 U	91 U	89 U	97 U	90 U	92 U	95 U	91 U
Nitrobenzene	UG/KG	0	0%	0	0	0	119	97 U	94 UJ	90 U	91 U	89 U	97 U	90 U	92 U	95 U	91 U
Pentachlorophenol Phenanthrene	UG/KG UG/KG	0 230	0% 37%	100000	0	0	119 119	240 UJ 97 U	240 UJ 94 UJ	220 UJ 52 J	230 UJ 42 J	220 UJ 89 U	240 UJ 81 J	220 UJ 9.3 J	230 UJ 110	240 UJ 16 J	230 UJ 91 U
Phenol	UG/KG	51	13%	330	0	16	119	97 U	94 UJ	90 U	91 U	89 U	97 U	90 U	92 U	95 U	91 U
Pyrene Explosives	UG/KG	230	52%	100000	3	62	119	97 UJ	94 UJ	130	100	5.7 J	140	22 J	230	32 J	91 UJ
1,3,5-Trinitrobenzene	UG/KG	0	0%	0	0	0	119	120 U									
1,3-Dinitrobenzene	UG/KG	0	0%	0	0	0	119	120 U									
2,4,6-Trinitrotoluene	UG/KG	0	0%	0	0	0	119	120 U									
2,4-Dinitrotoluene 2,6-Dinitrotoluene	UG/KG UG/KG	0	0%	0	0	0	119	120 U 120 U									
2-Nitrotoluene	UG/KG	0	0%	0	0	0	101	120 U									
2-amino-4,6-Dinitrotoluene	UG/KG	0	0%	0	0	0	119	120 U									
3-Nitrotoluene	UG/KG	0	0%	0	0	0	101	120 U									
4-Nitrotoluene 4-amino-2,6-Dinitrotoluene	UG/KG UG/KG	0	0%	0	0	0	101 119	120 U 120 U									
HMX	UG/KG	0	0%	0	0	0	119	120 U									
Nitrobenzene	UG/KG	0	0%	0	0	0	101	120 U									
RDX	UG/KG UG/KG	0	0%	0	0	0	119	120 U	120 U	120 U	120 U	120 U 120 U	120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U
Tetryl Pesticides and PCBs	00/80	U	076	U	0	U	119	120 U	120 U	120 U	120 U	120 0	120 0	120 0	120 0	120 0	120 0
4,4'-DDD	UG/KG	54	7%	3.3	5	8	119	4.8 U	4.7 U	4.5 U	4.6 U	4.4 U	4.8 U	4.5 U	4.6 U	4.8 U	4.6 U
4,4'-DDE	UG/KG	32	8%	3.3	7	9	119	4.8 U	4.7 U	4.5 U	4.6 U	4.4 U	4.8 U	4.5 U	4.6 U	4.8 U	4.6 U
4,4'-DDT Aldrin	UG/KG UG/KG	23 0	5% 0%	3.3	5	6	119 119	4.8 U 2.5 U	4.7 U 2.4 U	4.5 U 2.3 U	4.6 U 2.4 U	4.4 U 2.3 U	4.8 U 2.5 U	4.5 U 2.3 U	2.9 J 2.4 U	4.8 U 2.5 U	4.6 U 2.3 U
Alpha-BHC	UG/KG	1.4	2%	20	o	2	119	2.5 U	2.4 U	2.3 U	2.4 U	2.3 U	1.4 J	2.3 U	2.4 U	2.5 U	2.3 U
Alpha-Chlordane	UG/KG	16	6%	94	0	7	119	2.5 U	2.4 U	2.3 U	2.4 U	2.3 U	2.5 U	2.3 U	2.4 U	2.5 U	2.3 U
Aroclor-1016	UG/KG	0	0%	100	0	0	119	48 U	47 U	45 U	46 U	44 U	48 U	45 U	46 U	48 U	46 U
Aroclor-1221 Aroclor-1232	UG/KG UG/KG	0	0% 0%	100	0	0	119 119	98 U 48 U	96 U 47 U	92 U 45 U	93 U 46 U	90 U 44 U	98 U 48 U	91 U 45 U	93 U 46 U	97 U 48 U	92 U 46 U
Aroclar-1242	UG/KG	0	0%	100	0	0	119	48 U	47 U	45 U	46 U	44 U	48 U	45 U	46 U	48 U	46 U
Aroclor-1248	UG/KG	0	0%	100	0	0	119	48 U	47 U	45 U	46 U	44 U	48 U	45 U	46 U	48 U	46 U
Aroclor-1254	UG/KG	0	0%	100	0	0	119	48 U	47 U	45 U	46 U	44 U	48 U	45 U	46 U	48 U	46 U
Aroclor-1260 Beta-BHC	UG/KG UG/KG	27 4.5	2% 1%	100 36	0	2	119 119	48 U 2.5 U	47 U 2.4 U	45 U 2.3 U	46 U 2.4 U	44 U 2.3 U	48 U 4.5 J	45 U 2.3 U	46 U 2.4 U	48 U 2.5 U	46 U 2.3 U
Delta-BHC	UG/KG	0	0%	40	0	ô	119	2,5 U	2.4 U	2.3 U	2.4 U	2.3 U	2.5 U	2.3 U	2.4 U	2.5 U	2.3 U
Dieldrin	UG/KG	27	6%	5	5	7	119	4.8 U	4.7 U	4.5 U	4.6 U	4.4 U	4.8 U	4.5 U	4.6 U	4.8 U	4.6 U

TABLE 1 SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

SEAD-57 SEAD-57 SEAD-57

SEAD-57

SEAD-57 SEAD-57 SEAD-57

SEAD-57

								SD57-11 Ditchsoil 573008	SD57-10 Ditchsoil 573031	SD57-16 Ditchsoil 573000	SEAD-57 SD57-13 Ditchsoil 573001	SEAD-57 SD57-24 Ditchsoil 573002	SEAD-57 SD57-14 Ditchsoil 573003	SEAD-57 SD57-17 Ditchsoil 573004	SEAD-57 SD57-18 Ditchsoil 573005	SEAD-57 SD57-26 Ditchsoil 573006	SEAD-57 SD57-11 Ditchsoil 573007
								0 0.2 01/05/00 DU	0 0.2 01/10/00 DU	0 0.2 01/04/00 SA	0 0.2 01/04/00 SA	0 0.2 01/04/00 SA	0 0.2 01/05/00 SA	0 0.2 01/05/00 SA	0 0.2 01/05/00 SA	0 0.2 01/05/00 SA	0 0.2 01/05/00 SA
		Maximum	Frequency of of	Criteria	Number	Number of Times	Number of Samples	PIS1 RI	PISI RI	PISI RI	PISI RI	PISI RI	PISI RI	PISI RI	PISI RI	PISI RI	PISI RI
Parameter	Units	Concentration	Detection	Value 1	Exceedances	Detected	Analyzed <sup>2</sup>	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Endosulfan I Endosulfan II	UG/KG	5.2	1%	2400	0	1	119	2.5 U	2.4 U	2.3 U	2.4 U	2.3 U	2.5 U	2.3 U	2.4 U	2.5 U	2.3 U
Endosulfan sulfate	UG/KG UG/KG	3.1	1% 0%	2400 2400	0	1	119 119	4.8 U 4.8 U	4.7 U 4.7 U	4.5 U	4.6 U	4.4 U	4.8 U	4.5 U	4.6 U	4.8 U	4.6 U
Endrin	UG/KG	0	0%	14	0	0	119	4.8 U	4.7 U	4.5 U 4.5 U	4.6 U 4.6 U	4.4 U 4.4 U	4.8 U 4.8 U	4.5 U 4.5 U	4.6 U 4.6 U	4.8 U 4.8 U	4.6 U 4.6 U
Endrin aldehyde	UG/KG	3.8	1%	0	0	1	119	4.8 U	4.7 U	4.5 U	4.6 U	4.4 U	4.8 U	4.5 U	3.8 J	4.8 U	4.6 U
Endrin ketone	UG/KG	4	1%	0	0	1	119	4.8 U	4.7 U	4.5 U	4.6 U	4.4 U	4.8 U	4.5 U	4 J	4.8 U	4.6 U
Gamma-BHC/Lindane	UG/KG	0	0%	100	0	0	119	2.5 U	2.4 U	2.3 U	2.4 U	2.3 U	2.5 U	2.3 U	2.4 U	2.5 U	2.3 U
Gamma-Chlordane Heptachlor	UG/KG UG/KG	0	0% 1%	0	0	0	119	2.5 U	2.4 U	2.3 U	2.4 U	2.3 U	2.5 U	2.3 U	2.4 U	2.5 U	2.3 U
Heptachlor epoxide	UG/KG	2	1%	0	0	1	119 119	2.5 U 2.5 U	2.4 U 2.4 U	2.3 U 2.3 U	2.4 U 2.4 U	2.3 U 2.3 U	1.6 J 2.5 U	2.3 U 2.3 U	2.4 U 2.4 U	2.5 U	2.3 U
Methoxychlor	UG/KG	ō	0%	o	0	o	119	25 U	24 U	23 U	24 U	23 U	25 UJ	23 U	2.4 U	2.5 U 25 U	2.3 U 23 U
Toxaphene	UG/KG	0	0%	0	0	0	119	250 U	240 U	230 U	240 U	230 U	250 U	230 U	240 U	250 U	230 U
Herbicides	1107/0			-													
2,4,5-T 2,4,5-TP/Silvex	UG/KG UG/KG	0	0%	0 3800	0	0	18 18										
2,4-D	UG/KG	0	0%	0	0	0	18										
2,4-DB	UG/KG	0	0%	0	0	o	18										
Dalapon	UG/KG	0	0%	0	0	0	18										
Dicamba	UG/KG	0	0%	0	0	0	18										
Dichloroprop Dinoseb	UG/KG UG/KG	0	0%	0	0	0	18										
MCPA	UG/KG	0	0%	0	0	0	18 18										
MCPP	UG/KG	0	0%	0	0	0	18										
Metals and Cyanide						-	10										
	MG/KG	22900	100%	0	0	119	119	16500	12900 J	16200	17700	16000	17000	14100	16800	12400	15100
Aluminum																	
Antimony	MG/KG	6.5	49%	0	0	58	119	0.63 UR	0.99 J	0.7 J	0.54 UR	0.36 J	0.86 J	0.96 J	0.61 UR	0,75 J	0.46 UR
Antimony Arsenic	MG/KG MG/KG	6.5 17.8	92%	13	1	110	119	4.7	4.6	7	5.9	5	5.7	4.8	0.61 UR 4.1	17.8	0.46 UR 4.8
Antimony Arsenic Barium	MG/KG MG/KG MG/KG	6.5 17.8 237	92% 100%	13 350	1 0	110 119	119 119	4.7 237	4.6 209	7 119	5.9 217	5 107	5.7 131	4.8 93.6	0.61 UR 4.1 139	17.8 85.6	0.46 UR 4.8 158
Antimony Arsenic	MG/KG MG/KG	6.5 17.8	92%	13	1	110 119 119	119 119 119	4.7 237 0.98 J	4.6 209 0.81 J	7 119 1.2 J	5.9 217 1.8	5 107 0.87 J	5.7 131 1.1	4.8 93.6 0.87 J	0.61 UR 4.1 139	17.8 85.6 0.73 J	0.46 UR 4.8 158 0.94 J
Antimony Arsenic Barylium Beryllium Cadmium Calcium	MG/KG MG/KG MG/KG MG/KG MG/KG	6.5 17.8 237 1.8 28.6 213000	92% 100% 100% 22% 100%	13 350 7.2 2.5 0	1 0 0 6	110 119 119 26 119	119 119 119 119 119	4.7 237 0.98 J 13.5 3860	4.6 209 0.81 J 3.3 2590	7 119	5.9 217	5 107	5.7 131	4.8 93.6	0.61 UR 4.1 139	17.8 85.6	0.46 UR 4.8 158
Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium	MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG	6.5 17.8 237 1.8 28.6 213000 32.1	92% 100% 100% 22% 100% 100%	13 350 7.2 2.5 0	1 0 0 6 0 2	110 119 119 26 119 119	119 119 119 119 119 119	4.7 237 0.98 J 13.5 J 3860 22.9	4.6 209 0.81 J 3.3 2590 19.5 J	7 119 1.2 J 0.42 J 4440 24.1	5.9 217 1.8 0.22 J 10800 26	5 107 0.87 J 0.19 U 5330 23.5	5.7 131 1.1 0.17 U 7090 24.4	4.8 93.6 0.87 J 0.17 U 5830 22.4	0.61 UR 4.1 139 1 J 2 J 3890 25.5	17.8 85.6 0.73 J 0.19 U 7610 17.7	0.46 UR 4.8 158 0.94 J 28.6 J 3580 21
Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt	MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG	6.5 17.8 237 1.8 28.6 213000 32.1 29.7	92% 100% 100% 22% 100% 100%	13 350 7.2 2.5 0 30	1 0 0 6 0 2	110 119 119 26 119 119	119 119 119 119 119 119	4.7 237 0.98 J 13.5 J 3860 22.9 10.1 J	4.6 209 0.81 J 3.3 2590 19.5 J 11.5	7 119 1.2 J 0.42 J 4440 24.1 13.2	5.9 217 1.8 0.22 J 10800 26 19.7	5 107 0.87 J 0.19 U 5330 23.5 10 J	5.7 131 1.1 0.17 U 7090 24.4 10.6	4.8 93.6 0.87 J 0.17 U 5830 22.4 10.1 J	0.61 UR 4.1 139 1 J 2 J 3890 25.5 9.6 J	17.8 85.6 0.73 J 0.19 U 7610 17.7 9.1 J	0.46 UR 4.8 158 0.94 J 28.6 J 3580 21 9.3 J
Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper	MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG	6.5 17.8 237 1.8 28.6 213000 32.1 29.7 2930	92% 100% 100% 22% 100% 100% 92%	13 350 7.2 2.5 0 30 0 50	1 0 0 6 0 2 0 2	110 119 119 26 119 119 119	119 119 119 119 119 119 119	4.7 237 0.98 J 13.5 3860 22.9 10.1 J 21.8 U	4.6 209 0.81 J 3.3 2590 19.5 J 11.5 19.5	7 119 1.2 J 0.42 J 4440 24.1 13.2 26.5 U	5.9 217 1.8 0.22 J 10800 26 19.7 29.7 U	5 107 0.87 J 0.19 U 5330 23.5 10 J 25.4 U	5.7 131 1.1 0.17 U 7090 24.4 10.6 28.2 U	4.8 93.6 0.87 J 0.17 U 5830 22.4 10.1 J 31.6 U	0.61 UR 4.1 139 1 J 2 J 3890 25.5 9.6 J 29.6 U	17.8 85.6 0.73 J 0.19 U 7610 17.7 9.1 J 31.5 U	0.46 UR 4.8 158 0.94 J 28.6 J 3580 21 9.3 J 19.9 U
Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt	MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG	6.5 17.8 237 1.8 28.6 213000 32.1 29.7	92% 100% 100% 22% 100% 100%	13 350 7.2 2.5 0 30	1 0 0 6 0 2	110 119 119 26 119 119	119 119 119 119 119 119	4.7 237 0.98 J 13.5 J 3860 22.9 10.1 J	4.6 209 0.81 J 3.3 2590 19.5 J 11.5 19.5 0.63 U	7 119 1.2 J 0.42 J 4440 24.1 13.2 26.5 U 0.65 U	5.9 217 1.8 0.22 J 10800 26 19.7 29.7 U 0.68 U	5 107 0.87 J 0.19 U 5330 23.5 10 J 25.4 U 0.62 U	5.7 131 1.1 0.17 U 7090 24.4 10.6 28.2 U 0.72 U	4.8 93.6 0.87 J 0.17 U 5830 22.4 10.1 J 31.6 U 0.62 U	0.61 UR 4.1 139 1 J 2 J 3890 25.5 9.6 J 29.6 U 0.63 U	85.6 0.73 J 0.19 U 7610 17.7 9.1 J 31.5 U 0.71 U	0.46 UR 4.8 158 0.94 J 28.6 J 3580 21 9.3 J 19.9 U 0.65 U
Antimony Arsenic Sarium Beryllium Cadmium Calcium Chromium Cobalt Copper Cyanide Iron Lead	MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG	6.5 17.8 237 1.8 28.6 213000 32.1 29.7 2930 0 39800 1860	92% 100% 100% 22% 100% 100% 100% 92% 0% 100% 100%	13 350 7.2 2.5 0 30 0 50 27 0 63	0 0 6 0 2 0 2 0 2	110 119 119 26 119 119 119 109 0	119 119 119 119 119 119 119 119 119 119	4.7 237 0.98 J 13.5] 3860 22.9 10.1 J 21.8 U 0.66 U 27100 J 21.8 J	4.6 209 0.81 J 3.3 2590 19.5 J 11.5 19.5	7 119 1.2 J 0.42 J 4440 24.1 13.2 26.5 U	5.9 217 1.8 0.22 J 10800 26 19.7 29.7 U	5 107 0.87 J 0.19 U 5330 23.5 10 J 25.4 U	5.7 131 1.1 0.17 U 7090 24.4 10.6 28.2 U	4.8 93.6 0.87 J 0.17 U 5830 22.4 10.1 J 31.6 U	0.61 UR 4.1 139 1 J 2 J 3890 25.5 9.6 J 29.6 U	17.8 85.6 0.73 J 0.19 U 7610 17.7 9.1 J 31.5 U	0.46 UR 4.8 158 0.94 J 28.6 J 3580 21 9.3 J 19.9 U
Antimony Arsenic Banium Beryllium Cadmium Calcium Chromium Cobalt Copper Cyanide Iron Lead Magnesium	MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG	6.5 17.8 237 1.8 28.6 213000 32.1 29.7 2930 0 39800 1860 27600	92% 100% 100% 22% 100% 100% 100% 92% 0% 100% 100%	13 350 7.2 2.5 0 30 0 50 27 0 63	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	110 119 119 26 119 119 119 109 0 119 119	119 119 119 119 119 119 119 119 119 119	4.7 237 0.98 J 13.5 J 3860 22.9 10.1 J 21.8 U 0.66 U 27100 J 21.8 J 4370	4.6 209 0.81 J 3.3 2590 19.5 J 11.5 19.5 0.63 U 27100 J 19.1 J 3920	7 119 1.2 J 0.42 J 4440 24.1 13.2 26.5 U 0.65 U 31600 29.4 J	5.9 217 1.8 0.22 J 10800 26 19.7 29.7 U 0.68 U 33700 28.2 J 5710	5 107 0.87 J 0.19 U 5330 23.5 10 J 25.4 U 0.62 U 28200 25.7 J 5000	5.7 131 1.1 0.17 U 7090 24.4 10.6 28.2 U 0.72 U 28900 27.9 J 5130	4.8 93.6 0.87 J 0.17 U 5830 22.4 10.1 J 31.6 U 0.62 U 26800 27 J	0.61 UR 4.1 139 1 J 2 J 3890 25.5 9.6 J 29.6 U 0.63 U 27300 31.8 J 5140	85.6 0.73 J 0.19 U 7610 17.7 9.1 J 31.5 U 0.71 U 20600 35 J	0.46 UR 4.8 158 0.94 J 28.6 J 3580 21 9.3 J 19.9 U 0.65 U 25600 J 18.4 J 4110
Antimony Arsenic Sanium Beryllium Cadmium Calcium Chromium Cobalt Copper Cyanide Iroa Lead Magnesium Manganese	MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG	6.5 17.8 23.7 1.8 28.6 213000 32.1 29.7 2930 0 39800 1860 27600 2580	92% 100% 100% 22% 100% 100% 100% 92% 0% 100% 100% 100% 100%	13 350 7.2 2.5 0 30 0 50 27 0 63 0	0 6 0 2 0 2 0 2	110 119 119 26 119 119 109 0 119 119 119	119 119 119 119 119 119 119 119 119 119	4.7 237 0.98 J 13.5 J 3860 22.9 10.1 J 21.8 U 0.66 U 27100 J 21.8 J 4370 338 J	4.6 209 0.81 J 3.33 2590 19.5 J 11.5 19.5 0.63 U 27100 J 19.1 J 3920 513 J	7 119 1.2 J 0.42 J 4440 24.1 13.2 26.5 U 0.65 U 31600 29.4 J 4900 701 J	5.9 217 1.8 0.22 J 10800 26 19.7 29.7 U 0.68 U 33700 28.2 J 5710	5 107 0.87 J 0.19 U 5330 23.5 10 J 25.4 U 0.62 U 28200 25.7 J 5000 330 J	5.7 131 1.1 0.17 U 7090 24.4 10.6 28.2 U 0.72 U 28900 27.9 J 5130 460 J	4.8 93.6 0.87 J 0.17 U 5830 22.4 10.1 J 31.6 U 0.62 U 26800 27 J 5470 275 J	0.61 UR 4,1 139 1 J 2 J 3890 25,5 9.6 J 29.6 U 0.63 U 27300 31.8 J 5140 256 J	17.8 85.6 0.73 J 0.19 U 7610 17.7 9.1 J 31.5 U 0.71 U 20600 35 J 4210 269 J	0.46 UR 4.8 158 0.94 J 28.6 J 3580 21 9.3 J 19.9 U 0.65 U 25600 J 18.4 J 4110 334 J
Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Cyanide Iron Lend Magnesium Manganese Mercury	MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG	6.5 17.8 237 1.8 28.6 213000 32.1 29.7 2930 0 39800 1860 27600 2580 0.15	92% 100% 100% 22% 100% 100% 100% 100% 100	13 350 7.2 2.5 0 30 0 50 27 0 63 0 1600 0.18	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	110 119 119 26 119 119 109 0 119 119 119 119	119 119 119 119 119 119 119 119 119 119	4.7 237 0.98 J 13.5 J 3860 22.9 10.1 J 21.8 U 0.66 U 27100 J 21.8 J 4370 338 J 0.07 U	4.6 209 0.81 J 3.3 2590 19.5 J 11.5 19.5 0.63 U 27100 J 19.1 J 3920 513 J 0.09 J	7 119 1.2 J 0.42 J 4440 24.1 13.2 26.5 U 0.65 U 31600 29.4 J 4900 701 J 0.07 U	5.9 217 1.8 0.22 J 10800 26 19.7 29.7 U 0.68 U 33700 28.2 J 5710 2880 J 0.07 U	5 107 0.87 J 0.19 U 5330 23.5 10 J 25.4 U 0.62 U 28200 25.7 J 5000 330 J 0.06 U	5.7 131 1.1 0.17 U 7090 24.4 10.6 28.2 U 0.72 U 28900 27.9 J 5130 460 J 0.07 J	4.8 93.6 0.87 J 0.17 U 5830 22.4 10.1 J 31.6 U 0.62 U 26800 27 J 5470 275 J 0.07 U	0.61 UR 4,1 139 1 J 2 J 3890 25.5 9.6 J 29.6 U 0.63 U 27300 31.8 J 5140 256 J	85.6 0.73 J 0.19 U 7610 17.7 9.1 J 31.5 U 0.71 U 20600 35 J 4210 269 J 0.07 U	0.46 UR 4.8 158 0.94 J 28.6 J 3580 21 9.3 J 19.9 U 0.65 U 25600 J 18.4 J 4110 334 J 0.07 U
Antimony Arsenic Sanium Beryllium Cadmium Calcium Chromium Cobalt Copper Cyanide Iroa Lead Magnesium Manganese	MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG	6.5 17.8 23.7 1.8 28.6 213000 32.1 29.7 2930 0 39800 1860 27600 2580	92% 100% 100% 22% 100% 100% 100% 92% 0% 100% 100% 100% 100%	13 350 7.2 2.5 0 30 0 50 27 0 63 0	0 6 0 2 0 2 0 2	110 119 119 26 119 119 119 109 0 119 119 119 119 119	119 119 119 119 119 119 119 119 119 119	4.7 237 0.98 J 13.5 J 3860 22.9 10.1 J 21.8 U 0.66 U 27100 J 21.8 J 338 J 0.07 U 25.7 J	4.6 209 0.81 J 2590 19.5 J 11.5 19.5 O.63 U 27100 J 19.1 J 3920 513 J 0.09 J 24.2	7 119 1.2 J 0.42 J 4440 24.1 13.2 26.5 U 0.65 U 31600 29.4 J 4900 701 J 0.07 U	5.9 217 1.8 0.22 J 10800 26 19.7 29.7 U 0.68 U 33700 28.2 J 5710 2880 J 0.07 U	5 107 0.87 J 0.19 U 5330 23.5 10 J 25.4 U 0.62 U 28200 25.7 J 5000 330 J 0.06 U 30.4 J	5.7 131 1.1 0.17 U 7090 24.4 10.6 28.2 U 0.72 U 28900 27.9 J 5130 460 J 0.07 J	4.8 93.6 0.87 J 0.17 U 5830 22.4 10.1 J 31.6 U 0.62 U 26800 27 J 5470 0.07 U 33.7]	0.6! UR 4.1 139 1 J 2 J 3890 25.5 9.6 J 29.6 U 0.63 U 27300 31.8 J 140 256 J 0.06 U	85.6 0.73 J 0.19 U 7610 17.7 9.1 J 31.5 U 0.71 U 20600 35 J 4210 269 J 0.07 U 25 J	0.46 UR 4.8 0.94 J 28.6 J 3580 21 9.3 J 19.9 U 2660 J 18.4 J 4110 334 J 0.07 U 23.5 J
Antimony Arsenic Sanium Beryllium Cadmium Calcium Chromium Cobalt Copper Cyanide Iroa Lead Magnesium Manganese Mercury Nickel	MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG	6,5 17.8 237 1.8 28.6 213000 32.1 29.7 2930 0 39800 1860 27600 2580 0.15 54.1	92% 100% 100% 22% 100% 100% 100% 92% 0% 100% 100% 100% 100% 100%	13 350 7.2 2.5 0 30 0 50 27 0 63 0 1600 0.18	0 6 0 2 0 2 0 0 2 0 0 2 0 0 3 0 0 0 0 0 0 0	110 119 119 26 119 119 109 0 119 119 119 119	119 119 119 119 119 119 119 119 119 119	4.7 237 0.98 J 13.5 J 3860 22.9 10.1 J 21.8 U 0.66 U 27100 J 21.8 J 4370 338 J 0.07 U	4.6 209 0.81 J 3.3 2590 19.5 J 11.5 19.5 0.63 U 27100 J 19.1 J 3920 513 J 0.09 J	7 119 1.2 J 0.42 J 4440 24.1 13.2 26.5 U 0.65 U 31600 29.4 J 4900 701 J 0.07 U	5.9 217 1.8 0.22 J 10800 26 19.7 29.7 U 0.68 U 33700 28.2 J 5710 2880 J 0.07 U	5 107 0.87 J 0.19 U 5330 23.5 10 J 25.4 U 0.62 U 28200 25.7 J 5000 330 J 0.06 U	5.7 131 1.1 0.17 U 7090 24.4 10.6 28.2 U 0.72 U 28900 27.9 J 5130 460 J 0.07 J	4.8 93.6 0.87 J 0.17 U 5830 22.4 10.1 J 31.6 U 0.62 U 26800 27 J 5470 275 J 0.07 U	0.61 UR 4,1 139 1 J 2 J 3890 25.5 9.6 J 29.6 U 0.63 U 27300 31.8 J 5140 256 J	85.6 0.73 J 0.19 U 7610 17.7 9.1 J 31.5 U 0.71 U 20600 35 J 4210 269 J 0.07 U	0.46 UR 4.8 158 0.94 J 28.6 J 3580 21 9.3 J 19.9 U 0.65 U 25600 J 18.4 J 4110 334 J 0.07 U
Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Cyanide Iron Lead Magnesium Mangaesse Mercury Nickel Potassium Selenium Selenium Selenium	MG/KG MG/KG	6.5 17.8 237 1.8 28.6 213000 32.1 29.7 2930 0 39800 1860 27600 2580 0.15 54.1 3250 2.7	92% 100% 100% 22% 100% 100% 100% 100% 100	13 350 7.2 2.5 0 0 50 27 0 63 0 1600 0.18 30 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	110 119 26 119 119 109 0 119 119 119 119 119 119 1	119 119 119 119 119 119 119 119 119 119	4.7 237 0.98 J 13.8 J 3860 22.9 10.1 J 21.8 U 0.66 U 27100 J 21.8 J 4370 338 J 0.07 U 25.7 J 1370 J 0.63 U	4.6 209 0.81 J 3.3 2590 19.5 J 11.5 0.63 U 27100 J 19.1 J 3920 513 J 0.09 J 24.2 1160	7 119 1.2 J 0.42 J 4440 24.1 13.2 26.5 U 0.65 U 31600 29.4 J 4900 701 J 0.07 U 30.5 J 1810 1.1 J 0.44 J	5.9 217 1.8 0.22 J 10800 26 19.7 29.7 U 0.68 U 33700 28.2 J 5710 3520 J 0.07 U 36.2 J 1620 1.8 J	5 107 0.87 J 0.19 U 5330 23.5 10 J 25.4 U 0.62 U 28200 25.7 J 5000 330 J 0.06 U 30.4 J 1190 0.51 U	5.7 131 1.1 0.17 U 7090 24.4 10.6 28.2 U 0.72 U 28900 27.9 J 5130 460 J 0.07 J 30.11 J	4.8 93.6 0.87 J 0.17 U 5830 22.4 10.1 J 31.6 U 0.62 U 26800 27 J 5470 275 J 0.07 U 33.7 J 1310	0.6! UR 4.1 139 1 J 2 J 3890 25.5 9.6 J 29.6 U 0.63 U 27300 31.8 J 5140 256 J 0.06 U	85.6 0.73 J 0.19 U 7610 17.7 9.1 J 31.5 U 0.71 U 20600 35 J 4210 269 J 0.07 U 25 J 1250	0.46 UR 4.8 158 22.6 J 3580 21 9.3 J 19.9 U 25600 J 18.4 J 4110 334 J 0.07 U 23.5 J 1280
Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Cyanide Iroa Lead Magnesium Manganese Mercury Nickel Potassium Selenium Silver Sodium	MG/KG MG/KG	6.5 17.8 237 1.8 28.6 213000 32.1 29.7 2930 0 39800 1860 27600 2580 0.15 54.1 3250 2.7 1.7	92% 100% 100% 22% 100% 100% 100% 92% 0% 100% 100% 100% 100% 100% 100% 100%	13 350 7.2 2.5 0 30 0 50 27 0 63 0 1600 0.18 30 0 3.9 2	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	110 119 26 119 119 109 0 119 119 119 119 119 119 1	119 119 119 119 119 119 119 119 119 119	4.7 237 0.98 J 13.5.] 3860 22.9 10.1 J 21.8 U 0.66 U 27100 J 21.8 J 338 J 0.07 U 25.7 J 0.63 U 0.49 J 183 J	4.6 209 0.81 J 3.3 2590 19.5 J 11.5 19.5 0.63 U 27100 J 19.1 J 3920 513 J 0.09 J 24.2 1160 1.4 0.31 J 61.8 J	7 119 1.2 J 0.42 J 4440 24.1 13.2 26.5 U 31600 29.4 J 4900 701 J 0.07 U 30.5 J 1810 1.1 J 0.44 J 148 J	5.9 217 1.8 0.22 J 10800 26 19.7 29.7 U 0.68 U 33700 28.2 J 5710 2880 J 1620 1.8 J 0.63 J 71.5 U	5 107 0.87 J 0.19 U 5330 23.5 10 J 25.4 U 0.62 U 28200 25.7 J 5000 330 J 1190 0.51 U 0.3 UJ 0.51 U	5.7 131 1.1 0.17 U 7090 24.4 10.6 28.2 U 28900 27.9 J 5130 460 J 0.07 J 30.1 J 0.58 J 0.58 J 0.58 J	4.8 93.6 0.87 J 0.17 U 5830 22.4 10.1 J 31.6 U 26800 27 J 5470 275 J 0.07 U 33.7 J 1310 0.59 J 0.33 J 0.59 J	0.61 UR 4.1 139 1 J 2 J 3890 25.5 9.6 J 27900 31.8 J 5140 256 J 0.06 U 33.3 1420 0.69 UJ 0.36 UJ 79.9 U	17.8 85.6 0.73 J 0.19 U 7610 17.7 9.1 J 31.5 U 0.71 U 20600 35 J 4210 269 J 0.07 U 25 J 1250 0.84 J 0.31 UJ 68.3 U	0.46 UR 4.8 158 28.6 21 9.3 J 19.9 U 26.65 U 25600 J 18.4 J 4110 334 J 0.07 U 23.5 J 1280 0.69 J 0.49 J 60 U
Antimony Arsenic Banium Beryllium Cadmium Calcium Chromium Cobalt Copper Cyanide Iron Lead Magnesium Manganese Mercury Nickel Potassium Silver Sodium Thallium	MG/KG MG/KG	6.5 17.8 237 1.8 28.6 213000 32.1 29.7 2930 0 39800 1860 27600 2580 0.15 54.1 3250 2.7 1.7 270 6.7	92% 100% 100% 100% 22% 100% 100% 100% 100	13 350 7.2 2.5 0 30 0 50 27 0 63 0 0.18 30 0 0.18 30 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	110 119 26 119 119 109 0 119 119 119 119 119 119 1	119 119 119 119 119 119 119 119 119 119	4.7 237 0.98 J 13.5] 1 3860 22.9 10.1 J 21.8 U 0.66 U 27100 J 21.8 J 0.07 U 25.7 J 1370 J 0.63 U 0.49 J 183 J 1.6 J	4.6 209 0.81 3.3 2590 19.5 11.5 0.63 U 27100 J 19.1 J 3920 513 J 0.09 J 24.2 1160 1.4 0.31 J 61.8 J	7 119 1.2 J 0.42 J 4440 24.1 13.2 26.5 U 0.65 U 31600 29.4 J 4900 701 J 30.5 J 1810 1.1 J 0.44 J 148 J 1.7 J	5.9 217 1.8 0.22 J 10800 26 19.7 29.7 U 0.68 U 33700 28.2 J 5710 28.2 J 0.07 U 36.2 J 1620 1.8 J 0.63 J 71.5 U	5 107 0.87 J 0.19 U 5330 23.5 10 J 25.4 U 0.62 U 28200 25.7 J 5000 330 J 0.66 U 30.6 U 0.3	5.7 131 1.1 0.17 U 7090 24.4 10.6 28.2 U 0.72 U 28900 27.9 J 5130 460 J 0.07 J 30.1 J 1500 0.28 UJ 61.3 U 61.3 U	4.8 93.6 0.87 J 0.17 U 5830 22.4 10.1 J 31.6 U 0.62 U 26800 27 J 5470 275 J 0.07 U 33.7] 1310 0.59 J 0.33 J 61.5 U 1.8 J	0.61 UR 4.1 139 1 J 2 J 3890 25.5 9.6 J 0.63 U 27300 31.8 J 5140 256 J 0.06 U 33.33 J 1420 0.69 UJ 0.36 UJ 79.9 U 1.5 J	85.6 0.73 J 0.19 U 7610 17.7 9.1 J 31.5 U 0.71 U 20600 35 J 4210 269 J 0.07 U 25 J 1250 0.84 J 0.31 UJ 68.3 U 1.9 J	0.46 UR 4.8 1.8 1.94 J 22.6 J 3580 21 9.3 J 19.9 U 0.65 U 25600 J 18.4 J 4110 334 J 0.07 U 23.3 J 1280 0.69 J 0.69 J 0.69 J
Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Cyanide Iron Lend Magnesium Manganese Mercury Nickel Potassium Selenium Selenium Silver Sodium Thallium Vanadium	MG/KG MG/KG	6.5 17.8 237 1.8 28.6 213000 32.1 29.7 2930 0 39800 1860 27600 2580 0.15 54.1 3250 2.7 1.7 270 6.7	92% 100% 100% 100% 100% 100% 100% 100% 10	13 350 7.2 2.5 0 30 0 50 27 0 63 0 0.18 30 0 0 3.9 2 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	110 119 26 119 119 109 0 119 119 119 119 119 119 45 41 98	119 119 119 119 119 119 119 119 119 119	4.7 237 0.98 J 13.5 J 18.60 22.9 10.1 J 21.8 U 27.100 J 21.8 J 4370 338 J 0.07 U 25.7 J 1370 J 0.63 U 0.64 U 0.49 J 1.8 J 1.8 J	4.6 209 0.81 J 3.3 2590 19.5 J 11.5 19.5 0.63 U 27100 J 19.1 J 3920 513 J 0.09 J 24.2 1160 1.4 0.31 J 61.8 J 1.8 26.7	7 119 1.2 J 0.42 J 0.42 J 4440 24.1 13.2 26.5 U 31600 29.4 J 4900 701 J 0.07 U 30.5] 1810 1.1 J 0.44 J 148 J 1.7 J 1.14	5.9 217 1.8 0.22 J 10800 26 19.7 29.7 U 0.68 U 33700 28.2 J 5710 0.07 U 36.2 J 1620 1.8 J 0.63 J 71.5 U 4.4 37.4	5 107 0.87 J 0.19 U 5330 23.5 10 J 25.4 U 0.62 U 28200 25.7 J 5000 330.4 J 1190 0.51 U 0.3 UJ 67.6 U 1.8 J 30.3	5.7 131 1.1 0.17 U 7090 24.4 10.6 28.2 U 0.72 U 28900 27.9 J 5130 460 J 0.07 J 30.3 J 0.28 U 15.3 U 3.8 J 3.8 32.4	4.8 93.6 0.87 J 0.17 U 5830 22.4 10.1 J 31.6 U 26800 27 J 5470 275 J 0.07 U 33.7 J 1310 0.59 J 0.33 J 61.5 U 1.8 J	0.61 UR 4.1 139 1 J 2 J 3890 25.5 9.6 J 27300 31.8 J 5140 256 J 0.06 U 33.3 J 1420 0.69 UJ 0.36 UJ 79.9 U 1.5 J 29	17.8 85.6 0.73 J 0.19 U 7610 17.7 9.1 J 31.5 U 0.71 U 20600 35 J 4210 269 J 0.07 U 25 J 1250 0.84 J 0.84 J 0.83 U 1.9 J 268 J	0.46 UR 4.8 158 22.6 J 23.6 J 33.80 21 9.3 J 19.9 U 26.65 U 25600 J 18.4 J 4110 334 J 0.07 U 23.5 J 1280 0.69 J 0.49 J 2.6 J 2.6 J 2.7 J 2.8
Antimony Arsenic Banium Beryllium Cadmium Calcium Chromium Cobalt Copper Cyanide Iron Lead Magnesium Manganese Mercury Nickel Potassium Silver Sodium Thallium	MG/KG MG/KG	6.5 17.8 237 1.8 28.6 213000 32.1 29.7 2930 0 39800 1860 27600 2580 0.15 54.1 3250 2.7 1.7 270 6.7	92% 100% 100% 100% 22% 100% 100% 100% 100	13 350 7.2 2.5 0 30 0 50 27 0 63 0 0.18 30 0 0.18 30 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	110 119 26 119 119 109 0 119 119 119 119 119 119 1	119 119 119 119 119 119 119 119 119 119	4.7 237 0.98 J 13.5] 1 3860 22.9 10.1 J 21.8 U 0.66 U 27100 J 21.8 J 0.07 U 25.7 J 1370 J 0.63 U 0.49 J 183 J 1.6 J	4.6 209 0.81 3.3 2590 19.5 11.5 0.63 U 27100 J 19.1 J 3920 513 J 0.09 J 24.2 1160 1.4 0.31 J 61.8 J	7 119 1.2 J 0.42 J 4440 24.1 13.2 26.5 U 0.65 U 31600 29.4 J 4900 701 J 30.5 J 1810 1.1 J 0.44 J 148 J 1.7 J	5.9 217 1.8 0.22 J 10800 26 19.7 29.7 U 0.68 U 33700 28.2 J 5710 28.2 J 0.07 U 36.2 J 1620 1.8 J 0.63 J 71.5 U	5 107 0.87 J 0.19 U 5330 23.5 10 J 25.4 U 0.62 U 28200 25.7 J 5000 330 J 0.66 U 30.6 U 0.3	5.7 131 1.1 0.17 U 7090 24.4 10.6 28.2 U 0.72 U 28900 27.9 J 5130 460 J 0.07 J 30.1 J 1500 0.28 UJ 61.3 U 61.3 U	4.8 93.6 0.87 J 0.17 U 5830 22.4 10.1 J 31.6 U 0.62 U 26800 27 J 5470 275 J 0.07 U 33.7] 1310 0.59 J 0.33 J 61.5 U 1.8 J	0.61 UR 4.1 139 1 J 2 J 3890 25.5 9.6 J 0.63 U 27300 31.8 J 5140 256 J 0.06 U 33.33 J 1420 0.69 UJ 0.36 UJ 79.9 U 1.5 J	85.6 0.73 J 0.19 U 7610 17.7 9.1 J 31.5 U 0.71 U 20600 35 J 4210 269 J 0.07 U 25 J 1250 0.84 J 0.31 UJ 68.3 U 1.9 J	0.46 UR 4.8 1.8 1.9 2.8.6] 3580 21 9.3 J 19.9 U 0.65 U 25600 J 18.4 J 4110 334 J 4110 334 J 0.07 U 23.5 J 1280 0.69 J 0.69 J 0.69 J 0.69 J 0.69 J 0.69 J 0.69 J 0.69 J 0.69 J
Antimony Arsenic Barium Beryllium Cadmium Cadmium Calcium Chromium Cobalt Copper Cyanide Iron Lead Magnesium Manganese Mercury Nickel Potassium Silver Sodium Thallium Vanadium Zinc Other Analyses Cation exchange capacity	MG/KG MG/KG	6.5 17.8 237 1.8 28.6 213000 32.1 29.7 2930 0 39800 1860 27600 2580 0.15 54.1 32.50 2.7 1.7 270 6.7 104 1250	92% 100% 100% 100% 22% 100% 100% 100% 100	13 350 7.2 2.5 0 0 0 50 27 0 63 0 0 1600 0.18 30 0 0 0 0 19 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	110 119 26 119 119 109 0 119 119 119 119 119 119 41 41 98 1119 119 119 119 119 119 119 119 11	119 119 119 119 119 119 119 119 119 119	4.7 237 0.98 J 13.5 J 38.60 22.9 10.1 J 21.8 U 0.66 U 27100 J 21.8 J 338 J 0.07 U 25.7 J 1370 J 0.63 U 0.49 J 183 J 1.6 J 30.1 f 7.5 J	4.6 209 0.81 J 3.3 2590 19.5 J 11.5 19.5 0.63 U 27100 J 19.1 J 3920 513 J 0.09 J 24.2 1160 1.4 0.31 J 61.8 J 1.8 26.7 70.8	7 119 1.2 J 0.42 J 4440 24.1 13.2 26.5 U 31600 29.4 J 4900 701 J 0.07 U 30.5 J 1810 1.1 J 0.44 J 148 J 1.7 J 31.4 487 J	5.9 217 1.8 0.22 J 10800 26 19.7 29.7 U 33700 28.2 J 5710 28.2 J 1620 1.8 J 0.63 J 71.5 U 4.4 37.4 150 J	5 107 0.87 J 0.19 U 5330 23.5 10 J 25.4 U 0.62 U 28200 25.7 J 5000 330 J 1190 0.51 U 0.3 UJ 1.8 J 30.4 J 1.8 J 30.4 J	5.7 131 1.1 0.17 U 7090 24.4 10.6 28.2 U 0.72 U 28900 27.9 J 5130 460 J 0.07 J 30.3 J 0.28 U 15.3 U 3.8 J 3.8 32.4	4.8 93.6 0.87 J 0.17 U 5830 22.4 10.1 J 31.6 U 26800 27 J 5470 275 J 0.07 U 33.7 J 1310 0.59 J 0.33 J 61.5 U 1.8 J	0.61 UR 4.1 139 1 J 2 J 3890 25.5 9.6 J 27300 31.8 J 5140 256 J 0.06 U 33.3 J 1420 0.69 UJ 0.36 UJ 79.9 U 1.5 J 29	17.8 85.6 0.73 J 0.19 U 7610 17.7 9.1 J 31.5 U 0.71 U 20600 35 J 4210 269 J 0.07 U 25 J 1250 0.84 J 0.84 J 0.83 U 1.9 J 268 J	0.46 UR 4.8 158 198 28.6 21 9.3 J 19.9 U 25600 J 18.4 J 4110 334 J 0.07 U 23.5 J 1280 0.69 J 0.49 J 60 U 2.3 2.8.1
Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Cyanide Iron Lead Magnesium Mangaese Mercury Nickel Potassium Selenium Selenium Silver Sodium Thallium Vanadium Zothe Analyses Cation exchange capacity Nitrate/Nitris Nitrogen	MG/KG MG/KG	6.5 17.8 237 1.8 28.6 213000 32.1 29.7 2930 0 39800 1860 27600 2580 0.15 54.1 3250 2.7 1.7 270 6.7 104 1250	92% 100% 100% 100% 100% 100% 100% 100% 10	13 350 7.2 2.5 0 0 0 50 27 0 63 0 1600 0.18 30 0 0 3.9 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	110 119 26 119 119 119 119 119 119 119 119 119 11	119 119 119 119 119 119 119 119 119 119	4.7 237 0.98 J 13.5] 9 8660 22.9 10.1 J 21.8 U 0.66 U 27100 J 21.8 J 0.07 U 25.7 J 1370 J 0.63 U 0.49 J 183 J 0.09 J	4.6 209 0.81 3.3 2590 19.5 11.5 0.63 U 27100 J 19.1 J 3920 513 J 0.09 J 1160 1.4 0.31 J 61.8 J 1.8 26.7 70.8	7 119 1.2 J 0.42 J 4440 24.1 13.2 26.5 U 0.65 U 31600 29.4 J 4900 701 J 0.07 U 30.5 J 1810 1.1 J 148 J 1.7 J 31.4 487 J 24.1 3.1 J	5.9 217 1.8 0.22 J 10800 26 19.7 29.7 U 0.68 U 33700 28.2 J 5710 28.2 J 0.07 U 36.2 J 1620 1.8 J 71.5 U 4.4 37.4 150 J	5 107 0.87 J 0.19 U 5330 23.5 10 J 25.4 U 0.62 U 28200 25.7 J 5000 330 J 1190 0.51 U 0.3 UJ 67.6 U 1.8 J 30.3 84.4 J 6.5 0.03 J J	5.7 131 1.1 0.17 U 7090 24.4 10.6 28.2 U 0.72 U 28900 27.9 J 5130 460 J 0.07 J 30.1 J 1500 0.28 UJ 61.3 U 3.8 32.4 90.7 J	4.8 93.6 0.87 J 0.17 U 5830 22.4 10.1 J 31.6 U 0.62 U 25800 27 J 5470 275 J 0.07 U 33.7 J 1310 0.59 J 0.33 J 61.5 U 1.8 J 26.3 108 J	0.61 UR 4.1 139 1 J 2 J 3890 25.5 9.6 J 29.6 U 27300 31.8 J 5140 256 J 0.06 UJ 79.9 U 1.5 J 29 105 J	85.6 0.73 J 0.19 U 7610 17.7 9.1 J 31.5 U 0.71 U 20600 35 J 4210 269 J 0.07 U 255 J 1250 0.84 J 0.31 UJ 68.3 U 1.9 J 2.6 75.7 J	0.46 UR 4.8 158 158 1580 22.6 19.9 U 25600 J 18.4 J 4110 334 J 0.07 U 23.5 J 1280 0.69 J 0.69 J 1280 0.69 J 1280 0.69 J 1280 0.69 J 1280 0.69 J 0.69 J 0.65 U
Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Cyanide Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium Zinc Other Analyses Cation exchange enpacity Nitrate/Nitrite Nitrogen Percent Solids	MG/KG MG/KG	6.5 17.8 237 1.8 28.6 213000 32.1 29.7 2930 0 39800 1860 27600 2580 0.15 54.1 3250 2.7 1.7 270 6.7 104 1250 31.4 4.4 94	92% 100% 100% 100% 22% 100% 100% 100% 92% 0% 100% 100% 100% 100% 100% 100% 100%	13 350 7.2 2.5 0 30 0 50 27 0 63 30 0 0 1600 0 0 18 30 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	110 119 26 119 119 109 0 119 119 119 119 89 119 75 41 98 118 111 32 99	119 119 119 119 119 119 119 119 119 119	4.7 237 0.98 J 13.5.5 3860 22.9 10.1 J 21.8 U 0.66 U 27100 J 21.8 J 338 J 0.07 U 25.7 J 0.63 U 0.49 J 183 J 1.6 J 0.07.5 J	4.6 209 0.81 J 3.3 2590 19.5 J 11.5 19.5 0.63 U 27100 J 19.1 J 3920 513 J 0.09 J 24.2 1160 1.4 0.31 J 61.8 J 1.8 26.7 70.8	7 119 1.2 J 0.42 J 0.42 J 4440 24.1 13.2 26.5 U 31600 29.4 J 4900 701 J 0.07 U 30.5 J 1810 1.1 J 0.44 J 148 J 1.7 J 31.4 487 J 24.1 3.1 J 73.3	5.9 217 1.8 0.22 J 10800 26 19.7 29.7 U 0.68 U 33700 28.2 J 5710 2880 J 1620 1.8 J 0.63 J 71.5 U 4.4 37.4 150 J	5 107 0.87 J 0.19 U 5330 23.5 10 J 25.4 U 0.62 U 28200 25.7 J 5000 330 J 1190 0.51 U 0.3 UJ 1.8 J 1.8 J 30.3 84.4 J	5.7 131 1.1 0.17 U 7090 24.4 10.6 28.2 U 28900 27.9 J 5130 460 J 0.07 J 30.1 J 0.58 J 0.58 J 0.58 J 0.7 J 22.2 0.06 J 57.8	4.8 93.6 0.87 J 0.17 U 5830 22.4 10.1 J 31.6 U 26800 27 J 54770 275 J 0.077 U 33.7 J 1310 0.55 J 0.33 J 1.8 J 1.8 J 26.3 108 J	0.61 UR 4.1 139 1 J 2 J 3890 25.5 9.6 J 27300 31.8 J 5140 256 J 0.66 U 33.3 1420 0.69 UJ 0.36 UJ 79.9 U 1.5 J 16 0.47 J 71.6	17.8 85.6 0.73 J 0.19 U 7610 17.7 9.1 J 31.5 U 0.71 U 20600 35 J 4210 269 J 0.07 U 25 J 1250 0.84 J 0.31 UJ 68.3 U 1.9 J 26 75.7 J 26.2 0.17 J 69.4	0.46 UR 4.8 158 158 28.6 3380 21 9.3 J 19.9 U 2660 J 18.4 J 4110 334 J 0.07 U 23.5 J 1280 0.69 J 0.49 J 60 U 2.3 28.1 61.5 J
Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Cyanide Iron Lead Magnesium Mangaese Mercury Nickel Potassium Selenium Selenium Silver Sodium Thallium Vanadium Zothe Analyses Cation exchange capacity Nitrate/Nitris Nitrogen	MG/KG MG/KG	6.5 17.8 237 1.8 28.6 213000 32.1 29.7 2930 0 39800 1860 27600 2580 0.15 54.1 3250 2.7 1.7 270 6.7 104 1250	92% 100% 100% 100% 100% 100% 100% 100% 10	13 350 7.2 2.5 0 0 0 50 27 0 63 0 1600 0.18 30 0 0 3.9 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	110 119 26 119 119 119 119 119 119 119 119 119 11	119 119 119 119 119 119 119 119 119 119	4.7 237 0.98 J 13.5] 9 8660 22.9 10.1 J 21.8 U 0.66 U 27100 J 21.8 J 0.07 U 25.7 J 1370 J 0.63 U 0.49 J 183 J 0.09 J	4.6 209 0.81 3.3 2590 19.5 11.5 0.63 U 27100 J 19.1 J 3920 513 J 0.09 J 1160 1.4 0.31 J 61.8 J 1.8 26.7 70.8	7 119 1.2 J 0.42 J 4440 24.1 13.2 26.5 U 0.65 U 31600 29.4 J 4900 701 J 0.07 U 30.5 J 1810 1.1 J 148 J 1.7 J 31.4 487 J 24.1 3.1 J	5.9 217 1.8 0.22 J 10800 26 19.7 29.7 U 0.68 U 33700 28.2 J 5710 28.2 J 0.07 U 36.2 J 1620 1.8 J 71.5 U 4.4 37.4 150 J	5 107 0.87 J 0.19 U 5330 23.5 10 J 25.4 U 0.62 U 28200 25.7 J 5000 330 J 1190 0.51 U 0.3 UJ 67.6 U 1.8 J 30.3 84.4 J 6.5 0.03 J J	5.7 131 1.1 0.17 U 7090 24.4 10.6 28.2 U 0.72 U 28900 27.9 J 5130 460 J 0.07 J 30.1 J 1500 0.28 UJ 61.3 U 3.8 32.4 90.7 J	4.8 93.6 0.87 J 0.17 U 5830 22.4 10.1 J 31.6 U 0.62 U 25800 27 J 5470 275 J 0.07 U 33.7 J 1310 0.59 J 0.33 J 61.5 U 1.8 J 26.3 108 J	0.61 UR 4.1 139 1 J 2 J 3890 25.5 9.6 J 29.6 U 27300 31.8 J 5140 256 J 0.06 UJ 79.9 U 1.5 J 29 105 J	85.6 0.73 J 0.19 U 7610 17.7 9.1 J 31.5 U 0.71 U 20600 35 J 4210 269 J 0.07 U 255 J 1250 0.84 J 0.31 UJ 68.3 U 1.9 J 2.6 75.7 J	0.46 UR 4.8 158 158 1580 22.6 19.9 U 25600 J 18.4 J 4110 334 J 0.07 U 23.5 J 1280 0.69 J 0.69 J 1280 0.69 J 1280 0.69 J 1280 0.69 J 1280 0.69 J 0.69 J 0.65 U

Notes:
(1) Criteria based on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives, http://www.dec.atate.ny.us/website/regs/subpart375\_6.html
(2) Sample-duplicate pairs were treated as discreet samples.
(3) A bolded and outlined cell indicates a concentration that exceeded the criteria.

U = compound was not detected

J = the reported value is an estimated concentration

UJ = the compound was not detected; the associated reporting limit is approximate R = the analytical result was rejected during data validation.

TABLE 1 SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

Parameter	Units	Maximum Concentration	Frequency of of Detection	Criteria Value <sup>1</sup>	Number of Exceedances	Number of Times	Number of Samples	SEAD-57 SD57-8 Ditchsoil 573009 0 0.2 01/06/00 SA P1S1 RJ	SEAD-57 SD57-7 Ditchsoil 573010 0 0.2 01/06/00 SA PIS1 RI	SEAD-57 SD57-4 Ditchsoil 573011 0 0.2 01/06/00 SA PIS1 RI	SEAD-57 SD57-3 Ditchsoil 573012 0 0.2 01/07/00 SA PISI RI	SEAD-57 SD57-2 Ditchsoil 573013 0 0.2 01/07/00 SA P1S1 R1	SEAD-57 SD57-21 Ditchsoil 573014 0 0.2 01/07/00 SA PISI RI	SEAD-57 SD57-22 Ditchsoil 573015 0 0.2 01/07/00 SA P1S1 RI	SEAD-57 SD57-5 Ditchsoil 573016 0 0.2 01/07/00 SA PIS1 RI	SEAD-57 SD57-15 Ditchsoil 573017 0 0.2 01/08/00 SA PIS1 RI	SEAD-57 SD57-12 Ditchsoil 573018 0 0.2 01/08/00 SA PIS1 RI Value (Q)	SEAD-57 SD57-23 Ditchsoil 573019 0 0.2 01/08/00 SA P1S1 R1 Value (Q)
Volatile Organic Compounds	Units	Concentration	Detection	value -	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	value (Q)					
1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethene (total) 1,2-Dichloroethene (total) 1,2-Dichloroethene (total) 1,2-Dichloroethene (total) 1,2-Dichloroethene (total) 1,2-Dichloroethane Benzene Bromodichloromethane Bromoform Carbon disulfide Carbon tetrachloride Chloroethane Chloroethane Chloroethane Chloroethane Chloroethane Chloroform Cis-1,3-Dichloropropene Ethyl benzene	UG/KG UG/KG	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 1% 0% 0% 0% 11% 0% 0% 0% 0% 0% 0% 0% 0%	680 0 0 270 330 20 190 0 50 60 0 0 760 1100 0 0 370 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 14 0 0 0 0	127 127 127 127 127 127 127 127 127 127	11 U 11 U 11 U 11 U 11 U 11 U 11 U 11 U	11 U 11 U 11 U 11 U 11 U 11 U 11 U 11 U	13 U 13 U 13 U 13 U 13 U 13 U 13 U 13 U	12 U 12 U 12 U 12 U 12 U 12 U 12 U 12 U	12 U 12 U 12 U 12 U 12 U 12 U 12 U 12 U	12 U 12 U 12 U 12 U 12 U 12 U 12 U 12 U	12 U 12 U 12 U 12 U 12 U 12 U 12 U 12 U	13 U 13 U 13 U 13 U 13 U 13 U 13 U 13 U	11 U 11 U 11 U 11 U 11 U 11 U 11 U 11 U	11 U 11 U 11 U 11 U 11 U 11 U 11 U 11 U	14 U 14 U 14 U 14 U 14 U 14 U 14 U 14 U
Methyl bromide	UG/KG	0	0%	0	0	0	127	11 U	11 U	13 U	12 U	12 U	12 U	12 U	13 U	11 U	11 U	14 U
Methyl butyl ketone Methyl chloride	UG/KG UG/KG	0	0%	0	0	0	127 127	11 U 11 U	11 U	13 U 13 U	12 U 12 U	12 U 12 U	12 U 12 U	12 U 12 U	13 U 13 U	11 U	11 U	14 U 14 U
Methyl ethyl ketone	UG/KG	64	62%	120	0	79	127	12	8 J	14	20	14	18	22	20 13 U	12	12	24 14 U
Methyl isobutyl ketone Methylene chloride	UG/KG UG/KG	0	0% 2%	0 50	0	0 2	127 127	11 U 11 U	11 U 11 U	13 U 13 U	12 U 12 U	12 U 12 U	12 U 12 U	12 U	13 U	11 U	11 U	14 U
Styrene Tetrachloroethene	UG/KG UG/KG	0	0% 6%	0 1300	0	0	127 127	11 U	11 U 11 U	13 U	12 U 12 U	12 U 12 U	12 U 12 U	12 U 12 U	13 U 13 U	11 U	11 U 11 U	14 U 14 U
Toluene	UG/KG	33	65%	700	0	82	127	11 U 3 J	8 J	13 U 8 J	3 J	2 J	3 J	3 J	2 J	5 J	8 J	16
Total Xylenes Trans-1,3-Dichloropropene	UG/KG UG/KG	2	2%	260	0	3	127	11 U 11 U	11 U 11 U	13 U 13 U	12 U 12 U	12 U 12 U	12 U 12 U	12 U 12 U	13 U	11 U	11 U	14 U
Trichloroethene	UG/KG	0	0%	470	0	0	127	11 U	11 U	13 U	12 U	12 U	12 U	12 U	13 U	11 U	11 U	14 U
Vinyl chloride Semivolatile Organic Compound	UG/KG	0	0%	20	0	0	127	11 UJ	11 UJ	13 UJ	12 U	12 U	12 U	12 U	13 U	11 U	11 U	14 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	0	0	0	119	83 U	84 U	91 U	87 U	86 U	89 U	87 U	94 U	84 UJ	82 UJ	98 UJ
1,2-Dichlorobenzene 1,3-Dichlorobenzene	UG/KG UG/KG	0	0%	1100 2400	0	0	119 119	83 U 83 U	84 U 84 U	91 U 91 U	87 U 87 U	86 U 86 U	89 U	87 U 87 U	94 U 94 U	84 UJ 84 UJ	82 UJ 82 UJ	98 UJ 98 UJ
1,4-Dichlorobenzene	UG/KG	0	0%	1800	0	0	119	83 U	84 U	91 U	87 U	86 U	89 U	87 U	94 U	84 UJ	82 UJ	98 UJ
2,2'-oxybis(1-Chloropropane) 2,4,5-Trichlorophenol	UG/KG UG/KG	0	0%	0	0	0	18 119	210 U	210 U	230 U	220 U	210 U	220 U	220 U	240 U	210 UJ	210 UJ	250 UJ
2,4,6-Trichlorophenol	UG/KG	0	0%	0	0	0	119	83 U	84 U	91 U	87 U	86 U	89 U	87 U	94 U	84 UJ	82 UJ	98 UJ
2,4-Dichlorophenol 2,4-Dimethylphenol	UG/KG UG/KG	0	0%	0	0	0	119 119	83 U 83 U	84 U 84 U	91 U 91 U	87 U 87 U	86 U 86 U	89 U 89 U	87 U 87 U	94 U 94 U	84 UJ 84 UJ	82 UJ 82 UJ	98 UJ
2,4-Dinitrophenol	UG/KG	0	0%	0	0	0	119	210 UJ	210 UR	230 UR	220 UR	210 UR	220 UR	220 UR	240 UR	210 UR	210 UJ	250 UJ
2,4-Dinitrotoluene 2,6-Dinitrotoluene	UG/KG UG/KG	0	0%	0	0	0	119	83 U 83 U	84 U 84 U	91 U 91 U	87 U 87 U	86 U 86 U	89 U	87 U 87 U	94 U 94 U	84 UJ 84 UJ	82 UJ 82 UJ	98 UJ 98 UJ
2-Chloronaphthalene	UG/KG	0	0%	0	0	0	119	83 U	84 U	91 U	87 U	86 U	89 U	87 U	94 U	84 UJ	82 UJ	98 UJ
2-Chlorophenol 2-Methylnaphthalene	UG/KG UG/KG	0 750	0% 3%	0	0	3	119 119	83 U 83 U	84 U 84 U	91 U 91 U	87 U 87 U	86 U 86 U	89 U	87 U 87 U	94 U 94 U	84 UJ 84 UJ	82 UJ 82 UJ	98 UJ 98 UJ
2-Methylphenol	UG/KG	0	0%	330	0	0	119	83 U	84 U	91 U	87 U	86 U	89 U	87 U	94 U	84 UJ	82 UJ	98 UJ
2-Nitroaniline 2-Nitrophenol	UG/KG UG/KG	0	0%	0	0	0	119 119	210 U 83 U	210 U 84 U	230 U 91 U	220 U 87 U	210 U 86 U	220 U 89 U	220 U 87 U	240 U 94 U	210 UJ 84 UJ	210 UJ 82 UJ	250 UJ 98 UJ
3,3'-Dichlorobenzidine	UG/KG	0	0%	0	0	0	119	83 UJ	84 UJ	91 UJ	87 UJ	86 UJ	89 UJ	87 UJ	94 UJ	84 UJ	82 UJ	98 UJ
3-Nitroaniline 4,6-Dinitro-2-methylphenol	UG/KG UG/KG	0	0% 0%	0	0	0	119	210 UJ 210 U	210 UJ 210 UJ	230 UJ 230 UJ	220 UJ 220 UJ	210 UJ 210 UJ	220 UJ 220 UJ	220 UJ 220 UJ	240 UJ 240 UJ	210 UJ 210 UJ	210 UJ 210 UJ	250 UJ 250 UJ
4-Bromophenyl phenyl ether	UG/KG	0	0%	0	0	0	119	83 U	84 U	91 U	87 U	86 U	89 U	87 U	94 U	84 UJ	82 UJ	98 UJ
4-Chloro-3-methylphenol 4-Chloroaniline	UG/KG UG/KG	0	0% 0%	0	0	0	119 119	83 U 83 UJ	84 U 84 UJ	91 U 91 UJ	87 U 87 UJ	86 UJ	89 UJ	87 U 87 UJ	94 U 94 UJ	84 UJ 84 UJ	82 UJ 82 UJ	98 UJ 98 UJ
4-Chlorophenyl phenyl ether	UG/KG	0	0%	0	0	0	119	83 U	84 U	91 U	87 U	86 U	89 U	87 U	94 U	84 UJ	82 UJ	98 UJ
4-Methylphenol 4-Nitroaniline	UG/KG UG/KG	0	3% 0%	330 0	0	3	119 119	83 U 210 U	84 U 210 U	13 J 230 U	87 U 220 U	86 U 210 U	89 U 220 U	87 U 220 U	94 U 240 U	84 UJ 210 UJ	82 UJ 210 UJ	98 UJ 250 UJ
4-Nitrophenol	UG/KG	0	0%	0	0	0	119	210 UJ	210 U	230 U	220 UJ	210 UJ	220 UJ	220 UJ	240 UJ	210 UJ	210 UJ	250 UJ
Acenaphthene Acenaphthylene	UG/KG UG/KG	0	0% 0%	20000 100000	0	0	119 119	83 U 83 U	84 U 84 U	91 U 91 U	87 U 87 U	86 U 86 U	89 U 89 U	87 U 87 U	94 U 94 U	84 UJ 84 UJ	82 UJ 82 UJ	98 UJ 98 UJ

TABLE I SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

SEAD-57 SEAD-57 SEAD-57 SEAD-57 SEAD-57 SEAD-57

SEAD-57 SEAD-57 SEAD-57

								SEAD-57 SD57-8	SEAD-57 SD57-7	SEAD-57 SD57-4	SEAD-57 SD57-3	SEAD-57 SD57-2	SEAD-57 SD57-21	SEAD-57 SD57-22	SEAD-57 SD57-5	SEAD-57 SD57-15	SEAD-57 SD57-12	SEAD-57 SD57-23
								Ditchsoil	Ditchsoil	Ditchsoil	Ditchsoil	Ditchsoil	Ditchsoil	Ditchsoil	Ditchsoil	Ditchsoil	Ditchsoil	Ditchsoil
								573009	573010	573011	573012	573013	573014	573015	573016	573017	573018	573019
								0	0	0	0	0	0	0	0	0	0	0
								0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
								01.'06-00	01/06:00	01/06/00	01/07-00	01-07-00	01/07/00	01 07/00	01.07.00	01/08/00	01:08:00	01 08:00
			Frequency of		Number	Number	Number	SA PISI RI	SA PISI RI	SA	SA	SA	SA	SA	SA	SA	SA	SA
		Maximum	of	Criteria	of	of Times	of Samples	1/151 KI	1,121 K1	PISTRI	PISI RI	PISI RI	PIS1 RI	PISTRI	PISI RI	PISI RI	PISTRI	PISTRI
Parameter	Units	Concentration	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	1/-1 (0)	17.1	1/-1	11.1(0)
Anthracene	UG/KG	8.2	3%	100000	0	3	119	83 U	84 U	91 U	87 U	86 U	89 U	87 U	Value (Q) 94 U	Value (Q) 84 UJ	Value (Q) 82 UJ	Value (Q) 98 UJ
Benzo(a)anthracene	UG:KG	62	2100	1000	0	25	119	83 U	84 U	91 U	87 U	86 U	7.5 J	8.4 J	94 U	17 J	82 UJ	98 U)
Benzo(a)pyrene	UG/KG	76	17%	1000	0	20	119	83 U	84 U	91 U	87 U	86 U	14 J	12 J	94 U	18 J	82 UJ	98 (1)
Benzo(b)fluoranthene	UG:KG	67	24%	1000	0	29	119	83 UJ	84 U3	91 UJ	87 U	86 U	10 J	12 J	94 U	13.3	82 UJ	98 UJ
Benzo(ghi)perylene Benzo(k)fluoranthene	UG/KG UG/KG	54 50	13% 24%	100000	0	15 29	119 119	83 U	84 U	91 U	87 UJ	86 UJ	89 UJ	87 UJ	94 UJ	28 J	82 UJ	98 UJ
Bis(2-Chloroethoxy)methane	UG/KG	0	0%	0	0	0	119	83 UJ 83 U	84 U 84 UJ	91 U 91 UJ	87 UJ 87 U	86 UJ 86 U	10 J 89 U	7.8 J 87 U	94 UJ 94 U	14 J 84 UJ	82 UJ 82 UJ	98 UJ 98 UJ
Bis(2-Chloroethyl)ether	UG/KG	0	000	0	0	0	119	83 U	84 U	91 U	87 U	86 U	89 U	87 U	94 U	84 UJ	82 U3	98 UJ
Bis(2-Chloroisopropyl)ether	UG/KG	0	O <sup>a</sup> u	0	0	0	101	83 U	84 U	91 U	87 U	86 U	89 U	87 U	94 U	84 UJ	82 UJ	98 UJ
Bis(2 Fthylhexyl)phthalate	UG/KG	3400	15%	0	0	18	119	83 UJ	84 U	91 U	87 U	86 U	89 U	87 LI	94 U	84 [1]	10 J	5 7 J
Butylbenzylphthalate	UG/KG	0	0%	0	0	0	119	83 U	84 U	91 U	87 U	85 U	89 U	87 U	94 U	84 UJ	82 UJ	98 UJ
Carbazole Chrysene	UG/KG UG/KG	110	0° u 33° o	0	0	0 39	119 119	83 U 83 U	84 U	91 U 91 U	87 U 87 U	86 U	89 U	87 U	94 U	84 UJ	82 UJ	98 (1)
Di-n-botylphthalate	UG/KG	390	3.4° o	0	0	40	119	9.8 J	84 U	91 U	87 U	86 U 86 U	14 J	14 J 87 U	94 U	22 J 84 UJ	82 UJ 5.2 J	98 UJ
Di-n-octylphthalate	UG/KG	2.6	1%	0	0	1	119	83 UJ	84 U.I	91 U.i	87 U.j	86 UJ	89 UJ	87 UJ	94 UJ	84 UJ	82 UJ	7.6 J 98 UJ
Dibenz(a,h)anthracene	UG/KG	24	600	330	0	7	119	83 U	84 U	91 U	87 U	86 U	89 U	87 U	94 U	84 UJ	82 UJ	98 UJ
Dibenzoluran	UG-KG	0	O. o	7000	0	0	119	83 U	84 U	91 U	87 U	86 U	89 U	87 U	94 U	84 UJ	82 UJ	98 UJ
Drethyl phthalate	UG-KG	8.8	2%	0	0	2	119	83 U	84 U	91 U	87 UJ	86 UJ	89 UJ	87 UJ	94 UJ	84 UJ	82 UJ	98 UJ
Dimethylphthalate Fluoranthene	UG KG UG/KG	0 150	0% o 50° o	0 100000	0	0	119	83 U	84 U 84 U	91 U	87 U	86 U	89 U	87 U	94 [1	84 UJ	82 UJ	98 UJ
Fluorene	UG/KG	120	20,0	30000	0	60	119 119	83 U 83 U	84 U	91 U 91 U	87 U 87 U	86 U	18 J 89 U	16 J 87 U	94 U 94 U	28 J 84 UJ	82 UJ 82 UJ	6 J 98 UJ
Hexachlorobenzene	UG/KG	0	O <sup>d</sup> o	330	0	0	119	83 U	84 U	91 U	87 U	86 U	89 U	87 L!	94 U	84 UJ	82 UJ	98 UJ
Hexachlorobutadiene	UG/KG	0	0%	0	0	0	119	83 U	84 U	91 U	87 U	86 U	89 U	87 U	94 U	84 UJ	82 UJ	98 UJ
Hexachlorocyclopentadiene	UG/KG	0	()° o	0	0	()	119	83 U	84 U	91 U	87 U	86 U	89 LI	87 U	94 U	84 UJ	82 UJ	98 UJ
Hexachloroethane	UG/KG	0	000	0	0	()	119	83 U	84 U	91 U	87 U	86 U	89 U	87 U	94 U	84 UJ	82 UJ	98 UJ
Indeno(1,2,3-cd)pyrene Isophorone	UG/KG UG/KG	6.	13% 0%	500	0	15	119 119	83 U 83 U	84 UJ	91 UJ	87 U	86 U	89 U	87 U	94 U	12 J	82 UJ	98 UJ
N-Nitrosodiphenylamine	UG/KG	75	2%	D	0	2	119	83 U	84 U 84 U	91 U 91 U	87 U 87 U	86 U 86 U	89 U 89 U	87 U 87 U	94 U	84 UJ	82 UJ 82 UJ	98 UJ
N-Nitrosodipropylamine	UG/KG	D	0%	0	0	0	119	83 U	84 U	91 U	87 U	86 U	89 U	87 U	94 U	84 UJ	82 UJ	98 LIJ
Naphthalene	UG/KG	180	1%	12000	0	1	119	83 U	84 U	91 U	87 U	86 U	89 U	87 U	94 U	84 UJ	82 UJ	98 UJ
Nitrobenzene	UG,KG	0	000	0	0	0	119	83 U	84 U	91 U	87 U	86 U	89 U	87 U	94 U	84 UJ	82 UJ	98 U.J
Pentachlorophenol Phenanthrene	UG/KG UG/KG	0 230	0% 37%	800 100 <b>0</b> 00	0	44 0	119	210 UJ	210 UJ	230 UJ	220 UJ	210 UJ	220 UJ	220 UJ	240 UJ	210 UJ	210 U)	250 UJ
Phenol	UG/KG	210 51	13%	330	0	16	119	83 U 83 U	84 U 84 U	91 U 17 J	87 U	86 U	11 J 18 J	10 J 24 J	94 U	12 J 84 UJ	82 LU 82 LU	98 (J)
Pyrene	UG/KG	230	52%	100000	3	62	119	83 UJ	84 U	91 U	87 U	86 U	21 J	24 J	94 U	84 UJ	82 U3	98 UJ 5 2 J
Explosives							,	05 07	0.4	7. 0	0, 0	00 0	,	-0 7	74 0	707	02 00	/-/
1,3,5-Trinitrobenzene	UG/KG	0	0%	0	0	0	119	120 U	120 U	120 U	120 U	120 U	120 U					
1,3-Dinitrobenzene	UG KG	0	0.6	0	0	0	119	120 U	120 U	120 U	120 U	120 U	120 t					
2,4,6-Tranitrotoluene 2,4-Dinitrotoluene	UG/KG UG/KG	0	0°6	0	0	0	119	120 U	120 U	120 U	120 U	120 U	120 U					
2,6-Dinitrotoluene	UG/KG	0	0.0	0	0	0	119 119	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U
2-Nitrotoluene	UG-KG	0	0	0	0	0	101	120 U	120 U	120 U	120 U	120 U	120 U					
2-amino-4,6-Dinitrotoluene	UG/KG	()	0%	0	0	0	119	120 U	120 U	120 U	120 U	120 U	120 1					
3-Nitrotoluene	UG/KG	0	O° u	0	0	0	101	120 U	120 U	120 U	120 U	120 U	120 U					
4-Nitrotoluene	UG/KG	0	0%	0	0	0	101	120 U	120 U	120 U	120 U	120 U	120 U					
4 amino-2,6-Dinitrotoluene HMX	UG/KG UG/KG	0	0%	0	0	0	119 119	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U
Nitrobenzene	UG-KG	0	0° 6	0	0	0	101	120 U	120 U	120 U	120 U	120 U	120 U					
RDX	UG/KG	0	0%	0	0	0	119	120 U	120 U	120 U	120 U	120 U	120 U					
Tetryl	UG KG	0	0° a	0	0	0	119	120 U	120 U	120 U	120 U	120 LF	120 U					
Pesticides and PCBs																		
4,4'-DDD 4,4'-DDE	UG/KG UG/KG	54 32	7°°₀ 8°₀	3,3	5	8	119 119	4.1 U 4.1 U	4.2 U 4.2 U	4.6 U	4.3 U 4.3 U	4.3 U	4.4 U	4.3 U 4.3 U	4.7 U	4.2 U	4 L U	49 U
4,4'-DD1	UG/KG	23	5%	3.3	5	6	119	4.1 U	4.2 U	4.6 U	4.3 U	4.3 U 4.3 U	4.4 U 4.4 U	4.3 U	4.7 U	4.2 U 4.2 U	4.1 U 4.1 U	49 (1
Aldrin	UG-KG	0	0%	5	0	0	119	2.1 U	2.2 U	2.3 U	2.2 U	2.2 U	2.3 U	2.2 U	2.4 U	2.2 U	21 U	25 U
Alpha-BHC	UG/KG	1.4	20%	20	0	2	119	2.1 U	2.2 U	2.3 U	2.2 U	2.2 U	2.3 U	2.2 U	2.4 L)	2.2 (1	21 U	2.5 U
Alpha-Chlordane	UG/KG	16	60.0	94	0	7	119	2.1 U	2.2 U	2,3 U	2.2 U	2.2 U	2.3 U	2.2 L <sup>1</sup>	2.4 U	2.2 U	2.1 U	2.5 U
Aroclor 1016	UG.KG	0	0.0	100	0	0	119	41 U	42 U	46 U	43 U	43 (1	44 U	43 U	47 U	42 U	41 U	49 (1
Aroclor-1221 Aroclor-1232	UG-KG UG-KG	0	0°°	100 100	0	0	119 119	41 U	85 U 42 U	92 U 46 U	88 U 43 U	≈ 87 U -43 U	90 U	88 U 43 U	96 t) 47 U	85 U 42 U	84 U 41 U	49 U
Aroclor-1242	UG KG	0	0",	100	0	0	119	41 U	42 U	46 U	43 U	43 U	44 U	43 U	47 U	42 U	41 ()	49 U
Aroclor-1248	UG KG	0	0.00	100	0	0	119	41 U	42 U	46 U	43 U	43 U	44 U	43 U	47 U	42 U	41 U	49 ti
Aroclor-1254	UG KG	0	0%	100	0	0	119	4] []	42 U	46 U	43 U	43 U	44 U	43 U	47 U	42 U	41 U	49 (1
Aroclor-1260	UG KG	27	2%	100	0	2	119	41 U	42 U	46 LI	43 U	43 U	44 1/	43 U	47 U	42 U	41 U	49 LI
Beta-BHC	UG/KG	4.5	100	36	0	1	119	2.1 U	2.2 U	2.3 U	2.2 U	2.2 U	2.3 U	2.2 U	2.4 U	2.2 U	2 1 U	2.5 U
Delta-BHC Dieldrin	UG KG UG:KG	0 27	0° ∘	40 5	0	0 7	119 119	2.1 U 4.1 U	2.2 U 4.2 U	2.3 U 4.6 U	2.2 U 4.3 U	2.2 U 4.3 U	2.3 U 4.4 U	2.2 U 4.3 U	2.4 U 4.7 U	2.2 U 4.2 U	2.1 U 4.1 U	2.5 U
- 219011	CO PO		17 °U	,	-	,	117	4.1 0	4.2 0	4.0 (/	4.5 U	4.5 U	4.4 €	4,1 (1	4.7 (7	4.2 U	4.1 (	44 (,

TABLE 1 SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

		Maximum	Frequency of	Criteria	Number of	Number of Times	Number of Samples	SEAD-57 SD57-8 Ditchsoil 573009 0 0.2 01/06/00 SA PISI RI	SEAD-57 SD57-7 Ditchsoil 573010 0 0.2 01/06/00 SA P1S1 R1	SEAD-57 SD57-4 Ditchsoil 573011 0 0.2 01/06/00 SA P1S1 RI	SEAD-57 SD57-3 Ditchsoil 573012 0 0.2 01/07/00 SA P1S1 RI	SEAD-57 SD57-2 Ditchsoil 573013 0 %0.2 01/07/00 SA P1S1 RJ	SEAD-57 SD57-21 Ditchsoil 573014 0 0.2 01/07/00 SA P1S1 R1	SEAD-57 SD57-22 Ditchsoil 573015 0 0.2 01/07/00 SA P1S1 RI	SEAD-57 SD57-5 Ditchsoil 573016 0 0.2 01/07/00 SA P1S1 R1	SEAD-57 SD57-15 Ditchsoil 573017 0 0.2 01/08/00 SA P1S1 R1	SEAD-57 SD57-12 Ditchsoil 573018 0 0.2 01/08/00 SA P1S1 R1	SEAD-57 SD57-23 Ditchsoil 573019 0 0.2 01/08/00 SA P1S1 R1
Parameter	Units	Concentration	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)				
Endosulfan I	UG/KG	5.2	1%	2400	0	1	119	2.1 U	2.2 U	2.3 U	2.2 U	2.2 U	2.3 U	2.2 U	2.4 U	2.2 U	2,1 U	2.5 U
Endosulfan II	UG/KG	3.1	1%	2400	0	1	119	4.1 U	4.2 U	4.6 U	4,3 U	4,3 U	4.4 U	4.3 U	4.7 U	4.2 U	4.1 U	4.9 U
Endosulfan sulfate	UG/KG	0	0%	2400	0	0	119	4.1 U	4.2 U	4.6 U	4.3 U	4.3 U	4.4 U	4.3 U	4.7 U	4.2 U	4.1 U	4.9 U
Endrin Endrin aldehyde	UG/KG UG/KG	0 3,8	0% 1%	14	0	0	119	4.1 U	4.2 U	4.6 U	4.3 U	4.3 U	4.4 U	4.3 U	4.7 U	4.2 U	4.1 U	4.9 U
Endrin ketone	UG/KG	4	1%	0	0	1	119 119	4.1 U 4.1 U	4.2 U 4.2 U	4.6 U 4.6 U	4.3 U 4.3 U	4.3 U	4.4 U	4.3 U	4.7 U	4.2 U	4.1 U	4.9 U
Gamma-BHC/Lindane	UG/KG	ō	0%	100	0	0	119	2.1 U	2.2 U	2.3 U	2.2 U	4.3 U 2.2 U	4.4 U 2.3 U	4.3 U 2.2 U	4,7 U 2.4 U	4.2 U 2.2 U	4.1 U 2.1 U	4.9 U 2.5 U
Gamma-Chlordane	UG/KG	0	0%	0	o	0	119	2.1 U	2.2 U	2.3 U	2.2 U	2.2 U	2.3 U	2.2 U	2.4 U	2.2 U	2.1 U	2.5 U
Heptachlor	UG/KG	1.6	1%	42	0	1	119	2.1 U	2.2 U	2.3 U	2.2 U	2.2 U	2.3 U	2.2 U	2.4 U	2.2 U	2.1 U	2.5 U
Heptachlor epoxide	UG/KG	2	1%	0	0	1	119	2.1 U	2.2 U	2.3 U	2,2 U	2.2 U	2.3 U	2.2 U	2.4 U	2.2 U	2.1 U	2.5 U
Methoxychlor	UG/KG	0	0%	0	0	0	119	21 U	22 U	23 U	22 U	22 U	23 U	22 U	24 U	22 U	21 U	25 U
Toxaphene Herbicides	UG/KG	0	0%	0	0	0	119	210 U	220 U	230 U	220 U	220 U	230 U	220 U	240 U	220 U	210 U	250 U
2,4,5-T	UG/KG	0	0%	0	0	0	18											
2,4,5-TP/Silvex	UG/KG	0	0%	3800	ō	o	18											
2,4-D	UG/KG	0	0%	0	0	0	18											
2,4-DB	UG/KG	0	0%	0	0	0	18											
Dalapon	UG/KG	0	0%	0	0	0	18											
Dicamba Dichloroprop	UG/KG UG/KG	0	0%	0	0	0	18											
Dinoseb	UG/KG	0	0% 0%	0	0	0	18 18											
MCPA	UG/KG	0	0%	0	0	0	18											
MCPP	UG/KG	0	0%	0	0	0	18											
Metals and Cyanide					-	-												
Aluminum	MG/KG	22900	100%	0	0	119	119	14600	19800 J	15800 J	17100 J	14800 J	15900 J	15700 J	16400 J	14800 J	16700 J	13100 J
Antimony	MG/KG	6.5	49%	0	0	58	119	0.65 J	0.51 U	0.52 U	0.53 U	0.95 J	0.55 U	0.56 U	0.57 U	0.5 UJ	0.54 J	1.1 J
Arsenic Barium	MG/KG MG/KG	17.8 237	92% 100%	13	1	110	119	4.6	6.1	6	5.5	7.2	5.1	5.7	5	6.3	3.3	4.6
Beryllium	MG/KG	1.8	100%	350 7.2	0	119	119 119	135 0.87 J	143 0.89 J	165 0.77 J	154	129	108	122	135	104	139	87.8
Cadmium	MG/KG	28.6	22%	2.5	6	26	119	0.39 J	0.05 U	2.8	0.84 J 0.21 J	0.84 J 0.41 J	0.76 J 0.4 J	0.83 J 0.42 J	0.85 J 0.12 J	0.05 U	0.93 J 0.04 U	0.82 J 0.05 U
Calcium	MG/KG	213000	100%	0	0	119	119	3070	3050	3410	3020	2880	3110	2830	3540	3770	3040	4140
Chromium	MG/KG	32.1	100%	30	2	119	119	19	25.2	22.3	21.4	21.7	21.5	20.8	20.2	27 J	23.3 J	19.2 J
Cobalt	MG/KG	29.7	100%	0	0	119	119	9.6 J	9.9 J	11.2 J	11 J	15.9	9.2 J	8.9 J	10.6 J	14.8	9.5 J	9.7 3
Copper	MG/KG	2930	92%	50	2	109	119	21.3 U	22	24.7	19.5	29.8	19.8	20.5	17.8	36.2	21.1	22.1
Cyanide Iron	MG/KG MG/KG	0 39800	0% 100%	27	0	0	119	0.59 U	0.58 U	0.69 U	0.65 U	0.64 U	0.63 U	0.65 U	0.68 U	0.58 U	0.56 U	0.75 U
Lead	MG/KG	1860	100%	63	2	119 119	119 119	22200 J 9.4 J	29100 J 12.2	25900 J 24.7	24100 J 13.1	28900 J	25400 J	22700 J	24500 J	33800	26100	24500
Magnesium	MG/KG	27600	100%	0	0	119	119	3990	5190	4380	4260	23.7 4360	21.1 3930	24.7 3660	15.7 3870	20 J 5130	14.1 J 5920	25.7 J 3880
Manganese	MG/KG	2580	100%	1600	5	119	119	611 J	329	441	709	1220	307	461	707	292 J	420 J	271 3
Mercury	MG/KG	0.15	75%	0.18	0	89	119	0.06 U	0.07 J	0.09 J	0.07 J	0.07 J	0.09 J	0.08 J	0.08 J	0.08 )	0.08 J	0.12 J
Nickel	MG/KG	54.1	100%	30	37	119	119	28 J	26.4	28.7	24.1	37.5	24.5 J	23.5 J	21 J	39	35.2	26.9
Potassium	MG/KG	3250	100%	0	0	119	119	1350	2180	1980	1840	1600	1910	1830	1910	1080 J	1680	1310 J
Selenium Silver	MG/KG MG/KG	2.7 1.7	63% 38%	3.9	0	75	119	0.49 U	0.51 U	1.9 J	0.6 J	1.8	1.8	0.72 J	1.9	0.8 J	0.77 3	0.83 J
Sodium	MG/KG	270	34%	2	0	45 41	119	0.25 UJ 56.4 U	0.3 UJ 66.5 U	0.31 UJ 68.9 U	0.31 UJ	0.33 UJ	0.32 UJ	0.33 UJ	0.34 UJ	0.29 UJ	0.44 J	0.35 UJ
Thallium	MG/KG	6.7	82%	0	0	98	119	2.5	4.4	2.3 J	89.1 J 2.7	73.2 U 4.1	75.3 J 1.7 J	73.5 U 3.8	75.3 U 3.3	89.8 J	57 U	77.8 U
Vanadium	MG/KG	104	99%	0	o	118	119	26.4	33.8	25.3	28	25.7	26.1	25.8	26	1.2 J 27	1 J 25.9	0.86 U 23
Zinc	MG/KG	1250	93%	109	11	111	119	52.1 J	62.9	92.5	65.8	78	87	83.8	68	98.6	73.9	88.6
Other Analyses															-	20.0	, 512	00.0
Cation exchange capacity	MEQ/100G	31.4	100%	0	0	32	32	9.6	9.7	9.8	12.7	16.5	11.3	13	19	12.5	10.5	11
Nitrate/Nitrite Nitrogen Percent Solids	MG/KG % WW	4.4 94	98%	0	0	99	101	0.2	0.01 U	0.22	0.34	0.14	0.34	0.09	0.18	0.01	0.09	0.27
Soil pH (std. units)	% WW pH units	7.83	100% 100%	0	0	101	101	78.8	78.3	72.3	76.4	77.4	73.6	76.4	70.4	79.3	79.9	66.9
Total Organic Carbon	MG/KG	70500	100%	0	0	33 32	33 32	7.6 5860	7.6 9290	7.15 11700	7.56 18100	7.5 27700	7.43 31300	7.65 44600	6.93 27500	7.83 18200	7.31	7.32
Name Organic Omboti		7000	100/0	· ·	· ·	32	34	3000	7270	11/00	18100	2//00	31300	44600	2/300	18200	36200	38300

Notes:
(1) Criteria based on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives, http://www.doc.state.my.us/website/regs/subpart375\_6.html
(2) Sample-duplicate pairs were treated as discreet samples.
(3) A bolded and outlined cell indicates a concentration that exceeded the criteria.

U = compound was not detected

UI = the reported value is an estimated concentration
UI = the compound was not detected; the associated reporting limit is approximate
R = the analytical result was rejected during data validation.

TABLE 1 SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

		Məximum	Frequency of of	Criteria	Number of	Number of Times	Number of Samples	SEAD-57 SD57-6 Ditchsoil 573020 0 0.2 01/08/00 SA P1S1 RI	SEAD-57 SD57-31 Ditchsoil 573021 0 0,2 01/08/00 SA P1S1 RI	SEAD-57 SD57-32 Ditchsoil 573022 0 0,2 01/08/00 SA P1S1 R1	SEAD-57 SD57-27 Ditchsoil 573023 0 0.2 01/09/00 SA P1S1 R1	SEAD-57 SD57-28 Ditchsoil 573024 0 0.2 01/09/00 SA P1S1 R1	SEAD-57 SD57-29 Ditchsoil 573025 0 0.2 01/09/00 SA P1S1 RI	SEAD-57 SD57-30 Ditchsoil 573026 0 0.2 01/09/00 SA P1S1 RI	SEAD-57 SD57-10 Ditchsoil 573030 0 0.2 01/10/00 SA P1S1 R1	SEAD-57 SD57-9 Ditchsoil 573032 0 0.2 01/10/00 SA P1S1 RJ	SEAD-57 SD57-19 Ditchsoil 573033 0 0.2 01/10/00 SA P1S1 RI	SEAD-57 SD57-20 Ditchsoil 573034 0 0.2 01/10/00 SA P1S1 RI
Parameter Volatile Organic Compounds	Units	Concentration	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
1,1,1-Trichloroethane	UG/KG	0	0%	680	0	0	127	23 U	12 U	16 U	15 U	12 U	13 U	13 U	11 U	10 U	11 U	11 U
1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane	UG/KG UG/KG	0	0%	0	0	0	127 127	23 U 23 U	12 U	16 U 16 U	15 U 15 U	12 U	13 U	13 U	11 U	10 U	11 U	11 U
1,1-Dichloroethane	UG/KG	0	0%	270	0	0	127	23 U	12 U	16 U	15 U	12 U 12 U	13 U 13 U	13 U 13 U	11 U 11 U	10 U 10 U	11 U	11 U
1,1-Dichloroethene 1,2-Dichloroethane	UG/KG	0	0%	330	0	0	127	23 U	12 U	16 U	15 U	12 U	13 U	13 U	11 U	10 U	11 U	11 U
1,2-Dichloroethene (total)	UG/KG UG/KG	0	0%	20 190	0	0	127 127	23 U 23 U	12 U 12 U	16 UJ 16 U	15 U 15 U	12 U 12 U	13 U	13 U	11 U	10 U	11 U	11 U
1,2-Dichloropropane	UG/KG	0	0%	0	0	0	127	23 U	12 U	16 U	15 U	12 U	13 U 13 U	13 U	11 U	10 U	11 U	11 U 11 U
Acetone	UG/KG	700	74%	50	87	94	127	700 J	1 1495 260 J	360 J	200 J	250 J	.260 J	240 J	130 J	80	83	84
Benzene Bromodichloromethane	UG/KG UG/KG	0	2% 0%	60	0	2	127 127	23 U 23 U	12 U 12 U	16 U	15 U	12 U	13 U	13 U	11 U	10 U	11 U	11 U
Bromoform	UG/KG	0	0%	0	0	0	127	23 U	12 U	16 U 16 U	15 U 15 U	12 U 12 U	13 U 13 U	13 U 13 U	11 U	10 U	11 U	11 U
Carbon disulfide	UG/KG	22	11%	0	0	14	127	23 U	12 U	16 U	15 U	12 U	13 U	13 U	2 J	10 U	11 U	11 U
Carbon tetrachloride Chlorobenzene	UG/KG UG/KG	0	0%	760 1100	0	0	127	23 U	12 U	16 U	15 U	12 U	13 U	13 U	11 U	10 U	11 U	11 U
Chlorodibromomethane	UG/KG	0	0%	0	0	0	127 127	23 U 23 U	12 U	16 U 16 U	15 U 15 U	12 U 12 U	13 U 13 U	13 U 13 U	11 U 11 U	10 U	11 U	11 U
Chloroethane	UG/KG	0	0%	0	0	0	127	23 UJ	12 UJ	16 U	15 UJ	12 UJ	13 UJ	13 U	11 U	10 U	11 U	11 U
Chloroform Cis-1,3-Dichloropropene	UG/KG UG/KG	7	1%	370	0	1	127	23 U	12 U	16 U	15 U	12 U	13 U	13 U	11 U	10 U	11 U	11 U
Ethyl benzene	UG/KG	0	0%	1000	0	0	127 127	23 U 23 U	12 U 12 U	16 U	15 U 15 U	12 U	13 U 13 U	13 U	11 U	10 U	11 U	11 U
Methyl bromide	UG/KG	0	0%	0	o	0	127	23 U	12 U	16 U	15 U	12 U	13 U	13 U 13 U	11 U	10 U	11 U	11 U
Methyl butyl ketone	UG/KG	0	0%	0	0	0	127	23 U	12 U	16 U	15 U	12 U	13 U	13 U	11 U	10 U	11 U	11 U
Methyl chloride Methyl ethyl ketone	UG/KG UG/KG	0 64	0% 62%	0 120	0	0 79	127 127	23 U 64	12 U	16 U	15 U	12 U	13 U	13 U	11 U	10 U	11 U	11 U
Methyl isobutyl ketone	UG/KG	0	0%	0	0	0	127	23 U	12 U	31 16 U	22 15 U	19 12 U	25 13 U	30 13 U	13 11 U	9 J 10 U	10 J 11 U	7 J 11 U
Methylene chloride	UG/KG	1	2%	50	0	2	127	23 U	12 U	16 U	15 U	12 U	13 U	13 U	1 3	1 )	11 U	11 U
Styrene Tetrachloroethene	UG/KG UG/KG	6	0% 6%	0	0	0	127	23 U	12 U	16 U	15 U	12 U	13 U	13 U	11 U	10 U	11 U	11 U
Toluene	UG/KG	33	65%	1300 700	0	82	127 127	23 U 7 J	12 U 5 J	16 U 9 J	15 U 6 J	12 U	13 U 6 J	13 U	11 U	10 U	11 U	11 U
Total Xylenes	UG/KG	2	2%	260	0	3	127	23 U	12 U	16 U	15 U	12 U	13 U	6 J 13 U	6 J 11 U	7 J 10 U	6 J 11 U	2 J 11 U
Trans-1,3-Dichloropropene	UG/KG	0	0%	0	0	0	127	23 U	12 U	16 U	15 U	12 U	13 U	13 U	11 U	10 U	11 U	11 U
Trichloroethene Vinyl chloride	UG/KG UG/KG	0	0%	470 20	0	0	127	23 U	12 U	16 U	15 U	12 U	13 U	13 U	11 U	10 U	11 U	11 U
Semivolatile Organic Compound		U	0%	20	U	U	127	23 U	12 U	16 U	15 U	12 U	13 U	13 U	11 U	10 U	11 U	11 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	0	0	0	119	120 UJ	100 UJ	100 UJ	94 UJ	92 UJ	93 UJ	92 UJ	90 UJ	81 UJ	100 UJ	93 UJ
1,2-Dichlorobenzene	UG/KG	0	0%	1100	0	0	119	120 UJ	100 UJ	100 UJ	94 UJ	92 UJ	93 UJ	92 UJ	90 UJ	81 UJ	100 UJ	93 UJ
1,3-Dichlorobenzene 1,4-Dichlorobenzene	UG/KG UG/KG	0	0%	2400 1800	0	0	119 119	120 UJ 120 UJ	100 UJ 100 UJ	100 UJ	94 UJ 94 UJ	92 UJ 92 UJ	93 UJ 93 UJ	92 UJ 92 UJ	90 UJ	81 UJ	100 UJ	93 UJ
2,2'-oxybis(1-Chloropropane)	UG/KG	0	0%	0	0	0	18	120 03	100 03	100 03	94 03	92 01	93 03	92 01	90 UJ	81 UJ	100 UJ	93 UJ
2,4,5-Trichlorophenol	UG/KG	0	0%	0	0	0	119	310 UJ	250 UJ	250 UJ	240 UJ	230 UJ	230 UJ	230 UJ	230 UJ	200 UJ	260 UJ	230 UJ
2,4,6-Trichlorophenol 2,4-Dichlorophenol	UG/KG UG/KG	0	0%	0	0	0	119 119	120 UJ 120 UJ	100 UJ	100 UJ	94 UJ	92 UJ	93 UJ	92 UJ	90 UJ	81 UJ	100 UJ	93 UJ
2,4-Dimethylphenol	UG/KG	0	0%	0	0	0	119	120 UJ	100 UJ	100 UJ	94 UJ 94 UJ	92 UJ 92 UJ	93 UJ 93 UJ	92 UJ 92 UJ	90 UJ	81 UJ 81 UJ	100 UJ	93 UJ 93 UJ
2,4-Dinitrophenol	UG/KG	0	0%	0	0	0	119	310 UR	250 UR	250 UR	240 UR	230 UR	230 UR	230 UR	230 UR	200 UR	260 UR	230 UJ
2,4-Dinitrotoluene	UG/KG	0	0%	0	0	0	119	120 UJ	100 UJ	100 UJ	94 UJ	92 UJ	93 UJ	92 UJ	90 UJ	81 UJ	100 UJ	93 UJ
2,6-Dinitrotoluene 2-Chloronaphthalene	UG/KG UG/KG	0	0%	0	0	0	119 119	120 UJ 120 UJ	100 UJ 100 UJ	100 UJ	94 UJ 94 UJ	92 UJ 92 UJ	93 UJ 93 UJ	92 UJ	90 UJ	81 UJ	100 UJ	93 UJ
2-Chlorophenol	UG/KG	o	0%	0	0	0	119	120 UJ	100 UJ	100 UJ	94 UJ	92 UJ	93 UJ	92 UJ 92 UJ	90 UJ	81 UJ 81 UJ	100 UJ	93 UJ 93 UJ
2-Methylnaphthalene	UG/KG	750	3%	0	0	3	119	120 UJ	100 UJ	100 UJ	94 UJ	92 UJ	93 UJ	92 UJ	90 UJ	81 UJ	100 UJ	93 UJ
2-Methylphenol 2-Nitroaniline	UG/KG UG/KG	0	0%	330	0	0	119	120 UJ	100 UJ	100 UJ	94 UJ	92 UJ	93 UJ	92 UJ	90 UJ	81 UJ	100 UJ	93 UJ
2-Nitrophenol	UG/KG	0	0%	0	0	0	119 119	310 UJ 120 UJ	250 UJ 100 UJ	250 UJ 100 UJ	240 UJ 94 UJ	230 UJ 92 UJ	230 UJ 93 UJ	230 UJ 92 UJ	230 UJ 90 UJ	200 UJ 81 UJ	260 UJ 100 UJ	230 UJ 93 UJ
3,3'-Dichlorobenzidine	UG/KG	0	0%	0	0	0	119	120 UJ	100 UJ	100 UJ	94 UJ	92 UJ	93 UJ	92 UJ	90 UJ	81 UJ	100 UJ	93 UJ
3-Nitroaniline	UG/KG	0	0%	0	0	0	119	310 UJ	250 UJ	250 UJ	240 UJ	230 UJ	230 UJ	230 UJ	230 UJ	200 UJ	260 UJ	230 UJ
4,6-Dinitro-2-methylphenol 4-Bromophenyl phenyl ether	UG/KG UG/KG	0	0%	0	0	0	119 119	310 UJ 120 UJ	250 UJ 100 UJ	250 UJ 100 UJ	240 UJ 94 UJ	230 UJ 92 UJ	230 UJ	230 UJ	230 UJ	200 UJ	260 UJ	230 UJ
4-Chloro-3-methylphenol	UG/KG	0	0%	0	0	0	119	120 UJ	100 UJ	100 UJ	94 UJ	92 UJ	93 UJ 93 UJ	92 UJ 92 UJ	90 UJ	81 UJ	100 UJ	93 UJ 93 UJ
4-Chloroaniline	UG/KG	0	0%	0	0	0	119	120 UJ	100 UJ	100 UJ	94 UJ	92 UJ	93 UJ	92 UJ	90 UJ	81 UJ	100 UJ	93 UJ
4-Chlorophenyl phenyl ether	UG/KG	0	0%	0	0	0	119	120 UJ	100 UJ	100 UJ	94 UJ	92 UJ	93 UJ	92 UJ	90 UJ	81 UJ	100 UJ	93 UJ
4-Methylphenol 4-Nitroaniline	UG/KG UG/KG	13	3% 0%	330	0	3	119 119	120 UJ 310 UJ	100 UJ 250 UJ	100 UJ 250 UJ	94 UJ 240 UJ	92 UJ 230 UJ	93 UJ 230 UJ	92 UJ 230 UJ	90 UJ 230 UJ	81 UJ 200 UJ	100 UJ 260 UJ	6.3 J 230 UJ
4-Nitrophenol	UG/KG	0	0%	0	0	0	119	310 UJ	250 UJ	250 UJ	240 UR	230 UJ 230 UR	230 UJ 230 UR	230 UJ 230 UR	230 UJ 230 UJ	200 UJ	260 UJ	230 UJ
Acenaphthene	UG/KG	0	0%	20000	0	0	119	120 UJ	100 UJ	100 UJ	94 UJ	92 UJ	93 UJ	92 UJ	90 UJ	81 UJ	100 UJ	93 UJ
Acenaphthylene	UG/KG	0	0%	100000	0	0	119	120 UJ	100 UJ	100 UJ	94 UJ	92 UJ	93 UJ	92 UJ	90 UJ	81 UJ	100 UJ	93 UJ

TABLE 1 SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

		Maximum	Frequency of	Criteria	Number of	Number of Times	Number of Samples	SEAD-57 SD57-6 Ditchsoil 573020 0 0.2 01/08/00 SA P1S1 R1	SEAD-57 SD57-31 Ditchsoil 573021 0 0.2 01/08/00 SA PIS1 RJ	SEAD-57 SD57-32 Ditchsoil 573022 0 0.2 01/08/00 SA PIS1 R1	SEAD-57 SD57-27 Ditchsoil 573023 0 0.2 01/09/00 SA PISI RI	SEAD-57 SD57-28 Ditchsoil 573024 0 0.2 01/09/00 SA P1S1 RJ	SEAD-57 SD57-29 Ditehsoil 573025 0 0,2 01/09/00 SA PISI RI	SEAD-57 SD57-30 Ditchsoil 573026 0 0.2 01/09/00 SA PIS1 RI	SEAD-57 SD57-10 Ditchsoil 573030 0 0.2 01/10/00 SA P1S1 RI	SEAD-57 SD57-9 Ditchsoil 573032 0 0.2 01/10/00 SA P1S1 R1	SEAD-57 SD57-19 Ditchsoil 573033 0 0.2 01/10/00 SA P1S1 RI	SEAD-57 SD57-20 Ditchsoil 573034 0 0.2 01/10/00 SA P1S1 RI
Parameter	Units	Concentration	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Anthracene Benzo(a)anthracene	UG/KG UG/KG	8.2 62	3% 21%	100000	0	3 25	119 119	120 UJ 120 UJ	100 UJ 100 UJ	100 UJ 5.5 J	94 UJ 94 UJ	92 UJ 92 UJ	93 UJ	92 UJ 92 UJ	90 UJ	81 UJ 81 UJ	100 UJ 14 J	93 UJ 10 J
Benzo(a)pyrene	UG/KG	76	17%	1000	0	20	119	120 UJ	100 UJ	100 UJ	5.8 J	92 UJ	93 UJ	92 UJ	90 UJ	81 UJ	25 J	13 J
Benzo(b)fluoranthene	UG/KG UG/KG	67 54	24% 13%	10000	0	29 15	119 119	120 UJ 120 UJ	100 UJ 100 UJ	100 UJ	94 UJ 94 UJ	92 UJ 92 UJ	93 UJ 93 UJ	92 UJ 92 UJ	90 UJ	81 UJ 81 UJ	18 J 14 J	14 J 7.8 J
Benzo(ghi)perylene Benzo(k)fluoranthene	UG/KG	50	24%	800	0	29	119	120 UJ	100 UJ	100 UJ	94 UJ	92 UJ	93 UJ	92 UJ	90 UJ	81 UJ	20 J	13 J
Bis(2-Chloroethoxy)methane	UG/KG	0	0%	0	0	0	119	120 UJ	100 UJ	100 UJ	94 UJ	92 UJ	93 UJ	92 UJ	90 UJ	81 UJ	100 UJ	93 UJ
Bis(2-Chloroethyl)ether Bis(2-Chloroisopropyl)ether	UG/KG UG/KG	0	0%	0	0	0	119	120 UJ 120 UJ	100 UJ 100 UJ	100 UJ	94 UJ 94 UJ	92 UJ 92 UJ	93 UJ 93 UJ	92 UJ 92 UJ	90 UJ 90 UJ	81 UJ 81 UJ	100 UJ	93 UJ 93 UJ
Bis(2-Ethylhexyl)phthalate	UG/KG	3400	15%	o	o	18	119	120 UJ	38 J	100 UJ	94 UJ	92 UJ	93 UJ	92 UJ	90 UJ	81 UJ	100 UJ	13 J
Butylbenzylphthalate	UG/KG	0	0%	0	0	0	119	120 UJ	100 UJ	100 UJ	94 UJ	92 UJ	93 UJ	92 UJ	90 UJ	81 UJ	100 UJ	93 UJ
Carbazole Chrysene	UG/KG UG/KG	0 110	0% 33%	1000	0	39	119 119	120 UJ 9.2 J	100 UJ 5.3 J	100 UJ 7 J	94 UJ 6.5 J	92 UJ 92 UJ	93 UJ	92 UJ 92 UJ	90 UJ	81 UJ 81 UJ	100 UJ 28 J	93 UJ 19 J
Di-n-butylphthalate	UG/KG	390	34%	0	0	40	119	9.2 J	100 UJ	76 J	6.8 J	92 UJ	7.6 J	92 UJ	7 1	20 J	18 J	13 J
Di-n-octylphthalate Dibenz(a,h)anthracene	UG/KG UG/KG	2.6 24	1% 6%	0 330	0	1 7	119 119	120 UJ 120 UJ	100 UJ 100 UJ	100 UJ 100 UJ	94 UJ 94 UJ	92 UJ 92 UJ	93 UJ	92 UJ 92 UJ	90 UJ	81 UJ	100 UJ 100 UJ	93 UJ 93 UJ
Dibenzofuran	UG/KG	0	0%	7000	0	ó	119	120 UJ	100 UJ	100 UJ	94 UJ	92 UJ	93 UJ	92 UJ	90 UJ	81 UJ	100 UJ	93 UJ
Diethyl phthalate	UG/KG	8.8	2%	0	0	2	119	120 UJ	100 UJ	100 UJ	94 UJ	92 UJ	93 UJ	92 UJ	90 UJ	81 UJ	100 UJ	93 UJ
Dimethylphthalate Fluoranthene	UG/KG UG/KG	0 150	0% 50%	0 100000	0	60	119 119	120 UJ 15 J	100 UJ 9.3 J	100 UJ 12 J	94 UJ 11 J	92 UJ 92 UJ	93 UJ 6.1 J	92 UJ 92 UJ	90 UJ 90 UJ	81 UJ 81 UJ	100 UJ 35 J	93 UJ 25 J
Fluorene	UG/KG	120	2%	30000	0	2	119	120 UJ	100 UJ	100 UJ	94 UJ	92 UJ	93 UJ	92 UJ	90 UJ	81 UJ	100 UJ	93 UJ
Hexachlorobenzene	UG/KG	0	0%	330	0	0	119	120 UJ	100 UJ 100 UJ	100 UJ 100 UJ	94 UJ 94 UJ	92 UJ 92 UJ	93 UJ 93 UJ	92 UJ 92 UJ	90 UJ	81 UJ 81 UJ	100 UJ 100 UJ	93 UJ 93 UJ
Hexachlorobutadiene Hexachlorocyclopentadiene	UG/KG UG/KG	0	0% 0%	0	0	0	119 119	120 UJ 120 UJ	100 UJ	100 UJ	94 UJ	92 UJ	93 UJ	92 UJ	90 UJ	81 UJ	100 UJ	93 UJ
Hexachloroethane	UG/KG	0	0%	0	0	0	119	120 UJ	100 UJ	100 UJ	94 UJ	92 UJ	93 UJ	92 UJ	90 UJ	81 UJ	100 UJ	93 UJ
Indeno(1,2,3-cd)pyrene Isophorone	UG/KG UG/KG	37	13%	500	0	15	119 119	120 UJ 120 UJ	100 UJ 100 UJ	100 UJ	94 UJ 94 UJ	92 UJ 92 UJ	93 UJ	92 UJ 92 UJ	90 UJ	81 UJ 81 UJ	11 J 100 UJ	6.3 J 93 UJ
N-Nitrosodiphenylamine	UG/KG	75	2%	0	0	2	119	120 UJ	100 UJ	100 UJ	94 UJ	92 UJ	93 UJ	92 UJ	90 UJ	81 UJ	100 UJ	93 UJ
N-Nitrosodipropylamine	UG/KG	0	0%	0	0	0	119	120 UJ	100 UJ	100 UJ	94 UJ	92 UJ	93 UJ	92 UJ	90 UJ	81 UJ	100 UJ	93 UJ
Naphthalene Nitrobenzene	UG/KG UG/KG	180	1% 0%	12000	0	0	119 119	120 UJ 120 UJ	100 UJ 100 UJ	100 UJ 100 UJ	94 UJ 94 UJ	92 UJ 92 UJ	93 UJ 93 UJ	92 UJ 92 UJ	90 UJ	81 UJ 81 UJ	100 UJ	93 UJ 93 UJ
Pentachlorophenol	UG/KG	0	0%	800	0	0	119	310 UJ	250 UJ	250 UJ	240 UJ	230 UJ	230 UJ	230 UJ	230 UJ	200 UJ	260 UJ	230 UJ
Phenanthrene	UG/KG UG/KG	230	37% 13%	100000 330	0	44 16	119 119	7.6 J 120 UJ	100 UJ 100 UJ	6.9 J 100 UJ	6.3 J 94 UJ	92 UJ 92 UJ	93 UJ 93 UJ	92 UJ 92 UJ	90 UJ	81 UJ	23 J 100 UJ	17 J 93 UJ
Phenol Pyrene	UG/KG	51 230	52%	100000	3	62	119	15 J	8.9 J	11 J	10 J	92 UJ	6 J	92 UJ	90 UJ	81 UJ	48 J	30 J
Explosives																		
1,3,5-Trinitrobenzene 1,3-Dinitrobenzene	UG/KG UG/KG	0	0%	0	0	0	119 119	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U
2,4,6-Trinitrotoluene	UG/KG	ō	0%	o	0	0	119	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U
2,4-Dinitrotoluene	UG/KG	0	0%	0	0	0	119	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U 120 U	120 U 120 U
2,6-Dinitrotoluene 2-Nitrotoluene	UG/KG UG/KG	0	0%	0	0	0	119 101	120 U 120 U	120 U 120 U	120 U 120 U	120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U	120 U
2-amino-4,6-Dinitrotoluene	UG/KG	0	0%	0	0	0	119	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U
3-Nitrotoluene 4-Nitrotoluene	UG/KG UG/KG	0	0%	0	0	0	101 101	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U
4-amino-2,6-Dinitrotoluene	UG/KG	0	0%	0	0	0	119	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U
HMX	UG/KG	0	0%	0	0	0	119	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U 120 U	120 U	120 U 120 U	120 U 120 U
Nitrobenzene RDX	UG/KG UG/KG	0	0%	0	0	0	101 119	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U	120 U 120 U	120 U	120 U
Tetryi	UG/KG	0	0%	0	0	0	119	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U
Pesticides and PCBs 4,4'-DDD	UG/KG	54	7%	3.3	5	8	119	6.2 U	5.1 U	5.1 U	4.7 U	4.6 UJ	4.6 UJ	4.6 UJ	4.5 U	4,1 U	5.2 U	4.6 U
4,4'-DDE	UG/KG	32	8%	3.3	7	9	119	6.2 U	5.1 U	5.1 U	4.7 U	4.6 UJ	4.6 UJ	4.6 UJ	4.5 U	4.1 U	5.2 U	4.6 U
4,4'-DDT	UG/KG	23	5%	3.3	5	6	119	6.2 U	5.1 U	5.1 U	4.7 U	4.6 UJ	4.6 UJ	4.6 UJ	4.5 U	4.1 U	5.2 U	4.6 U
Aldrin Alpha-BHC	UG/KG UG/KG	0	0% 2%	5 20	0	0 2	119 119	3.2 U 3.2 U	2.6 U 2.6 U	2.6 U 2.6 U	2.4 U 2.4 U	2.4 UJ 2.4 UJ	2.4 UJ 2.4 UJ	2.4 UJ 2.4 UJ	2.3 U 2.3 U	2.1 U 2.1 U	2.6 U 2.6 U	2.4 U 2.4 U
Alpha-Chlordane	UG/KG	16	6%	94	0	7	119	3.2 U	2.6 U	2.6 U	2.4 U	2.4 UJ	2.4 UJ	2.4 UJ	2,3 U	2.1 U	2.6 U	2.4 U
Aroclor-1016	UG/KG	0	0%	100	0	0	119	62 U 130 U	51 U 100 U	51 U 100 U	47 U 96 U	46 UJ 93 UJ	46 UJ 94 UJ	46 UJ 93 UJ	45 U 92 U	41 U 83 U	52 U 100 U	46 U 94 U
Aroclor-1221 Aroclor-1232	UG/KG UG/KG	0	0% 0%	100	0	0	119 119	62 U	51 U	51 U	47 U	46 UJ	46 UJ	46 UJ	45 U	41 U	52 U	46 U
Aroclor-1242	UG/KG	0	0%	100	0	0	119	62 U	51 U	51 U	47 U	46 UJ	46 UJ	46 UJ	45 U	41 U	52 U	46 U
Aroclor-1248 Aroclor-1254	UG/KG UG/KG	0	0%	100 100	0	0	119 119	62 U	51 U 51 U	51 U 51 U	47 U 47 U	46 UJ 46 UJ	46 UJ 46 UJ	46 UJ 46 UJ	45 U 45 U	41 U 41 U	52 U 52 U	46 U 46 U
Aroclor-1254 Aroclor-1260	UG/KG	27	2%	100	0	2	119	62 U	51 U	51 U	47 U	46 UJ	46 UJ	46 UJ	45 U	41 U	52 U	46 U
Beta-BHC	UG/KG	4.5	1%	36	0	1	119	3.2 U	2.6 U	2.6 U	2.4 U	2.4 UJ	2.4 UJ	2.4 UJ	2.3 U	2.1 U	2.6 U	2.4 U
Delta-BHC Dieldrin	UG/KG UG/KG	0 27	0% 6%	40 5	5	0 7	119 119	3.2 U 6.2 U	2.6 U 5.1 U	2.6 U 5.1 U	2.4 U 4.7 U	2.4 UJ 4.6 UJ	2.4 UJ 4.6 UJ	2.4 UJ 4.6 UJ	2.3 U 4.5 U	2.1 U 4.1 U	2.6 U 5.2 U	2.4 U 4.6 U
					-		•••			0	0							

TABLE 1 SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

		Maximum	Frequency of	Criteria	Number of	Number of Times	Number of Samples	SEAD-57 SD57-6 Ditchsoil 573020 0 0.2 01/08/00 SA P1S1 RI	SEAD-57 SD57-31 Ditchsoil 573021 0 0,2 01/08/00 SA P1S1 RI	SEAD-57 SD57-32 Ditchsoil 573022 0 0.2 01:08/00 SA PIS1 RI	SEAD-57 SD57-27 Ditchsoil 573023 0 0.2 01/09/00 SA P1S1 R1	SEAD-57 SD57-28 Ditchsoil 573024 0 0.2 01/09/00 SA P1S1 R1	SEAD-57 SD\$7-29 Ditchsoil 573025 0 0.2 01/09/00 SA P1S1 RI	SEAD-57 SD57-30 Ditchsoil 573026 0 0.2 01/09/00 SA P1S1 R1	SEAD-57 SD57-10 Ditchsoil 573030 0 0.2 01/10/00 SA P1S1 R1	SEAD-57 SD57-9 Ditchsoil 573032 0 0.2 01-10.00 SA P1S1 R1	SEAD-57 SD57-19 Ditchsoil 573033 0 0.2 01.10:00 SA P1S1 R1	ShAD-57 SD57-20 Ditchsoil 573034 0 0.2 01 10:00 SA P1S1 R1
Parameter	Units	Concentration	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Endosulfan f	UG/KG	5 2	1%	2400	0	1	119	3.2 U	2.6 U	2,6 U	2.4 U	2.4 UJ	2.4 UJ	2.4 1/J	2.3 U	2.1 U	2.6 U	2.4 U
Endosulfan II	UG/KG	3 1	1 0%	2400	0	1	119	6.2 U	5.1 U	5.1 U	4.7 U	4.6 UJ	4.6 UJ	4.6 UJ	4.5 U	4.1 U	5.2 U	4.6 U
Endosulfan sulfate	UG/KG	0	0%	2400	0	0	119	6.2 U	5.1 U	5.1 U	4.7 U	4.6 UJ	4.6 UJ	4.6 UJ	4.5 U	4.1 U	5.2 U	4.6 CI
Endrin Endrin	UG/KG	0	0%	14	0	0	119	6.2 U	5.1 U	5.1 U	4.7 U	4.6 UJ	4.6 UJ	4.6 UJ	4.5 11	4.1 U	5.2 U	46 U
Endrin aldehyde Endrin ketone	UG/KG UG/KG	3.8	1% 1%	0	0	1	119	6.2 U 6.2 U	5.1 U 5.1 U	5.1 U	4.7 U	4.6 UJ	4.6 UJ	4.6 UJ	4.5 U	4.1 1!	5.2 U	4.6 U
Gamma-BHC'Lindane	UG/KG	0	0%	001	0	0	119	3.2 U	2.6 U	5.1 U 2.6 U	4.7 U 2.4 U	4.6 UJ 2.4 UJ	4.6 UJ 2.4 UJ	4.6 UJ 2.4 UJ	4.5 U 2.3 U	4.1 U 2.1 U	5.2 U 2.6 U	4.6 U 2.4 U
Gamma-Chlordane	UG/KG	0	0%	0	0	0	119	3.2 U	2.6 U	2.6 U	2.4 U	2.4 UJ	2.4 UJ	2.4 UJ	2.3 U	2.1 U	2.6 U	24 U
Heptachlor	UG/KG	1.6	10.5	42	0	1	119	3.2 U	2.6 U	2.6 U	2.4 U	2.4 UJ	2.4 UJ	2.4 UJ	2.3 U	2.1 U	2.6 U	2.4 U
Heptachlor epoxide	UG/KG	2	1%	0	0	1	119	3.2 U	2.6 U	2.6 U	2.4 U	2.4 UJ	2.4 UJ	2.4 UJ	2.3 U	2.1 U	2.6 U	2.4 1/
Methoxychlor	UG/KG	0	0%	0	0	0	119	32 U	26 U	26 U	24 U	24 UJ	24 UJ	24 UJ	23 U	21 LI	26 U	24 U
Toxaphene	UG/KG	0	ο υ ο	0	0	0	119	320 U	260 U	260 U	240 U	240 UJ	240 UJ	240 UJ	230 U	210 U	260 U	240 U
Herbicides	1162.0461																	
2,4,5-T 2,4,5-TP Silvex	UG/KG UG/KG	0	0°.	3800	0	G D	18 18											
2,4-D	UG/KG	0	0%	0	0	0	18											
2.4-DB	UG/KG	0	0%	0	0	Û	18											
Dalapon	UG:KG	0	0%	0	0	0	18											
Dicamba	UG/KG	0	000	0	0	0	18											
Dichloroprop	UG:KG	0	000	G	0	0	18											
Dinoseb	UG/KG	0	0% n	0	0	0	18											
MCPA MCPP	UG/KG UG/KG	0	0%	0	0	0	18 18											
Metals and Cyanide	UU:KU	0	0.0	U	U	U	18											
Aluminum	MG/KG	22900	100%	0	0	119	119	14500 J	16000 3	13400 J	13800 J	14300 J	16100 J	14700 J	17100 J	9990 3	17800 J	16300 J
Antimony	MG/KG	6.5	490 0	0	0	58	119	2.2 J	0.94 J	0.49 UJ	0.56 J	0.49 J	0.76 J	0.5 J	0.76 J	0.52 J	1.1 J	0.75 J
Arsenic	MG KG	17.8	92%	13	1	110	119	6.3	5.3	3.5	5.5	4.7	4.3	4.1	6.7	3 3	5.6	4.7
Banum	MG/KG	237	100%	350	0	119	119	132	105	92.3	96.2	74.5	118	85 7	162	88.5	169	149
Beryllium	MG/KG	1.8	100° o	7.2	0	119	119	0.99 J	1.1 J	0.75 J	0.96 J	0.74 J	1.1	0.82 J	1.3	0.59 J	1.7	0.96 J
Cadmium	MG/KG	28 6	22%	2.5	6	26	119	0.16 J	0.05 U	0.04 U	0.05 U	0.04 U	0.05 U	0.04 U	0.46 J	0.9 J	0.16 J	0 17 J
Calcium	MG/KG MG/KG	213000 32.1	100%	0 30	0	119 119	119 119	7380 21.3 J	3130 20 J	3440 16.2 J	2740 17.2 J	1580 18.8 J	3180 19,7 J	2050 18.8 J	2800 24.2 J	2540 14.2 J	3670 25.2 J	3620 24.4 J
Cobalt	MG·KG	29.7	100%	0	0	119	119	9.8 J	13.4 J	7.2 J	9.6 J	7.6 J	12.1	8.8 J	29.7	6.2 J	12	10 ? J
Copper	MG/KG	2930	92%	50	2	109	119	44,4	20.6	17,8	15.3	14.8	20.1	17.5	21.7	16.6	29.6	26.7
Cyanide	MG/KG	0	0%	27	0	0	119	0.94 U	0.73 U	0.68 U	0.72 U	0.68 U	0.64 U	0.65 U	0.69 U	0.59 U	0.61 U	0.68 U
Iron	MG-KG	39800	100° e	0	0	119	119	37200	27300	18400	30100 J	25400 ]	24600 J	23700 J	34800 J	17500 J	32200 J	29900 J
Lead	MG/KG	1860	100° u	63	2	119	119	33.2 J	28.7 J	25.3 1	24.1 J	17,4 J	25.3 1	21.6 J	22.1 J	8.3 J	28 6 3	22.2 J
Magnesium	MG/KG	27600 2580	100%	0	0	119	119	4310 292 J	4130	3320	3140	3360	4210	3650	4780	3210	5530	5180
Manganese Mercury	MG/KG MG/KG	0.15	100% 75%	1600 0.18	0	119 89	119 119	0.15	737 J 0.12 J	320 J 0.12 J	619 J 0.07 U	346 J 0.07 U	872 J 0.07 U	426 J 0.06 U	1620 J 0.07 J	253 J 0.06 U	409 J 0.07 U	601 J 0.06 U
Nickel	MG/KG	54 1	100°6	30	37	119	119	28.8	24.3	18.3	16.2	17.2	21.6	21	31.7	19.5	36.7	41.8
Potassium	MG/KG	3250	100° u	0	0	119	119	1520 J	1280 J	986 J	1170 J	1030 J	1150 J	1150	1500	901 J	1740	1520
Selenium	MG/KG	2.7	63%	3,9	0	75	119	0.9 U	0.68 U	0.79 J	0.62 U	0.54 J	0.59 U	1.4	1.2	0.59 U	1.3	0.84 J
Silver	MG/KG	1 7	38%u	2	0	45	119	0.47 UJ	0.36 J	0.3 J	0.37 J	0.28 J	0.51 J	0.28 UJ	0.31 J	0.31 UJ	0.28 UI	0.31 UJ
Sodium	MG/KG	270	3740	0	0	41	119	104 U	104 J	64.3 U	72 J	61.3 U	68 U	62.1 U	56.9 U	71.3 J	62.3 U	68.8 L!
Thallium	MG KG	6.7	82%	0	0	98	119	1.1 U	1.4 3	1.3 J	1.8 J	1 J	0.75 U	1.2 J	2.7	1.2 J	13.3	2.6
Vanadium	MG-KG	104 1250	99% 93%	0 109	0 11	118	119	27.1	29.8	25.1 59.7	29,3	28.1	30.1	27 5	33.1	20	32 7	27.4
Zinc Other Analyses	MG.KG	1230	91-0	109	1.1	111	119	144	69.7	34.7	50.9	47.2	70.8	59	64.2	41.2	91.2	1.69
Cation exchange capacity	MEO/100G	31.4	100%	0	0	32	32	31.4	26.8	24.4	15.5	13.5	12	11.5	10.8	11.4	11.8	18
Nitrate Nitrite Nitrogen	MG/KG	4.4	98°	0	o	99	101	0.04	0.24	0.11	0.44	0.07	0.25	0.33	0.15	0.04	0.14	0.22
Percent Solids	"o WW	94	100° o	0	0	101	101	53.1	65.4	64.7	69.7	72	71.4	72.2	72.6	80.9	64	71.2
Soil pH (std units)	pH units	7 83	100%	0	0	33	33	6.84	6.76	6.23	6.86	6.25	6 79	6.5	7	6.72	7.35	6.99
Total Organic Carbon	MG/KG	70500	100° o	0	0	32	32	70500	41900	35900	28000	15000	22000	19200	23400	16400	9580	31000

Notes:

(1) Criteria based on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives, http://www.dec.state.ny.us-website.regs.subpart35\_6.html
(2) Sample-duplicate pairs were treated as discreet samples
(3) A bolded and outlined cell indicates a concentration that exceeded the criteria.

 $U = compound \ was not detected \\ J = the reported value is an estimated concentration \\ UJ = the compound was not detected, the associated reporting limit is approximate \\ R = the analytical result was rejected during data validation$ 

TABLE 1 SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

		Maximum	Frequency of of	Criteria	Number of	Number of Times	Number of Samples	SEAD-57 SD57-1 Ditchsoil 573035 0 0.2 01/11/00 SA P1S1 R1	SEAD-57 SD57-25 Ditchsoil 573036 0 0,2 01/11/00 SA P1S1 R1	SEAD-57 SB57-1 SOIL 574013 0 2 12/03/99 SA P1S1 RI	SEAD-57 SB57-1 SOIL 574014 2 4 12/03/99 SA PISI RI	SEAD-57 SB57-1 SOIL 574015 4 6 12/03/99 SA PISI RI	SEAD-57 SB57-2 SOIL 574010 0 2 12/03/99 SA P1S1 RJ	SEAD-57 SB57-2 SOIL 574011 2 4 12/03/99 SA PISI RI	SEAD-57 SB57-2 SOIL 574012 4 6 12/03/99 SA PIS1 RI	SEAD-57 SB57-3 SOIL 574007 0 2 12/02/99 SA PISI RI	SEAD-57 SB57-3 SOIL 574008 2 4 12/02/99 SA PISI RI	SEAD-57 SB57-3 SOIL 574009 4 6 12/02/99 SA PISI RI
Parameter Volatile Organic Compounds	Units	Concentration	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds 1,1,1-Trichloroethane 1,1,2-Trichloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,3-Dichloropropene 1,3-Dichloroethane 1,3-Dichloroet	UG/KG UG/KG	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 74% 2% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%	680 0 0 270 330 20 190 0 50 60 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	127 127 127 127 127 127 127 127 127 127	17 U 17 U 17 U 17 U 17 U 17 U 17 U 17 U	12 U 12 U 12 U 12 U 12 U 12 U 12 U 12 U	11 U 11 U 11 U 11 U 11 U 11 U 11 U 11 U	9 UU 9 UU 9 UU 9 UU 9 UU 9 UU 9 UU 9 U	9 U 9 U 9 U 9 U 9 U 9 U 9 U 9 U 9 U 9 U	10 U 10 U 10 U 10 U 10 U 10 U 10 U 10 U	9 UJ 9 UJ 9 UJ 9 UJ 9 UJ 9 UJ 9 UJ 9 UJ	9 U 9 U 1 9	12 U 12 U 12 U 12 U 12 U 12 U 12 U 12 U	8 UJ 8 UJ 8 UJ 8 UJ 8 UJ 8 UJ 8 UJ 8 UJ	8 UII 8 UIII
Semivolatile Organic Compound 1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene		0	0% 0% 0%	0 1100 2400	0	0	127 119 119 119	17 U 110 UJ 110 UJ 110 UJ	88 UJ 88 UJ 88 UJ	84 U 84 U 84 U	9 UJ 78 U 78 U 78 U	9 U 74 U 74 U 74 U	93 U 93 U 93 U	9 UJ 76 U 76 U 76 U	9 UJ 74 UJ 74 UJ 74 UJ	98 U 98 U 98 U 98 U	73 U 73 U 73 U 73 U	8 UJ 70 U 70 U 70 U
1,4-Dichlorobenzene	UG/KG	0	0%	1800	0	0	119	110 UJ	88 UJ	84 U	78 U	74 U	93 U	76 U	74 UJ	98 U	73 U	70 U
2,2'-oxybis(1-Chloropropane) 2,4,5-Trichlorophenol	UG/KG UG/KG	0	0% 0%	0	0	0	18 119	280 UJ	220 UJ	200 U	190 U	180 U	220 U	180 U	180 UJ	240 U	180 U	170 U
2,4,6-Trichlorophenol	UG/KG	0	0%	0	0	0	119	110 UJ	88 UJ	84 U	78 U	74 U	93 U	76 U	74 UJ	98 U	73 U	70 U
2,4-Dichlorophenol 2,4-Dimethylphenol	UG/KG UG/KG	0	0% 0%	0	0	0	119 119	110 UJ 110 UJ	88 UJ 88 UJ	84 UJ 84 UJ	78 UJ 78 UJ	74 UJ 74 UJ	93 UJ 93 UJ	76 UJ	74 UJ 74 UJ	98 UJ	73 UJ 73 UJ	70 UJ 70 UJ
2,4-Dinitrophenol	UG/KG	0	0%	0	0	o	119	280 UJ	220 UJ	200 UJ	190 UJ	180 UJ	220 UJ	180 UJ	180 UJ	240 UR	180 UR	170 UJ
2,4-Dinitrotoluene 2,6-Dinitrotoluene	UG/KG UG/KG	0	0% 0%	0	0	0	119 119	110 UJ 110 UJ	88 UJ	84 UJ 84 U	78 U 78 U	74 U	93 UJ 93 U	76 U	74 UJ 74 UJ	98 U 98 UJ	73 U 73 UJ	70 U
2-Chloronaphthalene	UG/KG	0	0%	0	0	0	119	110 UJ	88 UJ	84 U	78 U	74 U	93 U	76 U	74 UJ	98 U	73 U	70 U
2-Chlorophenol	UG/KG	0	0%	0	0	0	119	110 U)	88 UJ	84 U	78 U	74 U	93 U	76 U	74 UJ	98 U	73 U	70 U
2-Methylnaphthalene 2-Methylphenol	UG/KG UG/KG	750 0	3% 0%	0 330	0	3	119 119	110 UJ 110 UJ	88 UJ	84 U 84 UJ	78 U 78 UJ	74 U 74 UJ	93 U 93 UJ	76 U 76 UJ	74 UJ 74 UJ	98 U 98 UJ	73 U 73 UJ	70 U 70 UJ
2-Nitroaniline	UG/KG	0	0%	0	0	0	119	280 UJ	220 UJ	200 UJ	190 UJ	180 UJ	220 UJ	180 UJ	180 UJ	240 UJ	180 UJ	170 UJ
2-Nitrophenol 3,3'-Dichlorobenzidine	UG/KG UG/KG	0	0% 0%	0	0	0	119	110 UJ	88 UJ	84 U	78 U	74 U	93 U	76 U	74 UJ	98 U	73 U	70 U
3-Nitroaniline	UG/KG	0	0%	0	0	0	119 119	110 UJ 280 UJ	88 UJ 220 UJ	84 UJ 200 UJ	78 UJ 190 UJ	74 UJ 180 UJ	93 UJ 220 UJ	76 UJ 180 UJ	74 UJ 180 UJ	98 UJ 240 UJ	73 UJ 180 UJ	70 UJ 170 UJ
4,6-Dinitro-2-methylphenol	UG/KG	o	0%	0	0	0	119	280 UJ	220 UJ	200 UJ	190 UJ	180 UJ	220 UJ	180 UJ	180 UJ	240 UJ	180 UJ	170 UJ
4-Bromophenyl phenyl ether 4-Chloro-3-methylphenol	UG/KG UG/KG	0	0% 0%	0	0	0	119 119	110 UJ	88 UJ	84 U	78 U	74 U	93 U	76 U	74 UJ	98 U	73 U	70 U
4-Chloroaniline	UG/KG	0	0%	0	0	0	119	110 UJ 110 UJ	88 UJ	84 UJ 84 UJ	78 UJ	74 UJ 74 UJ	93 UJ 93 UJ	76 UJ 76 UJ	74 UJ 74 UJ	98 UJ	73 UJ 73 UJ	70 UJ 70 UJ
4-Chlorophenyl phenyl ether	UG/KG	0	0%	0	0	0	119	110 UJ	88 UJ	84 U	78 U	74 U	93 U	76 U	74 UJ	98 U	73 U	70 U
4-Methylphenol 4-Nitroaniline	UG/KG UG/KG	13	3% 0%	330	0	3	119	110 UJ 280 UJ	88 UJ	84 UJ	78 UJ	74 UJ	93 UJ	76 UJ	74 UJ	98 UJ	73 UJ	70 UJ
4-Nitrophenol	UG/KG	0	0%	0	0	0	119 119	280 UJ 280 UJ	220 UJ 220 UJ	200 U 200 UJ	190 U 190 UJ	180 U 180 UJ	220 U 220 UJ	180 U 180 UJ	180 UJ 180 UJ	240 U 240 UJ	180 U 180 UJ	170 U 170 UJ
Acenaphthene	UG/KG	0	0%	20000	0	0	119	110 UJ	88 UJ	84 U	78 U	74 U	93 U	76 U	74 UJ	98 U	73 U	70 U
Acenaphthylene	UG/KG	0	0%	100000	0	0	119	110 UJ	88 UJ	84 U	78 U	74 U	93 U	76 U	74 UJ	98 U	73 U	70 U

# TABLE I SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

SEAD-57 SEAD-5

								SD57-1	SD57-25	SB57-1	SB57-1	SB57-1	SB57-2	SB57-2	SB57-2	SB57-3	SB57-3	SB57-3
								Ditchsoil	Ditchsoil	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
								573035	573036	574013	574014	574015	574010	574011	574012	574007	574008	574009
								0	0	0	2	4	0	2	4	0	2	4
								0.2	0.2	2 12/03/99	12/03/99	12/03/99	12.03.99	12:03:99	12/03.99	12 02/99	12:02:99	12 02 99
								SA	SA	SA	SA	SA	SA	SA	SA	SA.	SA.	12 02 99 SA
			Frequency of		Number	Number	Number	PISI RI	PISI RI	PISI RI	PISI RI	PISI RI	PIS! RI	PISTRI	PISI RI	PISI RI	PISI RI	PISTRI
		Maximum	of	Criteria	of	of Times	of Samples											
Parameter	Units	Concentration	Detection	Value	Exceedances	Detected	Analyzed 2	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Anthracene Benzo(a)anthracene	UG/KG UG/KG	8 2 62	3°, 21°,	1000	0	3 25	119 119	110 UJ 7.2 J	88 UJ 4.7 J	84 U	78 U 78 U	74 U 74 U	93 U 93 U	76 U 76 U	74 UJ 7.9 J	98 U	73 U	70 LI
Benzo(a)pyrene	UG/KG	76	17%	1000	0	20	119	8.9 1	5.9 J	84 U	78 U	74 U	93 U	76 U	7.9 J 74 UJ	98 U	73 U	70 U
Benzo(b)fluoranthene	UG/KG	67	24%	1000	0	29	119	9.3 1	5.4 J	84 U	78 U	74 U	93 U	76 U	74 UJ	98 U	73 U	70 U
Benzo(ghi)perylene	UG/KG	5-4	I 3º'u	100000	0	15	119	110 UJ	88 UJ	84 U	78 U	74 U	93 U	76 U	74 UJ	98 U	73 U	70 U
Benzo(k)tluoranthene	UG/KG	50	24%	800	0	29	119	9.2 J	6.7 J	84 U	78 U	74 U	93 ()	76 U	74 UJ	98 U	73 U	70 (1
Bis(2-Chloroethoxy)methane Bis(2-Chloroethyl)ether	UG/KG UG/KG	0	0° o	0	0	0	119 119	110 UJ 110 UJ	88 UJ 88 UJ	84 UJ 84 U	78 UJ 78 U	74 UJ 74 U	93 UJ 93 U	76 UJ 76 U	74 UJ 74 UJ	98 U 98 U	73 LI	70 UJ 70 U
Bis(2-Chloroisopropyl)ether	UG/KG	0	0".	0	0	0	101	110 UJ	88 UJ	84 U	78 U	74 U	93 U	76 U	74 UJ	98 U	73 1	70 U
Bis(2-Ethylhexyl)phthalate	UG/KG	3400	15° u	0	Ω	18	119	110 UJ	88 UJ	84 U	78 U	74 U	93 U	76 U	170 J	98 U	73 U	70 L!
Butylbenzylphthalate	UG/KG	0	0%	0	0	0	119	HO UJ	88 UJ	84 U	78 U	74 U	93 U	76 U	74 UJ	98 U	73 U	7() ()
Carbazole Chrysene	UG KG UG KG	0	0° o 33° o	1000	0	0	119 119	110 UJ 9.5 J	88 UJ 7.2 J	84 UJ 84 U	78 UJ 78 U	74 (J) 74 U	93 UJ 93 U	76 LIJ	74 UJ	98 U	73 U	70 U)
Di-n-butylphthalate	UG/KG	390	34%	0	0	40	119	6.5 J	4.7 J	84 U	78 U	74 U	93 U	76 U 76 U	12 J 74 UJ	98 U	73 U	70 U
Di-n-octylphthalate	UG/KG	2.6	1%	0	0	1	119	110 UJ	88 UJ	84 U	78 U	74 U	93 U	76 U	74 UJ	98 U	73 U	70 U
Dibenz(a,h)anthracene	UG/KG	24	6° 0	330	0	7	119	110 UJ	88 UJ	84 U	78 U	74 U	93 U	76 U	74 UJ	98 Li	73 U	70 U
Dibenzofuran	UG-KG	0	0%	7000	D	0	119	110 UJ	88 UJ	84 U	78 U	74 U	93 U	76 U	74 (1)	98 U	73 U	70 U
Diethyl phthalate Dimethylphthalate	UG/KG UG/KG	8.8	2% 0	0	0	2	119	110 UJ	88 UJ 88 UJ	84 UJ 84 U	78 UJ 78 U	74 UJ 74 U	93 UJ 93 U	76 (J) 76 (J)	74 UJ 74 UJ	98 UJ 13 80	73 UJ	70 U
Fluoranthene	UG-KG	150	50%	100000	0	60	119	15 J	9 1	84 U	78 UJ	74 UJ	93 LI	76 UJ	74 UJ	98 U	73 U	70 UJ
Fluorene	UG/KG	120	2%	30000	0	2	119	110 UJ	88 UJ	84 U	78 U	74 U	93 U	76 U	74 UJ	98 U	73 L!	70 L1
Hexachlorobenzene	UG/KG	0	0%	330	0	0	119	110 UJ	88 UJ	84 U	78 U	74 U	93 U	76 U	74 UJ	98 U	73 U	70 L!
Hexachlorobutadiene Hexachlorocyclopentadiene	UG/KG UG/KG	0	0.0° a	0	0	0	119	110 UJ 110 UJ	88 UJ 88 UJ	84 U	78 U 78 U	74 U 74 U	93 U 93 U	76 U 76 U	74 UJ 74 UJ	98 U 98 U	73 LF 73 LF	70 U
Hexachloroethane	UG:KG	0	Ov a	0	0	0	119	110 UJ	88 UJ	84 U	78 U	74 U	93 U	76 U	74 UJ	98 U	73 U	70 U
Indeno(1,2,3-cd)pyrene	UG/KG	37	13° a	500	0	15	119	110 UJ	88 D1	84 U	78 UJ	74 UJ	93 U	76 UJ	74 UJ	98 U	73 LI	70 UJ
Isophorune	UG/KG	0	On-a	0	G	0	119	110 UJ	88 UJ	84 U	78 U	74 U	93 U	76 U	74 UJ	98 U	73 U	70 U
N-Nitrosodiphenylamine	UG/KG	7.5	2°°	0	0	2	119 119	110 UJ	88 UJ	84 U 84 U	78 U	74 U 74 U	93 U 93 U	76 U	74 UJ	75 J 98 U	9 2 J 73 U	70 U
N-Nitrosodipropylamine Nanhthalene	UG KG UG/KG	180	1"0	12000	0	0	119	110 UJ	88 UJ 88 UJ	84 U 84 U	78 U	74 U	93 U	76 U 76 U	74 UJ 74 UJ	98 U	73 U	70 U
Nitrobenzene	UG KG	0	000	0	0	0	119	110 UJ	88 UJ	84 U	78 U	74 U	93 U	76 U	74 UJ	98 U	73 U	70 L!
Pentachlorophenol	UG/KG	0	Oo a	800	0	G	119	280 UJ	220 UJ	200 UJ	190 UJ	180 UJ	220 UJ	180 UJ	180 EU	240 UJ	180 UJ	170 UJ
Phenanthrene	UG:KG	230	37° o	100000	0	44	119	8.7 J	4.8 J	84 U	78 U	74 U	93 U	76 U	74 UJ	98 U	73 U 73 U	70 U
Phenol Pyrene	UG/KG UG/KG	51 230	13% 52%	330 100000	0	16 62	119 119	110 UJ 12 J	88 UJ 8.1 J	84 U 84 UJ	78 U 78 UJ	74 U 74 UJ	93 U 93 UJ	76 UJ	74 UJ 74 UJ	98 U	73 UJ	70 U/ 70 UJ
Explosives	0010	2.70	2270	100000	,	02	117	12 7	0.1 3	04 03	70 03	74 63	,, 0,	70 01	74 03	70 0	., 03	7.0 €.3
1,3,5-Trinitrobenzene	UG/KG	0	0.0	0	0	0	119	120 U	120 U	120 U	120 UJ	120 U	120 U	120 U	120 U	120 U	120 U	120 U
1,3-Dinitrobenzene	UG/KG	0	0° u	0	0	0	119	120 U	120 U	120 U	120 UJ	120 U	120 U	120 U	120 U	120 U	120 U	120 U
2,4,6-Trinitrotoluene 2,4-Dinitrotoluene	UG/KG UG·KG	0	0%	0	0	0	119	120 U 120 U	120 U 120 U	120 U 120 U	120 UJ 120 UJ	120 U 120 U	120 U	120 U	120 U	120 U 120 U	120 U 120 U	120 U 120 U
2,6-Dinitrotoluene	UG/KG	0	00.0	0	0	0	119	120 U	120 U	120 U	120 UJ	120 U	120 U	120 U	120 U	120 U	120 U	120 U
2-Nitrotoluene	UG/KG	0	0% a	0	0	0	101	120 U	120 U	120 U	120 UJ	120 U	120 U	120 U	120 U	120 U	120 U	120 U
2-amino-4,6-Dinitrotoluene	UG/KG	0	0.0	0	0	0	119	120 U	120 U	120 U	120 UJ	120 U	120 U	120 U	120 U	120 U	120 U	120 U
3-Nitrotoluene 4-Nitrotoluene	UG:KG UG:KG	0	0° u	0	0	0	101	120 U 120 U	120 U 120 U	120 U 120 U	120 UJ 120 UJ	120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U
4-amino-2,6-Dinitrotoluene	UG/KG	0	000	0	D	0	119	120 U	120 U	120 U	120 UJ	120 U	120 U	120 U	120 U	120 U	120 U	120 U
HMX	UG-KG	0	00.0	0	0	0	119	120 U	120 U	120 U	120 UJ	120 U	120 U	120 U	120 U	120 U	120 U	120 U
Nitrobenzene	UG/KG	0	O.o.	0	0	0	101	120 U	120 U	120 U	120 UJ	120 U	120 U	120 U	120 U	120 U	120 U	120 U
RDX Tetryl	UG.KG UG·KG	0	0% 0%	0	0	0	119 119	120 U 120 U	120 U 120 U	120 U 120 U	120 UJ 120 UJ	120 U 120 U	120 U 120 U	120 U 120 U	120 U	120 U 120 U	120 U 120 U	120 U
Pesticides and PCBs	00,00	U	0.0	U	U	U	117	120 0	120 0	120 0	120 07	120 0	120 (7	120 0	120 0	120 0	120 0	120 (
4,4'-DDD	UG-KG	54	7°'o	3.3	5	8	119	5.7 U	4.4 U	4.2 U	3.9 U	3.7 U	46 U	18 U	3.7 U	4.9 U	3.7 U	3.5 U
4,4'-DDE	UG KG	3.2	8 <sup>10</sup> o	3.3	7	9	119	5.7 U	4.4 U	4.2 U	3.9 U	3.7 U	4.6 U	3.8 U	3.7 U	4.9 L!	3.7 U	3.5 U
4,4'-DD'I Aldrin	UG:KG UG:KG	23	5°°	3.3	5	6	119 119	5.7 U 2 9 U	4.4 U 2.3 U	4.2 U 2.2 U	3.9 U 2 U	3,7 U 1,9 U	4.6 U 2.4 U	3.8 U 2 U	3,7 U 1,9 U	49 U 2.5 U	3.7 U 1.9 U	3.5 U 1.8 U
Alpha-BHC	UG KG	1.4	2"0	20	0	2	119	2.9 U	2.3 U	2.2 U	2 U	1.9 U	2.4 U	2 U	1.9 U	2.5 U	19 U	1.8 U
Alpha-Chlordane	UG KG	16	60.0	94	0	7	119	2.9 U	2.3 U	2.2 U	1.2 J	1.9 U	2.4 U	2 U	1.9 U	2.5 U	1.9 U	1.8 U
Aroclor-1016	UG KG	0	000	100	0	0	119	57 U	44 U	42 U	39 U	37 U	46 U	38 U	37 U	49 U	37 U	35 €
Aroclor-1221	UG.KG	0	0%	100	0	0	119	120 U 57 U	89 U 44 U	85 U 42 U	80 U 39 U	75 U 37 U	94 U 46 U	77 U 38 U	75 U 37 U	100 U 49 U	74 U 37 U	71 U 35 U
Aroclor-1232 Aroclor-1242	UG KG UG KG	0	0%	100 100	0	0	119 119	57 U	44 U	42 U	39 U	37 U	46 U	38 U	37 U	49 U	37 U	35 U
Arocior-1248	UG.KG	0	Ga.º	100	0	0	119	57 U	44 U	42 U	39 U	37 U	46 U	38 U	37 U	49 U	37 U	35 U
Aroclor-1254	UGKG	0	0.0	100	0	0	119	57 U	44 U	42 U	39 U	37 U	46 U	38 U	37 U	49 U	37 []	35 U
Aroclor-1260	UG-KG	27	200	100	0	2	119	57 U	44 U	42 U	39 U	37 U	46 U	38 U	37 U	49 U	37 U	35 U
Beta-BHC Delta-BHC	UG:KG UG:KG	4.5	1% 0%	36 40	0	0	119 119	2.9 U 2.9 U	2.3 U 2.3 U	2.2 U 2.2 U	2 U 2 U	1.9 U 1.9 U	2.4 U 2.4 U	2 U 2 U	1.9 U 1.9 U	2.5 U 2.5 U	1.9 U	1.8 U
Dieldrin	UG/KG	27	6%	5	5	7	119	5.7 U	4.4 U	4.2 U	3.9 U	3.7 U	4.6 U	3.8 U	3.7 U	4.9 U	3.7 U	15 U
			-	-	-													

TABLE 1 SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

Parameter Endosulfan 1	Units UG/KG	Maximum Concentration 5.2	Frequency of of Detection 1%	Criteria Value <sup>1</sup> 2400	Number of Exceedunces	Number of Times Detected	Number of Samples Analyzed <sup>2</sup> 119	SEAD-57 SD57-1 Ditchsoil 573035 0 0.2 01/11/00 SA PISI RI Value (Q) 2.9 U	SEAD-57 SD57-25 Ditchsoil 573036 0 0.2 01/11/00 SA P1S1 RI Value (Q) 2.3 U	SEAD-57 SB57-1 SOIL 574013 0 2 12/03/99 SA PISI RI Value (Q) 2.2 U	SEAD-57 SB57-1 SOIL 574014 2 4 12/03/99 SA P1S1 RJ Value (Q) 2 U	SEAD-57 SB57-1 SOIL 574015 4 6 12/03/99 SA P1S1 R1 Value (Q) 1.9 U	SEAD-57 SB57-2 SOIL 574010 0 2 12/03/99 SA P1S1 RI Value (Q) 2.4 U	SEAD-57 SB57-2 SOIL 574011 2 4 12/03/99 SA P1S1 R1 Value (Q)	SEAD-57 SB57-2 SOIL 574012 4 6 12/03/99 SA P1S1 R1 Value (Q)	SEAD-57 SB57-3 SOIL 574007 0 2 12/02/99 SA P1S1 RI Value (Q) 2.5 U	SEAD-57 SB57-3 SOIL 574008 2 4 12/02/99 SA P1S1 RI Value (Q) 1.9 U	SEAD-57 SB57-3 SOIL 574009 4 6 12/02/99 SA PISI RI Value (Q) 1.8 U
Endosulfan II	UG/KG	3.1	1%	2400	0	1	119	5.7 U	4.4 U	4.2 U	3.9 U	3.7 U	4.6 U	3.8 U	1.9 U 3.7 U	4.9 U	3.7 U	3.5 U
Endosulfan sulfate	UG/KG	0	0%	2400	0	Ö	119	5.7 U	4.4 U	4.2 U	3.9 U	3.7 U	4.6 U	3.8 U	3.7 U	4.9 U	3.7 U	3.5 U
Endrin	UG/KG	0	0%	14	0	0	119	5.7 U	4.4 U	4.2 U	3.9 U	3.7 U	4.6 U	3.8 U	3.7 U	4.9 U	3.7 U	3.5 U
Endrin aldehyde	UG/KG	3.8	1%	0	0	1	119	5.7 U	4.4 U	4.2 U	3.9 U	3.7 U	4.6 U	3.8 U	3.7 U	4.9 U	3.7 U	3.5 U
Endrin ketone Gamma-BHC/Lindane	UG/KG UG/KG	4	1% 0%	0 100	0	0	119	5.7 U 2.9 U	4.4 U 2.3 U	4.2 U 2.2 U	3.9 U 2 U	3.7 U 1.9 U	4.6 U 2.4 U	3.8 U 2 U	3.7 U 1.9 U	4.9 U 2.5 U	3.7 U 1.9 U	3.5 U 1.8 U
Gamma-Chlordane	UG/KG	0	0%	0	0	0	119	2.9 U	2.3 U	2.2 U	2 U	1.9 U	2.4 U	2 U	1.9 U	2.5 U	1.9 U	1.8 U
Fleptachlor	UG/KG	1.6	1%	42	0	1	119	2.9 U	2.3 U	2.2 U	2 U	1.9 U	2.4 U	2 U	1.9 U	2.5 U	1.9 U	1.8 U
Heptachlor epoxide	UG/KG	2	1%	0	0	1	119	2.9 U	2.3 U	2.2 U	2 U	1.9 U	2.4 U	2 U	1.9 U	2.5 U	1.9 U	1.8 U
Methoxychlor	UG/KG	0	0%	0	0	0	119	29 U	23 U	22 U	20 U	19 U	24 U	20 U	19 U	25 U	19 U	18 U
Toxaphene Herbicides	UG/KG	0	0%	0	0	0	119	290 U	230 U	220 U	200 U	190 U	240 U	200 U	190 U	250 U	190 U	180 U
2,4,5-T	UG/KG	0	0%	G.	0	0	18											
2,4,5-TP/Silvex	UG/KG	0	0%	3800	0	0	18											
2,4-D	UG/KG	0	0%	0	0	0	18											
2,4-DB	UG/KG	0	0%	0	0	0	18											
Dalapon Dicamba	UG/KG UG/KG	0	0% 0%	0	0	0	18 18											
Dichloroprop	UG/KG	0	0%	n	0	0	18											
Dinuseb	UG/KG	0	0%	0	0	0	18											
MCPA	UG/KG	0	0%	0	0	0	18											
MCPP	UG/KG	0	0%	0	0	0	18											
Metals and Cyanide Alominum	MG/KG	22900	100%	0	0	119	119	16200	14400	14200	13500	10700	13700	12500	11100	16400	12500	18100
Antimony	MG/KG	6.5	49%	0	0	58	119	0.68 U	0.56 U	1.1 J	1.7 J	0.91 J	1.3 UR	1.1 UR	1.2 J	1.3 J	1.3 J	1 1
Arsenic	MG/KG	17.8	92%	13	1	110	119	4.4	8.5	4.9	2.6	3.5	5.5	4.4	4.2	6.3	3.7	6.3
Barium	MG/KG	237	100%	350	0	119	119	162	121	129	121	42	105	84.8	68.9	101	77.5	68.9
Beryllium Cadmiom	MG/KG MG/KG	1.8 28.6	100% 22%	7.2 2.5	0	119 26	119	0.95 J	0.96 J	0.7 J 0.07 J	0.63 J	0.48 J	0.62 J	0.62 J	0.48 J	0.71 J	0.58 J	0.7 J
Calcium	MG/KG MG/KG	213000	100%	2.5	0	119	119 119	0,63 J 6110	0.05 U 14600	0.07 J 4090	0.06 U 75300	0.05 U 3240	0.08 U 3970	0,07 U 73900	0.05 U 68300	0.08 U 2590	0.06 U 27600	0.09 U 27000
Chromium	MG/KG	32.1	100%	30	2	119	119	22.8	18.7	21.3	22.3	18.7	18.6	21.8	24.4	22.5	19.6	32.1
Cobalt	MG/KG	29.7	100%	0	0	119	119	9.5 J	8.6 J	11.5	6.9 J	11.1	9.5 J	11.4	8.7 J	9.5 J	11.1	18.8
Copper	MG/KG	2930	92%	50	2	109	119	33.7	23.5	25.1	26.6	27	23.1	33.9	20	26.5	32.3	36.1
Cyanide Iron	MG/KG MG/KG	0 39800	0% 100%	27	0	0 119	119 119	0,83 U 24600	0.61 U 23900	0.63 U 26100 J	0.57 U 24400 J	0.53 U 23100 J	0.69 U 23700 J	0.53 U 27200 J	0.53 U 19700 J	0.72 U 32700 J	0.55 U 24900 J	0.52 U 39800 J
Lead	MG/KG	1860	100%	63	2	119	119	30.4	22.9	20.4	9.7	6.7	25700 3	13.3	5.5	23.3	16.8	4.4
Magnesium	MG/KG	27600	100%	0	0	119	119	4310	4310	4530	8530	4800	3480	11900	7490	4090	6850	8610
Manganese	MG/KG	2580	100%	1600	5	119	119	373	478	915	178	550	508	314	330	640	520	451
Mercury	MG/KG	0.15	75%	0.18	0	89	119	0.1 J	0.07 J	0.11 J	0.06 J	0.09 J	0.11 J	0,06 J	0.05 J	0.13 J	0.09 J	0.07 J
Nickel Potassium	MG/KG MG/KG	54.1 3250	100% 100%	30 0	37 0	119 119	119 119	27 2350	23.1 1650	29.3 1470 J	35.1 1350 J	33.1 1020 J	19.5 1750 J	41.5 1920 J	29.1 1680 J	20.3 1430 J	36.7 1290 J	53.8 1530 J
Selenium	MG/KG	2.7	63%	3.9	0	75	119	0.77 U	0.64 U	0.54 U	0.45 U	0.48 UJ	0.75 J	0.53 U	0.51 J	0.72 J	0.48 U	0.34 U
Silver	MG/KG	1.7	38%	2	0	45	119	0.31 UJ	0.26 UJ	0.56 J	0.41 }	0.37 J	0.58 J	0.5 J	0.36 J	0,62 J	0.52 J	0.42 J
Sodium	MG/KG	270	34%	0	0	41	119	89.3 U	73.8 U	198 U	163 U	149 U	230 U	194 U	270 J	219 U	174 U	124 U
Thallium Vanadium	MG/KG MG/KG	6.7 104	82% 99%	0	0	98 118	119 119	2.8 J 28.3	2.5 J 26 UJ	2.3 23	1.2 J 19.8	2	2.4 J	2.1 J 20.5	1.3 J	2.6 32.3	2 J	3.1 25
Zinc	MG/KG MG/KG	1250	93%	109	11	118	119	135	65.7	23 84.5	90.7	14.6 75.2	25.3 82.9	135	17.5 70.2	32.3 73.3	21.3 93.4	113
Other Analyses								200					V=1,7		,	, 5.5	22.7	
Cation exchange capacity	MEQ/100G	31.4	100%	0	0	32	32	30	10.9									
Nitrate/Nitrite Nitrogen	MG/KG	4.4	98%	0	0	99	101	0.22	0.08	0.15	0.14	0.38	0.39	0.1	0.12	0.22	0.13	0.07
Percent Solids Soil pH (std. units)	% WW pH units	94 7.83	100% 100%	0	0	101 33	101 33	57.8 6.63	75.3 7.65	78.9	84.4	89.1	71.1	86.8	89	67	89.7	94
Total Organic Carbon	MG/KG	70500	100%	0	0	32	32	51900	16700									

- Notes:
  (1) Criteria based on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives, http://www.dec.state.ny.us/webis/dregs/subpara75\_6.html
  (2) Sample-duplicate pairs were treated as discreet samples.
  (3) A bolded and outlined cell indicates a concentration that exceeded the criteria.

- U compound was not detected
- J the reported valoe is an estimated concentration

  UJ the compound was not detected; the associated reporting limit is approximate R the analytical result was rejected during data validation.

TABLE 1 SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

		Maximum	Frequency of of	Criteria	Number of	Number of Times	Number of Samples	SEAD-57 SB57-4 SOIL 574004 0 2 12/03/99 SA PISI RI	SEAD-57 SB57-4 SOIL 574005 2 4 12/03/99 SA PIS1 RI	SEAD-57 SB57-4 SOIL 574006 4 6 12/03/99 SA PISTRI	SEAD-57 SB57-5 SOIL 574002 0 2 12/01/99 SA P1S1 RI	SEAD-57 SB57-5 SOIL 574022 2 4 12/07/99 SA P1S1 R3	SEAD-57 SB57-5 SOIL 574003 4 5.2 12-01/99 SA PIS1 RI	SEAD-57 SB57-6 SOIL 574019 0 2 12/05/99 SA PISI RI	SEAD-57 SB57-6 SOIL 574020 2 4 12 05-99 SA P1SLRI	SEAD-57 SB57-6 SOIL 574021 4 6 12-05-99 SA P1S1 R1	SEAD-57 SB57-7 SOIL 574016 0 2 12:03:99 SA PISI RI	Shad-s7 SB57-7 SOIL 574017 2 4 12 03.99 SA PIS1 RI
Parameter Volatile Organic Compounds	Units	Concentration	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
1,1,1-Trichloroethane	UG/KG	0	00.0	680	0	0	127	13 U	10 U	9 U	12 U	8 UJ	8 U	12 U	8 U	9 U	10 U	9 U3
1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane	UG/KG UG/KG	0	0° u	0	0	0	127 127	13 U 13 U	10 UJ 10 UJ	9 UJ	12 U	8 UJ	8 U	12 U	8 UJ	9 UJ	10 (1)	9 LIJ
1,1-Dichloroethane	UG KG	0	0%	270	0	0	127	13 U	10 U	9 U 9 U	12 U 12 U	8 UR 8 UJ	8 U	12 U 12 U	8 UJ	9 U 9 U	10 U	9 UR 9 (J)
1,1-Diehloroethene	UG/KG	0	Ou is	330	0	0	127	13 U	10 U	9 U	12 U	8 UJ	8 U	12 U	8 U	9 U	10 U	9 (1)
1,2-Dichloroethane 1,2-Dichloroethene (total)	UG/KG UG/KG	0	0% 0%	20 190	0	0	127 127	13 U 13 U	10 U	9 U	12 U	8 UJ	8 U	12 U	8 U	9 LI	10 U	9 UJ
1,2-Dichloropropane	UG/KG	0	0%	0	0	0	127	13 U	10 U 10 UJ	9 U 9 U	12 U 12 U	8 UJ 8 UR	8 U 8 U	12 U 12 U	8 U 8 UJ	9 U 9 U	10 U	9 UJ 9 UR
Acetone	UG/KG	700	74%	50	87	94	127	210	24 UJ	17 UJ	68	8 UJ	14 )	77	8 U	15 J	160	11 UJ
Benzene Bromodichloromethane	UG/KG UG/KG	0	2% 0%	60	0	2	127	13 U	1 J	9 U	12 U	8 UJ	8 U	12 U	1 3	9 LI	10 U	9 UJ
Bromoform	UG/KG	0	0%	0	0	0	127 127	13 U 13 U	10 UJ	9 U	12 U 12 U	8 UR 8 UJ	8 U	12 U 12 U	8 U	9 U	10 U	9 UR
Carbon disulfide	UG/KG	22	1100	0	0	14	127	13 U	10 U	9 U	12 U	1 J	8 U	12 U	8 U	9 U 9 U	10 UJ 10 U	9 (1)
Carbon tetrachloride	UG/KG	0	0".,	760	0	0	127	13 U	10 U	9 U	12 U	8 UJ	8 U	12 U	8 U	9 U	10 U	9 1/1
Chlorobenzene Chlorodibromomethane	UG/KG UG/KG	0	0% 0%	1100	0	0	127 127	13 U 13 U	10 UJ	9 U3	12 U	8 UJ	8 U	12 U	8 UJ	9 UJ	10 UJ	9 UJ
Chloroethane	UG/KG	0	0%	0	0	0	127	13 U	10 UJ	9 U 9 U	12 U 12 U	8 UR 8 UJ	8 U 8 U	12 U 12 U	8 UJ 8 U	9 U 9 U	10 U	9 UR 9 UJ
Chloroform	UG:KG	7	1 ° 6	370	0	1	127	13 U	10 U	9 U	12 U	8 UJ	8 U	12 U	8 U	9 U	10 U	9 UJ
Cis-1,3-Dichloropropene Ethyl benzene	UG/KG UG/KG	0	0° a	0	0	0	127	13 U	10 UJ	9 U	12 U	8 UR	8 U	12 U	8 UJ	9 U	10 U	9 UR
Methyl bromide	UG/KG	0	0%	1000	0	0	127 127	13 U 13 U	10 UJ	9 UJ	12 U 12 U	8 UJ	8 U	12 U	8 UJ	9 (1)	10 UJ	9 UJ
Methyl butyl ketone	UG/KG	0	0%	0	0	0	127	13 UJ	10 UJ	9 UJ	12 UJ	8 UR	8 UJ	12 U 12 U	8 UJ	9 U	10 U	9 U.J. 9 U.R.
Methyl chloride	UG/KG	0	0°°	0	0	0	127	13 U	10 U	9 U	12 U	8 UJ	8 U	12 U	8 U	9 U	10 U	9 (1)
Methyl ethyl ketone Methyl isobutyl ketone	UG/KG UG/KG	64	62% 0°°	120	0	79 0	127 127	22 J	10 UJ	9 UJ	8 J	8 UR	8 U	8 J	8 UJ	9 U	15 J	9 UR
Methylene chloride	UG/KG	1	2%	50	0	2	127	13 U 13 U	10 UJ	9 U	12 U 12 U	8 UR 8 UJ	8 U 8 U	12 U 12 U	8 UJ 8 U	9 U 9 U	10 U	9 UR
Styrene	UG/KG	0	0%	0	0	0	127	13 U	10 Uj	9 UJ	12 U	8 UJ	8 U	12 U	8 UJ	9 ()	10 U 10 UJ	9 UJ
Tetrachloroethene	UG/KG	6	6%	1300	0	7	127	13 U	10 UJ	9 U	12 U	8 UR	8 U	12 U	8 UJ	9 U	10 U	9 UR
Toluene Total Xylenes	UG/KG UG/KG	33	65% 2%	700 260	0	82	127 127	13 U 13 U	2 J	9 U	12 U	8 UR	8 U	12 U	1 J	9 ()	10 U	9 UR
Trans-1,3-Dichloropropene	UG/KG	õ	0%	0	0	0	127	13 U	10 M1	9 UJ 9 U	12 U	8 UJ 8 UR	8 U	12 U 12 U	2 J 8 UJ	9 UJ	10 UJ 10 U	9 UJ 9 UR
Trichloroethene	UG/KG	()	0,00	470	0	0	127	13 U	10 UJ	9 U	12 U	8 UR	8 U	12 U	8 UJ	9 U	10 U	9 UR
Vinyl chloride Semivolatile Organic Compound	UG/KG	0	0%	20	0	0	127	13 U	10 U	9 U	12 U	8 UJ	8 U	12 U	8 U	9 U	10 U	9 UJ
1,2,4-Trichlorobenzene	UG:KG	0	0%	0	0	0	119	82 U	76 U	72 U	86 U	75 U	74 U	90 U	74 U	74 U	700 11	00.11
1,2-Dichlorobenzene	UG/KG	0	0%	1100	0	0	119	82 U	76 U	72 U	86 U	75 U	74 U	90 U	74 U	74 U	780 U	85 U
1,3-Dichlorobenzene	UG/KG	0	Oa.9	2400	0	0	119	82 U	76 U	72 U	86 U	75 U	74 U	90 U	74 11	74 U	780 U	85 U
1,4-Dichlorobenzene 2,2'-oxybis(1-Chloropropane)	UG/KG UG/KG	0	0° u	1800	0	0	119	82 U	76 U	72 U	86 U	75 U	74 U	90 U	74 U	74 U	780 U	85 U
2,4,5-Trichlorophenol	UG/KG	0	0%	0	0	0	18 119	200 U	180 U	180 U	210 U	180 U	180 U	220 U	180 U	180 U	1900 U	210 U
2,4,6-Trichlorophenol	UG/KG	0	0.0	0	0	0	119	82 U	76 U	72 U	86 U	75 U	74 U	90 U	74 U	74 U	780 U	85 U
2,4-Dichlorophenol 2,4-Dimethylphenol	UG/KG	0	0%	0	0	0	119	82 UJ	76 UJ	72 UJ	86 UJ	75 UJ	74 UJ	90 U	74 U	74 U	780 UJ	85 UJ
2,4-Dinitrophenol	UG/KG UG/KG	D	0° o	0	0	0	119 119	82 UJ 200 UR	76 UJ 180 UR	72 UJ 180 UR	86 UJ 210 UR	75 UJ 180 UR	74 UJ 180 UR	90 U 220 UJ	74 U 180 UR	74 U 180 UR	780 UJ 1900 UR	85 UJ
2,4-Dinitrotoluene	UG·KG	0	0%	0	0	0	119	82 U	76 U	72 U	86 U	75 U	74 UJ	90 U	74 U	74 U	780 UK	210 UR 85 U
2,6-Dinitrotoluene	UG KG	0	0%	0	0	0	119	82 UJ	76 UJ	72 UJ	86 UJ	75 U.J	74 U	90 L!	74 U	74 U	780 UJ	85 UU
2-Chloronaphthalene 2-Chlorophenol	UG·KG UG·KG	0	0° o	0	0	0	119 119	82 U 82 U	76 U 76 U	72 U 72 U	86 U	75 U	74 U	90 U	74 U	74 U	780 U	85 U
2-Methylnaphthalene	UG:KG	750	3%	0	0	3	119	82 U	76 U	72 U	86 U	75 U 75 U	74 U 74 U	90 U	74 U 74 U	74 U 74 U	780 U 780 U	85 U
2-Methylphenol	UG:KG	0	000	330	0	0	119	82 UJ	76 UJ	72 UJ	86 UJ	75 UJ	74 UJ	90 U	74 U	74 U	780 UJ	85 UJ
2-Nitroanline	UG/KG	D	0%	0	0	0	119	200 UJ	180 UJ	180 UJ	210 UJ	180 UJ	180 UJ	220 U	180 U	180 U	1900 U3	210 UJ
2-Nitrophenol 3,3'-Dichlorobenzidine	UG/KG UG/KG	()	0°°	0	0	0	119	82 U 82 UJ	76 U 76 UJ	72 U 72 UJ	86 U 86 UJ	75 U 75 UJ	74 U	90 U	74 U	74 U	780 U	85 U
3-Nitroaniline	UG KG	0	0%	0	0	0	119	200 UJ	180 UJ	180 UJ	210 UJ	180 UJ	74 UJ 180 UJ	90 UR 220 U	74 UR 180 U	74 UR 180 U	780 UJ 1900 UJ	85 UJ 210 UJ
4,6-Dinitro-2-methylphenol	UG/KG	0	0,0	0	0	0	119	200 UJ	180 UJ	180 UJ	210 U3	180 UJ	180 UJ	220 U	180 UJ	180 UJ	1900 UJ	210 UJ
4-Bromophenyl phenyl ether 4-Chloro-3-methylphenol	UG-KG UG/KG	0	0° a	0	0	0	119	82 U	76 U	72 U	86 U	75 U	74 U	90 UJ	74 UJ	74 LIJ	780 L1	85 U
4-Chloroaniline	UG/KG	0	0%	0	0	0	119	82 UJ 82 UJ	76 UJ 76 UJ	72 UJ 72 UJ	86 UJ 86 UJ	75 UJ 75 UJ	74 UJ 74 UJ	90 U 90 U	74 U 74 U	74 U 74 U	780 UJ 780 UJ	85 UJ 85 UJ
4-Chlorophenyl phenyl ether	UG/KG	0	00,0	0	0	0	119	82 U	76 U	72 U	86 U	75 U	74 U	90 U	74 U	74 U	780 U	85 U
4 Methylphenol	UG/KG	13	3%	330	0	3	119	82 UJ	76 UJ	72 UJ	86 U3	75 UJ	74 U)	4.9 J	74 U	74 U	780 UJ	85 UJ
4-Nitroamline 4-Nitrophenol	UG/KG UG/KG	0	Oa o Go'n	0	0	0	119	200 U	180 U	180 U	210 U	180 U	180 U	220 U	180 U	180 U	1900 U	210 U
Acenaphthene	UG/KG	0	0%	20000	0	0	119 119	200 UJ 82 U	180 (J) 76 U	180 UJ 72 U	210 UJ 86 U	180 UJ 75 U	180 UJ 74 U	220 U	180 UR 74 U	180 UR 74 U	1900 UJ 780 U	210 UU 85 U
Acenaphthylene	UG/KG	0	000	100000	0	0	119	82 U	76 U	72 U	86 U	75 U	74 U	90 U	74 U	74 U	780 t	85 U

TABLE 1 SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

		Maximum	Frequency of	Criteria	Number of	Number of Times	Number of Samples	SEAD-57 SB57-4 SOIL 574004 0 2 12/03/99 SA PISI RI	SEAD-57 SB57-4 SOIL 574005 2 4 12/03/99 SA P1S1 RI	SEAD-57 SB57-4 SOIL 574006 4 6 12/03/99 SA PIS1 RI	SEAD-57 SB57-5 SOIL 574002 0 2 12/01/99 SA P1S1 RI	SEAD-57 SB57-5 SOIL 574022 2 4 12/07/99 SA P1S1 RI	SEAD-57 SB57-5 SOIL 574003 4 5.2 12/01/99 SA P1S1 R1	SEAD-57 SB57-6 SOIL 574019 0 2 12/05/99 SA P1\$1 R1	SEAD-57 SB57-6 SOIL 574020 2 4 12/05/99 SA P1S1 R1	SEAD-57 SB57-6 SOIL 574021 4 6 12/05/99 SA P1\$1 RI	SEAD-57 SB57-7 SOIL 574016 0 2 12/03/99 SA P1S1 RJ	SEAD-57 SB57-7 SOIL 574017 2 4 12/03/99 SA PIS1 RI
Parameter	Units	Concentration	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)					
Anthracene	UG/KG	8.2	3%	100000	0	3	119	82 U	76 U	72 U	86 U	75 U	74 U	90 U	74 U	74 U	780 U	85 U
Benzo(a)anthracene Benzo(a)pyrene	UG/KG UG/KG	62 76	21% 17%	1000	0	25 20	119	82 U 82 U	76 U	72 U 72 U	86 U 86 U	75 U 75 U	74 U	10 J 90 U	74 U 74 U	74 U 74 U	780 U 780 U	85 U 85 U
Benzo(b)fluoranthene	UG/KG	67	24%	1000	0	29	119	82 U	76 U	72 U	86 U	75 U	74 U	90 U	74 U	74 U	780 U	85 U
Benzo(ghi)perylene	UG/KG	54	13%	100000	0	15	119	82 U	76 U	72 U	86 U	75 U	74 U	90 U	74 U 74 U	74 U 74 U	780 U 780 U	85 U 85 U
Benzo(k)fluoranthene Bis(2-Chloroethoxy)methane	UG/KG UG/KG	50	24% 0%	800	0	29 0	119 119	82 U 82 U	76 U 76 U	72 U 72 U	86 U	75 U 75 U	74 U 74 U	90 U	74 U	74 U	780 U	85 U
Bis(2-Chloroethyl)ether	UG/KG	0	0%	0	0	0	119	82 U	76 U	72 U	86 U	75 U	74 U	90 U	74 U	74 U	780 U	85 U
Bis(2-Chloroisopropyl)ether Bis(2-Ethylhexyl)phthalate	UG/KG UG/KG	0 3400	0% 15%	0	0	0 18	101 119	82 U 82 U	76 U 76 U	72 U 72 U	86 U	75 U 75 U	74 U	90 U 82 J	74 U 32 J	74 U 74 UJ	780 U 3400	85 U 85 U
Butylbenzylphthalate	UG/KG	0	0%	0	0	0	119	82 U	76 U	72 U	86 U	75 U	74 U	90 U	74 UJ	74 UJ	780 U	85 U
Carbazole	UG/KG	0	0%	0	0	0	119	82 U	76 U	72 U	86 U	75 U	74 UJ	90 U	74 U	74 U	780 U	85 U
Chrysene Di-n-butylphthalate	UG/KG UG/KG	110 390	33% 34%	1000	0	39 40	119 119	82 U 82 U	76 U 76 U	72 U 72 U	86 U 86 U	75 U 75 U	74 U 74 U	10 J 90 U	74 U 74 U	74 U 74 U	780 U 780 U	85 U 85 U
Di-n-octylphthalate	UG/KG	2.6	1%	0	0	1	119	82 U	76 U	72 U	86 U	75 U	74 U	90 UJ	74 UJ	74 UJ	780 U	85 U
Dibenz(a,h)anthracene	UG/KG	24	6%	330	0	7	119	82 U	76 U	72 U	86 U	75 U	74 U 74 U	90 U 90 U	74 UJ 74 U	74 UJ 74 U	780 U 780 U	85 U 85 U
Dibenzofuran Diethyl phthalate	UG/KG UG/KG	0 8.8	0% 2%	7000	0	0 2	119 119	82 U 82 UJ	76 U 76 UJ	72 U 72 UJ	86 UJ	75 U 75 UJ	74 UJ	90 UJ	74 UJ	74 UJ	780 UJ	8.8 J
Dimethylphthalate	UG/KG	0	0%	0	0	0	119	82 U	76 U	72 U	86 U	75 U	74 U	90 UJ	74 UJ	74 UJ	780 U	85 U
Fluoranthene Fluorene	UG/KG UG/KG	150 120	50% 2%	100000 30000	0	60	119 119	82 U 82 U	76 U	72 U 72 U	86 U	75 U	74 U 74 U	10 J 90 U	74 U 74 U	74 U 74 U	780 U 780 U	85 U 85 U
Hexachlorobenzene	UG/KG	0	0%	330	0	0	119	82 U	76 U	72 U	86 U	75 U	74 U	90 UJ	74 UJ	74 UJ	780 U	85 U
Hexachlorobutadiene	UG/KG	0	0%	0	0	0	119	82 U	76 U	72 U	86 U	75 U	74 U	90 U	74 U	74 U	780 U	85 U
Hexachlorocyclopentadiene Hexachloroethane	UG/KG UG/KG	0	0% 0%	0	0	0	119 119	82 U 82 U	76 U 76 U	72 U 72 U	86 U 86 U	75 U 75 U	74 UJ 74 U	90 U 90 U	74 U 74 U	74 U 74 U	780 U 780 U	85 U
Indeno(1,2,3-cd)pyrene	UG/KG	37	13%	500	0	15	119	82 U	76 U	72 U	86 U	75 U	74 U	90 U	74 U	74 U	780 U	85 U
Isophorone N-Nitrosodiphenylamine	UG/KG UG/KG	0 75	0% 2%	0	0	0	119 119	82 U 82 U	76 U	72 U	86 U 86 U	75 U 75 U	74 U 74 U	90 U 90 U	74 U 74 U	74 U 74 U	780 U 780 U	85 U 85 U
N-Nitrosodipropylamine	UG/KG	0	0%	0	0	2	119	82 U	76 U	72 U	86 U	75 U	74 U	90 U	74 U	74 U	780 U	85 U
Naphthalene	UG/KG	180	1%	12000	0	1	119	82 U	76 U	72 U	86 U	75 U	74 U	90 U	74 U	74 U	780 U	85 U
Nitrobenzene Pentachlorophenol	UG/KG UG/KG	0	0% 0%	0 800	0	0	119 119	82 U 200 UJ	76 U 180 UJ	72 U 180 UJ	86 U 210 UJ	75 U 180 UJ	74 U 180 UJ	90 U 220 U	74 U 180 U	74 U 180 U	780 U 1900 UJ	85 U 210 UJ
Phenanthrene	UG/KG	230	37%	100000	o	44	119	82 U	76 U	72 U	86 U	75 U	74 U	10 J	74 U	74 U	780 U	85 U
Phenol	UG/KG	51	13%	330	0	16	119	82 U	76 U	72 U	86 U	75 U	74 U	90 U	74 U 74 U	74 U 74 U	780 U 780 UJ	51 J 85 UJ
Pyrene Explosives	UG/KG	230	52%	100000	3	62	119	82 UJ	76 UJ	72 UJ	86 UJ	75 UJ	74 UJ	9.9 J	74 0	74 0	780 03	63 03
1,3,5-Trinitrobenzene	UG/KG	0	0%	0	0	0	119	120 U	120 U	120 U	120 UJ	120 U	120 U	120 U	120 U	120 U	120 U	120 U
1,3-Dinitrobenzene 2,4,6-Trinitrotoluene	UG/KG UG/KG	0	0%	0	0	0	119 119	120 U 120 U	120 U	120 U 120 U	120 UJ 120 UJ	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U
2,4-Dinitrotoluene	UG/KG	0	0%	0	0	o	119	120 U	120 U	120 U	120 UJ	120 U	120 U	120 U	120 U	120 U	120 U	120 U
2,6-Dinitrotoluene	UG/KG	0	0%	0	0	0	119	120 U	120 U	120 U	120 UJ	120 U	120 U	120 U	120 U	120 U	120 U	120 U
2-Nitrotoluene 2-amino-4,6-Dinitrotoluene	UG/KG UG/KG	0	0%	0	0	0	101 119	120 U 120 U	120 U 120 U	120 U 120 U	120 UJ 120 UJ	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U
3-Nitrotoluene	UG/KG	0	0%	0	0	0	101	120 U	120 U	120 U	120 UJ	120 U	120 U	120 U	120 U	120 U	120 U	120 U
4-Nitrotoluene 4-amino-2,6-Dinitrotoluene	UG/KG UG/KG	0	0%	0	0	0	101 119	120 U 120 U	120 U 120 U	120 U 120 U	120 UJ 120 UJ	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U
HMX	UG/KG	0	0%	0	0	0	119	120 U	120 U	120 U	120 UJ	120 U	120 U	120 U	120 U	120 U	120 U	120 U
Nitrobenzene	UG/KG	0	0%	0	0	0	101	120 U	120 U	120 U	120 UJ	120 U	120 U	120 U	120 U	120 U	120 U	120 U
RDX Tetryl	UG/KG UG/KG	0	0%	0	0	0	119	120 U 120 U	120 U 120 U	120 U 120 U	120 UJ 120 UJ	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U	120 U 120 U
Pesticides and PCBs																		
4,4'-DDD 4.4'-DDE	UG/KG UG/KG	54 32	7% 8%	3.3	5	8	119 119	4.1 U 4.1 U	3.8 U 3.8 U	3.6 U 3.6 U	4.3 U 4.3 U	3.8 U 3.8 U	3.7 U 3.7 U	4.5 U 4.5 U	3.7 U 3.7 U	3.7 U 3.7 U	1.7 J 2.8 J	4.3 U 4.3 U
4,4'-DDT	UG/KG	23	5%	3.3	5	6	119	4.1 U	3.8 U	3.6 U	4.3 U	3.8 U	3.7 U	4.5 U	3.7 U	3.7 U		4.3 U
Aldrin	UG/KG	0	0%	5	0	0	119	2.1 U	2 U	1.9 U	2.2 U	1.9 U	1.9 U	2.3 U	1.9 U	1.9 U	2 U	2.2 U
Alpha-BHC Alpha-Chlordane	UG/KG UG/KG	1.4 16	2% 6%	20 94	0	2	119 119	2.1 U 2.1 U	2 U 2 U	1.9 U 1.9 U	2.2 U 2.2 U	1.9 U 1.9 U	1.9 U 1.9 U	2.3 U 2.3 U	1.9 U 1.9 U	1.9 U 1.9 U	1.1 J 2 U	2.2 U 2.2 U
Aroclor-1016	UG/KG	0	0%	100	0	o	119	41 U	38 U	36 U	43 U	38 U	37 U	45 U	37 U	37 U	39 U	43 U
Aroclor-1221 Aroclor-1232	UG/KG UG/KG	0	0%	100 100	0	0	119 119	84 U 41 U	78 U 38 U	74 U 36 U	88 U 43 U	76 U 38 U	75 U 37 U	92 U 45 U	75 U 37 U	75 U 37 U	78 U 39 U	87 U 43 U
Aroclor-1232 Aroclor-1242	UG/KG	0	0%	100	0	0	119	41 U	38 U	36 U	43 U	38 U	37 U	45 U	37 U	37 U	39 U	43 U
Aroclor-1248	UG/KG	0	0%	100	0	0	119	41 U	38 U	36 U	43 U	38 U	37 U	45 U	37 U	37 U	39 U	43 U
Aroclor-1254 Aroclor-1260	UG/KG UG/KG	0 27	0% 2%	100	0	0 2	119 119	41 U 41 U	38 U 38 U	36 U 36 U	43 U 43 U	38 U 38 U	37 U 37 U	45 U 45 U	37 U 37 U	37 U 37 U	39 U 39 U	43 U 43 U
Beta-BHC	UG/KG	4.5	1%	36	0	1	119	2.1 U	2 U	1.9 U	2.2 U	1.9 U	1.9 U	2.3 U	1.9 U	1.9 U	2 U	2.2 U
Delta-BHC	UG/KG	0	0%	40	0	0	119	2.1 U	2 U	1.9 U	2.2 U	1.9 U	1.9 U 3.7 U	2.3 U	1.9 U 3.7 U	1.9 U 3.7 U	2 U 3.9 U	2.2 U 4.3 U
Dieldrin	UG/KG	27	6%	5	5	7	119	4.1 U	3.8 U	3.6 U	4.3 U	3.8 U	3.7 U	4.5 U	3.7 U	3.7 U	3.9 U	4.3 U

P:PITProjects/Seneca Munitions Response/Proposed Plan/Draft/Risk Assessment/Human Health/SEAD-57 Conservation/LTable 1\_Screening\_SEAD57.xis/S-57 unrestricted sht1

TABLE 1 SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

		Maximum	Frequency of	Criteria	Number of	Number of Times	Number of Samples	SEAD-57 SB57-4 SOIL 574004 0 2 12/03/99 SA PJS1 RI	SEAD-57 SB57-4 SOIL 574005 2 4 12/03/99 SA P1S1 RI	SEAD-57 SB57-4 SOIL 574006 4 6 12/03/99 SA P1S1 R1	SEAD-57 SB57-5 SOIL 574002 0 2 12/01/99 SA PISI RI	SEAD-57 SB57-5 SOIL 574022 2 4 12/07/99 SA P1S1 RI	SEAD-57 SB57-5 SOIL 574003 4 5.2 12/01/99 SA P1S1 RI	SEAD-57 SB57-6 SOIL 574019 0 2 12/05/99 SA P1S1 RI	SEAD-57 SB57-6 SOIL 574020 2 4 12/05/99 SA P1S1 RI	SEAD-57 SB57-6 SOIL 574021 4 6 12/05/99 SA P1S1 R1	SEAD-57 SB57-7 SOIL 574016 0 2 12/03/99 SA P1S1 RI	SEAD-57 SB37-7 SOIL 574017 2 4 12/03/99 SA P1S1 RI
Parameter	Units	Concentration	Detection	Value 1	Exceedances	Of Times Detected	of Samples Analyzed 2	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (O)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Endosulfan I	UG/KG	5.2	1%	2400	0	1	119	2.1 U	2 U	1.9 U	2.2 U	1.9 U	1.9 U	2.3 U	1.9 U	1.9 U	2 U	2.2 U
Endosulfan II	UG/KG	3.1	1%	2400	0	1	119	4.1 U	3.8 U	3.6 U	4.3 U	3.8 U	3.7 U	4.5 U	3.7 U	3.7 U	3.9 U	4.3 U
Endosulfan sulfate	UG/KG	0	0%	2400	0	0	119	4.1 U	3.8 U	3.6 U	4.3 U	3.8 U	3.7 U	4.5 U	3.7 U	3.7 U	3.9 U	4.3 U
Endrin	UG/KG	0	0%	14	0	0	119	4.1 U	3.8 U	3.6 U	4.3 U	3.8 U	3.7 U	4.5 U	3.7 U	3.7 U	3.9 U	4.3 U
Endrin aldehyde	UG/KG	3.8	1%	0	0	1	119	4.1 U	3.8 U	3.6 U	4.3 U	3.8 U	3.7 U	4.5 U	3.7 U	3.7 U	3.9 U	4.3 U
Endrin ketone	UG/KG	4	1%	0	0	1	119	4.1 U	3.8 U	3.6 U	4.3 U	3.8 U	3.7 U	4.5 U	3.7 U	3.7 U	3.9 U 2 U	4.3 U 2.2 U
Gamma-BHC/Lindane Gamma-Chlordane	UG/KG UG/KG	0	0%	100	0	0	119 119	2.1 U 2.1 U	2 U 2 U	1.9 U 1.9 U	2.2 U 2.2 U	1.9 U 1.9 U	1.9 U 1.9 U	2.3 U 2.3 U	1.9 U 1.9 U	1.9 U 1.9 U	2 U	2.2 U
Heptachlor	UG/KG	1.6	1%	42	0	1	119	2.1 U	2 U	1.9 U	2.2 U	1.9 U	1.9 U	2.3 U	1.9 U	1.9 U	2 U	2.2 U
Heptachlor epoxide	UG/KG	2	1%	0	0	1	119	2.1 U	2 U	1.9 U	2.2 U	1.9 U	1.9 U	2.3 U	1.9 U	1.9 U	2 U	2.2 U
Methoxychlor	UG/KG	0	0%	0	0	o	119	21 U	20 U	19 U	22 U	19 U	19 U	23 U	19 U	19 U	20 U	22 U
Toxaphene Herbicides	UG/KG	0	0%	0	0	0	119	210 U	200 U	190 U	220 U	190 U	190 U	230 U	190 U	190 U	200 U	220 U
2,4,5-T	UG/KG	0	0%	0	0	0	18											
2,4,5-TP/Silvex	UG/KG	0	0%	3800	0	0	18											
2,4-D	UG/KG	0	0%	0	0	0	18											
2,4-DB	UG/KG	0	0%	0	0	0	18											
Dalapon Dicamba	UG/KG UG/KG	0	0%	0	0	0	18 18											
Dichloroprop	UG/KG	0	0%	0	0	0	18											
Dinoseb	UG/KG	0	0%	0	0	0	18											
MCPA	UG/KG	0	0%	0	0	0	18											
MCPP	UG/KG	0	0%	0	0	0	18											
Metals and Cyanide																		
Aluminum	MG/KG	22900	100%	0	0	119	119	14800	10400	11300	15600	15400	12200	16400	12300	14900	9910	12600
Antimony	MG/KG	6.5	49%	0	0	58	119	1 UR	1.1 J	0.83 J	1.1 UR	1.5 J	1.5 J	0.73 J	0.61 J	0.82 3	1.4 J	1.3 J
Arsenic	MG/KG	17.8	92%	13	1	110	119	4.7	3.7	5.3	4.2	5.6	3.3	4.5	5.5	4.6	3.7 J	4.9 J
Barium	MG/KG MG/KG	237 1.8	100% 100%	350 7.2	0	119	119 119	129 0.79 J	85.8 0.53 J	64 0.53 J	93.6 0.69 J	62.7 0.66 J	38.4 0.56 J	126 1.1 J	66.5 0.8 J	62 0.93 J	49.9 0.45 J	78.2 0.58 J
Beryllium Cadmium	MG/KG	28.6	22%	2.5	6	26	119	0.06 U	0.05 U	0.04 U	0.06 U	0.06 U	0.05 U	0.06 U	0.05 U	0.06 U	0.05 U	0.07 U
Calcium	MG/KG	213000	100%	0	0	119	119	22800	94000	77400	8570	17800	12400	5590	60600	2580	8920	81800
Chromium	MG/KG	32.1	100%	30	2	119	119	22,4	17.2	19.3	23.9	25.2	21.9	22.2	22.4	27.4	17.4	20.7
Cobalt	MG/KG	29.7	100%	0	0	119	119	11	9.4	13.8	10.8 J	17	12.4	11.7 J	13.1	14.9	10.6	12.5
Copper	MG/KG	2930	92%	50	2	109	119	29.8	24.5	24.8	20.9	26.1	18.3	25.8	27.1	19.4	52.7	32.8
Cyanide	MG/KG	0	0%	27	0	0	119	0.56 U	0.54 U	0.52 U	0.61 U	0.55 U	0.56 U	0.66 U	0.56 U	0.56 U	0.58 U	0,6 U
Iron	MG/KG	39800	100%	0	0	119	119	26100 J	21700 J	25700 J	28700 J	32300	25500 J	28700	27900	34400 4.4 J	21200 45.1	25700 13.8
Lead	MG/KG MG/KG	1860 27600	100%	63	2	119 119	119 119	12.3 13500	8.5 9870	10.1	18.5 4470	7.9 J 7560	3.6 5910	21.5 J 4330	9.8 J 14300	6740	4410	11600
Magnesium Manganese	MG/KG	2580	100%	1600	5	119	119	493	492	573	555	543	427	644	483	555	332	362
Mercury	MG/KG	0.15	75%	0.18	0	89	119	0.1 J	0.07 J	0.07 J	0.09 J	0.04 U	0.06 3	0.09 J	0.08 J	0.1 J	0.07 J	0.13 J
Nickel	MG/KG	54.1	100%	30	37	119	119	∘4 <b>1.1</b>	31.1	39.2	26.7	44.5	34.9	33.4	42.9	45.7	36.7	39.1
Potassium	MG/KG	3250	100%	0	0	119	119	1370 J	1410 J	1370 J	1580 J	1230	1080 J	1250	1180	1180	1350 J	1940 J
Selenium	MG/KG	2.7	63%	3.9	0	75	119	0.5 J	0.43 U	0.45 J	0.71 J	0.51 U	0.37 U	0.56 J	0.44 UJ	0.5 UJ	0.41 U	0.59 U
Silver	MG/KG	1.7	38%	2	0	45	119	0.57 J	0.4 J	0.44 J	0.43 J	0.49 J	0.27 J	0.31 UJ	0.28 UJ	0.29 UJ	0.55 J	0.42 J
Sodium	MG/KG	270	34%	0	0	41	119	179 U	157 U	128 U	190 U	187 U	161 J	108 J	214 J	155 J	150 U	213 U
Thallium	MG/KG	6.7	82%	0	0	98	119	0.59 U	2.3	2 J	0.94 J	1 J	1.3 J	2.4	1.6 J	1.7 J	2.3	0.71 U 19.9
Vanadium	MG/KG	104	99%	0	0	118	119	23.3	15.9 76.8	16.7	26.6 77.3	20.7 98.3	16 71.5	29.8 100	19.7 120	20.2	23.7	99.6
Zinc Other Analyses	MG/KG	1250	93%	109	0	111	119	77.9	/0.0	116	11.3	20.3	/1.5	100	120	107	133	33.0
Cation exchange capacity	MEQ/100G MG/KG	31.4	100% 98%	0	0	32 99	32 101	1.4	0.19	0.05	2.9	0.11	0.1	0.07	0.59	1.4	0.06	0.22
Nitrate/Nitrite Nitrogen Percent Solids	% WW	4.4 94	100%	0	0	101	101	80	85.6	91.5	76.3	88.2	88.8	73.1	88.7	88.8	85.4	77.4
Soil pH (std. units)	pH units	7.83	100%	0	0	33	33	00	05.0	71.5	70.3	00.2	00.0	70.0	00.7	00.0	021.	
Total Organic Carbon	MG/KG	70500	100%	0	0	32	32											

## Notes:

Notes:

(1) Criteria based on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives, http://www.dec.state.my.us/website/regs/subpard75\_6.html
(2) Sample-duplicate pairs were treated as discreet samples.
(3) A bolded and outlined cell indicates a concentration that exceeded the criteria.

U = compound was not detected

J = the reported value is an estimated concentration

UJ = the compound was not detected; the associated reporting limit is approximate

R = the analytical result was rejected during data validation.

TABLE 1 SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

								SEAD-57 SB57-7	SEAD-57 SS57-1	SEAD-57 SS57-1	SEAD-57 SS57-10	SEAD-57 SS57-11	SEAD-57 SS57-12	SEAD-57 SS57-13	SEAD-57 SS57-14	SEAD-57 SS57-15	SEAD-57 SS57-16	SEAD-57 SS57-17
								SOIL 574018	SOIL SS57-1-1	SOIL SS57-1-2	SOIL 574023	SOIL 574024	SOIL 574025	SOIL 574026	SOIL 574027	SOIL 574028	SOIL 574029	SOIL 574030
								4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
								12/03/99	10/26/93	12/08/93	12/19/99	12/19/99	12/19/99	12/19/99	12/19/99	12/19/99	12/19/99	12/19/99
		Maximum	Frequency of	Criteria	Number of	Number of Times	Number of Samples	PISI RI	SA P1S1 RI	PISI RI	SA PISI RI	PISI RI	SA P1S1 RI	SA PISI RI	SA PISI RI	SA P1S1 RI	PISI RI	SA P1S1 RI
Parameter	Units	Concentration	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds 1,1,1-Trichloroethane	UG/KG	0	0%	680	0	0	127	8 UJ	13 U	14 U	11 U	14 U	13 U	13 U	12 U	13 U	12 U	13 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	0	0	o	127	8 (1)	13 U	14 U	11 U	14 U	13 U	13 U	12 U	13 U	12 U	13 U
1,1,2-Trichloroethane 1,1-Dichloroethane	UG/KG UG/KG	0	0% 0%	0 270	0	0	127 127	8 UJ	13 U 13 U	14 U	11 U	14 U	13 U	13 U	12 U	13 U	12 U	13 U
1,1-Dichloroethene	UG/KG	0	0%	330	0	0	127	8 UJ	13 U	14 U	11 U 11 U	14 U	13 U 13 U	13 U 13 U	12 U 12 U	13 U 13 U	12 U 12 U	13 U 13 U
1,2-Dicbloroethane	UG/KG	0	0%	20	0	0	127	8 UJ	13 U	14 U	11 U	14 U	13 U	13 U	12 U	13 U	12 U	13 U
1,2-Dichloroethene (total) 1,2-Dichloropropane	UG/KG UG/KG	0	0%	190	0	0	127 127	8 UJ	13 U 13 U	14 U 14 U	11 U	14 U 14 U	13 U	13 U	12 U 12 U	13 U 13 U	12 U	13 U
Acetone	UG/KG	700	74%	50	87	94	127	28 UJ	13 U	14 U	76 J	160 J	170 J	140 J	270 J	280 J	110 3	270 1
Benzene Bromodichloromethane	UG/KG UG/KG	0	2% 0%	60	0	2	127 127	8 UJ	13 U	14 U 14 U	11 U	14 U	13 U	13 U	12 U	13 U	12 U	13 U
Bromoform	UG/KG	0	0%	0	0	0	127	8 UJ	13 U 13 U	14 U	11 U 11 U	14 U 14 U	13 U 13 U	13 U 13 U	12 U 12 U	13 U 13 U	12 U 12 U	13 U 13 U
Carbon disulfide	UG/KG	22	11%	0	0	14	127	4 J	13 U	14 U	11 UJ	14 UJ	13 UJ	13 UJ	12 UJ	13 U	12 U	13 U
Carbon tetrachloride Chlorobenzene	UG/KG UG/KG	0	0%	760 1100	0	0	127 127	8 UJ	13 U 13 U	14 U	11 U 11 U	14 U 14 U	13 U 13 U	13 U 13 U	12 U 12 U	13 U	12 U 12 U	13 U 13 U
Chlorodibromomethane	UG/KG	0	0%	0	0	0	127	8 UJ	13 U	14 U	11 U	14 U	13 U	13 U	12 U	13 U	12 U	13 U
Chloroethane	UG/KG	0	0%	0	0	0	127	8 UJ	13 U	14 U	11 UJ	14 UJ	13 UJ	13 UJ	12 UJ	13 U	12 U	13 U
Chloroform Cis-1,3-Dichloropropene	UG/KG UG/KG	7	1% 0%	370 0	0	0	127 127	8 UJ	13 U 13 U	14 U 14 U	11 U 11 U	14 U 14 U	13 U 13 U	13 U 13 U	12 U 12 U	13 U 13 U	12 U 12 U	13 U 13 U
Ethyl benzene	UG/KG	0	0%	1000	0	0	127	8 UJ	13 U	14 U	11 U	14 U	13 U	13 U	12 U	13 U	12 U	13 U
Methyl bromide Methyl butyl ketone	UG/KG UG/KG	0	0%	0	0	0	127 127	8 UJ	13 U 13 U	14 U 14 U	11 U	14 U	13 U	13 U	12 U	13 U	12 U	13 U
Methyl chloride	UG/KG	0	0%	0	0	0	127	8 UJ	13 U	14 U	11 U 11 UJ	14 U 14 UJ	13 U 13 UJ	13 U 13 UJ	12 U 12 UJ	13 U 13 U	12 U 12 U	13 U 13 U
Methyl ethyl ketone	UG/KG	64	62%	120	0	79	127	8 UJ	13 U	14 U	10 J	15 J	18 J	17 J	25 J	20	11 J	20
Methyl isobutyl ketone Methylene chloride	UG/KG UG/KG	0	0% 2%	0 50	0	0	127 127	8 D1	13 U 13 U	14 U 14 U	11 U 11 UJ	14 U 14 UJ	13 U 13 UJ	13 U 13 UJ	12 U 12 UJ	13 U	12 U 12 U	13 U 13 U
Styrene	UG/KG	ó	0%	0	ō	ō	127	8 UJ	13 U	14 U	11 U	14 U	13 U	13 U	12 U	13 U	12 U	13 U
Tetrachloroethene	UG/KG	6	6%	1300	0	7	127	8 UJ	2 J	14 U	11 U	14 U	13 U	13 U	12 U	13 U	12 U	13 U
Toluene Total Xylenes	UG/KG UG/KG	33 2	65% 2%	700 260	0	82	127 127	8 UJ	13 U 13 U	14 U 14 U	8 J 11 U	8 J 14 U	10 J 13 U	6 J 13 U	7 J 12 U	8 J 13 U	4 J 12 U	5 J 13 U
Trans-1,3-Dichloropropene	UG/KG	0	0%	0	0	0	127	8 UJ	13 U	14 U	11 U	14 U	13 U	13 U	12 U	13 U	12 U	13 U
Trichloroethene Vinyl chloride	UG/KG UG/KG	0	0%	470 20	0	0	127 127	8 UJ	13 U 13 U	14 U 14 U	11 U 11 UJ	14 U 14 UJ	13 U 13 UJ	13 U 13 UJ	12 U 12 UJ	13 U 13 U	12 U 12 U	13 U 13 U
Semivolatile Organic Compound	is			20	0	v	141	8 03	13 0	14 0	11 03	14 03	13 03	13 03	12 03	13 0	12 0	13 0
1,2,4-Trichlorobenzene	UG/KG	0	0%	0	0	0	119	74 U	420 U		86 U	93 U	94 U	90 U	86 U	85 U	87 U	89 U
1,2-Dichlorobenzene 1,3-Dichlorobenzene	UG/KG UG/KG	0	0%	1100 2400	0	0	119 119	74 U 74 U	420 U 420 U		86 UJ 86 U	93 UJ 93 U	94 UJ 94 U	90 UJ	86 UJ 86 U	85 UJ 85 U	87 UJ 87 U	89 UJ
1,4-Dichlorobenzene	UG/KG	0	0%	1800	0	0	119	74 U	420 U		86 U	93 U	94 U	90 U	86 U	85 U	87 U	89 U
2,2'-oxybis(1-Chloropropane) 2,4,5-Trichlorophenol	UG/KG UG/KG	0	0%	0	0	0	18 119	180 U	420 U 1000 U		210 U	220 U	230 U	220 U	210 U	200 U	210 77	220 U
2,4,6-Trichlorophenol	UG/KG	0	0%	0	0	0	119	74 U	420 U		86 U	93 U	94 U	90 U	86 U	85 U	210 U 87 U	89 U
2,4-Dichlorophenol	UG/KG	0	0%	0	0	0	119	74 UJ	420 U		86 U	93 U	94 U	90 U	86 U	85 U	87 U	89 U
2,4-Dimethylphenol 2,4-Dinitrophenol	UG/KG UG/KG	0	0%	0	0	0	119 119	74 UJ 180 UR	420 U 1000 U		86 U 210 UJ	93 U 220 UR	94 U 230 UR	90 U 220 UR	86 U 210 UR	85 U 200 UR	87 U 210 UR	89 U 220 UR
2,4-Dinitrotoluene	UG/KG	0	0%	0	0	0	119	74 U	420 U		86 U	93 U	94 U	90 U	86 U	85 U	87 U	89 U
2,6-Dinitrotoluene 2-Chloronaphthalene	UG/KG UG/KG	0	0%	0	0	0	119 119	74 UJ 74 U	420 U 420 U		86 U	93 U 93 U	94 U 94 U	90 U	86 U	85 U	87 U	89 U
2-Chlorophenol	UG/KG	0	0%	0	0	0	119	74 U	420 U		86 U	93 U	94 U	90 U	86 U 86 U	85 U 85 U	87 U 87 U	89 U 89 U
2-Methylnaphthalene	UG/KG	750	3%	0	0	3	119	74 U	420 U		86 UJ	93 UJ	94 UJ	90 UJ	86 UJ	85 UJ	87 UJ	89 UJ
2-Methylphenol 2-Nitroaniline	UG/KG UG/KG	0	0%	330	0	0	119 119	74 UJ 180 U	420 U 1000 U		86 U 210 U	93 U 220 U	94 U 230 U	90 U 220 U	86 U 210 U	85 U 200 U	87 U 210 U	89 U 220 U
2-Nitrophenol	UG/KG	0	0%	0	0	0	119	74 UJ	420 U		86 U	93 U	94 U	90 U	86 U	85 U	87 U	89 U
3,3'-Dichlorobenzidine	UG/KG UG/KG	0	0%	0	0	0	119	74 UJ	420 U		86 U	93 U	94 U	90 U	86 U	85 U	87 U	89 U
<ol> <li>Nitroaniline</li> <li>6-Dinitro-2-methylphenol</li> </ol>	UG/KG	0	0%	0	0	0	119 119	180 UJ 180 UJ	1000 U 1000 U		210 U 210 U	220 U 220 UJ	230 U 230 UJ	220 U 220 UJ	210 U 210 UJ	200 U 200 UJ	210 U 210 UJ	220 U 220 UJ
4-Bromophenyl phenyl ether	UG/KG	0	0%	0	0	0	119	74 U	420 U		86 U	93 U	94 U	90 U	86 U	85 U	87 U	89 U
4-Chloro-3-methylphenol 4-Chloroaniline	UG/KG UG/KG	0	0%	0	0	0	119	74 UJ 74 UJ	420 U 420 U		86 U 86 U	93 U 93 U	94 U 94 U	90 U	86 U 86 U	85 U 85 U	87 U 87 U	89 U 89 U
4-Chlorophenyl phenyl ether	UG/KG	0	0%	0	0	0	119	74 U	420 U		86 U	93 U	94 U	90 U	86 U	85 U	87 U	89 U
4-Methylphenol 4-Nitroaniline	UG/KG UG/KG	13	3%	330	0	3	119	74 UJ	420 U		86 U	93 U	94 U	90 U	86 U	85 U	87 U	89 U
4-Nitroaniline 4-Nitrophenoi	UG/KG UG/KG	0	0%	0	0	0	119 119	180 U 180 UJ	1000 U 1000 U		210 UJ 210 U	220 U 220 U	230 U 230 U	220 U 220 U	210 U 210 U	200 U 200 U	210 U 210 U	220 U 220 U
Acenaphthene	UG/KG	0	0%	20000	0	0	119	74 U	420 U		86 U	93 U	94 U	90 U	86 U	85 U	87 U	89 U
Acenaphthylene	UG/KG	0	0%	100000	0	0	119	74 U	420 U		86 U	93 U	94 U	90 U	86 U	85 U	87 U	89 U

TABLE I SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

								SEAD-57 SB57-7	SEAD-57 SS57-1	SEAD-57 SS57-1	SEAD-57 SS57-10	SEAD-57 SS57-11	SEAD-57 SS57-12	SEAD-57 SS57-13	SEAD-57 SS57-14	SEAD-57 SS57-15	SEAD-57 SS57-16	SEAD-57 SS57-17
								SOIL 574018	SOIL SS57-1-I	SOIL SS57-1-2	SOIL 574023	SOIL 574024	SOIL 574025	SOIL 574026	SOIL 574027	SOIL 574028	SOIL 574029	SOIL 574030
								4	0.2	0.2	0.2	0.2	0.2	0.2	0	0 0 2	0 0 2	0
								12:03/99	10/26/93	12.08/93	12/19/99	12.19-99	12.19/99	12.19/99	12/19/99	12 19:99	12.19.99	0.2 12.19.99
		Maximum	Frequency of	Criteria	Number	Number of Times	Number of Samples	SA PISI RI	SA PISI RI	SA PISI RI	SA PISI RI	SA PISI RI	SA PISTRI	SA PISI RI	SA PISI RI	SA PISI RI	SA PISI RI	SA P1S1 R1
Parameter	Units	Concentration	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (O)	Value (Q)	Value (Q)
Anthracene Benzo(a)anthracene	UG/KG UG/KG	8 2 62	3% 21%	100000	0	3 25	119 119	74 U 74 U	420 U 420 U		86 U	93 U	94 17	90 U	86 U	85 L1	87 U	89 U
Benzo(a)pyrene	UG/KG	76	17%	1000	0	20	119	74 U	420 U		86 U 86 U	93 U 93 U	94 U	90 U 90 U	86 U	85 U 85 U	87 U 87 U	89 U
Benzo(b)fluoranthene	UG/KG	67 54	24%	1000	0	29	119	74 U	420 U		86 U	93 U	94 U	90 U	86 L!	85 U	87 U	89 U
Benzo(ghi)perylene Benzo(k)fluoranthene	UG/KG UG/KG	50	13% 24%	100000 800	0	15 29	119 119	74 U 74 U	420 U 420 U		86 U 86 UJ	6.5 J 93 UJ	5.4 J 94 UJ	90 UJ	6.8 J 86 UJ	6.4 J 85 UJ	87 U 87 UJ	89 LI 89 LIJ
Bis(2-Chloroethoxy)methane	UG/KG	0	0.0	0	0	0	119	74 U	420 U		86 U	93 U	94 U	13 09	86 U	85 U	87 U	89 LI
Bis(2-Chloroethyl)ether Bis(2-Chloroisopropyl)ether	UG/KG UG/KG	0	O° o	0	0	0	119 101	74 U	420 U		86 U	93 U	94 U	90 U 90 U	86 U 86 U	85 U	87 U	89 E
Bis(2-hthylhexyl)phthalate	UG/KG	3400	15° o	0	O	18	119	74 U	480 U		86 U	93 U	94 U	90 U	86 U	85 U 85 U	87 U 87 U	89 U 89 U
Butylbenzylphthalate Carbazole	UG/KG UG/KG	0	0%a	0	0	0	119	74 U	420 U		86 UJ	93 U	94 U	90 U	86 U	85 LI	87 U	89 (1
Chrysene	UG-KG	110	33%	1000	0	39	119 119	74 U 74 U	420 U 420 U		86 U 86 U	93 U 93 UJ	94 UJ	90 UJ	86 U 86 UJ	85 U 85 U)	87 U 87 UJ	89 UJ
Di n-butylphthalate	UG-KG	390	34%	0	0	40	119	74 U	420 U		86 UJ	5 J	94 U	90 U	86 U	85 U	87 U	89 U
Di-n-octylphthalate Dibenz(a,h)anthracene	UG-KG UG-KG	2.6 24	10.0 6° a	0 330	0	1	119	74 U 74 U	420 U 420 U		86 UJ	93 UJ	94 U3	90 UJ	86 UJ	85 UJ	87 UI	89 UJ
Dibenzofuran	UG/KG	0	0%	7000	0	0	119	74 U	420 U		86 U 86 U	4.2 J 93 U	94 U	90 U 90 U	86 U 86 U	85 U 85 U	87 U 87 U	89 U
Diethyl phthalate	UG/KG	8.8	20,0	0	D	2	119	74 UJ	420 U		86 U	93 UJ	94 UJ	90 UJ	86 UJ	85 UJ	87 UJ	89 UJ
Dimethylphthalate Fluoranthene	UG/KG UG/KG	0 150	0% <sub>0</sub> 50%	0 100000	0	0 60	119 119	74 U 74 U	420 U 420 U		11 J	93 UJ 6.9 J	94 (J) 5.9 J	90 UJ 4.8 J	86 UJ 10 J	10 1 82 D1	87 UJ 7.9 J	89 (1) 4.6 J
Fluorene	UG:KG	120	296	30000	0	2	119	74 U	420 U		86 U	93 U	94 U	4.8 J	86 U	85 U	7,9 J 87 U	4.6 J 89 [1
Hexachlorobenzene	UG/KG	0	On. 0	330	0	0	119	74 U	420 U		86 UJ	93 UJ	94 UJ	90 UJ	86 UJ	85 UJ	87 L/J	89 [1]
Hexachlorobutadiene Hexachlorocyclopentadiene	UG/KG UG/KG	0	0%	0	0	0	119	74 U 74 U	420 U 420 U		86 U 86 U	93 U 93 U	94 U	90 U 90 U	86 U 86 U	85 U 85 U	87 U 87 U	89 L1
Hexachloroethane	LfG/KG	0	Ou,o	0	0	0	119	74 U	420 U		86 U	93 U	94 LI	90 U	86 U	85 U	87 U	89 U
Indeno(1,2,3-cd)pyrene Isophorone	UG KG UG/KG	37	13% 0° a	500	0	15	119	74 U 74 U	420 U		86 U	6.8 J	6 J	90 U	6.7 J	7.1 J	87 U	89 L
N-Nitrosodiphenylamine	UG/KG	75	2%	0	0	2	119	74 U	420 U 420 U		86 U	93 U 93 U	94 U	90 U 90 U	86 U 86 U	85 U 85 U	87 U	89 U 89 U
N-Nitrosodipropylamine	UG/KG	0	0°-0	0	C	0	119	74 U	420 U		86 U	93 U	94 U	90 U	86 U	85 U	87 LF	89 ()
Naphthalene Nitrobenzene	UG:KG UG:KG	180	1°°	12000	0	0	119	74 U 74 U	420 U		86 UJ 86 U	93 LJ 93 LJ	94 UJ	90 UJ 90 U	86 UJ	85 UJ	87 U	89 UJ
Pentachlorophenol	UG/KG	0	000	800	0	0	119	180 UJ	1000 U		210 UJ	220 UJ	230 UJ	220 UJ	210 UJ	85 U 200 UJ	87 U 210 UU	89 U 220 UJ
Phenanthrene Phenol	UG/KG	230	37° o	100000	0	44	119	74 U	420 U		5.9 J	6.5 J	3.6 J	90 U	6.7 J	6.8 J	5 7 J	89 LF
Pyrene	UG KG	230	52%	100000	0	16 62	119 119	74 U 74 UJ	420 U 420 U		86 U 11 J	93 U 6.3 J	94 U 48 J	90 U 4.3 J	86 U 9,9 J	85 U 8.9 J	8.3 J 7.5 J	59 J 4 J
Explosives																		7,
1,3,5-Trantrobenzene 1,3-Dinitrobenzene	UG/KG UG/KG	0	0° u	0	0	0	119 119	120 U 120 U	130 U 130 U		120 U 120 U	120 U 120 U	120 U 120 U	120 U	120 U	120 U	120 U	120 U
2,4,6-Trinitrotoluene	UG/KG	0	0%	0	0	0	119	120 U	130 U		120 U	120 U	120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U
2,4-Dinitrotoluene	UG/KG	0	0.0	0	0	0	119	120 U	130 U		120 U							
2,6-Dinitrotoluene 2-Nitrotoluene	UG/KG UG/KG	0	0° a	0	0	0	119 101	120 U 120 U	130 U		120 U 120 U	120 U	120 U 120 U					
2-ammo-4,6-Dinitrotoluene	UG/KG	0	000	0	0	0	119	120 U	130 U		120 U							
3-Nitrotoluene 4-Nitrotoluene	UG/KG UG/KG	0	0° o	0	0	0	101 101	120 U 120 U			120 U 120 U	120 U	120 U	120 U	120 U	120 U	120 LI	120 U
4-amino-2,6-Dinitrotoluene	UGrKG	0	0.0	0	0	0	119	120 U	130 U		120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U
HMX	UG/KG	0	0%	0	0	0	119	120 U	130 U		120 U							
Nitrobenzene RDX	UG/KG UG/KG	0	Oo.o	0	0	0	101 119	120 U 120 U	130 U		120 U 120 U	120 U	120 U 120 U					
Tetryl	UG/KG	G	Gn.º	0	0	0	119	120 U	130 U		120 U	120 1						
Pesticides and PCBs 4.4'-DDD	UG-KG	54	79.0	3.3	6	8	119	3 7 U	4.3 U		4.3 U	14.11	14.11					
4,4'-DDE	UG/KG	32	8%	3.3	7	9	119	3.7 U	4.3 U		4.3 U	4.6 U	4.6 U	4.5 U 4.5 U	4.3 U 4.3 U	4.2 U 4.2 U	4.3 U 4.3 U	44 ()
4,4'-DD1	UGKG	23	5° o	3.3	5	6	119	3.7 U	4.3 U		4.3 U	4.6 U	4.6 U	4.5 U	4.3 U	4.2 U	43 U	4.4 U
Aldrin Alpha-BHC	UG/KG UG/KG	0	0% 2%	5 20	0	0	119 119	19 U 1.9 U	2.2 U 2.2 U		2.2 U 2.2 U	2.4 U 2.4 U	2.4 U 2.4 U	2.3 U 2.3 U	2.2 U 2.2 U	2.2 (1	2.2 U 2.2 U	2.3 U 2.3 U
Alpha-Chlordane	UGKG	16	600	94	0	7	119	1.9 U	2.2 U		2.2 U	2.4 U	2.4 U	2.3 U 2.3 U	2.2 U	2.2 U	2.2 U	2.3 U 2.3 U
Aroclor-1016	UG/KG	0	O" u	100	0	0	119	37 U	43 U		43 U	46 U	46 U	45 LI	43 U	42 U	43 U	44 (1
Aroclor-1221 Aroclor-1232	UG/KG UG/KG	0	0.0°	100	0	0	119 119	75 U 37 U	86 U 43 U		87 U 43 U	94 U 46 U	94 U 46 U	91 U 45 U	88 U 43 U	86 U 42 U	87 U	90 U 44 U
Aroclor-1242	UG:KG	0	0%	100	0	0	119	37 U	43 U		43 U	46 U	46 U	45 U	43 U	42 U	43 U	44 U
Aroclor-1248 Aroclor-1254	UG-KG UG-KG	0	0°°	100	0	0	119 119	37 U 37 U	43 U 43 U		43 U 43 U	46 U	46 U	45 U	43 U 43 U	42 U	43 U	44 1/
Aroclor-1260	UG.KG	27	2%	100	0	2	119	37 U	24 J		43 U	46 U	46 U	45 U 45 U	43 U	42 U	43 U 43 U	44 U 44 U
Beta-BHC	UG KG	4.5	1° u	36	0	1	119	1.9 U	2.2 U		2.2 U	2.4 U	2.4 U	2.3 U	2.2 U	2.2 U	2.2 U	2.3 U
Delta-BHC Dieldrin	UG KG	0 27	6% 6%	40 5	0	0 7	119 119	1.9 U 3.7 U	2.2 U 26 J		2.2 U 4.3 U	2.4 U 10 J	2.4 U 4.6 U	2.3 U 4.5 U	2.2 U 4.3 U	2.2 U 4.2 U	2.2 U 4.3 U	23 U 44 U
	,	/	0.0	•*	2	,	117	5.7 0	2017		4.5 0	1013	+,0 ∪	4.3 ()	9.3 U	4.2 ()	4.5 ()	44 (1

TABLE 1 SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

SEAD-57 SEAD-57 SEAD-57 SEAD-57 SEAD-57 SEAD-57 SEAD-57 SEAD-57 SEAD-57

								SB57-7	SS57-1	SS57-1	SS57-10	SS57-11	SS57-12	SS57-13	SS57-14	SS57-15	SS57-16	SS57-17
								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
								574018	SS57-1-1	SS57-1-2	574023	574024	574025	574026	574027	574028	574029	574030
								4	0	0	0	0	0	0	0	0	0	0
								6	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0,2	0.2	0.2
								12/03/99	10/26/93	12/08/93	12/19/99	12/19/99	12/19/99	12/19/99	12/19/99	12/19/99	12/19/99	12/19/99
								SA	SA	SA	SA	SA	SA	SA	SA	\$A	SA	SA
		161	Frequency of	0-11-	Number	Number	Number	PISI RI	PISI RI	PISI RI	PISI RI	PISI RI	PISI RI	PIS1 RI	PISI RI	P1\$1 RI	PISI RI	PISI RI
-		Maximum	of	Criteria	of	of Times	of Samples											
Parameter	Units	Concentration	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Endosulfan I Endosulfan II	UG/KG UG/KG	5.2 3.1	1% 1%	2400 2400	0	1	119 119	1.9 U 3.7 U	2.2 U		2.2 U	2.4 U	2.4 U	2.3 U	2.2 U	2.2 U	2.2 U	2.3 U
Endosulfan sulfate	UG/KG	0	0%	2400	0	0	119	3.7 U	4.3 U 4.3 U		4.3 U 4.3 U	4.6 U 4.6 U	4.6 U 4.6 U	4.5 U 4.5 U	4.3 U 4.3 U	4.2 U 4.2 U	4.3 U 4.3 U	4.4 U
Endrin	UG/KG	0	0%	14	0	0	119	3.7 U	4.3 U		4.3 U	4.6 U	4.6 U	4.5 U	4.3 U	4.2 U	4.3 U	4.4 U 4.4 U
Endrin aldehyde	UG/KG	3.8	1%	0 '	0	1	119	3.7 U	4.3 U		4.3 U	4.6 U	4.6 U	4.5 U	4.3 U	4.2 U	4.3 U	4.4 U
Endrin ketone	UG/KG	4	1%	0	0	1	119	3.7 U	4.3 U		4.3 U	4.6 U	4.6 U	4.5 U	4.3 U	4.2 U	4.3 U	4.4 U
Gamma-BHC/Lindane	UG/KG	0	0%	100	0	0	119	1.9 U	2.2 U		2.2 U	2.4 U	2.4 U	2.3 U	2.2 U	2.2 U	2.2 U	2.3 U
Gamma-Chlordane	UG/KG	0	0%	0	0	0	119	1.9 U	2.2 U		2.2 U	2.4 U	2.4 U	2.3 U	2.2 U	2.2 U	2.2 U	2,3 U
Heptachlor	UG/KG	1.6	1%	42	0	1	119	1.9 U	2.2 U		2.2 U	2.4 U	2.4 U	2.3 U	2.2 U	2.2 U	2,2 U	2.3 U
Heptachlor epoxide	UG/KG	2	1%	0	0	1	119	1.9 U	2.2 U		2.2 U	2.4 U	2.4 U	2.3 U	2.2 U	2.2 U	2.2 U	2.3 U
Methoxychlor	UG/KG	0	0%	0	0	0	119	19 U	22 U		22 U	24 U	24 U	23 U	22 U	22 U	22 U	23 U
Toxaphene Herbicides	UG/KG	0	0%	0	0	0	119	190 U	220 U		220 U	240 U	240 U	230 U	220 U	220 U	220 U	230 U
2,4,5-T	UG/KG	n	0%	0	0	0	18		6.5 U									
2,4,5-TP/Silvex	UG/KG	0	0%	3800	0	0	18		65 U									
2,4-D	UG/KG	0	0%	0	0	0	18		65 U									
2,4-DB	UG/KG	0	0%	0	0	0	18		160 U									
Dalapon	UG/KG	0	0%	0	0	0	18		6.5 U									
Dicamba	UG/KG	0	0%	0	0	0	18		65 U									
Dichloroprop	UG/KG	0	0%	0	0	0	18		33 U									
Dinoseb	UG/KG	0	0%	0	0	0	18		6500 U									
MCPA	UG/KG	0	0%	0	0	0	18		6500 U									
MCPP	UG/KG	0	0%	0	0	0	18											
Metals and Cyanide Aluminum	MG/KG	22900	100%	0	0	119	119	13600	12000		12100	14400	16400	14100	0110	10100	11100	11400
Antimony	MG/KG	6.5	49%	0	0	58	119	2.5 J	11.9 UJ		12100 0.66 J	0.85 J	15400 0.81 J	14100 0.86 J	9110 0.51 UR	10100 0.54 UR	11100 0.75 J	11400 1.1 J
Arsenic	MG/KG	17.8	92%	13	1	110	119	5 J	4.8 UR		4.1	4.2	5.4	4	2.7	0.61 UJ	2.6	3.7
Barium	MG/KG	237	100%	350	0	119	119	84.3	82,4		74.2	81.4	122	93.9	38.5 J	39.9 J	64.6	65.4
Beryllium	MG/KG	1.8	100%	7.2	0	119	119	0.58 J	0.56 J		0.76 J	0.9 J	1.4	0.97 J	0.32 J	0.32 J	0.56 J	0.71 J
Cadmium	MG/KG	28.6	22%	2.5	6	26	119	0.07 U	0.74 U		0.05 U	0.05 U	0.06 U	0.05 U	0.05 U	0.05 U	0.05 U	0.04 U
Calcium	MG/KG	213000	100%	0	0	119	119	63700	2770		11900	2990	3800	3110	925 J	974 J	1700	1580
Chromium	MG/KG	32.1	100%	30	2	119	119	23.4	15.7		17	20.7	18.6	18.1	7.5	7.8	12.8	14.1
Cobalt	MG/KG	29.7	100%	0	0	119	119	12.2	8.4 J		9.4 J	10.4 J	9.9 J	8.5 J	3.6 J	3.9 J	6.2 J	7.5 J
Copper Cyanide	MG/KG MG/KG	2930	92% 0%	50 27	2	109	119	26,4 0,55 U	10.9 0.77 U		26.4	17.4	16.7	15.3	7.9	7.6	12.9	13.1
Iron	MG/KG	39800	100%	0	0	119	119 119	28000	19300		0.61 U 19900	0,65 U 25100	0.68 U 24000	0.62 U 21200	0.64 U 10600	0.6 U 10800	0.63 U 15600	0.63 U 18600
Lead	MG/KG	1860	100%	63	2	119	119	4.4	24		24.4 J	19.6 J	22.2 J	18.6 J	17.3 J	13.9 J	16.5 J	21.5 J
Magnesium	MG/KG	27600	100%	0	0	119	119	14500	2680		3820 J	4270 J	3350 J	3380 J	1420 J	1830 J	2300 J	1960 J
Manganese	MG/KG	2580	100%	1600	5	119	119	415	592		486	599	1260	519	142	99.3	388	561
Mercury	MG/KG	0.15	75%	0.18	0	89	119	0.04 J	0.06 J		0.06 U	0.06 U	0.08 J	0.07 3	0.07 J	0.08 J	0.07 J	0.07 J
Nickel	MG/KG	54.1	100%	30	37	119	119	37.9	14.3		24	23.9	18.4	17.8	6.8 J	6.5 J	12.8	13.2
Potassium	MG/KG	3250	100%	0	0	119	119	1820 J	892 J		1130 J	1220 J	1300 J	1150 J	507 J	351 J	933 J	1030 J
Selenium	MG/KG	2.7	63%	3.9	0	75	119	0.54 U	0.26 UJ		1.6 J	0.81 J	1.9 J	0.87 J	0.58 U	0.73 J	0.65 J	0.65 ]
Silver	MG/KG	1.7	38%	2	0	45	119	0.36 U	1.7 3		0.34 J	0.35 UJ	0.37 UJ	0.3 UJ	0.3 UJ	0.32 UJ	0.3 UJ	0.27 UJ
Sodium Thallium	MG/KG MG/KG	270 6.7	34% 82%	0	0	41 98	119 119	196 U 2.7 J	56.7 J 0.28 U		73.4 U	77 U	81.4 U	66.6 U	67.5 U	70.6 U	66 U	61.1 U
Vanadium	MG/KG	104	99%	0	0	118	119	19.8	0.28 U 24.6		2 J 23.2	3.5 24.5	4.1 29.4	2 J 27	0.75 U 16.1	0.78 U	2 J 20.7	2.7 23.6
Zinc	MG/KG	1250	93%	109	11	111	119	85.5	45.2 UR		67.1	66.3	56.4	53.3	55.2	16.1 51.3	56.9	48.6
Other Analyses								65.5	43.2 OK		07.1	00.5	30.4	33.3	33.2	31.3	30.9	40.0
Cation exchange capacity	MEQ/100G	31.4	100%	0	0	32	32											
Nitrate/Nitrite Nitrogen	MG/KG	4.4	98%	0	0	99	101	1.1			0.53	0.35	0.63	0.66	0.03	0.04	0.41	0.2
Percent Solids	% WW	94 7.83	100%	0	0	101	101	89.5			77.2	70.8	69.6	72.9	76.5	78	76.2	74.5
Soil pH (std. units) Total Organic Carbon	pH units MG/KG	7.83	100%	0	0	33 32	33 32											
town Oldmire Chaptin	DA/DIM	/0300	100%	U	U	32	32											

- Notes:

  (1) Criteria based on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives, http://www.dec.state.ny.us/websitc/regs/subpart375\_6.html
  (2) Sample-duplicate pairs were treated as discreet samples.
  (3) A bolded and outlined oell indicates a concentration that exceeded the criteria.

- U = compound was not detected
  J = the reported value is an estimated concentration
  UJ = the compound was not detected; the associated reporting limit is approximate
  R = the analytical result was rejected during data validation.

TABLE I SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

		Maximum	Frequency of of	Criteria	Number of	Number of Times	Number of Samples	SEAD-57 SS57-18 SOIL 574031 0 0.2 12:19/99 SA PIST RI	SEAD-57 SS57-19 SOIL 574032 0 0.2 12/19/99 SA PIST RI	SEAD-57 SS57-2 SOIL SS57-2-1 0 0.2 10.26/93 SA PIST RI	SEAD-57 SS57-2 SOIL SS57-2-2 0 0.2 12/08/93 SA P1S1 R1	SEAD-57 SS57-20 SOIL 574033 0 0.2 12/19/99 SA PISI RI	SEAD-57 SS57-21 SOIL 574034 0 0.2 12/19/99 SA PISI RI	SEAD-57 SS57-22 SOIL 574035 0 0.2 12.19:99 SA P1S1 R1	SEAD-57 SS57-23 SOIL 574036 0 0.2 12/19/99 SA P1S1 R1	SEAD-57 SS57-24 SOIL 574037 0 0.2 12/19/99 SA P1S1 RI	SEAD-57 SS57-25 SOIL 574038 0 0.2 12.19:99 SA PISI RI	SEAD-57 SS57-27 SOIL 574041 0 0.2 12.20 99 DU PIST RI
Parameter Volatile Organic Compounds	Units	Concentration	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
1.1.1-Trichloroethane 1.1.2.2-Tetrachloroethane	UG KG UGʻKG	0	0°°	680	0	0	127 127	12 U 12 U	11 U 11 U	12 U 12 U	13 U 13 U	11 U 11 U	13 U 13 U	11 U	13 U	16 U	13 U	13 U 13 U
1,1,2-Trichloroethane	UG/KG	0	0,68	0	0	0	127	12 U	11 U	12 U	13 U	11 U	13 U	11 U	13 U	16 U	13 U	13 U
1,1-Dichloroethane	UG/KG	0	0%	270	0	()	127	12 U	11 U	12 U	13 U	11 U	13 U	11 U	13 U	16 U	13 U	13 LT
1,1-Dichloroethene 1,2-Dichloroethane	UG/KG UG/KG	0	0% u	330 20	0	0	127 127	12 U 12 U	11 U 11 U	12 U 12 U	13 U 13 U	11 U 11 U	13 U 13 U	11 U 11 U	13 U	16 U	13 U 13 U	13 (1
1,2-Dichloroethene (total)	UG/KG	0	0.0	190	0	0	127	12 U	11 U	12 U	13 U	11 U	13 U	11 U	13 U	16 U	13 U	13 U
1,2-Dichloropropane	UG.KG	0	0%	0	0	0	127	12 U	11 U	12 U	13 U	I1 U	13 U	11 U	13 U	16 U	13 U	13 U
Acetone	UG/KG	700	7.4%	50	87	94	127	120 J	170 J	12 U	13 U	220 J	210	200	63 )	280	190 J	340.3
Benzene Bromodichloromethane	UG/KG UG/KG	1	2° 5	60	0	2	127 127	12 U 12 U	11 U	12 U 12 U	13 U 13 U	11 U	13 U	11 U	13 U	16 U	13 U	13 U
Bromoform	UG/KG	0	0%	0	0	0	127	12 U	11 U	12 U	13 U	11 U 11 U	13 U 13 U	11 U	13 U 13 U	16 U 16 U	13 U 13 U	13 U
Carbon disulfide	UG KG	22	1100	0	0	14	127	12 U	11 U	12 U	13 U	11 U	13 U	11 U	13 U	16 U	13 U	13 U
Carbon tetrachloride	UG:KG	O	0.0	760	0	0	127	12 U	11 U	12 U	13 U	11 U	13 U	11 U	13 U	16 U	13 U	13 U
Chlorobenzene	UG/KG	0	0% 0	1100	0	0	127	12 U	11 U	12 U	13 U	11 U	13 U	11 U	13 U	16 U	13 U	13 U
Chlorodibromomethane Chloroethane	UG/KG UG/KG	0	0%	0	0	0	127 127	12 U 12 U	11 U	12 U 12 U	13 U 13 U	11 U 11 U	13 U 13 U	11 U 11 U	13 U 13 U	16 U	13 U 13 U	13.0
Chioroform	UG/KG	7	1%	370	o o	1	127	12 U	11 U	12 U	13 U	11 U	13 U	11 U	13 U	16 U	13 U	13 U
Cis-1,3-Dichloropropene	UG/KG	0	0%	0	Ð	0	127	12 U	11 U	12 U	13 U	11 U	13 U	11 U	13 U	16 U	13 U	13 U
Ethyl benzene	UG/KG	0	000	1000	0	0	127	12 U	11 U	12 U	13 U	11 U	13 U	11 U	13 U	16 U	13 U	13 E1
Methyl bromide Methyl butyl ketone	UG/KG UG/KG	0	0%	0	0	0	127 127	12 U 12 U	11 U	12 U	13 U	11 U	13 U	11 U	13 U	16 U	13 U	13 U
Methyl chloride	UG/KG	0	0.0	0	0	0	127	12 U	11 U	12 U 12 U	13 U 13 U	11 U 11 U	13 U 13 U	11 U 11 U	13 U 13 U	16 U 16 U	13 U 13 U	13 U 13 U
Methyl ethyl ketone	UG'KG	64	62%	120	0	79	127	12	16	12 U	13 U	18	22	20	6 J	35	17	23
Methyl isobutyl ketone	UG/KG	0	()°,0	0	0	0	127	12 U	11 U	12 U	13 U	11 U	13 U	11 U	13 U	16 U	13 U	13 U
Methylene chloride	UG/KG	1	2° 0	50	0	2	127	12 U	11 U	12 U	13 U	11 U	13 U	11 U	13 U	16 U	13 U	13 U
Styrene Letrachloroethene	UG/KG UG/KG	0	0% 6%	1300	0	0	127 127	12 U 12 U	11 U	12 U 2 J	13 U 13 U	11 U	13 U	11 U	13 U	16 U	13 U	13 U
Toluene	UG/KG	33	65° o	700	g o	82	127	4.1	11 0	12 U	13 U	11 U 27	13 U 4 J	11 U	13 U 5 J	16 U	13 U	13 U 32 J
Total Xylenes	UG/KG	2	2%,,	260	0	3	127	12 U	11 U	12 U	13 U	11 U	13 U	11 U	13 U	16 U	13 U	Į J
Trans-1,3-Dichloropropene	UG/KG	0	0.0	0	0	0	127	12 U	11 U	12 U	13 U	11 U	13 U	11 U	13 U	16 U	13 U	13 U
Trichforoethene Vinyl chloride	UG/KG UG/KG	0	0% 0%	470 20	0	0	127	12 U	11 U	12 U	13 U	11 U	13 U	11 U	13 U	16 U	13 U	13 U
Semivolatile Organic Compound		0	0.0	20	U	0	127	12 U	11 U	12 U	13 U	11 0	13 U	11 U	13 U	16 U	13 U	13 U
1,2,4-Trichlorobenzene	UG'KG	0	000	0	0	0	119	87 U	84 U	410 U		85 U	86 U	85 U	88 U	98 U	90 U	90 (
1,2-Dichlorobenzene	UG/KG	0	0%	1100	0	0	119	87 UJ	84 UJ	410 U		85 UJ	86 UJ	85 UJ	88 UJ	98 Li	90 U	90 L1
1,3-Dichlorobenzene	UG:KG	G O	0% 0%	2400	0	0	119	87 U	84 U	410 U		85 U	86 U	85 U	88 U	98 U	90 U	90 LI
1,4-Dichlorobenzene 2,2'-oxybis(1-C'hloropropane)	UG/KG UG/KG	0	0%	1800	0	0	119 18	87 U	84 U	410 U 410 U		85 U	86 U	85 U	88 U	98 U	90 U	90 U
2,4,5-1richlorophenol	UG-KG	0	0%	0	0	0	119	210 U	200 U	990 U		200 U	210 U	200 U	210 U	240 U	220 U	220 LI
2,4,6-Trichlorophenol	UG/KG	0	Co o	0	0	0	119	87 U	84 U	410 U		85 U	86 U	85 U	88 U	98 U	90 U	90 U
2,4-Dichlorophenol	UG/KG	0	00%	0	0	0	119	87 U	84 U	410 U		85 U	86 U	85 U	88 U	98 U	90 U	90 U
2,4-Dimethylphenol 2,4-Dinitrophenol	UG/KG UG/KG	0	0° 0	0	0	0	119 119	87 U 210 UR	84 U 200 UR	410 U		85 U 200 UR	86 U 210 UJ	85 U 200 UR	88 U 210 UR	98 U 240 UJ	90 U 220 UJ	90 U 220 UJ
2,4-Dinitrophenor	UG/KG	0	0.0	0	0	0	119	87 U	200 UR 84 U	410 U		200 UK 85 U	86 U	85 U	88 U	240 CJ 98 U	90 U	90 U
2,6-Dinitrotoluene	UG/KG	0	0%	0	0	0	119	87 U	84 U	410 U		85 U	86 U	85 U	88 U	98 U	90 U	90 U
2-Chloronaphthalene	UG/KG	ū	0%	0	0	0	119	87 U	84 U	410 U		85 U	86 U	85 U	88 U	98 U	90 U	90 CI
2-Chlorophenol	UG.KG	0 750	0% u 3 " u	0	0	0	119	87 U	84 U	410 U		85 U	86 U	85 U	88 LI	98 U	90 U	90 L!
2-Methylnaphthalene 2-Methylphenol	UG/KG UG/KG	120	0%	330	0	0	119 119	87 UJ 87 U	84 UJ 84 U	410 U 410 U		85 UJ 85 U	86 UJ 86 U	85 UJ 85 U	88 CI 88 UJ	98 U 98 U	90 U	90 U
2-Nitroaniline	UG/KG	0	000	0	0	0	119	210 U	200 U	990 U		200 U	210 U	200 U	210 U	240 U	220 LI	220 U
2-Nitrophenol	UG/KG	Ü	$\Omega_{d}^{-n}$	0	0	0	119	87 U	84 U	410 U		85 U	86 U	85 U	88 U	98 U	13 09	90 U
3,3'-Dichlorobenzidine	UG/KG	0	0.0	0	0	0	119	87 U	84 U	410 U		85 U	86 U	85 U	88 U	98 U	90 U	90 LF
3-Nitroaniline 4,6-Dinitro-2-methylphenol	UG/KG UG/KG	0	0% 0%	0	0	0	119 119	210 U 210 UJ	200 U 200 UJ	990 U 990 U		200 U 200 UJ	210 U 210 U	200 U 200 UJ	210 U 210 UJ	240 U 240 U	220 U 220 U	220 U 220 U
4-Bromophenyl phenyl ether	UG/KG	0	0°0	0	0	0	119	87 U	84 U	410 U		85 U	86 U	200 (n 85 U	88 U	98 U	90 L <sup>1</sup>	90 LI
4-Chloro-3-methylphenol	UG:KG	0	0%	0	0	0	119	87 U	84 U	410 U		85 U	86 U	85 U	88 U	98 U	90 L	90 E1
4-Chloroamline	UG KG	0	Oo a	C	0	0	119	87 U	84 U	410 U		85 U	86 U	85 U	88 U	98 U	90 U	90 U
4-Chlorophenyl phenyl ether	UG/KG	0	0%,	0	0	0	119	87 U	84 U	410 U		85 U	86 U	85 U	88 U	98 U	90 LI	90 LT
4-Methylphenol 4-Nitroamline	UG/KG UG/KG	13	3°.,	330	0	0	119 119	87 U 210 U	84 U 200 U	410 U 990 U		85 U 200 U	86 U 210 UJ	85 U 200 U	88 U 210 U	98 U 240 UJ	90 U 220 U	90 U 220 U
4-Nitrophenol	UG'KG	0	Oc.	0	0	0	119	210 U	200 U	990 U		200 U	210 U	200 U	210 U	240 U	220 U	220 UJ
Acenaphthene	UG/KG	0	0.0	20000	0	0	119	87 U	84 U	410 U		85 U	86 U	85 U	88 U	98 U	90 U	90 U
Acenaphthylene	UG·KG	()	0ο α	100000	0	Ω	119	87 U	84 U	410 U		85 U	86 U	85 U	88 U	98 U	90 U	40 fi

TABLE 1 SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

SEAD-57 SEAD-57 SEAD-57

SEAD-57 SEAD-57 SEAD-57

SEAD-57

SEAD-57

SEAD-57

SEAD-57

SEAD-57

Part										SS57-18	SS57-19	SS57-2	SS57-2	SS57-20	SS57-21	SS57-22	SS57-23	SS57-24	SS57-25	SS57-27
Part										SOIL 574031	SOIL 574032	SOIL SS57-2-1	SOIL SS57-2-2	SOIL 574033	SOIL 574034	SOIL 574035	SOIL 574036	SOIL 574037	SOIL 574038	SOIL 574041
Part										0	0					0		0	0	0
Penaltric   Pena																				
Personal P																				
Part																				
Administration   Color   Col	-				••															
													Value (Q)							
Bready Spread   COCK   78		e																		
Employee							-												90 U	
Descriptions-from-from-from-from-from-from-from-from																				
Back Chromodemognemian   Discourage   Disc							0													
Birl   Checkey (reference   10							o													
Second Company Compa						-	0					410 U						98 U		90 U
Description   Conference   Co						-	0													
Carbonnelle Confession       Confession							•													
Discriptionalises   Cocked   196   24   18   198   198   198   199   1							_													
Discriptionalment   COCKG   2.6   15   15   15   17   17   18   17   18   17   18   17   18   17   18   17   18   17   18   17   18   18							9													
Dimension   Dime	Di-n-butylphthalate	e					•													
Dissolphenisms   Clock   Clo							-	_												
Distribution   Control							o	,												
Proposition   County   150   29%   100000   0   0   199   4.1   7.7   410   1.8   0   2.0   4.5   4.5   4.5   1.5   9.8   1   9.1   9.0   1.8   0   1.8							0	_												
Formation						•	-													
Heanthorbenemen   CORKG   0															20 J					
Heanachoropolegemeilne   UGKG   0   0   0   0   15   17   18   U   410 U   85 U   86 U   81 U   80 U   90							0													
Instance   Configure   Confi																				
Information   Corporation		ntadiene		-		-	-													
Image: Neglectories   Corp. Corp.   Corp. Corp.   Corp. Corp.   Corp. Corp.   Corp. Corp.   Corp. Corp.   Corp. Corp.   Corp. Corp. Corp.   Corp. Corp. Corp. Corp.   Corp.		TEDE																		
N-Bindendergrowthmine UGKG 10 0 0 1 19 87 U 84 U 410 U 85 U 85 U 98 U 90 U 90 U 90 U N-N-Bindender UGKG 10 0 0 1 19 87 U 84 U 410 U 85 U 85 U 85 U 98 U 90 U 90 U 90 U N-N-Bindender UGKG 10 0 0 0 1 19 87 U 84 U 410 U 85 U 85 U 85 U 85 U 98 U 90 U 90 U 90 U 90 U 90 U 90 U 90																				
Negletheries																				
Nicohamenes   UGKG   0   0%   0   0   119   87 U   20 U		amine					_	0												
Pertachlorephenes							-	0												
Phencal   UGKG   20   53%   139%   330   0   16   119   87 U   88 U   410 U   5.4 J   86 U   6.9 J   8.1 J   98 U   90 U   90 U   90 U   90 U   7.6 J   6.4 J   410 U   4.6 J   19.1 J   1.1						800	0													
Pymes																				
Section   Sect							-													
1.3-Distributename			Odrko	230	3276	100000	,	02	119	7,0 3	0.4 3	410 0		4,6 7	197	7.4 3	10 3	14 3	11 3	12 3
2.4.5-Thinkbroklosene							0													
2.4-Dinitrodulene UG/KG 0 0% 0 0 0 119 120 U 120																				
2-6-Dinitroclosee UG/KG 0 0% 0 0 119 120 U					0.0	-	-	-												
2-mino-4s-Dinitrotoluene UGKG 0 0% 0 0 0 119 120 U 120				-			-													
3-Nintroluene UG/KG 0 0 % 0 0 0 101 120 U						-														
4-Minoclaeme UG/KG 0 0 % 0 0 0 101 120 U 1		rotoluene		-		-	•	-				130 U								
4-mino-2,6-Dinitrotoluene UG/KG 0 0% 0 0 0 119 120 U 120 U 130 U 120 U 1						-	-													
Niroberzene UC/KG 0 0% 0 0 0 101 120 U 120		rotoluene				0	-					130 U								
RDX						0	•	•				130 U								
Tetryl UG/KG 0 0% 0 0 119 120 U 120												120 11								
Pesticides and PCBs  4,4-DDD UG/KG 54 7% 3.3 5 8 119 4.3 U 4.2 U 4.1 U 4.2 U 4.3 U 4.2 U 4.3 U 54 4.5 U 4.5 U 4.5 U 4.5 U 4.6 U 4.6 U 4.6 U 4.8				-																
4,4*-DDE UGKG 32 8% 3.3 7 9 119 4.3 U 4.2 U 4.1 U 4.2 U 4.3 U 4.2 U 4.3 U 4.5 U 4.5 U 4.5 U 4.5 U 4.6 DT UGKG 23 5% 3.3 5 6 119 4.3 U 4.2 U 4.1 U 4.2 U 4.3 U 4.3 U 4.2 U 4.3 U 4.3 U 4.2 U 4.3 U 4.3 U 4.2 U 4.3 U 4.3 U 4.2 U 4.3 U 4.3 U 4.2 U 4.3 U 4.3 U 4.2 U 4.3 U 4.3 U 4.2 U 4.3 U 4.3 U 4.2 U 4.3 U 4.3 U 4.2 U 4.3 U 4.3 U 4.2 U 4.3 U 4.3 U 4.2 U 4.3 U 4.3 U 4.2 U 4.3 U 4.3 U 4.2 U 4.3 U 4.3 U 4.2 U 4.3 U 4.3 U 4.2 U 4.3 U 4.3 U 4.2 U 4.3 U 4.3 U 4.2 U 4.3		CBs				•		•	***	120 0	120 0			120 0	120 0	120 0	.20 0		120 0	120 0
4,4-DDT UGKG 23 5% 3.3 5 6 119 4.3 U 4.2 U 4.1 U 4.2 U 4.3 U 4.2 U 4.3 U 4.2 U 4.3 U 4.9 U 4.5 U							5	_										54		
Aldrin ÜG/KG 0 0% 5 0 119 2.2 Ü 2.2 Ü 2.1 Ü 2.2 Ü 2.2 Ü 2.2 Ü 2.2 Ü 2.2 Ü 2.2 Ü 2.3							7	-												
Alpha-BHC UG/KG 1.4 2% 20 0 2 119 2.2 U 2.1 U 2.2 U 2.2 U 2.2 U 2.2 U 2.2 U 2.2 U 2.3 U 2.3 U 2.3 U 2.3 U 2.3 U 2.4 Alpha-Chlordane UG/KG 16 6% 94 0 7 119 2.2 U 2.2 U 2.2 U 2.1 U 2.8 2.2 U 2.2 U 2.2 U 2.2 U 2.2 U 2.2 U 2.3							-													
Arcelor-1232 UG/KG 0 0% 100 0 0 119 43 U 42 U 41 U 42 U 43 U 42 U 43 U 49 U 45 U 45 U 45 U 47 Celor-1232 UG/KG 0 0% 100 0 0 119 43 U 42 U 41 U 42 U 43 U 42 U 43 U 49 U 45 U 45 U 45 U 45 U 45 U 45 U 45	Alpha-BHC		UG/KG	1.4	2%	20	0		119	2.2 U	2,2 U	2.1 U		2.2 U	2.2 U	2.2 U	2.2 U	2.5 U	2.3 U	2.3 U
Arcelor-1221 UG/KG 0 0% 100 0 119 88 U 86 U 84 U 86 U 87 U 85 U 88 U 100 U 91 U 91 U 45 U 45 U 45 U 45 U 45 U 45 U 45 U 4							-	7												
Arcelor-1232 UG/KG 0 0% 100 0 119 43 U 42 U 41 U 42 U 43 U 42 U 43 U 49 U 45 U 45 U 45 U 45 U 45 U 45 U 45																				
Arcelor-1242							•													
Aroclor-1254 UG/KG 0 0% 100 0 119 43 U 42 U 41 U 42 U 43 U 42 U 43 U 49 U 45 U 45 U 45 U 45 U 45 U 45 U 45	Aroclor-1242		UG/KG	-	0%	100	-		119	43 U	42 U	41 U		42 U	43 U	42 U	43 U		45 U	45 U
Arcelor-1260 UG/KG 27 2% 100 0 2 119 43 U 42 Ū 41 Ū 42 Ū 43 Ū 42 Ū 43 Ū 49 Ū 45 Ū 45 Ū 45 Ū 45 Ū 45 Ū 45 Ū 45				-			-	_												
Beta-BHC UG/KG 4.5 1% 36 0 1 119 2.2 U 2.2 U 2.1 U 2.2 U 2.2 U 2.2 U 2.2 U 2.2 U 2.3 U 2.3 U 2.3 U 2.4 U 2.5 U 2.5 U 2.3 U 2.3 U 2.4 U 2.5 U 2.5 U 2.5 U 2.3 U 2.5							-	_												
Delta-BHC UG/KG 0 0% 40 0 0 119 2.2 U 2.2 U 2.2 U 2.2 U 2.2 U 2.2 U 2.5 U 2.3 U 2.3 U							•	1												
Dieldrin UG/KG 27 6% 5 5 7 119 3.4 J 4.2 U 9.5 4.3 J 4.3 U 4.2 U 4.3 U 4.9 U 4.5 U 4.5 U	Delta-BHC		UG/KG	0	0%	40	0	_	119	2.2 U	2.2 U	2.1 U		2.2 U	2.2 U	2.2 U	2.2 U	2.5 U	2.3 U	2.3 U
	Dieldrin		UG/KG	27	6%	5	5	7	119	3.4 J	4.2 U	9.5		4.3 J	4.3 U	4.2 U	4.3 U	4.9 U	4.5 U	4.5 U

P:PITProjects/Senace Munitions Response/Proposed PlaniDraft/Risk Assessment/Human Health/SEAD-57 Conservation/LTable 1\_Screening\_SEAD57.vis/s-57 unrestricted sht1

TABLE 1 SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

								SEAD-57 SS57-18 SOIL 574031 0 0.2	SEAD-57 SS57-19 SOIL 574032 0 0.2	SEAD-57 SS57-2 SOIL SS57-2-1 0 0.2	SEAD-57 SS57-2 SOIL SS57-2-2 0 0.2	SEAD-57 SS57-20 SOIL 574033 0 0.2	SEAD-57 SS57-21 SOIL 574034 0 0.2	SEAD-57 SS57-22 SOIL 574035 0	SEAD-57 SS57-23 SOIL 574036 0	SEAD-57 SS57-24 SOIL 574037 0 0,2	SEAD-57 SS57-25 SOIL 574038 0 0.2	SEAD-57 SS57-27 SOIL 574041 0
								12/19/99	12/19/99	10.26/93	12/08/93	12/19/99	12-19:99	12/19/99	12-19:99	12.19.99	12:19-99	12 20 99
		Maximum	Frequency of of	Criteria	Number	Number	Number	SA PISI RI	SA PISI RI	SA PISI RI	SA PISI RI	SA PISI RI	SA PISI RI	SA PISI RI	SA PISI RI	SA PISI RI	SA PISI RI	DU PISI RI
Parameter	Units	Concentration	Detection	Value 1	Exceedances	of Times Detected	of Samples Analyzed <sup>2</sup>	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (O)	Value (O)	Value (Q)	Value (Q)	Value (O)	Value (Q)	Value (Q)
Endosulfan I	UG KG	5.2	1 a o	2400	0	1	119	2.2 U	2.2 U	2.1 U		2.2 U	2.2 U	2.2 U	2.2 ti	5.2 J	2.3 U	2.3 E
Endosulfan II Endosulfan sulfate	UG/KG UG/KG	0	1° 0	2400	0	1	119	4.3 U	4.2 U	4.1 U		4.2 U	4.3 U	4.2 U	4.3 U	3.1 J	4,5 (1	4.5 U
Endrin	UG/KG	G	0°.	2400 14	0	0	119 119	4,3 U 4,3 U	4.2 U 4.2 U	4.1 U 4.1 U		4.2 U 4.2 U	4.3 U	4.2 U	4.3 U	4.9 U	4.5 U	4.5 U
Endrin aldehyde	UG/KG	3.8	100	0	0	1	119	4.3 U	4.2 U	4.1 U		4.2 U	4.3 U 4.3 U	4.2 U 4.2 U	4.3 U 4.3 U	4,9 U	4.5 U	4.5 U 4.5 U
Endrin ketone	UG/KG	4	100	0	0	1	119	4.3 U	4.2 U	4.1 U		4.2 U	4.3 U	4.2 1/	4.3 U	4.9 U	4.5 U	4.5 U
Gamma-BHC Lindane	UG KG	-0	000	100	0	0	119	2.2 U	2.2 U	2.1 U		2.2 U	2.2 U	2.2 []	2.2 U	2.5 U	2.3 11	2.3 U
Gamma-Chlordane Heptachlor	UGʻKG UGʻKG	0 1.6	0° o 1% o	0 42	0	0	119 119	2.2 U 2.2 U	2.2 U 2.2 U	2.1 U		2.2 U	2.2 U	2.2 U	2.2 U	2.5 U	2.3 U	2 3 U
Eleptachlor epoxide	UG:KG	2	100	0	0	1	119	2.2 U	2.2 U	2.1 U 2.1 U		2.2 U 2.2 U	2.2 U 2.2 U	2.2 U 2.2 U	2.2 U 2.2 U	2.5 U 2.5 U	2.3 U 2.3 U	23 U 23 U
Methoxychlor	UG/KG	0	0° u	0	0	0	119	22 U	22 U	21 U		22 U	22 U	22 U	22 U	25 U	23 U	23 U
Ioxaphene	UG'KG	D	Oa.º	0	0	0	119	220 U	220 U	210 U		220 U	220 U	220 €	220 U	250 U	230 U	230 U
Herbicides 2,4,5 T	UG-KG	0	000	0	0	0	18			6.3 U								
2,4,5-TP Silvex	UG.KG	0	0%	3800	0	0	18			6.3 U 63 U								
2,4-D	UG/KG	0	0%	0	0	0	18			63 U								
2,4-DB	UG-KG	0	0.0	0	0	0	18			150 €								
Dalapon Dicamba	UG/KG UG KG	0	0% 0%	0	0	0	18			6.3 U								
Dichloroprop	UG/KG	0	0%	0	0	0	18 18			63 U 32 U								
Dinoseb	UG:KG	0	0° <sub>0</sub>	0	0	0	18			6300 U								
MCPA	UG <sup>1</sup> KG	0	Ou a	0	0	0	18			6300 U								
MCPP Metals and Cyanide	UG:KG	0	Go a	0	0	0	18											
Aluminum	MG/KG	22900	10000	0	Q	119	119	12600	12600	17300		13400	12100	14400	10700	14000	10000	14.100
Antimony	MG·KG	6.5	49%	0	0	58	119	1.6 J	0.62 J	11.8 UJ		0.54 UR	1.3 J	0.68 J	10700 0.52 UR	16900 0.58 UR	15000 0.86 J	0.55 UR
Arsemo	MG:KG	17.8	9200	13	1	110	119	5.1 J	2.7	4.6 UR		3.4	4.1 J	4.2	3.5 J	4.2	4.3	3
Barium	MG/KG	237	100° a	350	0	119	119	98.4	74.1	65.8		76.2	93.5	79.6	53	164	139	84.8
Berylhum Cadmium	MG:KG MG:KG	1.8 28 6	100% 22%	7.2 2.5	6	119 26	119 119	0.05 U	0.72 J 0.04 U	0.62 J 0.74 U		1 J	0.76 J	0.91 J	0.53 J	1.4	1.2	0.94 J
Calcium	MG/KG	213000	100%	0	0	119	119	1750	1010	1950		0.05 U 835 J	0.05 U 1470	1490	0.05 U 2100	0.05 U 4110	0.05 U 2410	0.05 U 1500
Chromium	MG/KG	32.1	100%	30	2	119	119	15.5	14.3	24.2		16.1	15.1	18.7	11.9	22.8 J	19.8 J	23 4 3
Copali	MG KG	29.7	100° e	0	0	119	119	15.3	9.4 1	9.6 J		12.8	6.5 J	11.4 J	6.6 J	12.4 J	13.5	114 J
Copper Cyanide	MG:KG MG:KG	2930 0	92°a 0°a	50 27	2	109	119 119	13.3 0.62 U	12.6 0.57 U	18.3 0.73 U		12.5	10	14	13.4	22	15	14.5
Iron	MG'KG	39800	100%	0	0	119	119	23500	16600	28400		0.64 U 20000	0.64 U 20300	0.62 U 23800	0.63 U 15000	0.73 U 27100 J	0.68 U 26700 J	0.63 U 28300 J
Lead	MG:KG	1860	100%	63	2	119	119	23.5 J	19.9 J	17.7		18.8 J	20.9 J	66.8	16.1 J	24.5	24.3	21 3
Magnesium	MG KG	27600	100%	0	0	119	119	2330 J	2530 J	4580		2510 J	2590 J	2970 J	2080 J	3750	3170	3900
Manganese Mercury	MG KG MG KG	2580 0.15	100% 75%	0.18	5	119 89	119 119	0.08 3	556 0.08 J	319 0.04 J		1160 0.06 J	454 0.1 J	746	306	1040 1	1180 J	677 J
Nickel	MG KG	54.1	100%	30	37	119	119	13.3	14.3	27.3		16,9	13.5	0.07 J 20.7	0.06 J 11.9	0.12 27.9 J	0.11 J 20.3 J	0.1 J 25.5 J
Potassium	MG KG	3250	100%	0	0	119	119	990 J	913 J	1240		961 J	1100 J	1060 J	768 J	1660	1280	1370
Selenium	MG KG	2.7	6300	3.9	0	75	119	1.5 J	1.4 J	0.21 UJ		1.4 J	0.69 J	0.74 J	0.59 U	1 J	1.3 J	0.64 J
Silver Sodium	MG KG MG KG	1 7 270	38% 34%	2	0	45 41	119	0.32 UJ	0.36 J	1.5 UJ		0.32 UJ	0.29 UJ	0.32 UJ	0.31 UJ	0.34 UJ	0.3 UJ	0.32 UJ
Thallium	MG KG	6.7	82%	0	0	98	119 119	70,3 U 3,8	62.5 U 3.6	44.5 J 0.23 U		71 U 3.8	65.2 U	70.4 U 2.9	68 U 0.75 U	76.7 U 3.7	65.7 U	72 U 2 8
Vanadium	MG:KG	104	990.0	0	0	118	119	26	22,3	28.6		23.6	24.5	27.4	19	29 7	29.4	27 K
Zinc Other Analyses	MG KG	1250	93%	109	11	111	119	50 4	57.6	70.6 UR		55	55.3	65.5	51.8	82.3 J	65.4 J	71.1 J
Cation exchange capacity	MEQ 100G	31.4	100° u	0	0	32	32											
Nitrate/Nitrite Nitrogen	MG·KG	4.4	98%	0	0	99	101	0.93	0.38			0.04	0.01	0.04	0.32	0.57 J	0.3 J	0.08 J
Percent Solids	% WW	94	100%	0	0	101	101	76 1	78.4			77.5	77.1	78.2	74.6	66.7	73.3	73
Soil pH (std. units) Total Organic Carbon	pH units MG·KG	7.83 70500	100%	0	0	33 32	33 32											

Notes
(1) Criteria biased on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives, http://www.dec.state.ny.us-websiterregs-subpart375\_6.html
(2) Sample-duplicate pairs were treated as discreet samples

<sup>(3)</sup> A bolded and outlined cell indicates a concentration that exceeded the criteria.

U - compound was not detected J - the reported value is an estimated concentration UJ - the compound was not detected, the associated reporting limit is approximate

R - the analytical result was rejected during data validation

TABLE 1 SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

Parameter	Units	Maximum Concentration	Frequency of of Detection	Criteria Value <sup>1</sup>	Number of Exceedances	Number of Times Detected	Number of Samples Analyzed <sup>2</sup>	SEAD-57 SS57-27 SOIL 574040 0 0.2 12/20/99 SA P1S1 RI Value (Q)	SEAD-57 SS57-28 SOIL 574042 0 0.2 12/20/99 SA PISI RI Value (Q)	SEAD-57 SS57-29 SOIL 574043 0 0.2 12/20/99 SA PIS1 RI Value (Q)	SEAD-57 SS57-3 SOIL SS57-3-1 0 0.2 10/26/93 SA P1S1 RI Value (Q)	SEAD-57 SS57-3 SOIL SS57-3-2 0 0.2 12/08/93 SA P1S1 RI Value (Q)	SEAD-57 SS57-30 SOIL 574001 0 0.2 11/30/99 DU P1S1 RI Value (Q)	SEAD-57 SS57-30 SOIL 574000 0 0.2 11/30/99 SA P1S1 RI	SEAD-57 SS57-31 SOIL 574044 0 0.2 12/20/99 SA P1S1 RI Value (Q)	SEAD-57 SS57-32 SOIL 574045 0 0.2 12/20/99 SA P1S1 RI Value (Q)	SEAD-57 SS57-33 SOIL 574046 0 0.2 12/20/99 SA PISI RI	SEAD-57 SS57-34 SOIL 574047 0 0.2 12/20/99 SA PIS1 RI Value (Q)
Volatile Organic Compounds	Omis	Concentration	Detection	value	Exceedances	Detected	Analyzeu	value (Q)	value (Q)	value (Q)	Autre (6)	value (Q)	value (Q)	value (Q)	value (Q)	value (Q)	varue (Q)	value (Q)
1,1,1-Trichloroethane	UG/KG	0	0%	680	0	0	127	13 U	14 U	12 U	12 U	13 U	15 U	17 U	13 U	10 U	15 U	14 U
1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane	UG/KG UG/KG	0	0%	0	0	0	127 127	13 U 13 U	14 U 14 U	12 U 12 U	12 U 12 U	13 U 13 U	15 U 15 U	17 U 17 U	13 U 13 U	10 U	15 U 15 U	14 U 14 U
1,1-Diebloroethane	UG/KG	0	0%	270	0	0	127	13 U	14 U	12 U	12 U	13 U	15 U	17 U	13 U	10 U	15 U	14 U
1,1-Dichloroethene	UG/KG	0	0%	330	0	0	127	13 U	14 U	12 U	12 U	13 U	15 U	17 U	13 U	10 U	15 U	14 U
1,2-Dichloroethane 1,2-Dichloroethene (total)	UG/KG UG/KG	0	0% 0%	20 190	0	0	127 127	13 U 13 U	14 U 14 U	12 U 12 U	12 U 12 U	13 U	15 U 15 U	17 U 17 U	13 U 13 U	10 U 10 U	15 U 15 U	14 U 14 U
1,2-Dichloropropane	UG/KG	o	0%	0	0	0	127	13 U	14 U	12 U	12 U	13 U	15 U	17 U	13 U	10 U	15 U	14 U
Acetone	UG/KG	700	74%	50	87	94	127	260 )	<b>220</b> J	110	12 U	13 U	280 J	240 J	100	160 J	180 J	260 J
Benzene Bromodichloromethane	UG/KG UG/KG	1	2% 0%	60 0	0	2	127 127	13 U 13 U	14 U 14 U	12 U 12 U	12 U 12 U	13 U 13 U	15 U 15 U	17 U 17 U	13 U 13 U	10 U 10 U	15 U 15 U	14 U 14 U
Bromoform	UG/KG	0	0%	0	0	0	127	13 U	14 U	12 U	12 U	13 U	15 U	17 U	13 U	10 U	15 U	14 U
Carbon disulfide	UG/KG	22	11%	0	0	14	127	13 U	14 U	12 U	12 U	13 U	15 U	17 U	13 U	10 U	15 U	14 U
Carbon tetrachloride	UG/KG	0	0%	760	0	0	127	13 U	14 U	12 U	12 U	13 U	15 U	17 U	13 U	10 U	15 U	14 U
Chlorobenzene Chlorodibromomethane	UG/KG UG/KG	0	0% 0%	1100	0	0	127 127	13 U 13 U	14 U 14 U	12 U 12 U	12 U 12 U	13 U 13 U	15 U 15 U	17 U 17 U	13 U 13 U	10 U 10 U	15 U 15 U	14 U 14 U
Chioroethane	UG/KG	0	0%	0	0	0	127	13 U	14 U	12 U	12 U	13 U	15 U	17 U	13 U	10 U	15 U	14 U
Chloroform	UG/KG	7	1%	370	0	1	127	13 U	14 U	12 U	12 U	7 J	15 U	17 U	13 U	10 U	15 U	14 U
Cis-1,3-Dichloropropene Ethyl benzene	UG/KG UG/KG	0	0%	1000	0	0	127 127	13 U 13 U	14 U 14 U	12 U 12 U	12 U 12 U	13 U 13 U	15 U 15 U	17 U 17 U	13 U 13 U	10 U	15 U	14 U
Methyl bromide	UG/KG	0	0%	0	0	0	127	13 U	14 U	12 U	12 U	13 U	15 U	17 U	13 U	10 U	15 U	14 U
Methyl butyl ketone	UG/KG	0	0%	0	0	0	127	13 U	14 U	12 U	12 U	13 U	15 UJ	17 UJ	13 U	10 U	15 U	14 U
Methyl chloride	UG/KG	0	0%	0	0	0	127	13 U	14 U	12 U	12 U	13 U	15 U	17 U	13 U	10 U	15 U	14 U
Methyl ethyl ketone Methyl isobutyl ketone	UG/KG UG/KG	64 0	62% 0%	120	0	79 0	127 127	17 13 U	16 14 U	12 U 12 U	12 U 12 U	13 U 13 U	26 J 15 U	27 J 17 U	13 UJ 13 U	12 10 U	15 U	23 J 14 U
Methylene chloride	UG/KG	1	2%	50	0	2	127	13 U	14 U	12 U	12 U	13 U	15 U	17 U	13 U	10 U	15 U	14 U
Styrene	UG/KG	0	0%	0	0	0	127	13 U	14 U	12 U	12 U	13 U	15 U	17 U	13 U	10 U	15 U	14 U
Tetrachloroethene Toluene	UG/KG UG/KG	6 33	6% 65%	1300 700	0	7 82	127 127	13 U 11 J	14 U 22	12 U 5 J	2 J 12 U	13 U 13 U	15 U 15 U	17 U	13 U 11 J	10 U 33	15 U 26	14 U 4 J
Total Xylenes	UG/KG	2	2%	260	0	3	127	13 U	14 U	12 U	12 U	13 U	15 U	17 U	13 U	10 U	15 U	14 U
Trans-1,3-Dichloropropene	UG/KG	0	0%	0	0	0	127	13 U	14 U	12 U	12 U	13 U	15 U	17 U	13 U	10 U	15 U	14 U
Trichloroethene	UG/KG	0	0%	470	0	0	127	13 U	14 U	12 U	12 U	13 U	15 U	17 U	13 U	10 U	15 U	14 U
Vinyl chloride Semivolatile Organic Compound	UG/KG	0	0%	20	0	0	127	13 U	14 U	12 U	12 U	13 U	15 U	17 U	13 U	10 U	15 U	14 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	0	0	0	119	88 U	86 U	87 U	420 U		90 UJ	87 U	90 U	84 U	92 U	88 U
1,2-Dichlorobenzene	UG/KG	0	0%	1100	0	0	119	88 UJ	86 U	87 U	420 U		90 UJ	87 U	90 U	84 U	92 U	88 U
1,3-Dichlorobenzene 1,4-Dichlorobenzene	UG/KG UG/KG	0	0% 0%	2400 1800	0	0	119 119	88 U	86 U 86 U	87 U 87 U	420 U 420 U		90 UJ	87 U 87 U	90 U	84 U 84 U	92 U 92 U	88 U 88 U
2,2'-oxybis(1-Chloropropane)	UG/KG	0	0%	0	0	0	18	88 0	88 0	8/ 0	420 U		90 03	87 0	90 0	84 0	92 0	88 0
2,4,5-Trichlorophenol	UG/KG	0	0%	0	0	0	119	210 U	210 U	210 U	1000 U		220 UJ	210 U	220 U	200 U	220 U	210 U
2,4,6-Trichlorophenol	UG/KG	0	0%	0	0	0	119	88 U	86 U	87 U	420 U		90 UJ	87 U	90 U	84 U	92 U	88 U
2,4-Dichlorophenol 2,4-Dimethylphenol	UG/KG UG/KG	0	0%	0	0	0	119 119	88 U	86 U	87 U 87 U	420 U 420 U		90 UJ	87 UJ 87 UJ	90 U	84 U 84 U	92 U 92 U	88 U
2,4-Dinitrophenol	UG/KG	0	0%	0	0	0	119	210 UR	210 UJ	210 UJ	1000 U		220 UJ	210 UJ	220 UJ	200 UJ	220 UJ	210 UJ
2,4-Dinitrotoluene	UG/KG	0	0%	0	0	0	119	88 U	86 U	87 U	420 U		90 UJ	87 U	90 U	84 U	92 U	88 U
2,6-Dinitrotoluene 2-Chloronaphthalene	UG/KG UG/KG	0	0%	0	0	0	119 119	88 U	86 U 86 U	87 U 87 U	420 U 420 U		90 U	87 U 87 U	90 U	84 U 84 U	92 U 92 U	88 U
2-Chlorophenoi	UG/KG	0	0%	0	0	0	119	88 U	86 U	87 U	420 U		90 U	87 U	90 U	84 U	92 U	88 U
2-Methylnaphthalene	UG/KG	750	3%	0	0	3	119	88 UJ	86 U	87 U	420 U		90 U	87 U	90 U	84 U	92 U	88 U
2-Methylphenol	UG/KG	0	0%	330	0	0	119	88 U	86 U	87 U	420 U		90 UJ	87 UJ	90 U	84 U	92 U	88 U
2-Nitroaniline 2-Nitrophenol	UG/KG UG/KG	0	0%	0	0	0	119 119	210 U 88 U	210 U 86 U	210 U 87 U	1000 U 420 U		220 UJ 90 U	210 UJ 87 U	220 U 90 U	200 U 84 U	220 U 92 U	210 U 88 U
3,3'-Dichlorobenzidine	UG/KG	0	0%	0	0	0	119	88 U	86 U	87 U	420 U		90 UJ	87 UJ	90 U	84 U	92 U	88 U
3-Nitroaniline	UG/KG	0	0%	0	0	0	119	210 U	210 U	210 U	1000 U		220 UJ	210 UJ	220 U	200 U	220 U	210 U
4,6-Dinitro-2-methylphenol	UG/KG UG/KG	0	0%	0	0	0	119	210 UJ 88 U	210 U 86 U	210 U 87 U	1000 U		220 UJ 90 U	210 UJ 87 U	220 U 90 U	200 U 84 U	220 U 92 U	210 U 88 U
4-Bromophenyi phenyi ether 4-Chloro-3-methylphenol	UG/KG UG/KG	0	0%	0	0	0	119	88 U	86 U	87 U	420 U		90 UJ	87 U 87 UJ	90 U	84 U	92 U 92 U	88 U
4-Chloroaniline	UG/KG	0	0%	0	0	0	119	88 U	86 U	87 U	420 U		90 UJ	87 UJ	90 U	84 U	92 U	88 U
4-Chlorophenyl phenyl ether	UG/KG	0	0%	0	0	0	119	88 U	86 U	87 U	420 U		90 U	87 U	90 U	84 U	92 U	88 U
4-Methylphenol 4-Nitroaniline	UG/KG UG/KG	13	3% 0%	330	0	3	119	88 U 210 U	86 U 210 UJ	87 U	420 U 1000 U		90 UJ 220 U	87 UJ	90 U	84 U 200 UJ	92 U 220 U	88 U 210 U
4-Nitrophenol	UG/KG	0	0%	0	0	0	119	210 U	210 UJ	210 UJ 210 U	1000 U		220 UJ	210 U 210 UJ	220 UJ 220 U	200 U	220 UJ	210 UJ
Acenaphthene	UG/KG	0	0%	20000	0	o	119	88 U	86 U	87 U	420 U		90 U	87 U	90 U	84 U	92 U	88 U
Acenaphthylene	UG/KG	0	0%	100000	0	0	119	88 U	86 U	87 U	420 U		90 U	87 U	90 U	84 U	92 U	88 U

TABLE I SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

SEAD-57 SEAD-57 SEAD-57 SEAD-57 SEAD-57 SEAD-57 SEAD-57 SEAD-57 SEAD-57 SEAD-57 SEAD-57

								SEAD-57 SS57-27	SEAD-37 SS57-28	SEAD-57 SS57-29	SEAD-57 SS57-3	SEAD-57 SS57-3	SEAD-57 SS57-30	SEAD-57 SS57-30	SEAD-37 SS57-31	SEAD-57 SS57-32	SEAD-57 SS57-33	SS57-34																																																				
								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL																																																				
								574040	574042	574043	SS57-3-1	SS57-3-2	574001	574000	574044	574045	574046	574047																																																				
								0	0	0	0	0	0	0	0	0	0	0																																																				
								0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2																																																				
								12/20/99	12:20/99	12:20/99	10/26/93	12/08/93	11/30.99	11/30/99	12/20/99	12 20/99	12:20:99	12 20 99																																																				
								SA	SA	SA	SA	SA	DU	SA	SA	SA	SA	SA																																																				
		9.5 l	Frequency of of	Criteria	Number	Number	Number	PISI RI	PISI RI	PISI RI	PIS1 RI	PISI RI	P1S1 R1	PISI RI	PIST RI	PISI RI	PISI RI	PISTRI																																																				
	**	Maximum				of Times	of Samples																																																															
Parameter Anthracene	Units UG/KG	Concentration 8.2	Detection 3%	Value 1 100000	Exceedances 0	Detected	Analyzed 2	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)																																																				
Benzo(a)anthracene	UG/KG	62	21°a	1000	0	25	119 119	88 U 88 U	86 U 6.3 J	87 U 87 U	420 U 420 U		90 U 90 U	87 U 87 U	90 U 90 U	84 U	92 U 92 U	88 U 88 U																																																				
Benzo(a)pyrene	UG/KG	76	17%	1000	0	20	119	88 U	86 U	87 U	420 U		90 U	87 11	90 U	84 U	92 U	88 U																																																				
Benzo(b)fluoranthene	UG/KG	67	24" 。	1000	0	29	119	88 U	11 1	6.3 J	420 U		90 U	87 U	90 U	84 U	9 1	88 UJ																																																				
Benzo(ghi)perylene	UG/KG	54	13°6	100000	0	15	119	88 U	86 U	87 U	420 U		90 U	87 U	90 U	84 U	92 U	88 U																																																				
Benzo(k)fluoranthene	UG'KG	50	2400	800	0	29	119	88 UJ	6.6 J	5.9 1	420 U		90 U	87 U	90 UJ	84 (I)	9 J	88 UJ																																																				
Bis(2-Chloroethoxy)methane	UG/KG	0	0° u	0	0	0	119	88 U	86 U	87 U	420 U		90 UJ	87 UJ	90 U	84 U	92 U	88 U																																																				
Bis(2-Chloroethyl)ether Bis(2-Chloroisopropyl)ether	UG/KG UG-KG	0	0.4	0	0	0	119 101	88 U 88 U	86 U 86 U	87 U 87 U	420 U		90 U 90 U	87 U 87 U	90 U 90 U	84 U 84 U	92 U 92 U	88 U																																																				
Bis(2-Ethylhexyl)phthalate	UG/KG	3400	15%	0	0	18	119	88 U	18 J	11 J	420 U		90 U	87 U	90 U	84 U	9.7 J	13 J																																																				
Butylbenzylphthalate	UG.KG	0	00.0	0	0	0	119	88 U	86 UJ	87 UJ	420 U		90 U	87 U	90 UJ	84 UI	92 U	88 U																																																				
Carbazole	UG/KG	0	0%	0	0	0	119	88 U	86 U	87 U	420 U		90 UJ	87 UJ	90 U	84 U	92 U	88 U																																																				
Chrysene	UG.KG	110	33% o	1000	0	39	119	88 UJ	8.1 J	5.4 J	420 U		90 U	87 U	5 J	84 U	5.5 J	4.4 3																																																				
Di-n-butylphthalate	UG/KG	390	34%	0	0	40	119	6.9 J	160	120	420 U		90 U	87 U	99	110	93	18 J																																																				
Di-n-octylphthalate	UG/KG	2.6	19.0	0	0	J	119	88 UJ	86 UJ	87 UJ	420 U		90 U	87 U	90 UJ	84 UJ	92 UJ	88 UJ																																																				
Dibenz(a,h)anthracene	UG/KG	24	6° o	330 7000	0	7	119 119	88 U 88 U	86 U 86 U	87 U 87 U	420 U 420 U		90 U	87 U 87 U	90 U	84 U	92 U	88 U																																																				
Dibenzofuran Diethyl phthalate	UG/KG	8.8	20%	0	0	2	119	2.6 J	86 UJ	87 UJ	420 U		90 UJ	87 UJ	90 UJ	84 U 84 UJ	92 U 92 UJ	88 U																																																				
Dimethylphthalate	UG-KG	0	000	0	0	0	119	88 UJ	86 U	87 U	420 U		90 U	87 U	90 U	84 U	92 U	88 U																																																				
Fluoranthene	UG/KG	150	50° o	100000	0	60	119	5.1 J	11 J	7.7 J	420 U		90 U	87 UJ	7.4 J	4.8 3	5.4 J	45 J																																																				
Fluorene	UG KG	120	2%	30000	0	2	119	88 U	86 U	87 U	420 U		90 U	87 U	90 U	84 U	92 U	88 U																																																				
Hexachlorobenzene	UGʻKG	0	0 σ	330	0	0	119	88 UJ	86 UJ	87 UJ	420 U		90 U	87 U	90 UJ	84 UJ	92 U	88 U																																																				
Hexachlorobutadiene	UG/KG	0	0%	0	0	0	119	88 U	86 U	87 U	420 U		90 U	87 U	90 U	84 U	92 U	88 U																																																				
Hexachlorocyclopentadiene Hexachloroethane	UGʻKG UGʻKG	0	000	0	0	0	119 119	88 U	86 U 86 U	87 U 87 U	420 U 420 U		90 U	87 U 87 U	90 U 90 U	84 U 84 U	92 U 92 U	88 U																																																				
Indeno(1,2,3-cd)pyrene	UG/KG	3.7	13%	500	0	15	119	88 U	86 U	87 U	420 U		90 U	87 UJ	90 U	84 U	92 U	88 U																																																				
Isophorone	UG KG	0	000	0	Ð	0	119	88 U	86 U	87 U	420 U		90 U	87 U	90 U	84 U	92 U	17.88																																																				
N-Nitrosodiphenylamine	UG/KG	75	20,0	0	0	2	119	88 U	86 U	87 U	420 U		90 U	87 U	90 U	84 U	92 U	88 U																																																				
N-Nitrosodipropylamine	UG/KG	0 180	0.0	0	0	0	119	88 U	86 U	87 U	420 U		90 U	87 U 87 U	90 U	84 U	92 11	88 U																																																				
Naphthalene Nitrobenzene	UG/KG UG/KG	180	1° 0 0° 6	12000	0	0	119 119	88 UJ 88 U	86 U	87 U 87 U	420 U 420 U		90 U 90 U	87 U	90 U	84 U	92 U	88 U																																																				
Pentachlorophenol	UG/KG	0	00.0	800	0	0	119	210 UJ	210 U	210 U	1000 U		220 UJ	210 UJ	220 U	200 U	220 U	210 U																																																				
Phenanthrene	UG/KG	230	37%	100000	0	44	119	88 U	7.4 J	3.7 J	420 U		90 U	87 U	90 U	84 U	92 U	88 F)																																																				
Phenol	UG/KG	51	13%	330	0	16	119	7.2 J	86 U	87 U	420 U		90 U	87 U	90 U	84 U	92 LF	88 U																																																				
Pyrene	UG/KG	230	52%	100000	3	62	119	8.8 J	12 J	8.4 3	420 U		90 UJ	87 UJ	7 9 J	5.8 J	491	4.8 J																																																				
Explosives 1,3,5-Trinitrobenzene	UG/KG	D	O*	0	0	0	119	120 U	120 U	120 U	130 U		120 U              1,3-Dinitrobenzene	UG/KG	0	0%	0	0	0	119	120 U	120 U	120 U	130 U		120 U              2,4,6-1rinitrotoluene	UG/KG	0	000	0	0	0	119	120 U	120 U	120 U	130 U		120 U              2,4-Dinitrotoluene	UG/KG	0	O <sub>n</sub> . n	0	0	0	119	120 U	120 U	120 U	130 U		120 U              2,6-Dinitrotoluene	UG.KG	0	O° :	0	0	0	119	120 U	120 U	120 U	130 U		120 U	120 U	120 U 120 U	120 U 120 U	120 U	120 U 120 U
2-Nitrotoluene 2-amino-4,6-Dinitrotoluene	UG/KG UG/KG	0	0%	0	0	0	101	120 U 120 U	120 U 120 U	120 U 120 U	130 U		120 U              3-Nitrotoluene	UG/KG	0	000	0	0	0	101	120 U	120 U	120 U	11.0		120 U              4-Nitrotoluene	UG/KG	0	O** a	0	0	0	101	120 U	120 U	120 U			120 U              4-ammo-2,6-Dinitrotoluene	UGKG	0	00.0	0	0	0	119	120 U	120 U	120 U	130 U		120 U              IIMX	UG'KG	0	000	0	0	0	119	120 U	120 U	120 U	130 U		120 U 120 U	120 U				
Nitrobenzene RDX	UG/KG UG KG	0	0° u	0	0	0	101 119	120 U 120 U	120 U 120 U	120 U 120 U	130 U		120 U              Tetryl	UG/KG	0	00.0	0	0	0	119	120 U	120 U	120 U	130 U		120 U              Pesticides and PCBs																																												
4.4'-DDD	UG:KG	24	7º o	3.3	5	8	119	9.1	4.3 U	4.4 U	4.2 U		4.5 U	4.4 U	4.5 U	4.2 U	4.6 LI	44 (1																																																				
4,4"-DDE	UG'KG	32	8°6	3.3	7	9	119	4.4 U	4.3 U	4.4 U	4.2 U		4.5 U	4.4 U	4.5 U	4.2 U	4.6 L!	44 (1																																																				
4,4'-DD'I Aldrin	UG/KG UG/KG	23	5° 0%	3.3	5	6	119 119	4.4 U 2.2 U	4.3 U 2.2 U	4.4 U 2.3 U	4.2 U 2.2 U		4.5 U 2.3 U	4.4 LI 2.3 U	4.5 U 2.3 U	4.2 U 2.2 U	46 U	4.4 U 2.3 U																																																				
Alpha-BEC	UG/KG	1.4	2%	20	0	2	119	2.2 U	2.2 U	2.3 U	2.2 U		2.3 U	2.3 U	2.3 U	2.2 U	2.4 U	2.3 LF																																																				
Alpha-Chlordane	UG·KG	16	6%	94	0	7	119	2.2 U	2.2 U	2.3 U	2.2 U		2.4 J	2.2 J	2.3 U	2.2 U	2.4 U	2.3 U																																																				
Aroclor-1016	UG.KG	C	0° °	100	0	0	119	44 U	43 U	44 Li	42 U		45 U	44 LF	45 U	42 U	46 U	44 (I																																																				
Aroclor-1221	UG KG	0	0%	100	0	0	119	88 U	88 U	89 U	86 U		92 U	1) 00	92 U	86 U	94 U	90 LI																																																				
Aroclor-1232 Aroclor-1242	UG/KG UG/KG	0	0° °	100	0	0	119	44 U 44 U	43 U 43 U	44 U 44 U	42 U 42 U		45 U	44 U	45 U 45 U	42 U 42 U	46 U	44 U																																																				
Aroclor-1242 Aroclor 1248	UG.KG	0	0° a	100	0	0	119	44 U	43 U	44 U	42 U		45 U	44 U	45 U	42 U	46 U	44 U																																																				
Aroclor-1254	UG·KG	0	0.0	100	0	0	119	44 U	43 U	44 (1	42 U		45 U	44 U	45 U	42 U	46 L <sup>1</sup>	44 U																																																				
Aroclor-1260	UG.KG	27	200	100	D	2	119	44 U	43 U	44 U	42 U		45 U	44 U	45 U	42 U	46 L!	44 U																																																				
Beta-BHC	UG.KG	4.5	19.0	36	0	1	119	2.2 U	2.2 U	2.3 U	2.2 U		2.3 U	2.3 U	2.3 U	2.2 U	2.4 U	2 3 (1																																																				
Delta-BHC Dieldrin	UG/KG UG/KG	0 27	0% 6%	40 5	0	0 7	119 119	2.2 U	2.2 U 4.3 U	2.3 U 4.4 U	2.2 U 4.2 U		2.3 U 4.5 U	2,3 U 4.4 U	2.3 U 4.5 U	2.2 U 4.2 U	2 4 U	23 U 44 U																																																				
Dieidrin	UGRG	27	070	5	3	,	119		4.3 U	4.4 U	4.2 0		4.3 U	4.4 ()	4.5 (1	4.2 0	400	44 ()																																																				

TABLE 1 SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

SEAD-57 SEAD-5

								SS57-27	SS57-28	SS57-29	SS57-3	SS57-3	SS57-30	SS57-30	SS57-31	SS57-32	SS57-33	SS57-34
								SOIL	SOIL	SOIL	SOIL	SOIL						
								574040	574042	574043	SS57-3-1	SS57-3-2	574001	574000	574044	574045	574046	574047
								0	0	0	0	0	0	0	0	0	0	0
								0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
								12/20/99 SA	12/20/99 SA	12/20/99 SA	10/26/93 SA	12/08/93 SA	11/30/99 DU	11/30/99 SA	12/20/99 SA	12/20/99 SA	12/20/99 SA	12/20/99 SA
			Frequency of		Number	Number	Number	PISI RI	PISI RI	PISI RI	PISI RI	PISI RI						
		Maximum	of	Criteria	of	of Times	of Samples											
Parameter	Units	Concentration	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Endosulfan I	UG/KG	5.2	1%	2400	0	1	119	2.2 U	2,2 U	2.3 U	2.2 U		2.3 U	2.3 U	2.3 U	2.2 U	2.4 U	2.3 U
Endosulfan II	UG/KG	3.1	1%	2400	0	1	119	4.4 U	4.3 U	4.4 U	4.2 U		4.5 U	4.4 U	4.5 U	4.2 U	4.6 U	4.4 U
Endosulfan sulfate Endrin	UG/KG	0	0%	2400	0	0	119	4.4 U	4.3 U	4.4 U	4.2 U		4.5 U	4.4 U	4.5 U	4.2 U	4.6 U	4.4 U
Endrin aldehyde	UG/KG UG/KG	3.8	0% 1%	14	0	0	119 119	4.4 U 4.4 U	4.3 U 4.3 U	4.4 U 4.4 U	4.2 Ü 4.2 Ü		4.5 U 4.5 U	4.4 U 4.4 U	4,5 U 4,5 U	4.2 U 4.2 U	4.6 U 4.6 U	4.4 U 4.4 U
Endrin ketone	UG/KG	4	1%	0	0	1	119	4.4 U	4.3 U	4.4 U	4.2 U		4.5 U	4.4 U	4.5 U	4.2 U	4.6 U	4.4 U
Gamma-BHC/Lindane	UG/KG	0	0%	100	ō	0	119	2.2 U	2.2 U	2.3 U	2.2 U		2.3 U	2.3 U	2.3 U	2.2 U	2.4 U	2.3 U
Gamma-Chlordane	UG/KG	0	0%	0	0	0	119	2.2 U	2.2 U	2.3 U	2.2 U		2.3 U	2.3 U	2.3 U	2.2 U	2.4 U	2.3 U
Heptachlor	UG/KG	1.6	1%	42	0	1	119	2.2 U	2.2 U	2.3 U	2.2 U		2.3 U	2.3 U	2.3 U	2.2 U	2.4 U	2.3 U
Heptachlor epoxide	UG/KG	2	1%	0	0	1	119	2.2 U	2.2 U	2.3 U	2.2 U		2.3 U	2.3 U	2.3 U	2.2 U	2.4 U	2.3 U
Methoxychlor Toxaphene	UG/KG UG/KG	0	0% 0%	0	0	0	119	22 U	22 U	23 U	22 U		23 U	23 U	23 U	22 U	24 U	23 U
Herbicides	UG/KG	U	0%	U	0	0	119	220 U	220 U	230 U	220 U 6.4 U		230 U	230 U	230 U	220 U	240 U	230 U
2,4,5-T	UG/KG	0	0%	0	0	0	18				6.4 U							
2,4,5-TP/Silvex	UG/KG	0	0%	3800	0	0	18				64 U							
2,4-D	UG/KG	0	0%	0	0	0	18				64 U							
2,4-DB	UG/KG	0	0%	0	0	0	18				160 U							
Dalapon	UG/KG	0	0%	0	0	0	18				6.4 U							
Dicamba Dichloroprop	UG/KG UG/KG	0	0% 0%	0	0	0	18 18				64 U 32 U							
Dinoseb	UG/KG	0	0%	0	0	0	18				6400 U							
MCPA	UG/KG	0	0%	0	0	0	18				6400 U							
MCPP	UG/KG	0	0%	0	0	0	18											
Metals and Cyanide																		
Aluminum	MG/KG	22900	100%	0	0	119	119	15900	12600	14100	17400		11900	12100	13700	10200	14700	14900
Antimony Arsenic	MG/KG MG/KG	6.5 17.8	49% 92%	0 13	0	58	119	0.8 J	0.54 UR	0.8 J	7.7 UJ		0.92 UR	1.2 J	0.56 UR	0.5 UR	0.54 UR	0.59 UR
Barium	MG/KG	237	100%	350	0	110 119	119 119	3.1 81.7	3.5 65.3	123	5 UR 72.6		4.2 103	5.3 J 115	3.9 136	1.6 J 64.7	3.7 129	3.9 136
Beryllium	MG/KG	1.8	100%	7.2	0	119	119	0.98 J	0.68 )	1.1	0.81		0.7 J	0.72 J	0.8 J	0.55 J	0.99 J	1.2 J
Cadmium	MG/KG	28.6	22%	2.5	6	26	119	0.05 U	0.05 U	0.04 U	0.48 U		0.06 U	0.07 U	0.05 U	0.05 U	0.05 U	0.05 U
Calcium	MG/KG	213000	100%	0	0	119	119	1350	3690	3300	1590		4070	4100	3130	2070	3270	3760
Chromium	MG/KG	32.1	100%	30	2	119	119	22.7	17.6 J	19 J	24.5		16.4	16.8	16.8 J	12 J	18.3 J	20.3 J
Cobalt	MG/KG	29.7	100%	0	0	119	119	12.4	9.2 J	10.6 J	9.9		8 J	11.4 J	6 J	5.4 J	8.6 J	11.1 J
Copper Cyanide	MG/KG MG/KG	2930	92%	50 27	2	109	119 119	13.9 0.64 U	17.1 0.63 U	17.7 0.62 U	24.8 0.73 U		21.9 0.67 U	21.6	14.9	10.1	16.8	19.2
Iron	MG/KG	39800	100%	0	0	119	119	27900	22600 J	26200 J	29100		20500 J	0.62 U 22400	0.66 U 20300 J	0.62 U 15100 J	0.67 U 24700 J	0.66 U 25300 J
Lead	MG/KG	1860	100%	63	2	119	119	18 3	21.5	18.6	30.9		21.9	22,6	13.8	12.4	16.8	18.3
Magnesium	MG/KG	27600	100%	0	0	119	119	3950 J	3340	3260	4510		3130	3180	3040	2230	3160	3970
Manganese	MG/KG	2580	100%	1600	5	119	119	757	346 J	786 J	418		376 J	725 J	246 J	180 J	585 J	772 J
Mercury Nickel	MG/KG	0.15	75%	0.18	0	89	119	0.08 J	0.08 J	0.09 J	0.06 J		0.1 J	0.11 J	0.1 J	0.11 J	0.08 J	0.13
Potassium	MG/KG MG/KG	54.1 3250	100%	30	37	119 119	119 119	24.7 1450	22.7 J 1390	19.9 J 1340	29.2 1370		18.3 1360 J	19.1	17.3 J	12 J	18.4 J	24.2 J
Selenium	MG/KG	2.7	63%	3.9	0	75	119	0.61 U	0.83 J	1.5 J	0.22 UJ		0.45 U	1450 J 0.57 U	1140 J 1 J	774 J 0.57 UJ	1290 0.74 J	1420 0.67 UJ
Silver	MG/KG	1.7	38%	2	0	45	119	0.32 UJ	0.32 UJ	0.28 UJ	0.98 UJ		0.53 J	0.52 J	0.33 UJ	0.3 UJ	0.32 UJ	0.35 UJ
Sodium	MG/KG	270	34%	0	0	41	119	70.9 U	71.1 U	61.4 U	39.2 J		164 U	207 U	73 U	65.9 U	70.7 U	77.6 U
Thallium	MG/KG	6.7	82%	0	0	98	119	2.9	1.8 J	3.6	0.24 U		0.6 J	0.85 J	1.9 J	0.73 U	1.4 J	3 J
Vanadium	MG/KG	104	99%	0	0	118	119	27.4	21.8	27.6	29.4		22	23.5	22.3	18.7	26.3	26.6
Zinc Other Analyses	MG/KG	1250	93%	109	11	111	119	66.4	66.7 J	58.5 J	88 UR		60.1	60.2	50.1 J	42.9 J	60.8 J	64.9 J
Cation exchange capacity	MEQ/100G	31.4	100%	0	0	32	32											
Nitrate/Nitrite Nitrogen Percent Solids	MG/KG % WW	4.4 94	98%	0	0	99	101	0.05	0.37 J	0.09 J			4.4 J	1.2 J	0.18 J	0.28 J	0.17 J	0.09 J
Soil pH (std. units)	pH units	7.83	100% 100%	0	0	101 33	101 33	75,5	76	75.3			72.8	73.6	73.3	78.3	70.5	73.7
Total Organic Carbon	MG/KG	70500	100%	0	0	32	32											

- (1) Criteria based on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives,
- http://www.dcc.atate.uy.us/website/regs/subpart37\_5\_6.html

  (2) Sample-duplicate pairs were treated as discreet samples.

  (3) A bolded and outlined cell indicates a concentration that exceeded the criteria.

- $\label{eq:U} U = compound was not detected \\ J = the reported value is an estimated concentration \\ UJ = the compound was not detected; the associated reporting limit is approximate \\ R = the analytical result was rejected during data validation.$

TABLE 1 SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

Parameter	## Table	Maximum	Frequency of	Criteria	Number of	Number of Times	Number of Samples	SEAD-57 SS57-35 SOIL 574048 0 0.2 12/20/99 SA P1S1 RI	SEAD-57 SS57-36 SOIL 574049 0 0.2 12/20/99 SA P1S1 RI	SEAD-57 SS57-37 SOIL 574050 0 0.2 12/20/99 SA P1S1 R1	SEAD-57 SS57-38 SOIL 574051 0 0.2 12/20/99 SA P1S1 RI	SEAD-57 SS57-39 SOIL 574052 0 0.2 12/20/99 SA PIS1 RI	SEAD-57 SS57-40 SOIL 574053 0 0.2 12/20/99 SA P1S1 RI	SEAD-57 SS57-41 SOIL 574054 0 0.2 12/20/99 SA P1S1 R1	SEAD-57 SS\$7-42 SOIL 574055 0 0.2 12/21/99 SA P1S1 RI	SEAD-57 SS57-43 SOIL 574056 0 0.2 12/21/99 SA P1S1 RI	SEAD-57 SS57-44 SOIL 574057 0 0.2 12/21/99 SA P1S1 RI	SEAD-57 SS57-45 SOIL 574059 0 0.2 12/21/99 DU PIS1 RI
Parameter Volatile Organic Compounds	Units	Concentration	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
1,1,1-Trichloroethane	UG/KG	0	0%	680	0	0	127	13 U	14 U	14 U	12 U	12 U	13 U	13 U	12 U	9 U	10 U	12 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	0	0	0	127	13 U	14 U	14 U	12 U	12 U	13 U	13 U	12 U	9 U	10 U	12 U
1,1,2-Trichloroethane 1,1-Dichloroethane	UG/KG UG/KG	0	0%	0 270	0	0	127 127	13 U 13 U	14 U	14 U	12 U	12 U	13 U	13 U	12 U	9 U	10 U	12 U
1,1-Dichloroethene	UG/KG	0	0%	330	0	0	127	13 U	14 U	14 U 14 U	12 U 12 U	12 U 12 U	13 U 13 U	13 U 13 U	12 U 12 U	9 U	10 U	12 U 12 U
1,2-Dichloroethane	UG/KG	0	0%	20	0	0	127	13 U	14 U	14 U	12 U	12 U	13 U	13 U	12 U	9 U	10 U	12 U
1,2-Dichloroethene (total)	UG/KG	0	0%	190	0	0	127	13 U	14 U	14 U	12 U	12 U	13 U	13 U	12 U	9 U	10 U	12 U
1,2-Dichloropropane Acetone	UG/KG UG/KG	700	74%	0 50	0 87	94	127	13 U	14 U	14 U	12 U	12 U	13 U	13 U	12 U	9 U	10 U	12 U
Benzene	UG/KG	1	2%	60	0	2	127 127	13 U	14 U	280 J 14 U	210 J 12 U	98 J 12 U	180 J 13 U	350 J 13 U	170 J 12 U	93 J 9 U	100 J 10 U	88 J 12 U
Bromodichloromethane	UG/KG	0	0%	0	0	0	127	13 U	14 U	14 U	12 U	12 U	13 U	13 U	12 U	9 U	10 U	12 U
Bromoform	UG/KG	0	0%	0	0	0	127	13 U	14 U	14 U	12 U	12 U	13 U	13 U	12 U	9 U	10 U	12 U
Carbon disulfide Carbon tetrachloride	UG/KG UG/KG	22	11% 0%	0 760	0	14	127	13 U	14 U	14 U	12 U	12 U	13 U	13 U	12 U	9 U	10 U	12 U
Chlorobenzene	UG/KG	0	0%	1100	0	0	127 127	13 U 13 U	14 U 14 U	14 U 14 U	12 U 12 U	12 U	13 U	13 U	12 U	9 U	10 U	12 U
Chlorodibromomethane	UG/KG	0	0%	0	0	0	127	13 U	14 U	14 U	12 U	12 U 12 U	13 U 13 U	13 U 13 U	12 U 12 U	9 U	10 U	12 U 12 U
Chloroethane	UG/KG	0	0%	0	0	0	127	13 U	14 U	14 U	12 U	12 U	13 U	13 U	12 U	9 U	10 U	12 U
Chloroform	UG/KG	7	1%	370	0	1	127	13 U	14 U	14 U	12 U	12 U	13 U	13 U	12 U	9 U	10 U	12 U
Cis-1,3-Dichloropropene Ethyl benzene	UG/KG UG/KG	0	0%	1000	0	0	127	13 U 13 U	14 U	14 U	12 U	12 U	13 U	13 U	12 U	9 U	10 U	12 U
Methyl bromide	UG/KG	0	0%	0	0	0	127 127	13 U	14 U 14 U	14 U	12 U 12 U	12 U 12 U	13 U 13 U	13 U 13 U	12 U 12 U	9 U	10 U	12 U 12 U
Methyl butyl ketone	UG/KG	0	0%	0	0	0	127	13 U	14 U	14 U	12 U	12 U	13 U	13 U	12 U	9 U	10 U	12 U
Methyl chloride	UG/KG	0	0%	0	0	0	127	13 U	14 U	14 U	12 U	12 U	13 U	13 U	12 U	9 U	10 U	12 U
Methyl ethyl ketone Methyl isobutyl ketone	UG/KG UG/KG	64	62% 0%	120	0	79	127 127	24 13 U	17 J	22 J	19 J	12 UJ	16 J	26 J	17 J	10	10 J	12 U
Methylene chloride	UG/KG	1	2%	50	0	2	127	13 U	14 U 14 U	14 U 14 U	12 U 12 U	12 U 12 U	13 U 13 U	13 U 13 U	12 U 12 U	9 U	10 U	12 U 12 U
Styrene	UG/KG	0	0%	0	0	0	127	13 U	14 U	14 U	12 U	12 U	13 U	13 U	12 U	9 U	10 U	12 U
Tetrachloroethene	UG/KG	6	6%	1300	0	7	127	13 U	14 U	14 U	12 U	12 U	13 U	13 U	12 U	9 U	10 U	12 U
Total Xylenes	UG/KG UG/KG	33	65% 2%	700 260	0	82	127 127	23 13 U	6 J	11 J	8 1	5 J	7 J	9 J	4 J	2 J	6 J	9 J
Trans-1,3-Dichloropropene	UG/KG	0	0%	0	0	0	127	13 U	14 U 14 U	14 U 14 U	12 U 12 U	12 U 12 U	13 U 13 U	13 U 13 U	12 U 12 U	9 U	10 U	12 U 12 U
Trichloroethene	UG/KG	0	0%	470	0	0	127	13 U	14 U	14 U	12 U	12 U	13 U	13 U	12 U	9 U	10 U	12 U
Vinyl chloride	UG/KG	0	0%	20	0	0	127	13 U	14 U	14 U	12 U	12 U	13 U	13 U	12 U	9 U	10 U	12 U
Semivolatile Organic Compound 1.2.4-Trichlorobenzene	UG/KG	0	0%	0	0	0	119	93 U	84 U	94 U	89 UJ	01 117	04 711	00 711	02 111	20 717	25.11	
1,2-Dichlorobenzene	UG/KG	0	0%	1100	0	0	119	93 U	84 U	94 U	89 UJ	91 UJ 91 UJ	94 UJ 94 UJ	90 UJ	83 UJ 83 UJ	89 UJ	86 U	92 U 92 U
1,3-Dichlorobenzene	UG/KG	0	0%	2400	0	0	119	93 U	84 U	94 U	89 UJ	91 UJ	94 UJ	90 UJ	83 UJ	89 UJ	86 U	92 U
1,4-Dichlorobenzene	UG/KG	0	0%	1800	0	0	119	93 U	84 U	94 U	89 UJ	91 UJ	94 UJ	90 UJ	83 UJ	89 UJ	86 U	92 U
2,2'-oxybis(1-Chloropropane) 2,4,5-Trichlorophenol	UG/KG UG/KG	0	0%	0	0	0	18 119	220 U	200 U	230 U	220 717	220 111	220 111	220 111	200 111	220 711	212.11	
2,4,6-Trichlorophenol	UG/KG	0	0%	0	0	0	119	93 U	200 U 84 U	94 U	220 UJ 89 UJ	220 UJ 91 UJ	230 UJ 94 UJ	220 UJ 90 UJ	200 UJ 83 UJ	220 UJ 89 UJ	210 U 86 U	220 U 92 U
2,4-Dichlorophenol	UG/KG	0	0%	0	0	0	119	93 U	84 U	94 U	89 UJ	91 UJ	94 UJ	90 UJ	83 UJ	89 UJ	86 U	92 U
2,4-Dimethylphenol	UG/KG	0	0%	0	0	0	119	93 U	84 U	94 U	89 UJ	91 UJ	94 UJ	90 UJ	83 UJ	89 UJ	86 U	92 U
2,4-Dinitrophenol 2,4-Dinitrotoluene	UG/KG UG/KG	0	0%	0	0	0	119 119	220 UJ 93 U	200 UJ 84 U	230 UJ 94 U	220 UR	220 UR	230 UR	220 UR	200 UR	220 UR	210 UR	220 UR
2,6-Dinitrotoluene	UG/KG	0	0%	0	0	0	119	93 U	84 U	94 U	89 UJ	91 UJ 91 UJ	94 UJ 94 UJ	90 UJ	83 UJ 83 UJ	89 UJ	86 U 86 U	92 U 92 U
2-Chloronaphthalene	UG/KG	0	0%	0	0	0	119	93 U	84 U	94 U	89 UJ	91 UJ	94 UJ	90 UJ	83 UJ	89 UJ	86 U	92 U
2-Chlorophenol	UG/KG	0	0%	0	0	0	119	93 U	84 U	94 U	89 UJ	91 UJ	94 UJ	90 UJ	83 UJ	89 UJ	86 U	92 U
2-Methylnaphthalene 2-Methylphenol	UG/KG UG/KG	750 0	3%	0	0	3	119	93 U	84 U	94 U	89 UJ	91 UJ	94 UJ	90 UJ	83 UJ	89 UJ	86 U	92 U
2-Nitroaniline	UG/KG	0	0% 0%	330	0	0	119 119	93 U 220 U	84 U 200 U	94 U 230 U	89 UJ 220 UJ	91 UJ 220 UJ	94 UJ 230 UJ	90 UJ 220 UJ	83 UJ 200 UJ	89 UJ 220 UJ	86 U 210 U	92 U 220 U
2-Nitrophenol	UG/KG	0	0%	0	o	0	119	93 U	84 U	94 U	89 UJ	91 UJ	94 UJ	90 UJ	83 UJ	89 UJ	86 U	92 U
3,3'-Dichlorobenzidine	UG/KG	0	0%	0	0	0	119	93 U	84 U	94 U	89 UJ	91 UJ	94 UJ	90 UJ	83 UJ	89 UJ	86 U	92 U
3-Nitroaniline	UG/KG	0	0%	0	0	0	119	220 U	200 U	230 U	220 UJ	220 UJ	230 UJ	220 UJ	200 UJ	220 UJ	210 U	220 U
4,6-Dinitro-2-methylphenol 4-Bromophenyl phenyl ether	UG/KG UG/KG	0	0% 0%	0	0	0	119 119	220 U 93 U	200 U 84 U	230 U 94 U	220 UJ 89 UJ	220 UJ 91 UJ	230 UJ 94 UJ	220 UJ	200 UJ	220 UJ	210 UJ	220 UJ
4-Chloro-3-methylphenol	UG/KG	0	0%	0	0	0	119	93 U	84 U	94 U	89 UJ	91 UJ	94 UJ	90 UJ	83 UJ	89 UJ	86 U	92 U 92 U
4-Chloroaniline	UG/KG	0	0%	0	0	0	119	93 U	84 U	94 U	89 UJ	91 UJ	94 UJ	90 UJ	83 UJ	89 UJ	86 U	92 U
4-Chlorophenyl phenyl ether	UG/KG	0	0%	0	0	0	119	93 U	84 U	94 U	89 UJ	91 UJ	94 UJ	90 UJ	83 UJ	89 UJ	86 U	92 U
4-Methylphenol 4-Nitroaniline	UG/KG UG/KG	13	3%	330	0	3	119	93 U	84 U	94 U	89 UJ	91 UJ	94 UJ	90 UJ	83 UJ	89 UJ	86 U	92 U
4-Nitrophenol	UG/KG	0	0%	0	0	0	119 119	220 U 220 UJ	200 U 200 UJ	230 U 230 UJ	220 UJ 220 UJ	220 UJ 220 UJ	230 UJ 230 UJ	220 UJ 220 UJ	200 UJ 200 UJ	220 UJ 220 UJ	210 U 210 U	220 U 220 U
Acenaphthene	UG/KG	0	0%	20000	o	0	119	93 U	84 U	94 U	89 UJ	91 UJ	94 UJ	90 UJ	83 UJ	89 UJ	86 U	92 U
Acenaphthylene	UG/KG	0	0%	100000	0	0	119	93 U	84 U	94 U	89 UJ	91 UJ	94 UJ	90 UJ	83 UJ	89 UJ	86 U	92 U

TABLE 1 SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

		Maximum	Frequency of of	Criteria	Number of	Number of Times	Number of Samples	SEAD-57 SS57-35 SOIL 574048 0 0.2 12/20/99 SA PIS1 RI	SEAD-57 SS57-36 SOIL 574049 0 0.2 12/20/99 SA P1S1 RJ	SEAD-57 SS57-37 SOIL 574050 0 0.2 12/20/99 SA PIS1 RI	SEAD-57 SS57-38 SOIL 574051 0 0.2 12/20/99 SA P1S1 RJ	SEAD-57 SS57-39 SOIL 574052 0 0.2 12/20/99 SA PISI RI	SEAD-57 SS57-40 SOIL 574053 0 0.2 12/20/99 SA P1S1 RI	SEAD-57 SS57-41 SOIL 574054 0 0.2 12/20/99 SA PIS1 RI	SEAD-57 SS57-42 SOIL 574055 0 0.2 12/21/99 SA PIS1 RI	SEAD-57 SS57-43 SOIL 574056 0 0.2 12/21/99 SA PIS1 RI	SEAD-57 SS57-44 SOIL 574057 0 0.2 12/21/99 SA PIS1 RI	SEAD-57 SS57-45 SOIL 574059 0 0,2 12/21/99 DU PISI RI
Parameter	Units	Concentration	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)										
Anthracene Benzo(a)anthracene	UG/KG UG/KG	8.2 62	3% 21%	100000	0	3 25	119 119	93 U 93 U	84 U 84 U	94 U 94 U	89 UJ 5.6 J	91 UJ 91 UJ	94 UJ 94 UJ	90 UJ	83 UJ 83 UJ	89 UJ	86 U 86 U	92 U 92 U
Benzo(a)pyrene	UG/KG	76	17%	1000	o	20	119	93 U	84 U	94 U	8.5 J	91 UJ	94 UJ	90 UJ	83 UJ	89 UJ	86 U	92 U
Benzo(b)fluoranthene	UG/KG	67	24%	1000	0	29	119	7.9 J	10 J	4.8 J	7.9 J	91 UJ	94 UJ	90 UJ	83 UJ	89 UJ	86 U	92 U
Benzo(ghi)perylene Benzo(k)fluoranthene	UG/KG UG/KG	54 50	13% 24%	100000	0	15 29	119	93 U 7.9 J	84 U 10 J	94 U 5.5 J	89 UJ 7.5 J	91 UJ 91 UJ	94 UJ 94 UJ	90 UJ	83 UJ	89 UJ	86 U	92 U
Bis(2-Chloroethoxy)methane	UG/KG	0	0%	0	0	0	119	93 U	84 U	94 U	89 UJ	91 UJ	94 UJ	90 UJ	83 UJ 83 UJ	89 UJ	86 U 86 U	92 U 92 U
Bis(2-Chloroethyl)ether	UG/KG	0	0%	0	0	0	119	93 U	84 U	94 U	89 UJ	91 UJ	94 UJ	90 UJ	83 UJ	89 UJ	86 U	92 U
Bis(2-Chloroisopropyl)ether Bis(2-Ethylhexyl)phthalate	UG/KG UG/KG	0 3400	0% 15%	0	0	0 18	101 119	93 U	84 U	94 U	89 UJ	91 UJ	94 UJ	90 UJ	83 UJ	89 UJ	86 U	92 U
Butylbenzylphthalate	UG/KG	0	0%	0	0	0	119	11 J 93 U	84 UJ 84 U	94 UJ 94 U	89 UJ 89 UJ	91 UJ 91 UJ	94 UJ 94 UJ	90 UJ	83 UJ 83 UJ	89 UJ	86 UJ 86 U	92 UJ 92 U
Carbazole	UG/KG	0	0%	0	0	0	119	93 U	84 U	94 U	89 UJ	91 UJ	94 UJ	90 UJ	83 UJ	89 UJ	86 U	92 U
Chrysene Di-n-butylphthalate	UG/KG UG/KG	110 390	33% 34%	1000	0	39 40	119	93 U	6.4 J	7 3	7.2 J	91 UJ	94 UJ	90 UJ	83 UJ	89 UJ	86 U	92 U
Di-n-octylphthalate	UG/KG	2.6	1%	0	0	1	119	28 J 93 UJ	30 J 84 UJ	39 J 94 UJ	89 UJ	91 UJ 91 UJ	94 UJ 94 UJ	90 UJ	83 UJ 83 UJ	89 UJ	86 U 86 U	92 U 92 U
Dibenz(a,h)anthracene	UG/KG	24	6%	330	0	7	119	93 U	84 U	94 U	89 UJ	91 UJ	94 UJ	90 UJ	83 UJ	89 UJ	86 U	92 U
Dibenzofuran	UG/KG	0	0%	7000	0	0	119	93 U	84 U	94 U	89 UJ	91 UJ	94 UJ	90 UJ	83 UJ	89 UJ	86 U	92 U
Diethyl phthalate Dimethylphthalate	UG/KG UG/KG	8.8	2% 0%	0	0	2	119 119	93 UJ 93 U	84 UJ 84 U	94 UJ 94 U	89 UJ 89 UJ	91 UJ 91 UJ	94 UJ 94 UJ	90 UJ	83 UJ 83 UJ	89 UJ	86 UJ 86 U	92 UJ 92 U
Fluoranthene	UG/KG	150	50%	100000	o	60	119	5.9 J	7.6 J	8.6 J	13 J	7.4 J	94 UJ	6.2 J	83 UJ	89 UJ	86 U	92 U
Fluorene	UG/KG	120	2%	30000	0	2	119	93 U	84 U	94 U	89 UJ	91 UJ	94 UJ	90 UJ	83 UJ	89 UJ	86 U	92 U
Hexachlorobenzene Hexachlorobutadiene	UG/KG UG/KG	0	0% 0%	330 0	0	0	119 119	93 U 93 U	84 U	94 U 94 U	89 UJ	91 UJ 91 UJ	94 UJ	90 UJ	83 UJ 83 UJ	89 UJ	86 U 86 U	92 U 92 U
Hexachlorocyclopentadiene	UG/KG	0	0%	0	ō	0	119	93 U	84 U	94 U	89 UJ	91 UJ	94 UJ	90 UJ	83 UJ	89 UJ	86 UJ	92 UJ
Hexachloroethane	UG/KG	0	0%	0	0	0	119	93 U	84 U	94 U	89 UJ	91 UJ	94 UJ	90 UJ	83 UJ	89 UJ	86 U	92 U
Indeno(1,2,3-cd)pyrene Isophorone	UG/KG UG/KG	37	13% 0%	500	0	15	119 119	93 U 93 U	84 U 84 U	94 U 94 U	89 UJ	91 UJ 91 UJ	94 UJ 94 UJ	90 UJ	83 UJ 83 UJ	89 UJ	86 U 86 U	92 U 92 U
N-Nitrosodiphenylamine	UG/KG	75	2%	0	o	2	119	93 U	84 U	94 U	89 UJ	91 UJ	94 UJ	90 U)	83 UJ	89 UJ	86 U	92 U
N-Nitrosodipropylamine	UG/KG	0	0%	0	0	0	119	93 U	84 U	94 U	89 UJ	91 UJ	94 UJ	90 UJ	83 UJ	89 UJ	86 U	92 U
Naphthalene Nitrobenzene	UG/KG UG/KG	0	1%	12000	0	0	119 119	93 U 93 U	84 U 84 U	94 U 94 U	89 UJ	91 UJ 91 UJ	94 UJ 94 UJ	90 UJ	83 UJ 83 UJ	89 UJ	86 U	92 U 92 U
Pentachlorophenol	UG/KG	0	0%	800	0	0	119	220 U	200 U	230 U	220 UJ	220 UJ	230 UJ	220 UJ	200 UJ	220 UJ	210 U	220 U
Phenanthrene Phenol	UG/KG UG/KG	230 51	37% 13%	100000 330	0	44 16	119	2.9 J	4.3 J	5 J	4.9 J	4.6 J	94 UJ	90 UJ	83 UJ	89 UJ	86 U	92 U
Pyrene	UG/KG	230	52%	100000	3	62	119 119	93 U 5.5 J	84 U 8 J	94 U 9.4 J	7 J 9 J	4.5 J 5.8 J	94 UJ 94 UJ	5.4 J 4.7 J	3.9 J 83 UJ	4.5 J 89 UJ	86 U 86 U	92 U 4.7 J
Explosives																	00 0	****
1,3,5-Trinitrobenzene 1,3-Dinitrobenzene	UG/KG UG/KG	0	0% 0%	0	0	0	119 119	120 U 120 U	120 U 120 U	120 U 120 U	120 UJ 120 UJ	120 UJ 120 UJ	120 UJ 120 UJ	120 UJ 120 UJ	120 UJ	120 UJ	120 U	120 U
2,4,6-Trinitrotoluene	UG/KG	0	0%	0	0	0	119	120 U	120 U	120 U	120 UJ	120 UJ	120 UJ	120 UJ	120 UJ 120 UJ	120 UJ 120 UJ	120 U	120 U
2,4-Dinitrotoluene	UG/KG	0	0%	0	0	0	119	120 U	120 U	120 U	120 UJ	120 U	120 U					
2,6-Dinitrotoluene 2-Nitrotoluene	UG/KG UG/KG	0	0% 0%	0	0	0	119 101	120 U 120 U	120 U	120 U	120 UJ	120 UJ	120 UJ	120 U)	120 UJ	120 UJ	120 U	120 U
2-amino-4,6-Dinitrotoluene	UG/KG	0	0%	0	0	0	119	120 U	120 U 120 U	120 U 120 U	120 UJ 120 UJ	120 U 120 U	120 U 120 U					
3-Nitrotoluene	UG/KG	0	0%	0	0	0	101	120 U	120 U	120 U	120 UJ	120 U	120 U					
4-Nitrotoluene 4-amino-2,6-Dinitrotoluene	UG/KG UG/KG	0	0% 0%	0	0	0	101 119	120 U 120 U	120 U 120 U	120 U	120 UJ	120 U	120 U					
HMX	UG/KG	0	0%	0	0	0	119	120 U	120 U	120 U	120 UJ 120 UJ	120 U 120 U	120 U 120 U					
Nitrobenzene	UG/KG	0	0%	0	0	0	101	120 U	120 U	120 U	120 UJ	120 U	120 U					
RDX Tetryl	UG/KG UG/KG	0	0% 0%	0	0	0	119 119	120 U 120 U	120 U 120 U	120 U	120 UJ	120 U	120 U					
Pesticides and PCBs	OUNG	U	070	v	U	U	119	120 0	120 0	120 U	120 UJ	120 U	120 U					
4,4'-DDD	UG/KG	54	7%	3,3	5	8	119	4.6 U	4.2 U	4.7 U	4.4 U	4.6 U	4.7 U	4.5 U	2.1 J	2.2 J	4.3 U	4.6 U
4,4'-DDE 4,4'-DDT	UG/KG UG/KG	32 23	8% 5%	3.3	7	9	119	4.6 U	4.2 U	4.7 U	4.4 U	4.6 U	4.7 U	4.5 U	4.1 U	4.4 U	4.3 U	4.6 U
Aldrin	UG/KG	0	0%	5	0	0	119 119	4.6 U 2.4 U	4.2 U 2.2 U	4.7 U 2.4 U	4.4 U 2.3 U	4.6 U 2.4 U	4.7 U 2.4 U	4.5 U 2.3 U	4.1 U 2.1 U	4.4 U 2.3 U	4.3 U 2.2 U	4.6 U 2.4 U
Alpha-BHC	UG/KG	1.4	2%	20	0	2	119	2.4 U	2.2 U	2.4 U	2.3 U	2.4 U	2.4 U	2.3 U	2.1 U	2.3 U	2.2 U	2.4 U
Alpha-Chlordane Arocior-1016	UG/KG UG/KG	16	6% 0%	94 100	0	7	119 119	2.4 U	2.2 U	2.4 J	2.3 U	2.4 U	2.4 U	2.3 U	2.1 U	2.3 U	2.2 U	2.4 U
Aroclor-1016 Aroclor-1221	UG/KG	0	0%	100	0	0	119	46 U 94 U	42 U 86 U	47 U 96 U	44 U 90 U	46 U 93 U	47 U 95 U	45 U 91 U	41 U 84 U	44 U 90 U	43 U 87 U	46 U 93 U
Aroclor-1232	UG/KG	0	0%	100	0	0	119	46 U	42 U	47 U	44 U	46 U	47 U	45 U	41 U	44 U	43 U	46 U
Aroclor-1242 Aroclor-1248	UG/KG UG/KG	0	0%	100 100	0	0	119	46 U	42 U	47 U	44 U	46 U	47 U	45 U	41 U	44 U	43 U	46 U
Aroclor-1254	UG/KG UG/KG	0	0%	100	0	0	119 119	46 U 46 U	42 U 42 U	47 U 47 U	44 U 44 U	46 U	47 U 47 U	45 U	41 U 41 U	44 U	43 U 43 U	46 U 46 U
Aroclor-1260	UG/KG	27	2%	100	0	2	119	46 U	42 U	47 U	44 U	46 U	47 U	45 U	41 U	44 U	43 U	46 U
Beta-BHC Delta-BHC	UG/KG	4.5	1%	36	0	1	119	2.4 U	2.2 U	2.4 U	2.3 U	2.4 U	2.4 U	2.3 U	2.1 U	2.3 U	2.2 U	2.4 U
Delta-BHC Dieldrin	UG/KG UG/KG	0 27	0% 6%	40 5	0 5	0	119 119	2.4 U 4.6 U	2.2 U 4.2 U	2.4 U 4.7 U	2.3 U 4.4 U	2.4 U 4.6 U	2.4 U 4.7 U	2.3 U 4.5 U	2.1 U 4.1 U	2.3 U 4.4 U	2.2 U 4.3 U	2.4 U 4.6 U
				-	3	,		4.0 0	4.20	4.7 0	7.4 0	4.0 0	4.7 0	4.5 0	4.1 0	4.4 0	4.3 0	7.0 ∪

TABLE 1 SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

								SEAD-57 SS57-35 SOIL 574048 0 0.2 12:20/99	SEAD-57 SS57-36 SOIL 574049 0 0.2 12/20/99	SEAD-57 SS57-37 SOIL 574050 0 0.2 12/20/99	SEAD-57 SS57-38 SOIL 574051 0 0.2 12/20/99	SEAD-57 SS57-39 SOIL 574052 0 0.2 12:20.99	SEAD-57 SS57-40 SOIL 574053 0 0.2 12/20:99	SEAD-57 SS57-41 SOIL 574054 0 0.2 12/20/99	SHAD-57 SS57-42 SOIL 574055 0 0.2 12 21/99	SEAD-57 SS57-43 SOIL 574056 0 0.2 12-21/99	SEAD-57 SS57-44 SOIL 574057 0 0.2 12.21/99	SEAD-57 SS57-45 SOIL 574059 0 0.2 12:21 99
		Maximum	Frequency of of	Criteria	Number of	Number of Times	Number of Samples	SA P1S1 RI	SA PISI RI	SA PISI RI	SA PISI RI	SA PISI RI	SA PISI RI	SA PISTRI	SA PISI RI	SA PISI RI	SA PISLRI	DU PISURI
Parameter	Units	Concentration	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)	Value (O)	Value (Q)	Value (O)	Value (O)						
Endosulfan I	UG/KG	5 2	1%	2400	0	1	119	2.4 U	2.2 U	2.4 U	2.3 U	2.4 U	2.4 U	2.3 U	2.1 U	2 3 U	2.2 U	Value (Q) 2.4 U
Endosulfan II	UG/KG	3.1	100	2400	0	1	119	4.6 U	4.2 U	4.7 U	4.4 U	4.6 U	4.7 11	4.5 U	4.1 U	4.4 U	4.3 U	4.6 U
Endosulfan sulfate Endon	UG/KG UG/KG	0	0° a	2400 14	0	0	119 119	4.6 U	4.2 U 4.2 U	4.7 U	4.4 U	46 U	4.7 U	4.5 U	4.1 U	4.4 [1	43 (1	46 U
Endrin aldehyde	UG/KG	3.8	1%	1→	0	1	119	4,6 U 4.6 U	4.2 U	4.7 U 4.7 U	4.4 U	4.6 U 4.6 U	4.7 U 4.7 U	4.5 U 4.5 U	4.1 U 4.1 U	4.4 U 4.4 U	4,3 U	4.6 U
Endrin ketone	UG'KG	4	10.0	0	0	i	119	4.6 U	4.2 U	4.7 U	4.4 U	4.6 U	4.7 U	4.5 U	4.1 U	4.4 U	4.3 U	46 U
Gamma-BHC 'Lindane	UG/KG	0	0%	100	0	0	119	2.4 U	2.2 U	2.4 U	2.3 U	2.4 U	2.4 U	2.3 U	2.1 U	2.3 U	2.2 U	2 4 1
Gamma-Chlordane	UG/KG	0	0%	0	0	0	119	2.4 U	2.2 U	2.4 U	2.3 U	2.4 U	2.4 U	2.3 U	2.1 U	2.3 U	2.2 LI	2.4 U
Heptachlor Heptachlor epoxide	UG-KG UG-KG	16	1% 1%	42 0	0		119 119	2.4 U 2.4 U	2.2 U 2.2 U	2.4 U 2.4 U	2,3 U 2,3 U	2.4 U	2.4 U	2.3 11	2.1 U	2.3 U	2.2 U	2.4 LT
Methoxychlor	UG-KG	0	0%	0	0	0	119	24 U	22 U	24 U	2.3 U	2,4 U 24 U	2.4 U 24 U	2.3 U 23 U	2.1 U 21 U	2.3 U 23 U	2.2 U 22 U	2.4 U 24 U
loxaphene	UG-KG	0	04.9	0	0	0	119	240 U	220 U	240 U	230 U	240 U	240 U	230 U	210 U	230 U	220 U	240 U
Herbicides																	220 0	210 (
2,4,5-T 2,4,5-TP Silvex	UG/KG UG/KG	0	0.0	0	0	0	18											
2,4.D	UG/KG	0	0% u	3800	0	0	18 18											
2,4-DB	UG/KG	0	0",	0	D	0	18											
Dalapon	UG/KG	0	Co o	0	0	0	18											
Dicamba	UG′KG	0	0° u	0	D	0	18											
Dichloroprop Dinoseb	UG KG UG/KG	0	00.0	0	0	0	18											
MCPA	UG.KG	0	Co.	0	0	0	18 18											
MCPP	UG-KG	0	0",	0	0	0	18											
Metals and Cyanide																		
Aluminum	MG-KG	22900	1000 0	0	0	119	119	13500	12100	16500	11800	15100	16100	13300	11800	11800	11300	13400
Antimony Arsenic	MG/KG MG/KG	6 5 17 8	49% 92%	0 13	0	58	119	0.59 UR	0.52 UR	0.61 J	0.59 UR	0.61 UR	0.51 J	0.57 UR	0.53 UR	0.53 UR	0.49 U	0.51 U
Banum	MG/KG	237	100%	350	0	110 119	119 119	4 5 187	4.3 108	4.9 168	2 J 83.5	4.1 202	3.7 141	2.5 J 91.9	3.2 106	5.1 200	4.8 115	2.8
Beryllium	MG/KG	1.8	100°6	7.2	0	119	119	1.2 J	0,93 J	1.5	0.7 J	1.5	1.1	0.79 J	0.84 J	1.4	0.88 J	132 0,79 J
Cadmium	MG KG	28 6	22° u	2.5	6	26	119	0.05 U	0.05 U	0.06 U	0.05 U	0,06 U	0.04 U	0.05 U	0.05 U	0.05 U	0.06 J	2.9
Calcium	MG KG	213000	100%	0	0	119	119	5050	2890	4820	2910	2900	3660	3430	2950	3450	2950	3230
Chromium Cobalt	MG/KG MG/KG	32 I 29 7	100%	30 0	2	119	119 119	18.9 J 12 J	16.3 J 11.5 J	21 J 15	16	20.1	20.4	18.2 J	15.4 3	16.2 J	15 2 J	16 7 J
Copper	MG/KG	2930	92°a	50	2	109	119	17	16.7	21.7	6.9 J 14.1	17.1 18.7	8.2 J 20.8	8.5 J 17.7	7.2 J 15.1	15.8 15.8	9 J 14.6	6.2 J 16.4
Cyanide	MG/KG	0	$\Omega^{\alpha}$	27	0	0	119	0.7 U	0.61 U	0.72 U	0.68 U	0.66 L <sup>1</sup>	0.71 U	0.66 U	0.61 U	0.65 U	0 63 U	0.62 U
Iron	MG/KG	39800	100° u	0	0	119	119	23800 J	23000 J	27300 J	20200	27200	24600	22800	19000	25000	19600	18800
Lead Magnesium	MG/KG MG/KG	1860 27600	100% 100%	63	2	119	119	20.1	18	21.7	18.4	18	12.5	22.1	12.8	17.6	13.3.3	25 5 J
Manganese	MG/KG	2580	100%	1600	0	119 119	119 119	3500 1220 J	3360 931 J	3780 1540 J	2760 335 J	3340 1990 J	3310 406 J	3150 359 J	2970 568 J	3420 2270	2910 728	3040 224 J
Mercury	MG/KG	0.15	75%	0.18	0	89	119	0.11 J	0.09	0.11	0.09 1	0.14 J	0.1 J	0.13	0.09 J	0.11 J	0.05 U	0.0° LU
Nickel	MG/KG	54 1	100°°	30	37	119	119	22.8 J	18.4 J	27.4 J	16.4 J	25.3 J	25.2 J	21 J	17.2 J	19.6 J	17.1	19 1
Potassium	MG KG	3250	100%	0	0	119	119	1400	1290	1830	1280 J	1480	1440	1370	1170 J	1190 J	1030 J	1110 J
Selenium Silver	MG KG MG KG	2 7	63% 38%	3.9	0	75 45	119 119	2.1 J	0.88 J	1.8 J	0.74 J	1.8 J	1.1 J	0.7 J	1.3 J	2.7 J	0.78 J	0.58 U
Sodium	MG′KG	270	3.4%	0	0	45	119	0.35 UJ 77 3 U	0.31 UJ 68.2 U	0.36 UJ 79.6 U	0.35 UJ 78.1 U	0.36 UJ 80.2 U	0.26 UJ 58.6 U	0.34 UJ 75 3 U	0.31 UJ 69.4 U	0.32 UJ 70.2 U	0.5 J 99.1 J	0.45 J 90.7 J
Phallium	MG KG	6.7	82°6	0	0	98	119	3.9	3.6	5.4	2.1 J	5.7	2.5	1.8 3	2.2 J	6.6	4	16.1
Vanadium	MG KG	104	990	0	0	118	119	24.3	25.2	30.6	21.6	27.2	26.2	23.4	22.1	25.8	22.2	21.9
Zinc Other Analyses	MG KG	1250	93°°	109	11	111	119	71 4 J	53.1 J	75.4 J	57.7 3	79 I J	68.5 J	69.1 J	50.1 3	51.7 J	49.9	57.8
Cation exchange capacity	MEQ/100G	31.4	100%	0	0	3.2	32											
Nitrate/Nitrite Nitrogen Percent Solids	MG-KG ", WW	4.1	98° <sub>0</sub>	0	0	99 101	101	0.78 J 70.5	0.72 J 77.8	0.37 J	0.46 J	0.26 J	0.41 J	0.45 J	0.01 U	0.1 J	0.04	0.42
Soil pH (std. units)	pH units	7.83	100%	0	0	33	33	70.5	77,8	69.8	74	72.1	70	73.1	78,6	74.2	77.2	31.8
Total Organic Carbon	MG.KG	70500	100"	0	0	32	32											

Notes
(1) Onterna based on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives, http://www.dec.state.ny.us/website/regs-subpart375\_6.html
(2) Sample-duplicate pairs were treated as discreet samples.

<sup>(3)</sup> A bolded and outlined cell indicates a concentration that exceeded the criteria

U – compound was not detected J – the reported value is an estimated concentration UJ – the compound was not detected, the associated reporting limit is approximate

R - the analytical result was rejected during data validation

TABLE 1 SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

		Maximum	Frequency of of	Criteria	Number of	Number of Times	Number of Samples	SEAD-57 SS57-45 SOIL 574058 0 0.2 12/21/99 SA PISI RI	SEAD-57 SS57-46 SOIL 574060 0 0.2 12/21/99 SA P1S1 R1	SEAD-57 SS57-47 SOIL 574061 0 0.2 12/21/99 SA P1S1 R1	SEAD-57 SS57-48 SOIL 574062 0 0.2 12/21/99 SA P1S1 RI	SEAD-57 SS57-49 SOIL 574063 0 0.2 12/21/99 SA P1S1 RI	SEAD-57 SS57-5 SOIL SS57-5-1 0 0.2 10/26/93 SA P1S1 R1	SEAD-57 SS57-5 SOIL SS57-5-2 0 0.2 12/08/93 SA P1S1 RI	SEAD-57 SS57-50 SOIL 574064 0 0.2 12/21/99 SA PISI RI	SEAD-57 SS57-51 SOIL 574065 0 0.2 12/21/99 SA P1S1 RI	SEAD-57 SS57-52 SOIL 574066 0 0.2 12/21/99 SA P1S1 RI	SEAD-57 SS57-53 SOIL 574067 0 0.2 12/21/99 SA PISI RI
Parameter Volatile Organic Compounds	Units	Concentration	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
1,1,1-Trichloroethane 1,1,2,2-Tetruchloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethene 1,2-Dichloroethene 1,2-Dichloroethene 1,2-Dichloroethene 1,2-Dichloroethene 1,2-Dichloroethene 1,2-Dichloroethene 1,2-Dichloroethene 1,2-Dichloroethene 1,2-Dichloroethene 1,2-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroform 1,3-1,3-Dichloropropene 1,3-1,3-Dichloropropene 1,3-1,3-Dichloroethane 1,3-Dichloroethane 1,3-Dic	UG/KG UG/KG	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0	680 0 0 270 330 20 190 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	127 127 127 127 127 127 127 127 127 127	12 U 12 U 12 U 12 U 12 U 12 U 12 U 12 U	13 U 13 U 13 U 13 U 13 U 13 U 13 U 13 U	11 U 11 U 11 U 11 U 11 U 11 U 11 U 11	12 U 12 U 12 U 12 U 12 U 12 U 12 U 12 U	13 U 13 U 13 U 13 U 13 U 13 U 13 U 13 U	14 U 14 U 14 U 14 U 14 U 14 U 14 U 14 U	15 U 15 U 15 U 15 U 15 U 15 U 15 U 15 U	14 U 14 U 14 U 14 U 14 U 14 U 14 U 14 U	16 U 16 U 16 U 16 U 16 U 16 U 16 U 16 U	14 U 14 U 14 U 14 U 14 U 14 U 14 U 14 U	15 U 15 U 15 U 15 U 15 U 15 U 15 U 15 U
Methyl isobutyl ketone Methylene chioride Styrene Tetrachloroethene Toluene Torat Xylenes Trans-1,3-Dichloropropene Trichloroethene Vinyl chloride	UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG	0 1 0 6 33 2 0 0	0% 2% 0% 6% 65% 2% 0% 0%	0 50 0 1300 700 260 0 470 20	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 2 0 7 82 3 0 0	127 127 127 127 127 127 127 127 127 127	12 U 12 U 12 U 12 U 12 U 12 U 12 U 12 U	13 U 13 U 13 U 13 U 13 U 13 U 13 U 13 U	11 U 11 U 11 U 11 U 11 U 5 J 11 U 11 U 11 U	12 U 12 U 12 U 12 U 6 J 12 U 12 U 12 U	13 U 13 U 13 U 13 U 7 J 13 U 13 U 13 U 13 U	14 U 14 U 14 U 2 J 14 U 14 U 14 U 14 U 14 U 14 U 14 U	15 U 15 U 15 U 15 U 15 U 15 U 15 U 15 U	14 U 14 U 14 U 14 U 13 J 14 U 14 U 14 U	16 U 16 U 16 U 16 U 7 J 16 U 16 U 16 U 16 U 16 U 16 U	14 U 14 U 14 U 14 U 23 14 U 14 U 14 U 14 U 14 U	15 U 15 U 15 U 15 U 29 15 U 15 U 15 U 15 U
Semivolatile Organic Compount 1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene	UG/KG UG/KG UG/KG UG/KG	0 0 0	0% 0% 0% 0%	0 1100 2400 1800	0 0 0	0 0 0	119 119 119 119	90 UJ 90 UJ 90 UJ	86 U 86 U 86 U	82 U 82 U 82 U 82 U	92 U 92 U 92 U 92 U	90 U 90 U 90 U 90 U	470 U 470 U 470 U 470 U		94 U 94 U 94 U 94 U	100 U 100 U 100 U 100 U	96 U 96 U 96 U 96 U	100 U 100 U 100 U 100 U
2,2'coxybis(1-Chloropropane) 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dichlorophenol 2,4-Dichlorophenol 2,4-Dinitrotoluene 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2,6-Dinitrotoluene 2-Chlorophenol 2-Methylnaphthalene 2-Chlorophenol 2-Methylphenol 2-Methylphenol 2-Nitrosaniline 3,3''Dichlorobenzidine 3,3''Dichlorobenzidine 3,3''Dichlorobenzidine 4-Dinitro-2-methylphenol 4-Bromophenyl phenyl ether 4-Chlorosaniline 4-Chlorophenyl phenyl ether 4-Chlorophenyl phenyl ether 4-Chlorophenyl phenyl ether 4-Chlorophenyl phenyl ether 4-Methylphenol 4-Nitrophenol 4-Nitrophenol 4-Nitrophenol Acenaphthylene	UGIKG UGIKG	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	18 119 119 119 119 119 119 119 119 119 1	220 UJ 90 UJ	210 U 86 U 86 U 210 U 86 U 86 U 86 U 86 U 86 U 86 U 86 U 210 U 86 U 86 U 86 U 210 U 86 U 210 U 86 U 86 U 210 U 86 U 86 U 86 U 86 U 86 U 86 U 86 U 86	200 U 82 U 82 U 82 U 82 U 82 U 82 U 82 U 82	220 U 92 U 92 U 92 U 92 U 92 U 92 U 92 U 92	220 U 90 U 90 U 90 U 90 U 90 U 90 U 90 U 9	470 U 470 U		230 U 94 U 94 U 94 U 94 U 94 U 94 U 94 U 94	250 U 100 U	230 U 96 U 96 U 96 U 96 U 96 U 96 U 96 U 96 U 96 U 96 U 96 U 96 U 96 U 96 U 96 U 230 U 96 U 96 U 230 U 96 U 230 U 96 U 230 U 96 U 230 U 96 U 230 U 96 U	240 U 100 U 100 U 100 U 240 UR 100 U 100 U 100 U 100 U 100 U 100 U 100 U 100 U 100 U 100 U 100 U 100 U 240 U 100 U 100 U 244 U 100 U 100 U 100 U 100 U 100 U 100 U 100 U 100 U 100 U 100 U 100 U 100 U 100 U 100 U 100 U 100 U

TABLE 1 SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

								SEAD-57 SS\$7-45 SOIL	SEAD-57 SS57-46 SOIL	SEAD-57 SS57-47 SOIL	SEAD-57 SS57-48 SOIL	SEAD-57 \$\$57-49	SEAD-57 SS57-5	SEAD-57 SS57-5	SEAD-57 SS57-50	Shad-57 SS57-51	SEAD-57 SS57-52	SEAD-57 SS57-53
								574058	574060	574061	574062	SOIL 574063	SOIL SS57-5-1	SOIL SS57-5-2	SOIL 574064	SOIL 574065	SOIL 574066	SOIL 574067
								0.2	0.2	0.2	0	0.2	0.2	0.2	0	0	0	0
								12/21:99	12/21/99	12/21/99	12:21:99	12/21/99	10-26-93	12/08/93	0.2	0.2	0.2	0.2 12:21 99
			V		B1	N		SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
		Maximum	Frequency of of	Criteria	Number	Number of Times	Number of Samples	PISI RI	PISTRI	PIS1 RI	PISIRI	PISI RI	P1S1 R1	PISI RI	PISI RI	PISI RI	PISI RI	PISTRI
Parameter	Units	Concentration	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Anthracene Benzo(alanthracene	UG/KG UG/KG	8.2	3% 21%	100000	0	3	119	90 UJ	86 U	82 U	92 U	90 U	470 U		94 U	100 U	96 U	100 LF
Benzo(a)pyrene	UG/KG	62 76	17%	1000	0	25 20	119 119	90 UJ	86 U 86 U	82 U 82 U	92 U 4.6 J	90 U 90 U	470 U 470 U		94 U 4,8 J	100 U	96 U	5 J
Benzo(b)fluoranthene	UG/KG	67	24%	1000	0	29	119	90 UJ	86 U	82 U	92 U	5.4 J	470 U		4.6 3	100 U	6.9 J	8 J 8 4 J
Benzo(ghi)perylene Benzo(k)fluoranthene	UG/KG UG/KG	54 50	13% 24%	100000	0	15	119	90 UJ	86 U	82 U	92 U	90 U	470 U		94 U	100 U	96 11	100 U
Bis(2-Chloroethoxy)methane	UG/KG	0	0%	800	0	29	119	90 UJ	86 UJ 86 U	82 UJ 82 U	92 UJ 92 U	5.4 J 90 U	470 U 470 U		5.7 J 94 U	100 U 100 U	8 5 J	7.2 J 100 H
Bis(2-C'hloroethyl)ether	UG:KG	0	000	G	0	0	119	90 UJ	86 U	82 U	92 U	90 U	470 U		94 U	100 U	96 U	100 U
Bis(2-Chloroisopropyl)ether Bis(2-hthylhexyl)phthalate	UG/KG UG/KG	0 3400	0% 15%	0	0	0	101	90 UJ	86 U	82 U	92 U	90 U			94 LI	100 U	96 U	100 U
Butylbenzylphthalate	UG-KG	0	000	0	0	18	119	90 UJ	86 UJ 86 UJ	82 UJ 82 UJ	92 UJ 92 UJ	90 UJ 90 UJ	580 U 470 U		94 (IJ	100 UJ	96 UJ 96 UJ	100 UJ 100 UJ
Carbazole	UG. KG	0	O.e.	0	0	0	119	90 UJ	86 UJ	82 UJ	92 UJ	90 UJ	470 U		94 UJ	100 U	96 U	100 U
Chrysene Di-n-butylphthalate	UG KG	110 390	33% 34%	1000	0	39	119	90 UJ	86 U	82 U	4.8 J	4.8 J	470 U		5.3 J	100 U	8.3 J	921
Di-n-octylphthalate	UG/KG	2.6	100	0	0	40	119	90 UJ	86 U 86 U	82 U 82 U	92 U 92 U	90 U 90 U	470 U 470 U		94 U 94 U	100 U	96 U	100 U
Dibenz(a,h)anthracene	UG/KG	24	6%	330	0	7	119	90 UJ	86 U	82 U	92 U	90 U	470 U		84 F	100 U	96 U	2.6.J 100.U
Dibenzoluran Diethyl phihalate	UG KG UG KG	0 8.8	G° u	7000	0	0	119	90 UJ	86 U	82 U	92 U	90 U	470 U		94 U	100 U	96 1	100 U
Dimethylphthalate	UG.KG	0.0	2% 0%	0	0	2	119	1U 09	86 UJ 86 U	82 UJ 82 U	92 UJ 92 U	90 UJ	470 U 470 U		94 UJ 94 U	100 U	96 U	100 U
Fluoranthene	UG/KG	150	50%	100000	0	60	119	90 UJ	86 UJ	82 UJ	8.6 J	77 J	470 U		9.2 J	9.2 J	12 J	14 3
Fluorene Hexachlorobenzene	UG/KG	120	2%	30000	0	2	119	90 UJ	86 U	82 U	92 U	90 U	470 U		94 U	100 L)	96 U	100 €
Hexachlorobutadiene	UG/KG UG/KG	0	0° o	330	0	0	119 119	90 UJ	86 U	82 U 82 U	92 U 92 U	90 U 90 U	470 U 470 U		94 U 94 U	100 U 100 U	96 U	100 U
Hexachlorocyclopentadiene	UG/KG	0	G <sub>G</sub> , a	Ö	0	0	119	90 LIJ	86 UJ	82 UJ	92 UJ	90 UJ	470 U		94 UJ	U 001	96 UJ	100 U 100 UJ
Hexachloroethane Indeno(1,2,3-cd)pyrene	UG/KG	0 37	00.0	0	0	0	119	90 UJ	86 U	82 U	92 U	90 U	470 U		94 17	100 U	96 L1	100 U
Isophorone	UG KG UG/KG	0	0° o	500 0	0	15	119 119	90 (1) 10 (9	86 U 86 U	82 U 82 U	92 U 92 U	90 U 90 U	470 U 470 U		94 U 94 U	100 U 100 U	96 U	100 U
N-Nitrosodiphenylamine	UG'KG	75	29.0	0	0	2	119	90 UJ	86 U	82 U	92 LI	90 U	470 U		94 U	100 U	96 U	100 U
N-Nitrosodipropylamine Naphthalene	UG/KG UG/KG	0	0%	0	0	0	119	90 UJ	86 U	82 U	92 U	90 U	470 U		94 U	100 UJ	96 UJ	100 UJ
Nitrobenzene	UG/KG	180	1°0	12000	0	0	119 119	90 UJ	86 U 86 U	82 U 82 U	92 U 92 U	90 U	470 U 470 U		94 U 94 U	100 U	96 L!	100 U
Pentachlorophenol	UG/KG	0	Co. n	800	0	0	119	220 UJ	210 U	200 U	220 U	220 U	1100 U		230 U	250 UJ	230 UJ	240 LU
Phenanthrene Phenol	UG/KG UG/KG	230 51	37% 13%	100000	0	44 16	119	90 UJ 4.3 J	86 U	82 U	4.8 J	4.7 J	470 U		473	5.5 J	7.2 J	7.8 )
Pyrene	UG/KG	230	52%	100000	3	62	119	4.3 J 90 UJ	86 U 86 U	82 U 82 U	92 U 5.4 J	90 U 6.5 J	470 U 470 U		94 U 66 J	100 U 7.6 J	96 U 10 J	100 U
Explosives											2.4 9	0.5	470 (7		002	7.0 3	10 )	10 3
1,3,5-Trinitrobenzene 1,3-Dinitrobenzene	UG-KG UG-KG	0	0° °	0	0	0	119 119	120 UJ 120 UJ	120 U 120 U	120 U 120 U	120 U	120 U	130 U		120 U	120 U	120 U	120 U
2,4,6-Transtrotoluene	UG-KG	0	0%	0	0	0	119	120 UJ	120 U	120 U	120 U 120 U	120 U 120 U	130 U 130 U		120 U	120 U 120 U	120 U 120 U	120 U
2,4-Dinitrotoluene	UG KG	0	Oo ii	0	0	0	119	120 UJ	120 U	120 U	120 U	120 U	130 U		120 U	120 U	120 U	120 U
2,6-Dinitrotoluene 2-Nitrotoluene	UG:KG UG:KG	0	0% 0%	0	0	0	119	120 UJ 120 UJ	120 U 120 U	120 U 120 U	120 U 120 U	120 U	130 U		120 U	120 U	120 U	120 U
2-amino-4,6-Dinitrotoluene	UG:KG	0	0".	0	0	0	119	120 UJ	120 U	120 U	120 U	120 U	130 U		120 U 120 U	120 U 120 U	120 U	120 U
3-Nitrotoluene	UG KG	0	Oo a	0	0	0	101	120 UJ	120 U	120 U	120 U	120 U	(, (.		120 U	120 U	120 U	120 U
4-Nitrotoluene 4-amino-2,6-Dinitrotoluene	UG:KG UG:KG	0	0°°	0	0	0	101	120 UJ 120 UJ	120 U 120 U	120 U 120 U	120 U 120 U	120 U 120 U	130 11		120 U	120 U	120 U	120 U
HMX	UG KG	0	0%	0	Ö	0	119	120 UJ	120 U	120 U	120 U	120 U	130 U		120 U 120 U	120 U	120 U	120 U
Nitrobenzene	UG/KG	0	000	()	0	0	101	120 UJ	120 U	120 U	120 U	120 U			120 U	120 U	120 U	120 U
RDX Tetryl	UG/KG UG/KG	0	000	0	0	0	119 119	120 UJ 120 UJ	120 U 120 U	120 U 120 U	120 U 120 U	120 U	130 U 130 U		120 U	120 U	120 U	120 (1
Pesticides and PCBs	0010	V	(770	· ·	O	V	117	120 07	120 0	120 0	120 G	120 0	130 U		120 U	120 U	120 (1	120 U
4,4'-DDD	UG'KG	54	7%, u	3 3	5	8	119	4.5 U	43 U	4.1 U	4.6 U	4.5 U	4.7 U		4.7 U	5.1 U	13 8 4	5 U
4,41-DDE 4,41-DDT	UG KG UG KG	32 23	8% 5%	3 3	7 5	9	119 119	4.5 U 4.5 U	4.3 U 4.3 U	4.1 U 4.1 U	4.6 U 4.6 U	4.5 U 4.5 U	4.7 U 4.7 U		4.7 U 4.7 U	5 1 U 5.1 U	4 8 U	5 U
Aldrin	UG KG	0	000	5	0	0	119	2.3 U	2.2 U	2.1 U	2.4 U	2.3 U	4.7 U		4.7 U	2.6 U	2.5 U	5 U 2 6 U
Alpha-BHC	UG KG	1.4	2%	20	0	2	119	2 3 U	2.2 U	2.1 U	2.4 U	2.3 U	2.4 U		2.4 U	2 6 U	2.5 U	2.6 U
Alpha Chiordane Aroclor-1016	UG KG UG KG	16	6°.0	100	0	7	119	2.3 U 45 U	2.2 U 43 U	2.1 U 41 U	2.4 U 46 U	2.3 U 45 U	2.4 U 47 U		2.4 U 47 U	2.6 U	2.5 U 48 U	2.6 U 50 U
Aroclor-1221	UG/KG	0	0.0	100	0	0	119	U 19	43 U	83 U	93 U	45 U	47 U		47 U	51 U 100 U	48 U 97 U	50 U
Aroclor-1232	UG KG	0	0%	100	0	0	119	45 U	43 U	41 U	46 U	45 U	47 U		47 U	51 U	48 U	50 U
Aroclor-1242 Aroclor-1248	UG KG UG KG	0	0° o	100	0	0	119 119	45 U 45 U	43 U 43 U	41 U	46 U	45 U	47 U		47 U	51 U	48 U	50 U
Aroclor-1254	UG KG	0	0%	100	0	0	119	45 U	43 U	41 U	46 U	45 U 45 U	47 U 47 U		47 U	51 U 51 U	48 U 48 U	50 U
Aroclor-1260	UG KG	27	2" 0	100	0	2	119	45 U	43 U	41 U	46 U	45 U	27 J		47 LI	51 U	48 U	50 U
Beta-BHC Delta-BHC	UG KG UG KG	4.5 0	1° o 0° a	36 40	0	1	119	2.3 U 2.3 U	2.2 U	2.1 U	2.4 U	2.3 U	2.4 U		2.4 U	2.6 U	2.5 U	2.6 U
Dieldrin	UG/KG	27	6° n	5	5	7	119 119	4.5 U	2.2 U 4.3 U	2.1 U 4.1 U	2.4 U 4.6 U	2.3 U 4.5 U	2.4 U 4.7 U		2.4 U 4.7 U	2.6 U 5 1 U	2.5 U 4.8 U	26 U
															***	0.0	311.57	2. 47

TABLE 1 SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

SEAD-57 SEAD-57 SEAD-57 SEAD-57 SEAD-57 SEAD-57

SEAD-57 SEAD-57

SEAD-57

								SS57-45	SS57-46	SS57-47	SS57-48	SS57-49	SS57-5	SS57-5	SS57-50	SS57-51	SS57-52	SS57-53
								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
								574058	574060	574061	574062	574063	SS57-5-1	SS57-5-2	574064	574065	574066	574067
								0	0	0	0	0	0	0	0	0	0	0
								0.2	0.2	0.2	0.2	0.2	0.2	0.2	0,2	0.2	0.2	0.2
								12/21/99	12/21/99	12/21/99	12/21/99	12/21/99	10/26/93	12/08/93	12/21/99	12/21/99	12/21/99	12/21/99
								SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
			Frequency of		Number	Number	Number	P1S1 R1	PISI RI	PIS! RI	PISI RI	PISI RI	PISI RI	PISI RI	PISI RI	PISI RI	P1S1 R1	P1S1 R1
		Maximum	of	Criteria	of	of Times	of Samples											
Parameter	Units	Concentration	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (O)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)				
Endosulfan I	UG/KG	5.2	1%	2400	0	1	119	2.3 U	2.2 U	2.1 U	2.4 U	2.3 U	2.4 U		2.4 U	2.6 U	2.5 U	2.6 U
Endusulfan II	UG/KG	3.1	1%	2400	0	1	119	4.5 U	4.3 U	4.1 U	4.6 U	4.5 U	4.7 U		4.7 U	5.1 U	4.8 U	5 U
Endosulfan sulfate	UG/KG	0	0%	2400	0	0	119	4.5 U	4.3 U	4.1 U	4.6 U	4.5 U	4.7 U		4.7 U	5.1 U	4.8 U	5 U
Endrin	UG/KG	0	0%	14	0	0	119	4.5 U	4.3 U	4.1 U	4.6 U	4.5 U	4.7 U		4.7 U	5.1 U	4.8 U	5 U
Endrin aldehyde	UG/KG	3.8	1%	0	0	1	119	4.5 U	4.3 U	4.1 U	4.6 U	4.5 U	4.7 U		4.7 U	5.1 U	4.8 U	5 U
Endrin ketone	UG/KG	4	1%	0	0	1	119	4.5 U	4.3 U	4.1 U	4.6 U	4.5 U	4.7 U		4.7 U	5.1 U	4.8 U	5 U
Gamma-BHC/Lindane	UG/KG	0	0%	100	0	0	119	2.3 U	2.2 U	2.1 U	2.4 U	2.3 U	2.4 U		2.4 U	2.6 U	2.5 U	2.6 U
Gamma-Chlordane	UG/KG	0	0%	0	0	0	119	2.3 U	2.2 U	2.1 U	2.4 U	2.3 U	2.4 U		2.4 U	2.6 U	2.5 U	2.6 U
Heptachlor	UG/KG UG/KG	1.6	1%	42	0	1	119	2.3 U	2.2 U	2,1 U	2.4 U	2.3 U	2.4 U		2.4 U	2.6 U	2.5 U	2.6 U
Heptachlor epoxide Methoxychlor	UG/KG UG/KG	0	1% 0%	0	0	1	119	2.3 U	2.2 U	2.1 U	2.4 U	2.3 U	2.4 U		2.4 U	2.6 U	2.5 U	2.6 U
Toxaphene	UG/KG	0	0%	0	0	0	119 119	23 U	22 U	21 U	24 U	23 U	24 U		24 U	26 U	25 U	26 U
Herbicides	UU/KU	U	070	U	U	U	119	230 U	220 U	210 U	240 U	230 U	240 U 7.2 U		240 U	260 U	250 U	260 U
2,4,5-T	UG/KG	0	0%	0	0	0	18						7.2 U					
2,4,5-TP/Silvex	UG/KG	0	0%	3800	0	0	18						7.2 U					
2,4-D	UG/KG	0	0%	0	0	0	18						72 U					
2,4-DB	UG/KG	0	0%	0	0	0	18						180 U					
Dalapon	UG/KG	0	0%	0	0	0	18						7.2 U					
Dicamba	UG/KG	0	0%	0	0	0	18						72 U					
Dichloroprop	UG/KG	0	0%	0	0	0	18						36 U					
Dinoseb	UG/KG	D	0%	0	0	0	18						7200 U					
MCPA	UG/KG	O	0%	0	0	0	18						7200 U					
MCPP	UG/KG	0	0%	0	0	0	18											
Metals and Cyanide																		
Aluminum	MG/KG	22900	100%	0	0	119	119	14900	13100	10600	13200	14200	14000		14100	14200	12600	12600
Antimony	MG/KG	6.5	49%	0	0	58	119	0.57 UR	0.53 J	0.4 U	0.58 J	0.53 U	11.1 UJ		0.44 U	0.57 U	0.63 J	0.47 U
Arsenic Barium	MG/KG	17.8	92%	13	1	110	119	2.2 J	3.6	3.5	4	5	3.9 UR		4.8	6.6 J	4.5 J	4.2 }
Beryllium	MG/KG MG/KG	237 1.8	100% 100%	350 7.2	0	119	119 119	131 0.86 J	107 0.81 J	92.9 0.67 J	117	130 1 J	110		119	164	115	110
Cadmium	MG/KG	28.6	22%	2.5	6	26	119	0.05 U	0.04 U	0.04 U	0.81 J 0.96 J	0.05 U	0.68 J 0.69 U		0.92 J 0.04 U	1.4 0.05 U	0.84 J 0.49 J	0.87 J 2.2
Calcium	MG/KG	213000	100%	0	0	119	119	3660	3260	2790	3740	3170	4440		3420	5030	3800	4370
Chromium	MG/KG	32.1	100%	30	2	119	119	18.2 J	15.9 J	13.6 J	17.2 3	18,2 J	17.8		17.9 J	21.9 J	17.9 J	18.7 J
Cobalt	MG/KG	29.7	100%	0	0	119	119	6.3 J	6.3 J	6.5 J	7 J	9.4 J	5.9 J		7.7 3	19.2	8.3 J	8.8 J
Copper	MG/KG	2930	92%	50	2	109	119	15.9	14	16.2	19.2	18.1	19.8		18.6	27.8	22.5	24,9
Cyanide	MG/KG	0	0%	27	0	0	119	0.62 U	0.66 U	0.59 U	0.69 U	0.69 U	0.78 U		0.64 U	0.77 U	0.7 U	0.74 U
Iron	MG/KG	39800	100%	0	0	119	119	24600	18800	16900	19800	24100	18900		22700	30800	20000	22000
Lead	MG/KG	1860	100%	63	2	119	119	13.1	12.2 J	9.8 J	23.3 J	17.7 J	26.3		19.2 J	24.8 J	21.5 J	33 J
Magnesium	MG/KG	27600	100%	0	0	119	119	3670	3040	2450	3200	2930	3220		3290	3650	2960	3760
Manganese	MG/KG	2580	100%	1600	5	119	119	245 J	335	352	298	710	297		404	1670	392	487
Mercury	MG/KG	0.15	75%	0.18	0	89	119	0.12	0.07 U	0.06 U	0.07 J	0.07 U	0.08 J		0.06 U	0.07 U	0.07 U	0.07 J
Nicke! Potassium	MG/KG	54.1	100%	30 0	37 0	119	119	26.3 J	16.9	16.1	19.2	19.2	17.9		18.7	26.3	21.9	27.2
Selenium	MG/KG MG/KG	3250 2.7	100% 63%	3.9	0	119 75	119 119	1220 J	1070	887 J	1300	1210	1660		1220	1530	1460	1430
Silver	MG/KG MG/KG	1.7	38%	2	0	75 45	119	1.7 J 0.33 UJ	0.56 U	0.47 U 0.27 J	0.72 J	0.58 U	0.41 J		0.58 U	0.64 U	0.71 J	0.69 J
Sodium	MG/KG	270	34%	0	0	43	119	74.3 U	0.29 J 60.1 U	0.27 J 116 J	0.47 J 99.9 J	0.49 J 86.8 J	1.4 UJ 68.6 J		0.42 J 105 J	0.81 J	0.76 J	0.69 J
Thallium	MG/KG	6.7	82%	0	0	98	119	1.7 J	2.2	1.7 J	1.9 J	3.7	0.34 U		2.5	143 J 6.7	87.1 J 2.5 J	100 J 3.3
Vanadium	MG/KG	104	99%	0	g g	118	119	24	20.8	19.6	23.3	26.3	24.5		2.5	28.8	23.2	23.1
Zinc	MG/KG	1250	93%	109	11	111	119	56.4 J	62.4	42.8	66.8	63.9	81.5 UR		62	96	83.5	91.4
Other Analyses								20.7 2	U., T	74.0	00,0	03.7	01.5 UK		02	20	0.50	71.4
Cation exchange capacity	MEQ/100G	31.4	100%	0	0	32	32											
Nitrate/Nitrite Nitrogen	MG/KG	4.4	98%	0	0	99	101	0.23 J	0.48	0.17	1.1	0.54			1.9	1	0.62	0.42
Percent Solids	% WW	94	100%	0	0	101	101	73.4	75.7	80.4	72.2	72.7			70	65.2	68.9	65.9
Soil pH (std. units)	pH units	7.83	100%	0	0	33	33											
Total Organic Carbon	MG/KG	70500	100%	0	0	32	32											

- (1) Criteria based on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives, http://www.dec.state.ny.us/website/regs/subpari375\_6.litml
  (2) Sample-duplicate pairs were treated as discreet samples.
- (3) A bolded and outlined cell indicates a concentration that exceeded the criteria.

- $\label{eq:U-compound} Was not detected \\ J- the reported value is an estimated concentration \\ UJ- the compound was not detected; the associated reporting limit is approximate \\ R- the analytical result was rejected during data validation.$

TABLE I SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

		Maximum	Frequency of of	Criteria	Number of	Number of Times	Number of Samples	SEAD-57 SS57-6 SOIL SS57-6-1 0 0.2 10:26/93 SA P1S1 R1	SEAD-57 SS57-6 SOIL SS57-6-2 0 0.2 12/08/93 SA P1S1 R1	SEAD-57 SS57-7 SOIL SS57-7-1 0 0.2 10/26/93 SA PISI RI	SEAD-57 SS57-7 SOIL SS57-7-2 0 0.2 12:08:93 SA PIST RI	SEAD-57 SS57-8 SOIL SS57-8-1 0 0.2 10.26-93 SA PISI RI	SEAD-57 SS57-8 SOIL SS57-8-2 0 0.2 12/08-93 SA P1S1 RI	SEAD-57 SS57-9 SOIL SS57-9-1 0 0.2 10 26-93 SA PIST RI	SEAD-57 SS57-9 SOIL SS57-9-2 0 0.2 12:08:93 SA PIST RI	SEAD-57 TP57-1 SOIL TP57-1 3 3 11-08-93 SA PIST RI	SEAD-57 TP57-10 SOIL TP57-10 3 3 3-4305 SA PISI RI	SEAD-57 TP57-11 SOIL TP57-11 3 3 14281 SA P1S1 RI
Parameter Volatile Organic Compounds	Units	Concentration	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)  lue (Q)	Value (Q)									
1,1,1-Trichloroethane	UG KG	0	0%	680	0	0	127	13 U	14 U	11 U	11 U	II U	12 U	H U	11 U	13 U	12 U	11 U
1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane	UG/KG UG/KG	0	0° u 0%	0	0	0	127 127	13 U 13 U	14 U 14 U	11 U	11 U	11 U 11 U	12 U 12 U	11 U 11 U	11 U 11 U	13 U	12 U	11 U
1,1-Dichloroethane	UG/KG	0	000	270	0	0	127	13 U	14 U	11 U	11 Ü	11 U	12 U	11 U	11 U	13 U	12 U	11 U
1,1-Dichloroethene 1,2-Dichloroethane	UG/KG UG/KG	0	0° o	330 20	0	0	127	13 U	14 U	11 U	11 U	11 U	12 U	11 U	11 U	13 U	12 U	II U
1,2-Dichloroethene (total)	UG/KG	0	0° u	190	0	0	127 127	13 U 13 U	14 U 14 U	11 U 11 U	11 U 11 U	11 U	12 U 12 U	11 U	11 U 11 U	13 U 13 U	12 U 12 U	11 U
1,2-Dichloropropane	UG KG	0	0°°	0	0	0	127	13 U	14 U	11 U	11 U	11 U	12 U	11 U	11 U	13 U	12 U	11 U
Acetone	UG/KG	700	74%	50	87	94	127	13 U	14 U	11 U	11 U	11 U	12 U	II U	H U	13 U	4 J	11 U
Benzene Bromodichloromethane	UG·KG UG·KG	D D	2° u 0° o	60 D	0	2	127 127	13 U 13 U	14 U 14 U	11 U	11 U	11 U 11 U	12 U 12 U	11 U	11 U	13 U 13 U	12 U	11.0
Bromoform	UG/KG	0	0%	0	0	0	127	13 U	14 U	11 U	11 U	11 U	12 U	11 U	11 U	13 U	12 U	11 U
Carbon disulfide	UG KG	22	11° o	0	0	14	127	13 U	14 U	11 U	11 U	11 U	12 U	H U	11 U	13 U	12 U	11 U
Carbon tetrachloride Chlorobenzene	UG/KG UG'KG	0	0° u	760 1100	0	0	127 127	13 U 13 U	14 U 14 U	11 U	11 U	11 U	12 U	11 U	11 U	13 U	12 U	11 U
Chlorodibromomethane	UG/KG	0	0%	0	0	0	127	13 U	14 U	11 U	11 U	11 U 11 U	12 U 12 U	11 U 11 U	11 U	13 U 13 U	12 U 12 U	11 U
Chloroethane	UG/KG	0	Oa 9	0	0	0	127	13 U	14 U	11.0	11 U	11 U	12 U	11 U	11 U	13 U	12 U	11 U
Chloroform Cis-1,3-Dichloropropene	UG-KG UG-KG	7	1°°0 0°°0	370 0	0	1	127	13 U	14 U	11 U	11 U	11 U	12 U	11 U	11 U	13 U	12 U	11 U
Ethyl benzene	UG KG	0	0.0	1000	0	0	127 127	13 U 13 U	14 U	11 U	11 U	11 U	12 U 12 U	11 U 11 U	11 U 11 U	13 U 13 U	12 U 12 U	11 U
Methyl brumide	UG.KG	0	Do o	0	0	0	127	13 U	14 U	11 U	11 U	11 U	12 U	11 U	11 U	13 U	12 U	11 U
Methyl butyl ketone	UG <sub>'</sub> KG	0	O° 0	0	0	()	127	13 U	14 U	11 U	11 U	II U	12 U	11 U	11 U	13 U	12 U	11 U
Methyl chlonde Methyl ethyl ketone	UG/KG UG/KG	0 64	0°, 62°,	0	0	0 79	127	13 U 13 U	14 U	11 U	11 U	11 U	12 U	11 U	11 U	13 U	12 U	11 U
Methyl isobutyl ketone	UG·KG	0	0%	120 0	0	0	127 127	13 U	14 U	11 U 11 U	11 U	11 U	12 U 12 U	11 U 11 U	11 U	13 U	12 U 12 U	11 U
Methylene chloride	UG/KG	1	2° a	50	0	2	127	13 U	14 U	11 U	11 U	11 U	12 U	12 U	11 0	13 U	12 U	11 U
Styrene	UG/KG	0	0.0	0	0	G	127	13 U	14 U	11 U	11 U	11 U	12 U	11.17	11 U	13 U	12 U	HΨ
Tetrachloroethene Toluene	UG/KG UG/KG	5 33	6% 65%	1300 700	0	7 82	127 127	1 J 13 U	14 U 14 U	11 U 11 U	11 U	6 J 11 U	12 U	1.1	11 0	13 U	12 U	11 U
Iotal Xylenes	UG-KG	2	2%	260	0	3	127	13 U	14 U	11 U	11 U 11 U	11 U	12 U 12 U	11 U	11 U	13 U 13 U	12 U 12 U	11 U
Frans-1,3-Dichloropropene	UG KG	0	O° o	0	0	0	127	13 U	14 U	11 U	11 U	11 U	12 U	11 U	11 U	13 U	12 U	11 U
Trichloroethene Vinyl chloride	UG/KG UG/KG	0	0° o	470	0	0	127	13 U	14 U	11 U	11 U	11 U	12 U	11 U	11 U	13 U	12 U	11.11
Semivolatile Organic Compound		U	U~a	20	U	0	127	13 U	14 U	11 U	11 U	11 U	12 U	11 U	11 U	13 U	12 L <sup>1</sup>	11 U
1,2,4-Trichlorobenzene	UG KG	0	O <sup>o</sup> u	0	0	Ð	119	420 U		360 U		360 UR		350 U		360 U	390 U	410 U
1,2-Dichlorobenzene	UG.KG	0	Ou o	1100	0	0	119	420 U		360 U		360 UR		350 U		360 ∪	390 U	410 U
1,3-Dichlorobenzene 1,4 Dichlorobenzene	UG/KG UG/KG	0	0°;	2400 1800	0	0	119 119	420 U 420 U		360 U		360 UR 360 UR		350 U 350 U		360 U 360 U	390 LI	410 U
2,2'-oxybis(1-Chloropropane)	UGʻKG	0	0%	()	0	0	119	420 U		360 U		360 UR		350 U		360 U	390 LF 390 LF	410 U
2,4,5-Trichlorophenol	UG·KG	0	O <sup>q</sup> o	0	0	0	119	1000 U		880 U		860 UR		860 U		880 U	940 LI	990 LF
2,4,6-Trichlorophenol 2,4-Dichlorophenol	UG KG	0	Ou-n	0	0	0	119	420 U		360 U		360 UR		350 U		360 U	390 L1	410 U
2,4-Dimethylphenol	UG KG UG KG	0	0° a	0	0	0	119 119	420 U 420 U		360 U 360 U		360 UR 360 UR		350 U 350 U		360 U	390 U	410 U
2,4-Dinterrophenol	UG KG	0	0%	0	0	0	119	1000 U		880 U		860 UR		860 U		880 U	940 Ct	990 U
2,4-Dinitrotoluene	UG KG	0	а io	0	0	0	119	420 U		360 U		360 UR		350 U		360 U	390 L!	410 U
2,6-Dmitrotoluene 2-Chloronaphthalene	UG KG UG KG	0	0° . 0° .	0	0	0	119	420 U 420 U		360 U 360 U		360 UR 360 UR		350 U 350 U		360 U 360 U	390 U 390 U	410 U
2-Chlorophenol	UG/KG	0	0%	0	0	0	119	420 U		360 U		360 UR		350 U		360 U	390 LI	410 U
2 Methylnaphthalene	UG KG	750	3° u	0	0	3	119	420 U		360 U		360 UR		350 U		360 U	390 U	410 U
2-Methylphenol	UG-KG	0	Ca n	330	0	0	119	420 U		360 U		360 UR		350 U		360 U	390 U	410 U
2-Nitroaniline 2-Nitrophenol	UG KG UG KG	0	0° o	0	0	0	119 119	1000 U 420 U		880 U 360 U		860 UR 360 UR		860 U 350 U		880 U	940 L! 390 LI	990 t1 410 U
3,3'-Dichlorobenzidine	UGKG	0	0%	0	0	0	119	420 U		360 U		360 UR		350 U		360 L!	390 LI	410 U
3 Nitroaniline	UG:KG	0	()° u	0	0	0	119	1000 U		880 U		860 UR		860 U		880 U	440 Ft	990 LI
4,6-Dinitro-2-methylphenol	UG/KG UG/KG	0	0° o	0	0	0	119	1000 U 420 U		880 U		860 UR		860 U		880 U	940 U	990 U
4-Bromophenyl phenyl ether 4-Chloro-3-methylphenol	UG/KG UG/KG	0	0° 0	0	0	0	119 119	420 U		360 U		360 UR 360 UR		350 U 350 U		360 U	390 U 390 U	410 U 410 U
4-Chloroaniline	UG-KG	0	0.0	0	ő	0	119	420 U		360 U		360 UR		350 U		360 U	390 U	410 U
4-Chlorophenyl phenyl ether	UG.KG	O	Ou o	0	0	0	119	420 U		360 U		360 UR		350 U		360 U	390 U	410 U
4-Methylphenol 4-Nitroaniline	UG/KG UG/KG	13	3° u	330 0	0	3	119 119	420 U		360 U 880 U		360 UR 860 UR		350 U 860 U		360 U 880 U	940 11	410 U
4-Nitrophenol	UG/KG	0	Oo n	0	0	0	119	1000 U		880 U		860 UR		860 U		880 U	940 CI	990 U
Acenaphthene	UG KG	0	09.4	20000	0	0	119	420 U		360 U		360 UR		350 U		360 U	390 L!	410 U
Acenaphthylene	UG:KG	0	0.0	100000	0	0	119	420 U		360 U		360 UR		350 U		360 U	390 U	410 U

TABLE 1 SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

		Maximum	Frequency of	Criteria	Number of	Number of Times	Number of Samples	SEAD-57 SS57-6 SOIL SS57-6-1 0 0.2 10/26/93 SA P1S1 R1	SEAD-57 SS57-6 SOIL SS57-6-2 0 0.2 12/08/93 SA P1S1 R1	SEAD-57 SS57-7 SOIL SS57-7-1 0 0.2 10/26/93 SA PIS1 RI	SEAD-57 SS57-7 SOIL SS57-7-2 0 0.2 12/08/93 SA P1S1 RI	SEAD-57 SS57-8 SOIL SS57-8-1 0 0.2 10/26/93 SA P1S1 RI	SEAD-57 SS57-8 SOIL SS57-8-2 0 0.2 12/08/93 SA PISI RI	SEAD-57 SS57-9 SOIL SS57-9-1 0 0.2 10/26/93 SA P1S1 RI	SEAD-57 SS57-9 SOIL SS57-9-2 0 0.2 12/08/93 SA P1SJ RI	SEAD-57 TP57-1 SOIL TP57-1 3 3 11/08/93 SA PISI RI	SEAD-57 TP57-10 SOIL TP57-10 3 3 34305 SA P1S1 RI	SEAD-57 TP57-11 SOIL TP57-11 3 3 34281 SA P1S1 RI
Parameter	Units	Concentration	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)  lue (Q)	Value (Q)									
Anthracene Benzo(a)anthracene	UG/KG UG/KG	8.2 62	3% 21%	100000	0	3 25	119	420 U		360 U		360 UR		350 U		360 U	390 U	410 U
Benzo(a)pyrene	UG/KG	76	17%	1000	0	20	119 119	420 U 420 U		360 U 360 U		360 UR 360 UR		24 J 20 J		360 U 360 U	390 U 390 U	410 U 410 U
Benzo(b)fluoranthene	UG/KG	67	24%	1000	0	29	119	420 U		360 U		360 UR		25 J		360 U	390 U	410 U
Benzo(ghi)perylene Benzo(k)fluoranthene	UG/KG UG/KG	54 50	13% 24%	100000 800	0	15 29	119 119	420 U 420 U		360 U		360 UR 360 UR		350 U 20 J		360 U 360 U	390 U 390 U	410 U 410 U
Bis(2-Chloroethoxy)methane	UG/KG	0	0%	0	0	0	119	420 U		360 U		360 UR		350 U		360 U	390 U	410 U
Bis(2-Chloroethyl)ether Bis(2-Chloroisopropyl)ether	UG/KG UG/KG	0	0% 0%	0	0	0	119 101	420 U		360 U		360 UR		350 U		360 U	390 U	410 U
Bis(2-Ethylhexyl)phthalate	UG/KG	3400	15%	0	o	18	119	420 U		360 U		360 UR		350 U		360 U	390 U	410 U
Butylbenzylphthalate Carbazole	UG/KG UG/KG	0	0% 0%	0	0	0	119	420 U		360 U		360 UR		350 U		360 U	390 U	410 U
Chrysene	UG/KG	110	33%	1000	0	39	119 119	420 U 420 U		360 U 360 U		360 UR 360 UR		350 U 42 J		360 U 360 U	390 U 390 U	410 U 410 U
Di-n-butylphthalate	UG/KG	390	34%	0	0	40	119	420 U		18 J		360 UR		35 J		360 U	390 U	410 U
Di-n-octylphthalate Dibenz(a,h)anthracene	UG/KG UG/KG	2.6 24	1% 6%	0 330	0	7	119 119	420 U 420 U		360 U		360 UR 360 UR		350 U 350 U		360 U 360 U	390 U 390 U	410 U 410 U
Dibenzofuran	UG/KG	0	0%	7000	0	Ó	119	420 U		360 U		360 UR		350 U		360 U	390 U	410 U
Diethyl phthalate Dimethylphthalate	UG/KG UG/KG	8.8	2% 0%	0	0	2	119 119	420 U 420 U		360 U 360 U		360 UR 360 UR		350 U 350 U		360 U 360 U	390 U 390 U	410 U 410 U
Fluoranthene	UG/KG	150	50%	100000	0	60	119	29 J		26 J		360 UR		56 J		360 U	390 U	410 U
Fluorene Hexachlorobenzene	UG/KG UG/KG	120	2%	30000 330	0	2	119 119	420 U 420 U		360 U		360 UR		350 U		360 U	390 U	410 U
Hexachlorobutadiene	UG/KG	0	0%	0	0	0	119	420 U		360 U 360 U		360 UR 360 UR		350 U 350 U		360 U 360 U	390 U 390 U	410 U 410 U
Hexachlorocyclopentadiene	UG/KG	0	0%	0	0	0	119	420 U		360 U		360 UR		350 U		360 U	390 U	410 U
Hexachloroethane Indeno(1,2,3-cd)pyrene	UG/KG UG/KG	0 37	0% 13%	500	0	0 15	119 119	420 U 420 U		360 U 360 U		360 UR 360 UR		350 U 350 U		360 U 360 U	390 U 390 U	410 U 410 U
Isophorone	UG/KG	0	0%	0	0	0	119	420 U		360 U		360 UR		350 U		360 U	390 U	410 U
N-Nitrosodiphenylamine N-Nitrosodipropylamine	UG/KG UG/KG	75	2% 0%	0	0	2	119 119	420 U 420 U		360 U 360 U		360 UR 360 UR		350 U 350 U		360 U 360 U	390 U 390 U	410 U 410 U
Naphthalene	UG/KG	180	1%	12000	0	1	119	420 U		360 U		360 UR		350 U		360 U	390 U	410 U
Nitrobenzene Pentachlorophenol	UG/KG UG/KG	0	0%	800	0	0	119	420 U		360 U		360 UR		350 U		360 U	390 U	410 U
Phenanthrene	UG/KG	230	37%	100000	0	44	119 119	1000 U 420 U		880 U 20 J		860 UR 360 UR		860 U 36 J		880 U 360 U	940 U 390 U	990 U 410 U
Phenol	UG/KG	51	13%	330	0	16	119	420 U		360 U		360 UR		350 U		360 U	390 U	410 U
Pyrene Explosives	UG/KG	230	52%	100000	3	62	119	23 J		20 J		360 UR		49 J		360 U	390 U	410 U
1,3,5-Trinitrobenzene	UG/KG	0	0%	0	0	0	119	130 U		130 U		130 U		130 U		130 U	130 U	130 U
1,3-Dinitrobenzene 2,4,6-Trinitrotoluene	UG/KG UG/KG	0	0%	0	0	0	119 119	130 U 130 U		130 U 130 U	130 U 130 U	130 U 130 U						
2,4-Dinitrotoluene	UG/KG	0	0%	0	o	o	119	130 U		130 U		130 U		130 U		130 U	130 U	130 U
2,6-Dinitrotoluene 2-Nitrotoluene	UG/KG	0	0%	0	0	0	119	130 U		130 U		130 U		130 U		130 U	130 U	130 U
2-amino-4,6-Dinitrotoluene	UG/KG UG/KG	0	0%	0	0	0	101 119	130 U		130 U		130 U		130 U		130 U	130 U	130 U
3-Nitrotoluene	UG/KG	0	0%	0	0	0	101			0		100 0		0				130 0
4-Nitrotoluene 4-amino-2,6-Dinitrotoluene	UG/KG UG/KG	0	0%	0	0	0	101 119	130 U		130 U		130 U		130 U		130 U	130 U	130 U
HMX	UG/KG	0	0%	0	0	0	119	130 U		130 U		130 U		130 U		130 U	130 U	130 U
Nitrobenzene RDX	UG/KG UG/KG	0	0%	0	0	0	101 119	130 U		130 U		130 U		130 U		130 U	130 U	130 U
Tetryl	UG/KG	0	0%	0	0	o	119	130 U		130 U		130 U		130 U		130 U	130 U	130 U
Pesticides and PCBs 4,4'-DDD	UG/KG	54	7%	3.3	5	8	119	4.3 U		3.6 U		3.6 U		3.5 UJ				
4,4'-DDE	UG/KG	32	8%	3.3	7	9	119	2.5 J		4.7 J	1	3.6 U		3.5 UJ 4.5 J		9,1	3.9 U 3.9 U	4.1 U 4.1 U
4,4'-DDT	UG/KG	23	5%	3.3	5	6	119	4.3 U		3.6 U		4.9		3.5 UJ		9.6	3.9 U	4.1 U
Aldrin Alpha-BHC	UG/KG UG/KG	0	0% 2%	5 20	0	0 2	119 119	2.2 U 2.2 U		1.9 U 1.9 U		1.8 U 1.8 U		1.8 UJ 1.8 UJ		1.9 U 1.9 U	2 U 2 U	2.1 U 2.1 U
Alpha-Chlordane	UG/KG	16	6%	94	0	7	119	2.2 U		16 J		1.8 U		1.8 UJ		1.9 U	2 U	2.1 U
Aroclor-1016 Aroclor-1221	UG/KG UG/KG	0	0% 0%	100	0	0	119 119	43 U 87 U		36 U 73 U		36 U 73 U		35 UJ 72 UJ		36 U 74 U	39 U 80 U	41 U 83 U
Aroclor-1232	UG/KG	0	0%	100	0	0	119	43 U		36 U		36 U		35 UJ		36 U	39 U	41 U
Aroclor-1242 Aroclor-1248	UG/KG UG/KG	0	0% 0%	100 100	0	0	119 119	43 U 43 U		36 U 36 U		36 U		35 UJ		36 U	39 U	41 U
Aroclor-1254	UG/KG	0	0%	100	0	0	119	43 U		36 U		36 U		35 UJ 35 UJ		36 U	39 U 39 U	41 U 41 U
Aroclor-1260	UG/KG	27	2%	100	0	2	119	43 U		36 U		36 U		35 UJ		36 U	39 U	41 U
Beta-BHC Delta-BHC	UG/KG UG/KG	4.5	1% 0%	36 40	0	0	119 119	2.2 U 2.2 U		1.9 U 1.9 U		1.8 U 1.8 U		1.8 UJ 1.8 UJ		1.9 U	2 U 2 U	2.1 U 2.1 U
Dieldrin	UG/KG	27	6%	5	5	7	119	4.3 U		27 J		3.6 U		3.5 UJ		3.6 U	3.9 U	4.1 U

P:PIT/Projectal/Senera Munitions Response/Proposed Plan/Draft(Risk Assessment/Human Health/SEAD-57 Conservation/LTable 1\_Screening\_SEAD57.xls)-S-7 unrestricted sh11

TABLE I SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

SS57-6

SEAD-57

SS57-7

SEAD-57

SS57-7

SEAD-57

SS57-8

SEAD-57

SS57-8

SEAD-57

SS57-9

SEAD-57

SS57-9

SEAD-57

TP57-1

SEAD-57

TP57-10

SEAD-57

TP57-11

SEAD-57

SS57-6

								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
								SS57-6-1	SS57-6-2	SS57-7-1	SS57-7-2	SS57-8-1	SS57-8-2	SS57-9-1	SS57-9-2	TP57-1	TP57-10	TP57-11
								0	0	0	0	0	0	0	0	3	3	3
								0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	3	3	3
								10 26:93	12/08/93	10.26/93	12:08.93	10:26-93	12/08/93	10.26.93	12'08-93	11-08-93	34305	34281
			Frequency of		Number	Number	Norman bear	SA PISI RI	SA PISI RI	SA PISI RI	SA	SA	SA	SA	SA	SA	SA	SA
		Maximum	of	Criteria	of	of Times	Number of Samples	1,121 KI	PISIRI	PISI RI	PISI RI	PISI RI	PIS1 RI	PIST RI	PISI RI	PISI RI	PISI RI	PISI RI
Parameter	Units	Concentration	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (O)	Value (Q)	Value (Q)
Endosulfan I	UG/KG	5.2	1%e	2400	0	1	119	2.2 U		1.9 U	vanue (Q)	1.8 U	vaide (Q)	1.8 UJ	vinue (Q)	1.9 LT	2 1/	21 (1
Endosulfan II	UG/KG	3 I	1%	2400	0	1	119	4.3 U		3.6 U		3.6 U		3.5 UJ		3.6 U	3.9 U	4.1 U
Endosullan sulfate	UG KG	()	0%,	2400	0	0	119	4.3 U		3.6 U		3.6 U		3.5 UJ		3.6 U	3,9 LI	4.1 U
Endrin	UG-KG	0	O <sub>ei</sub> a	14	0	0	119	4.3 U		3.6 U		3.6 U		3.5 UJ		3.6 U	3,9 (	4.1 U
Endrin aldehyde	UG:KG	3.8	1º 6	0	0	1	119	4.3 U		3.6 U		3.6 U		3.5 UJ		3.6 U	3.9 LF	41 U
Endrin ketone	UG KG	4	19 u	0	0	1	119	4.3 U		3.6 U		3.6 L)		3.5 UJ		3.6 U	3,9 [[	4.1 U
Gamma-BHC/Lindane	UG/KG	0	0%	100	0	0	119	2.2 U		1.9 U		1.8 U		1.8 UJ		1.9 U	2 U	2 1 U
Gamma-Chlordane	UG/KG	0	0%	0	0	0	119	2.2 U		1.9 U		1.8 U		1.8 UJ		1.9 U	2 L!	21 U
Heptachlor	UG. KG	1.6	100	42	0	1	119	2.2 U		1.9 U		1.8 U		1.8 UJ		1.9 U	2 U	2.1 U
Heptachlor epoxide	UG KG UG KG	2	100	0	0	1	119	2.2 U		2 J		1.8 U		1.8 UJ		1.9 U	2 U	2 1 U
Methoxychlor Toxaphene	UG/KG	0	0° a	0	0	0	119	22 U		19 U		18 U		18 UJ		19 U	20 LT	21 U
Herbicides	CONNO	U	U- a	U	U	U	119	220 U		190 U		180 U		180 UJ		190 U	200 U	210 U
2.4.5 1	UG KG	G	Go.º	0	0	0	18	6.5 U 6.5 U		5.5 U 5.5 U		5.4 U 5.4 U		5.4 U 5.4 U		5.5 U	4.111	6.2.11
2.4.5-TP Silvex	UG/KG	0	0""	3800	0	0	18	65 U		55 U		54 U		54 U		5.5 U	6 UJ 6 UJ	6.2 U
2,4-D	UGKG	0	0%	0	0	0	18	65 U		55 U		54 U		54 U		55 U	60 111	62 U
2,4-DB	UG-KG	0	0%	0	0	0	18	160 U		140 U		130 U		130 U		140 U	60 U)	62 U
Dalapon	UG/KG	0	0%	0	0	0	18	6.5 U		5.5 U		5,4 U		5.4 U		55 U	150 UJ	150 U
Dicamba	UG.KG	0	0%	0	0	0	18	65 U		55 U		54 U		54 U		55 U	6 UJ	6.2 LI
Dichloroprop	UG/KG	0	00.0	0	0	0	18	33 U		28 U		27 U		27 (1)		28 U	60 LU	62 U
Dinoseb	UG KG	0	0.6 0	0	0	0	18	6500 U		5500 U		5400 U		5400 U		5500 U	30 (1)	31 U
MCPA	UG/KG	0	Oa o	0	0	0	18	6500 U		5500 U		5400 U		5400 U		5500 U	6000 LIJ	6200 U
MC'PP	UG KG	0	C° u	0	0	0	18										6000 UJ	6200 U
Metals and Cyanide																		
Alummum	MG·KG	22900	100° u	0	0	119	119	13500		12600		3940		10300		10700	12600	14600
Antimony	MG/KG	6.5	49%	0	0	58	119	12.1 UJ		10.1 UJ		10.1 UJ		10.7 UJ		6.4 UI	3.6 U	11 3 UJ
Arsenic	MG KG	17.8 237	92%	13 350	1	110	119	122 UR		4.2 UR		4 UR		5.6 R		4.9	6.8	5.9
Barium Beryllium	MG/KG	1.8	100% 100%	7.2	0	119	119	83.7		64.2		25.5 J		56.5		58.7	97.5	120
Cadmium	MG/KG MG/KG	28.6	22%	2.5	6	119 26	119 119	0.64 J 0.76 U		0.61 J 0.63 U		0.33 J 0.63 U		0.59 J 0.67 U		0.56 J 0.4 U	0.55 J 0.35 UR	0.81 J 0.71 U
Calcium	MG/KG	213000	100%	0	0	119	119	2790		24300		213000		104000		16600	33000	22300
Chromium	MG'KG	32 1	100° e	30	2	119	119	18.9		24.3		7.4		20.7		20.5	17.1	20.1
Cobalt	MG-KG	29.7	100° b	D	0	119	119	9.3 J		13.2		7.8 J		10.6		12.1	8.7	8 8 J
Copper	MG/KG	2930	92%	50	2	109	119	17.4		33.4		12		47		34.3	22 4 J	21.7
Cyanide	MG:KG	0	0%	27	0	0	119	0.78 U		0.64 U		0.62 U		0.61 U		0.52 U	0.71 U	0.54 LF
Iron	MG.KG	39800	100°	0	0	119	119	21700		28400		7540		23000		24700	20500	24900
Lead	MG·KG	1860	100° u	63	2	119	119	30.2		18.4		9.5		42.4		28.2	10.9	11 3
Magnesium	MG KG	27600	100° o	0	0	119	119	3230		6660		11600		9650		5050	6400	5360
Manganese	MG/KG	2580	100° e	1600	5	119	119	464		347		401		356		392	387 J	329
Mercury	MG/KG	0.15	75° »	0.18	0	89	119	0.07 J		0.02 J		0.04 U		0.04 3		0.03 J	U F0.0	0.04 J
Nickel	MGKG	54 1	100%	30	37	119	119	19 8		46		17.2		38.7		45	24.5	25 7
Potassium	MG/KG	3250	100° u	0	0	119	119	1650		1550		1210		1570		898	1680	1430
Selemum	MG/KG	2.7	63° e	3.9	0	75	119	0.31.3		0.18 UJ		0.2 UJ		0.37 J		0.48 J	0.61 J	0.46.3
Silver Sodium	MG/KG	1.7 270	38° u	0	0	45	119	1.5 UJ		1.3 UJ		1.3 UJ		1 4 UJ		0.81 UJ	0.69 U	14 (0)
Thallium	MG/KG MG/KG	6.7	82° o	0	0	41 98	119	46.3 J 0.17 U		119 J		214 J		188 J		56.9 J 0.3 J	93.6 J	93 J 0 17 U
Vanadrum	MG KG	104	99%	0	0	118	119 119	26.2		0.2 U 19		2.2 U 11.2		0.23 U 18.8		26.9	0.21 UJ 22.9	27.8
Zinc	MG/KG	1250	93%	109	11	111	119	64 UR		53.4 R		42.1 UR		266 UR		81.1	54 1 3	57.9
Other Analyses	DATAM	14,70	7.5 0	11/2		111	117	D4 UK		23.4 €		42.1 OR		200 UK		01.1	34 1 7	21.7
Cation exchange capacity	MEQ 100G	31.4	100°°	0	D	32	32											
Nitrate Nitrite Nitrogen	MG KG	4.4	98° .	0	0	99	101											
Percent Solids	* WW	94	100%	0	0	101	101											
Soil pH (std units)	pH units	7 83	100%	0	0	33	33											
Total Organic Carbon	MG KG	70500	100%	0	0	32	32											
-																		

MG KG (1) Criteria based on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives,

http://www.dec.state.ny.us/website.regs/subpart375\_6.html

<sup>(2)</sup> Sample-duplicate pairs were treated as discreet samples (3) A bolded and outlined cell indicates a concentration that exceeded the criteria.

U - compound was not detected

J - the reported value is an estimated concentration
UJ - the compound was not detected, the associated reporting limit is approximate

R - the analytical result was rejected during data validation

TABLE I SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

								SEAD-57 TP57-2	SEAD-57 TP57-3	SEAD-57 TP57-4	SEAD-57 TP57-6	SEAD-57 TP57-7	SEAD-57 TP57-8	SEAD-57 TP57-9
								SOIL TP57-2	SOIL TP57-3	SOIL TP57-4	SOIL TP57-6	SOIL TP57-7	SOIL TP57-8	SOIL TP57-9
								3	3	3	3	3	3	3
								3 12/02/93	3 11/09/93	3 11/09/93	3 12/02/93	3 12/02/93	3 12/02/93	3 12/02/93
								SA						
		Maximum	Frequency of of	Criteria	Number	Number of Times	Number of Samples	P1S1 RI	P1S1 RI	P1S1 RI	P1S1 Rt	P1S1 RI	P1S1 RI	P1S1 RI
Parameter Volatile Organic Compounds	Units	Concentration	Detection	Value 1	Exceedances		Analyzed 2	Value (Q)						
1,1,1-Trichlorgelhane	UG/KG	0	0%	680	0	0	127	12 U	12 U	11 U	12 U	12 U	12 U	12 U
1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane	UG/KG UG/KG	0	0% 0%	0	0	0	127 127	12 U 12 U	12 U 12 U	11 U 11 U	12 U 12 U	12 U 12 U	12 U 12 U	12 U 12 U
1,1-Dichlorgethane	UG/KG	Ö	0%	270	õ	ő	127	12 U	12 U	11 U	12 U	12 U	12 U	12 U
1,1-Dichloroethene	UG/KG	0	0%	330	0	0	127	12 U	12 U	11 U	12 U	12 U	12 U	12 U
1,2-Dichloroethane 1,2-Dichloroethene (total)	UG/KG UG/KG	0	0% 0%	20 190	0	0	127 127	12 U 12 U	12 U 12 U	11 U 11 U	12 U 12 U	12 U 12 U	12 U 12 U	12 U 12 U
1,2-Dichloropropane	UG/KG	0	0%	0	0	Ö	127	12 U	12 U	11 U	12 U	12 U	12 U	12 U
Acetone	UG/KG	700	74%	50	87	94	127	20	12 U	11 U	23	6 J	12 U	12 U
Benzene Bromodichloromethane	UG/KG UG/KG	1 0	2% 0%	60 0	0	2	127 127	12 U 12 U	12 U 12 U	11 U 11 U	12 U 12 U	12 U 12 U	12 U 12 U	12 U 12 U
Bromoform	UG/KG	0	0%	Ö	ō	ō	127	12 U	12 U	11 U	12 U	12 U	12 U	12 U
Carbon disulfide Carbon tetrachloride	UG/KG UG/KG	22 0	11% 0%	0 760	0	14 0	127 127	12 U 12 U	12 U 12 U	11 U 11 U	12 U 12 U	12 U 12 U	12 U 12 U	12 U 12 U
Chlorobenzene	UG/KG	0	0%	1100	0	0	127	12 U	12 U	11 U	12 U	12 U	12 U	12 U
Chlorodibramomethane	UG/KG	0	0%	0	0	0	127	12 U	12 U	11 U	12 U	12 U	12 U	12 U
Chloroethane Chloroform	UG/KG UG/KG	0 7	0% 1%	0 370	0	0 1	127 127	12 U 12 U	12 U 12 U	11 U 11 U	12 U 12 U	12 U 12 U	12 U 12 U	12 U 12 U
Cis-1,3-Dichloropropene	UG/KG	ó	0%	0	o	ò	127	12 U	12 U	11 U	12 U	12 U	12 U	12 U
Ethyl benzene	UG/KG	0	0%	1000	0	0	127	12 U	12 U	11 U	12 U	12 U	12 U	12 U
Methyl bromide Methyl butyl ketone	UG/KG UG/KG	0	0% 0%	0	0	0	127 127	12 U 12 U	12 U 12 U	11 U 11 U	12 U 12 U	12 U 12 U	12 U 12 U	12 U 12 U
Methyl chloride	UG/KG	ő	0%	Õ	ő	Ö	127	12 U	12 U	11 U	12 U	12 U	12 U	12 U
Methyl ethyl ketone	UG/KG	64	62%	120	0	79	127	12 U	12 U	11 U	12 U	12 U	12 U	12 U
Methyl isobutyl ketone Methylene chloride	UG/KG UG/KG	0 1	0% 2%	0 50	0	0 2	127 127	12 U 12 U	12 U 12 U	11 U 11 U	12 U 12 U	12 U 12 U	12 U 12 U	12 U 12 U
Styrene	UG/KG	0	0%	0	ő	ō	127	12 U	12 U	11 U	12 U	12 U	12 U	12 U
Tetrachioroethene	UG/KG UG/KG	6	6%	1300	0	7	127	12 U	12 U	11 U	12 U	12 U	12 U	12 U
Toluene Total Xylenes	UG/KG	33 2	65% 2%	700 260	0	82 3	127 127	12 U 12 U	12 U 12 U	11 U 11 U	12 U 12 U	12 U 12 U	12 U 12 U	12 U 12 U
Trans-1,3-Dichloropropene	UG/KG	0	0%	0	0	0	127	12 U	12 U	11 U	12 U	12 U	12 U	12 U
Trichloroethene Vinyl chloride	UG/KG UG/KG	0	0% 0%	470 20	0	0	127 127	12 U 12 U	12 U 12 U	11 U 11 U	12 U	12 U 12 U	12 U	12 U
Semivolatile Organic Compound		0	076	0	0	0	0	12 0	12 0	11 0	12 U	12 0	12 U	12 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	0	0	0	119	2000 U	370 U	370 U	430 U	390 U	380 U	380 ∪
1,2-Dichlorobenzene 1,3-Dichlorobenzene	UG/KG UG/KG	0	0% 0%	1100 2400	0	0	119 119	2000 U 2000 U	370 U 370 U	370 U 370 U	430 U 430 U	390 U 390 U	380 U	380 U 380 U
1,4-Dichlorobenzene	UG/KG	ő	0%	1800	ő	0	119	2000 U	370 U	370 U	430 U	390 U	380 U	380 U
2,2'-oxybis(1-Chloropropane)	UG/KG	0	0%	0	0	0	18	2000 U	370 U	370 U	430 U	390 U	380 U	380 U
2,4,5-Trichlorophenol 2,4,6-Trichlorophenol	UG/KG UG/KG	0	0% 0%	0	0	0	119 119	4900 U 2000 U	900 U 370 U	900 U 370 U	1000 U 430 U	950 U 390 U	930 U 380 U	920 U 380 U
2,4-Dichlorophenol	UG/KG	ō	0%	Ō	Ö	Ö	119	2000 U	370 U	370 U	430 U	390 U	380 U	380 U
2,4-Dimethylphenol 2,4-Dinitrophenol	UG/KG UG/KG	0	0%	0	0	0	119 119	2000 U	370 U	370 U	430 U	390 U	380 U	380 U
2,4-Dinitrotoluane	UG/KG	0	0% 0%	0	0	0	119	4900 U 2000 U	900 U 370 U	900 U 370 U	1000 U 430 U	950 U 390 U	930 U 380 U	920 U 380 U
2,6-Dinitratoluene	UG/KG	0	0%	Ö	ō	ō	119	2000 U	370 U	370 U	430 U	390 U	380 U	380 U
2-Chloronaphthalene 2-Chlorophenol	UG/KG UG/KG	0	0% 0%	0	0	0	119 119	2000 U 2000 U	370 U	370 U 370 U	430 U 430 U	390 U	380 U	380 U
2-Methylnaphthalene	UG/KG	750	3%	0	0	3	119	750 J	370 U 370 U	370 U	430 U	390 U 390 U	380 U 380 U	380 U 380 U
2-Methylphenol	UG/KG	0	0%	330	0	0	119	2000 U	370 U	370 U	430 U	390 U	380 U	380 U
2-Nitroaniline 2-Nitrophenol	UG/KG UG/KG	0	0% 0%	0	0	0	119 119	4900 U 2000 U	900 U 370 U	900 U 370 U	1000 U 430 U	950 U 390 U	930 U 380 U	920 U 380 U
3,3'-Dichlorobenzidine	UG/KG	o	0%	ŏ	o	ő	119	2000 U	370 U	370 U	430 U	390 U	380 U	380 U
3-Nitroaniline	UG/KG	0	0%	0	0	0	119	4900 U	900 U	900 U	1000 U	950 U	930 U	920 U
4,6-Dinitro-2-methylphenol 4-Bromophenyl phenyl ether	UG/KG UG/KG	0	0% 0%	0	0	0	119 119	4900 U 2000 U	900 U 370 U	900 U 370 U	1000 U 430 U	950 U 390 U	930 U 380 U	920 U 380 U
4-Chloro-3-methylphenol	UG/KG	0	0%	Ö	0	ő	119	2000 U	370 U	370 U	430 U	390 U	380 U	380 U
4-Chloroaniline	UG/KG	0	0%	0	0	0	119	2000 U	370 U	370 U	430 U	390 U	380 U	380 U
4-Chlorophenyi phenyi ether 4-Methyiphenoi	UG/KG UG/KG	13	0% 3%	330	0	3	119 119	2000 U 2000 U	370 U 370 U	370 U 370 U	430 U 430 U	390 U 390 U	380 U 380 U	380 U 380 U
4-Nitroaniline	UG/KG	0	0%	0	ō	0	119	4900 U	900 U	900 U	1000 U	950 U	930 U	920 U
4-Nitrophenol Acenaphthene	UG/KG UG/KG	0	0% 0%	0 20000	0	0	119 119	4900 U 2000 U	900 U	900 U	1000 U	950 U	930 U	920 U
Acenaphthylene	UG/KG	0	0%	100000	0	0	119	2000 U	370 U 370 U	370 U 370 U	430 U 430 U	390 U 390 U	380 U 380 U	380 U 380 U
Anthracene	UG/KG	8.2	3%	100000	0	3	119	2000 U	370 U	370 U	430 U	390 U	380 U	380 U
Benzo(a)anthracene Benzo(a)pyrene	UG/KG UG/KG	62 76	21% 17%	1000 1000	0	25 20	119 119	2000 U 2000 U	370 U 370 U	370 U 370 U	430 U 430 U	390 U 390 U	380 U 380 U	380 U 380 U
SS. ES(a/p) ene	JUNG	70	1 ( 70	1000	U	20	119	2000 0	3/0 0	3/0 0	430 0	390 0	300 U	290 U

## TABLE 1 SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

								SEAD-57	SEAD-57	SEAD-57	SEAD-57	SEAD-57	SEAD-57	SEAD-57
								TP57-2	TP57-3	TP57-4	TP57-6	TP57-7	TP57-8	TP57-9
								SOIL	SOIL	SOIL	SOiL	SOIL	SOIL	SOIL
								TP57-2	TP57-3	TP57-4	TP57-6	TP57-7	TP57-8	TP57-9
								3	3	3	3	3	3	3
								12/02/93	11/09/93	3 11/09/93	3 12/02/93	3 12/02/93	3 12/02/93	12/02/93
								SA	SA	SA	12/02/93 SA	12/02/93 SA	12/02/93 SA	SA
			Frequency of		Number	Number	Number	P1S1 RI	P1S1 RI	P1S1 RI	P1S1 RI	P1S1 RI	P1S1 RI	P1S1 RI
		Maximum	of	Criteria	of	of Times	of Samples							
Parameter	Units	Concentration	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Benzo(b)fluoranthene	UG/KG	67	24%	1000	0	29	119	2000 U	370 U	370 U	430 U	390 U	380 U	380 U
Benzo(ghi)perylene	UG/KG	54 50	13%	100000	0	15	119	2000 U	370 U	370 U	430 U	390 U	380 U	380 U
Benzo(k)fluoranthene Bis(2-Chloroethoxy)methane	UG/KG UG/KG	0	24% 0%	800 0	0	29 0	119 119	2000 U 2000 U	370 U 370 U	370 U 370 U	430 U 430 U	390 U	380 U	380 U
Bis(2-Chloroethyl)ether	UG/KG	0	0%	0	0	0	119	2000 U	370 U	370 U	430 U	390 U 390 U	380 U 380 U	380 U 380 U
Bis(2-Chloroisopropyl)ether	UG/KG	o o	0%	ō	ō	Ö	101	2000	5.00	0.00	450 0	320 0	300 0	300 0
Bis(2-Ethylhexyl)phthalate	UG/KG	3400	15%	0	0	18	119	2000 U	370 U	370 U	430 U	390 U	380 U	380 U
Butylbenzylphthalate	UG/KG	0	0%	0	0	0	119	2000 U	370 U	370 U	430 U	390 U	380 U	380 U
Carbazole Chrysene	UG/KG UG/KG	0 110	0% 33%	0 1000	0	0 39	119 119	2000 U	370 U	370 U	430 U	390 U	380 U	380 U
Di-n-butylphthalate	UG/KG	390	34%	0	0	40	119	390 J	370 U 370 U	25 J 370 U	430 U 430 U	390 U 390 U	380 U 380 U	380 U 380 U
Di-n-octylphthalate	UG/KG	2.6	1%	0	0	1	119	2000 U	370 U	370 U	430 U	390 U	380 U	380 U
Dibenz(a,h)anthracene	UG/KG	24	6%	330	ō	7	119	2000 U	370 U	370 U	430 U	390 U	380 U	380 U
Dibenzofuran	UG/KG	0	0%	7000	0	0	119	2000 U	370 U	370 U	430 U	390 U	380 U	380 U
Diethyl phthalate	UG/KG	8.8	2%	0	0	2	119	2000 U	370 U	370 ⊔	430 U	390 U	380 ∪	380 ∪
Dimethylphthalate	UG/KG	0	0%	0	0	0	119	2000 U	370 U	370 U	430 U	390 U	380 U	380 U
Fluoranthene Fluorene	UG/KG UG/KG	150 120	50% 2%	100000 30000	0	60 2	119 119	2000 U 120 J	370 U 370 U	34 J 370 U	430 U	390 U	380 U	380 U
Hexachlorobenzene	UG/KG	0	0%	330	0	0	119	2000 U	370 U	370 U	430 U 430 U	390 U 390 U	380 U 380 U	380 U 380 U
Hexachlorobutadiene	UG/KG	0	0%	0	0	0	119	2000 U	370 U	370 U	430 U	390 U	380 U	380 U
Hexachlorocyclopentadiene	UG/KG	0	0%	0	0	0	119	2000 U	370 U	370 U	430 U	390 U	380 U	380 U
Hexachloroethane	UG/KG	0	0%	0	0	0	119	2000 U	370 U	370 U	430 U	390 U	380 U	380 U
Indeno(1,2,3-cd)pyrene	UG/KG	37	13%	500	0	15	119	2000 U	370 U	370 U	430 U	390 U	380 U	380 U
Isophorone N-Nitrosodiphenylamine	UG/KG UG/KG	0 75	0% 2%	0	0	0	119 119	2000 U 2000 U	370 U 370 U	370 U 370 U	430 U	390 U	380 U	380 U
N-Nitrosodipropylamine	UG/KG	0	0%	0	0	0	119	2000 U	370 U	370 U	430 U 430 U	390 U 390 U	380 U 380 U	380 U 380 U
Naphthalene	UG/KG	180	1%	12000	o	1	119	180 J	370 U	370 U	430 U	390 U	380 U	380 U
Nitrobenzene	UG/KG	0	0%	0	0	o	119	2000 U	370 U	370 U	430 U	390 U	380 U	380 U
Pentachlorophenol	UG/KG	0	0%	800	0	0	119	4900 U	900 U	900 U	1000 U	950 U	930 U	920 U
Phenanthrene	UG/KG	230	37%	100000	0	44	119	230 J	370 U	20 J	430 U	390 U	380 U	380 U
Phenoi Pyrene	UG/KG UG/KG	51 230	13% 52%	330 100000	0	16 62	119 119	2000 U 2000 U	370 U 370 U	370 U	430 U	390 U	380 U	380 U
Explosives	UGIKG	230	3270	100000	3	02	119	2000 0	370 0	33 J	430 U	390 U	380 U	380 U
1,3,5-Trinitrobenzene	UG/KG	0	0%	0	0	0	119	130 U	130 U	130 U	130 U	130 U	130 U	130 U
1,3-Dinitroberizene	UG/KG	0	0%	0	0	0	119	130 U	130 U	130 U	130 U	130 U	130 U	130 U
2,4,6-Trinitrotoluene	UG/KG	0	0%	0	0	0	119	130 U	130 U	130 U	130 U	130 U	130 U	130 U
2,4-Dinitrotoluene 2.6-Dinitrotoluene	UG/KG	0	0%	0	0	0	119	130 U	130 U	130 U	130 U	130 U	130 U	130 U
2,5-Dinitrotoluene 2-Nitrotoluene	UG/KG UG/KG	0	0%	0	0	0	119 101	130 U	130 U	130 U	130 U	130 U	130 U	130 U
2-amino-4,6-Dinitrotoluene	UG/KG	0	0%	0	n	0	119	130 U	130 U	130 U	130 U	130 U	130 U	130 U
3-Nitrotoluene	UG/KG	0	0%	0	0	0	101						.00 0	100 0
4-Nitrotoluene	UG/KG	0	0%	0	0	0	101							
4-amino-2,6-Dinitrotoluene	UG/KG	0	0%	0	0	0	119	130 U	130 U	130 U	130 U	130 U	130 U	130 U
HMX Nitrobenzene	UG/KG UG/KG	0	0% 0%	0	0	0	119 101	130 U	130 U	130 U	130 U	130 U	130 U	130 ∪
RDX	UG/KG	0	0%	0	0	0	119	130 U	130 U	130 U	130 U	130 U	130 U	130 U
Tetryl	UG/KG	0	0%	0	0	Ö	119	140 U	130 U	130 U	130 U	130 U	130 U	180 U
Pesticides and PCBs														
4.4'-DDD	UG/KG	54	7%	3.3	5	8	119	4.1 U	5.5	8.9	4.3 U	4 U	3.8 U	3.8 U
4,4'-DDE	UG/KG	32	8%	3.3	7	9	119	4.1 U	12	20	4.3 U	4 U	3.8 U	3 8 U
4,4'-DDT Aldrin	UG/KG UG/KG	23	5% 0%	3 3 5	5	6	119 119	4.1 U 2.1 U	1.9 U	1.9 U	4.3 U 2.2 U	4 U 2 U	3.8 U 2 U	3.8 U 2 U
Alpha-BHC	UG/KG	1.4	2%	20	o	2	119	2.1 U	1.9 U	1.9 U	2.2 U	2 U	2 U	2 U
Alpha-Chlordane	UG/KG	16	6%	94	0	7	119	2.1 U	1.9 U	1.9 U	2.2 U	2 U	2 U	2 U
Arocior-1016	UG/KG	0	0%	100	0	0	119	41 U	37 U	37 U	43 U	40 U	38 U	38 U
Aroclor-1221	UG/KG	0	0%	100	0	0	119	82 U	76 U	76 U	88 U	80 U	77 U	78 U
Aroclor-1232 Aroclor-1242	UG/KG UG/KG	0	0% 0%	100 100	0	0	119 119	41 U 41 U	37 U 37 U	37 U 37 U	43 U 43 U	40 U 40 U	38 U 38 U	38 U 38 U
Aroclor-1248	UG/KG	0	0%	100	0	0	119	41 U	37 U	37 U	43 U	40 U	38 U	38 U
Aroclor-1254	UG/KG	ő	0%	100	ő	o o	119	41 U	37 U	37 U	43 U	40 U	38 U	38 U
Aroclor-1260	UG/KG	27	2%	100	0	2	119	41 U	37 U	37 U	43 U	40 U	38 U	38 U
Beta-BHC	UG/KG	4 5	1%	36	0	1	119	2.1 U	1.9 U	1.9 U	2.2 U	2 U	2 U	2 U
Delta-BHC	UG/KG	0	0%	40	0	0	119	2.1 U	1.9 U	1.9 U	2.2 U	2 U	2 U	2 U
Dieldrin Endosulfan I	UG/KG UG/KG	27 5 2	6% 1%	5 2400	5	7	119 119	4.1 U 2.1 U	3.7 U 1.9 U	3.7 U	4.3 U	4 U 2 U	3.8 U	3.8 ∪
Endosulfan II	UG/KG	5.2 3.1	1%	2400	0	1	119	2.1 U 4.1 U	1.9 U 3.7 U	1.9 U 3.7 U	2.2 U 4.3 U	2 U 4 U	2 U 3.8 U	2 U 3.8 U
Endosulfan sulfate	UG/KG	0	0%	2400	0	Ó	119	4.1 U	3.7 U	3.7 U	4.3 U	4 U	3.8 U	3.8 U
Endrin	UG/KG	0	0%	14	0	0	119	4 1 U	3.7 U	3.7 U	4.3 U	4 U	3.8 U	38 U

TABLE 1 SEAD-57 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

								SEAD-57 TP57-2	SEAD-57 TP57-3	SEAD-57 TP57-4	SEAD-57 TP57-8	SEAD-57 TP57-7	SEAD-57 TP57-8	SEAD-57 TP57-9
								SOIL						
								TP57-2	TP57-3	TP57-4	TP57-6	TP57-7	TP57-8	TP57-9
								3	3	3	3	3	3	3
								3	3	3	3	3	3	3
								12/02/93 SA	11/09/93 SA	11/09/93 SA	12/02/93 SA	12/02/93 SA	12/02/93 SA	12/02/93 SA
		Maximum	Frequency of of	Criteria	Number	Number of Times	Number of Samples	P1S1 RI	P1S1 RI	P1S1 RI	P1S1 RI	P1S1 RI	P1S1 RI	P1S1 RI
Parameter	Units	Concentration	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)						
Endrin aldehyde	UG/KG	3.8	1%	0	0	1	119	4.1 U	3.7 U	3.7 U	4.3 U	4 U	3.8 U	3.8 U
Endrin ketone	UG/KG	4	1%	0	0	1	119	4.1 U	3.7 U	3.7 U	4.3 U	4 U	3.8 U	3,8 U
Gamma-BHC/Lindane	UG/KG	0	0%	100	0	0	119	2.1 U	1.9 U	1.9 U	2.2 U	2 U	2 U	2 U
Gemma-Chlordane	UG/KG	0	0%	0	0	0	119	2.1 U	1.9 U	1.9 U	2.2 U	2 U	2 U	2 U
Heptachlor	UG/KG	1.6	1%	42	0	1	119	2.1 U	1.9 U	1.9 U	2.2 U	2 U	2 U	2 U
Heptachlor epoxide	UG/KG	2	1%	0	0	1	119	2.1 U	1.9 U	1.9 U	2.2 U	2 U	2 U	2 U
Methoxychlor	UG/KG	0	0%	0	0	0	119	21 U	19 U	19 U	22 U	20 U	20 U	20 U
Toxaphene	UG/KG	0	0%	•	•	0	119	210 U	190 U	190 U	220 U	200 U	200 U	200 U
Herbicides	UG/KG	0	0%	0	0	0	0	0011						
2,4,5-T 2,4,5-TP/Silvex	UG/KG	0	0%	3800	0	0	18 18	6.2 U 6.2 U	5.6 UR 5.6 UR	5.7 UR 5.7 UR	6.6 U 6.6 U	6 U	5.8 U 5.8 U	5.8 U 5.8 U
2.4-D	UG/KG	0	0%	0	0	0	18	62 U	56 UR	57 UR	66 U	60 U	5.8 U	5.8 U
2.4-DB	UG/KG	0	0%	0	0	0	18	62 U	56 UR	57 UR	66 U	60 U	58 U	58 U
Dalapon	UG/KG	0	0%	0	0	0	18	150 U	140 UR	140 UR	160 U	150 U	140 U	140 U
Dicamba	UG/KG	0	0%	0	0	0	18	6.2 U	5.6 UR	5.7 UR	6.6 U	6 U	5.8 U	5.8 U
Dichloroprop	UG/KG	o	0%	0	o	n	18	62 U	56 UR	57 UR	66 U	60 U	58 U	58 U
Dinoseb	UG/KG	0	0%	0	o	0	18	31 U	28 UR	29 UR	33 U	30 U	29 U	29 U
MCPA	UG/KG	0	0%	o	0	0	18	6200 U	5600 UR	5700 UR	6600 U	6000 U	5800 U	5800 U
MCPP	UG/KG	0	0%	0	0	0	18	6200 U	5600 UR	5700 UR	6600 U	6000 U	5800 U	5800 U
Metals and Cyanide														
Aluminum	MG/KG	22900	100%	0	0	119	119	17300	10800	16900	22900	18300	15700	10300
Antimony	MG/KG	6.5	49%	0	0	58	119	4.5 U	8.9 UJ	8.7 UJ	5.8 J	4.9 U	6.5 J	3.5 U
Arsenic	MG/KG	17.8	92%	13	1	110	119	9.5	4.8	4.2	7.5	8.5	4.8	8.6
Barium	MG/KG	237	100%	350	0	119	119	82.7	62.8	90.1	174	144	113	70.8
Beryllium	MG/KG	1.8	100%	7.2	0	119	119	0.81 J	0.61 J	0.91	1 J	0.87 J	0.77 J	0.49 J
Cadmium	MG/KG	28.6	22%	2.5	6	26	119	0.44 UR	0.55 U	0.54 U	0.53 UR	0.48 UR	0.36 UR	0.34 UR
Calcium	MG/KG	213000	100%	0	0	119	119	19200	15300	22400	15200	18700	67000	84000
Chromium	MG/KG	32.1	100%	30	2	119	119	29.9	20.2	28.9	30.8	24.2	25	16.5
Cobalt	MG/KG	29.7	100%	0	0	119	119	13.7	10.4	13.3	9.4 J	12.8	12.2	8
Copper	MG/KG	2930	92%	50	2	109	119	2930 J	32.2	39.2	26.8 J	19.7 J	25.4 J	22.6 J
Cyanide	MG/KG	0	0%	27	0	0	119	0.68 U	0.48 U	0.49 U	0.74 U	0.67 U	0.63 U	0.62 U
Iron Lead	MG/KG MG/KG	39800	100%	0	0	119	119	35700	24300	30500	30200	29300	27600	19900
Magnesium	MG/KG	1860 27600	100% 100%	63	2	119 119	119 119	1860 8930	60.9	19.5 7890	21.9 6640	14.7 6060	14.9 10000	16.2
Manganese	MG/KG	2580	100%	1600	5	119	119	463 J	4920 350	472	247 J	818 J	500 J	27600 323 J
Mercury	MG/KG	0.15	75%	0.18	0	89	119	0.06 J	0.05 J	0.05 J	0.04 J	0.05 J	0.03 U	0.02 U
Nickel	MG/KG	54.1	100%	30	37	119	119	51.6	38.1	54.1	37.3	31.8	40.1	29.8
Potassium	MG/KG	3250	100%	0	0	119	119	2080	935	2110	3250	2190	1910	1350
Selenium	MG/KG	2.7	63%	3.9	0	75	119	1,1 J	0.52 J	0.39 J	0.73 J	1.2 J	0.96 J	1.1 J
Silver	MG/KG	1.7	38%	2	0	45	119	0.87 U	1.1 UJ	1.1 UJ	1.1 U	0.96 U	0.72 U	0.67 U
Sodium	MG/KG	270	34%	ō	o	41	119	99 J	70.7 J	97.9 J	102 J	82.7 J	136 J	128 J
Thallium	MG/KG	6.7	82%	ŏ	o	98	119	0.27 UJ	0.24 J	0.16 U	0.95 J	0.96 J	0.88 J	0.91 J
Vanadium	MG/KG	104	99%	o	o	118	119	31.4	28.3	104	39	32.9	25.4	17.9
Zinc	MG/KG	1250	93%	109	11	111	119	1250 J	93.8	120	85.6 J	63.8 J	82.7 J	68.5 J
Other Analyses							. 10		0.0	440	2010 0	50.0		22.0
Cation exchange capacity	MEQ/100G	31.4	100%	0	0	32	32							
Nitrate/Nitrite Nitrogen	MG/KG	4.4	98%	0	0	99	101							
Percent Solids	% WW	94	100%	0	0	101	101							
Soil pH (std. units)	pH units	7.83	100%	0	0	33	33							
Total Organic Carbon	MG/KG	70500	100%	0	0	32	32							

Notes:
(1) Criteria based on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives, http://www.dec.state.ny.us/websitel/regs/subpart375\_6.html
(2) Sample-duplicate pairs were treated as discreet samples.
(3) A bolded and outlined cell indicates a concentration that exceeded the criteria.

- U = compound was not detected

- U = the reported value is an estimated concentration U = the compound was not detected; the associated reporting limit is approximate R = the analytical result was rejected during data validation.

							DENTEC	TAICH I DE	OI ACIIVII I			
								SEAD-57	SEAD-57	SEAD-57	SEAD-57	SEAD-57
								MW57-1	MW57-1	MW57-1	MW57-1	MW57-1
								GW	GW	GW	GW	GW
								MW57-1	122029	122227	572002	572100
								3.1	7	7	7	7
								5.2	7	7	7	7
								2/3/1994	4/23/1999	12/2/1999	1,23/2000	4,26,2000
								SA	SA	SA		
			Frequency		Number	Number	Number	ESI	RI PIIASE I STEP 1	RI PHASE 1 STEP 1-PLUT RESAMP	SA R1 PHASE 1 STEP 1	SA SA
		Maximum	of	Criteria	of	of Times	of Samples	0	RITHASETSTEFT	RIFHASE I STEP 1-PLUT RESAMP	KI PHASE I STEP I	RI PHASE 1 STEP 1
Parameter	Units	Value	Detection	Level	Exceedances	Detected	Analyzed	Value (Q)	Value (O)			2
Volatile Organic Compounds	Cincs	V 2100	Detection	Devel	Exceedances	Detected	Analyzed	value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
1,1,1,2-Tetrachloroethane	UG/L	0	0%	5	0	0	16					
1,1,1-Trichloroethane	UG, L	0	0%	5	0	0	19	10.11			0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	-	11	10 U			0.5 U	0.5 U
1,1,2-Trichloroethane	UG/L	0	0%	1		0		10 U			0.5 U	0.5 UR
1,1-Dichloroethane	UG/L	0	0%	5	0	0	19 19	10 U			0.5 U	0.5 U
1,1-Dichloroethene	UG/L	0						10 U			0.5 U	0.5 U
			0%	5	0	0	19	10 U			0.5 U	0.5 U
1.1-Dichloropropene	UG/L	0	0%	5	0	0	16				0.5 U	0.5 U
1,2,3-Trichlorobenzene	UG.L	0	0%	5	0	0	16				0.5 U	0.5 U
1,2,3-Trichloropropane	UG/L	0	0%	0.04	0	0	16				0.5 U	0.5 U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	16				0.5 U	0.5 U
1,2,4-Trimethylbenzene	UG/L	0	0%	5	0	0	16				0.5 U	0.5 U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	16				0.5 U	0.5 U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	16				0.5 U	0.5 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	16				0.5 U	0.5 U
1,2-Dichloroethane	UG, L	0	0%	0.6	0	0	19	10 U			0.5 U	0.5 U
1,2-Dichloroethene (total)	UG/L	0	0%	5	0	0	3	10 U				
1,2-Dichloropropane	UG, L	0	0%	1	0	0	19	10 U			0.5 U	0.5 U
1,3,5-Trimethylbenzene	UG/L	0	0%	5	0	0	16				0.5 U	0.5 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	16				0.5 U	0.5 U
1,3-Dichloropropane	UG/L	0	0%	5	0	0	16				0.5 U	0.5 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	16				0.5 U	0.5 U
2,2-Dichloropropane	UG, L	0	0%		0	0	16				0.5 U	0.5 U
2-Chlorotoluene	UG, L	0	0%	5	0	0	16				0.5 U	0.5 U
2-Nitropropane	UG/L	0	0%		0	0	16				25 U	25 UJ
Acetone	UG/L	0	0%		0	0	19	10 U			5 U	5 U
Acrylonitrile	UG/L	0	0%	5	0	0	16				0.5 U	0,5 U
Allyl chloride	UG/L	0	0%	5	0	0	16				0.5 U	0.5 U
Benzene	UG/L	0	0%	1	0	0	19	10 U			0.5 U	0.5 U
Bromobenzene	UG/L	0	0%	5	0	0	16				0.5 U	0.5 U
Bromochloromethane	UG/L	0	0%	5	0	0	16				0.5 U	0.5 U
Bromodichloromethane	UG, L	0	0%	80	0	0	19	10 U			0.5 U	0.5 U
Bromoform	UG/L	0	0%	80	0	0	19	10 U			0.5 U	0.5 U
Butyl chloride	UG/L	0	0%	5	0	0	16				0.5 U	0.5 U
Carbon disulfide	UG/L	0	0%	-	ő	0	19	10 U			0.5 U	0.5 U
Carbon tetrachloride	UG/L	0	0%	5	Ö	0	19	10 U			0.5 U	0.5 U
Chloroacetonitrile	UG/L	0	0%		0	0	16	10 0			25 U	25 U
Chlorobenzene	UG/L	0	0%	5	0	0	19	10 U			0.5 U	0.5 U
Chlorodibromomethane	UG/L	0	0%	80	Ö	0	19	10 U			0.5 U	0.5 U
Chloroethane	UG/L	0	0%	5	0	0	19	10 U			0.5 U	0.5 U
Chloroform	UG/L	0	0%	7	0	0	19	10 U			0.5 U	0.5 U
Cis-1,2-Dichloroethene	UG/L	0	0%	5	0	0	16	10 0				
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	o	0	19	10 U			0.5 U 0.5 U	0.5 U
Dichlorodifluoromethane	UG, L	0	0%	5	0	0	16	10 0				0.5 U
Dichloromethyl methyl ketone	UG/L	0	0%	,	0	0	11				0.5 U	0.5 U
Ethyl benzene	UG/L	0	0%	5	0	0	19	10 U			25 U	25 UJ
Ethyl ether	UG, L	0	0%	,	0	0	16	10 0			0.5 U	0.5 U
Ethyl methacrylate	UG/L	0	0%		0	0	16				0.5 U	0.5 U
Hexachlorobutadiene	UG/L	0	0%	0.5	0	0					0.5 U	0.5 U
Hexachloroethane	UG. L	0	0%	5	0	0	16 16				0.5 U	0.5 U
Isopropylbenzene	UG/L	0	0%	5	0	0					0.5 U	0 5 U
	UG/L	0		)		-	16				0.5 U	0.5 U
Meta/Para Xylene Methacrylonitrile	UG/L UG/L	0	0% 0%	5	0	0	16				0.5 U	0.5 U
				5	0		16				0.5 U	0.5 U
Methyl Z-propenoate	UG/L	0	0%		0	0	16				0.5 U	0.5 U
Methyl Tertbutyl Ether Methyl bromide	UG/L UG/L	0	0% 0%	5	0	0	16	10.11			0.5 U	0.5 U
memyr bronnige	UUIL	U	070	5	U	U	19	10 U			0.5 じ	0.5 U

							SENECA	ARCWI DE	OI ACIIVII I			
								SEAD-57 MW57-1 GW MW57-1	SEAD-57 MW57-1 GW 122029	SEAD-57 MW57-1 GW 122227	SEAD-57 MW57-1 GW 572002	SEAD-57 MW57-1 GW 572100
								3.1	7	7	7	7
								5.2	7	7	7	7
								2/3/1994	4/23/1999	12/2/1999	1/23/2000	4/26/2000
								SA	SA	SA	SA	SA
			Frequency		Number	Number	Number	ESI	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1-PLUT RESAMP	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1
		Maximum	of	Criteria	of	of Times	of Samples	0	1	2	1	2
Parameter	Units	Value	Detection	Level	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl butyl ketone	UG/L	0	0%	20101	0	0	19	10 U	value (4)	value (Q)	2.5 U	2.5 U
Methyl chloride	UG/L	Ö	0%	5	o	0	19	10 U			0.5 U	0.5 U
Methyl ethyl ketone	UG/L	0	0%		o	0	19	10 U			5 U	5 U
Methyl iodide	UG/L	0	0%	5	Ö	0	16	10 0			0.5 U	0.5 U
Methyl isobutyl ketone	UG/L	0	0%		0	0	19	10 U			2.5 U	2.5 U
Methyl methacrylate	UG/L	0	0%	50	0	0	16	10 0			0.5 U	0.5 U
Methylene bromide	UG/L	0	0%	5	o	0	16				0.5 U	0.5 U
Methylene chloride	UG/L	0	0%	5	0	0	19	10 U			0.5 U	0.5 U
Naphthalene	UG/L	0	0%	-	0	0	16	10 0			0.5 U	0.5 U
Nitrobenzene	UG/L	0	0%	0.4	0	0	16				25 UJ	25 UJ
Ortho Xylene	UG/L	0	0%	5	0	0	16				0.5 U	0.5 U
Pentachloroethane	UG/L	0	0%	5	0	0	8				0.5 UJ	2 UR
Propionitrile	UG/L	0	0%		0	0	16				25 U	25 U
Propylbenzene	UG/L	0	0%	5	0	0	16				0.5 U	0.5 U
Styrene	UG/L	0	0%	5	o	0	19	10 U			0.5 U	0.5 U
Tetrachloroethene	UG/L	Õ	0%	5	0	0	19	10 U			0.5 U	0.5 U
Tetrahydrofuran	UG/L	Ô	0%		0	0	16	10 0			2.5 U	2.5 U
Toluene	UG/L	0	0%	5	0	0	19	10 U			0.5 U	0.5 U
Total Xylenes	UG/L	0	0%	5	0	0	19	10 U			0.5 U	0.5 U
Trans-1,2-Dichloroethene	UG/L	0	0%	5	0	0	16	10 0			0.5 U	0.5 U
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	o	0	19	10 U			0.5 U	0.5 U
Trans-1,4-Dichloro-2-butene	UG/L	0	0%	0.4	0	0	16	10 0			0.5 U	0.5 U
Trichloroethene	UG/L	0	0%	5	Ö	0	19	10 U			0.5 U	0.5 U
Trichlorofluoromethane	UG/L	0	0%	5	0	0	16	10 0			0.5 U	0.5 U
Vinyl chloride	UG/L	0	0%	2	0	0	19	10 U			0.5 U	0.5 U
n-Butylbenzene	UG/L	0	0%	5	0	0	16				0.5 U	0.5 U
p-Chlorotoluene	UG/L	0	0%	5	0	0	16				0.5 U	0.5 U
p-Isopropyltoluene	UG/L	0	0%	5	0	0	16				0.5 U	0.5 U
sec-Butylbenzene	UG/L	0	0%	5	0	0	16				0.5 U	0.5 U
tert-Butylbenzene	UG/L	0	0%	5	0	0	16				0.5 U	0.5 U
Semivolatile Organic Compound	ds											
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	19	10 U			1 U	1.1 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	19	10 U			1 U	1.1 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	19	10 U			1 U	1.1 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	19	10 U			1 U	1.1 U
2,2'-oxybis(1-Chloropropane)	UG/L	0	0%		0	0	3	10 U				
2,4,5-Trichlorophenol	UG/L	0	0%	1	0	0	18	25 U			2.5 U	2.8 U
2,4,6-Trichlorophenol	UG/L	0	0%	1	0	0	18	10 U			1 U	1.1 U
2,4-Dichlorophenol	UG/L	0	0%	5	0	0	18	10 U			1 U	1.1 U
2,4-Dimethylphenol	UG/L	0	0%		0	0	18	10 U			1 U	1.1 U
2,4-Dinitrophenol	UG/L	0	0%		0	0	17	25 U			2.5 UJ	2.8 U
2,4-Dinitrotoluene	UG/L	0	0%	5	0	0	19	10 U			1 U	1.1 U
2,6-Dinitrotoluene	UG/L	0	0%	5	0	0	19	10 U			1 U	1.1 U
2-Chloronaphthalene	UG/L	0	0%		0	0	19	10 U			1 U	1.1 U
2-Chlorophenol	UG/L	0	0%		0	0	18	10 U			1 U	1.1 U
2-Methylnaphthalene	UG/L	0	0%		0	0	19	10 U			1 U	1.1 U
2-Methylphenol	UG/L	0	0%		0	0	18	10 U			1 U	1.1 U
2-Nitroaniline	UG/L	0	0%	5	0	0	19	25 U			2.5 U	2.8 U
2-Nitrophenol	UG/L	0	0%	1	0	0	18	10 U			1 U	1.1 U
3,3'-Dichlorobenzidine	UG/L	0	0%	5	0	0	11	10 U			1 UJ	1.1 UR
3-Nitroaniline	UG/L	0	0%	5	0	0	19	25 U			2.5 U	2.8 UJ
4,6-Dinitro-2-methylphenol	UG/L	0	0%	1	0	0	18	25 U			2.5 U	2.8 U
4-Bromophenyl phenyl ether	UG/L	0	0%		0	0	19	10 U			1 U	1.1 U
4-Chloro-3-methylphenol	UG/L	0	0%	1	0	0	18	10 U			1 U	1.1 U
4-Chloroaniline	UG/L	0	0%	5	0	0	19	10 U			1 U	1.1 UJ
4-Chlorophenyl phenyl ether	UG/L	0	0%		0	0	19	10 U			1 U	1.1 U

SEAD-57 MW57-1 SEAD-57

MW57-1

SEAD-57

MW57-1

SEAD-57

MW57-1

SEAD-57

MW57-1

								GW	GW	GW	WIW 37-1	WW 37-1
								MW57-1	122029		GW	GW
									122029	122227	572002	572100
								3.1	7	7	7	7
								5.2	7	7	7	7
								2/3,1994	4/23/1999	12/2/1999	1/23/2000	4/26/2000
								SA	SA	SA	SA	SA
			Frequency		Number	Number	Number	ESI	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1-PLUT RESAMP	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1
		Maximum	of	Criteria	of	of Times	of Samples	0	1	2	1	2
Parameter	Units	Value	Detection	Level	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	
4-Methylphenol	UG/L	0	0%	2010	0	0	18	10 U	value (Q)	value (Q)		Value (Q)
4-Nitroaniline	UG/L	0		-	0						1 U	1.1 U
			0%	5		0	19	25 U			2.5 UJ	2.8 UJ
4-Nitrophenol	UG/L	0	0%	1	0	0	17	25 U			2.5 U	2.8 ∪
Acenaphthene	UG/L	0	00%		0	0	19	10 U			1 U	11 U
Acenaphthylene	UG/L	0	0%		0	0	19	10 U			1 U	1.1 U
Anthracene	UG/L	0	0%		0	0	19	10 U			1 U	1.1 U
Benzo(a)anthracene	UG/L	0	00,0		0	0	19	10 U			1 U	11.0
Benzo(a)pyrene	UG/L	0	0%	0	0	0	19	10 U			1 U	1.1 U
Benzo(b)fluoranthene	UG/L	0	0%		0	0	19	10 U			1 U	1.1 U
Benzo(ghi)perylene	UG/L	0	0%		0	0	19	10 U				
Benzo(k)fluoranthene	UG.L	0	0%		0	0	19	10 U			1 U	1.1 U
Bis(2-Chlorocthoxy)methane	UG/L	0			0		• •				1 U	11 (
			0%	3		0	19	10 U			1 U	1.1 U
Bis(2-Chloroethyl)ether	UG/L	0	00,0	1	0	0	19	10 U			1 U	1.1 U
Bis(2-Chloroisopropyl)ether	UG: L	0	0%	5	0	0	16				1 U	1.1 U
Bis(2-Ethylhexyl)phthalate	UG/L	20	5%	5	1	1	19	10 U			1 U	1.1 U
Butylbenzylphthalate	UG/L	0.077	5%		0	1	19	10 U			1 U	11 U
Carbazole	UG/L	0	0%		0	0	19	10 U			1 Ü	1.1 UJ
Chrysene	UG, L	0	0%		0	0	19	10 U			1 U	1.1 U
Di-n-butylphthalate	UG/L	0	0%	50	0	0	19	10 U				
Di-n-octylphthalate	UG/L	0	0%	20	0	0	19	10 U			1 U	11 U
					-						1 U	1.1 U
Dibenz(a,h)anthracene	UG/L	0	0%		0	0	19	10 U			1 U	llU
Dibenzofuran	UG/L	0	0%		0	0	19	10 U			1 U	1.1 U
Diethyl phthalate	UG/L	1.9	5%		0	1	19	10 U			1 U	1.1 U
Dimethylphthalate	UG/L	0	0%		0	0	19	10 U			1 U	1.1 U
Fluoranthene	UG/L	0	0%		0	0	19	10 U			1 U	1.1 U
Fluorene	UG/L	0	0%		0	0	19	10 U			1 U	1.1 U
Hexachlorobenzene	UG/L	0	0%	0.04	0	0	19	10 U			1 U	1.1 U
Hexachlorobutadiene	UG/L	0	0%	0.5	0	0	19	10 U			1 U	11 U
Hexachlorocyclopentadiene	UG/L	0	0%	5	0	0	19	10 U			1 U	1.1 U
Hexachloroethane	UG/L	0	0%	5	0	0	19	10 U				
Indeno(1,2,3-ed)pyrene	UG/L	0	0%	5	0	0	19	10 U			1 U	1.1 U
Isophorone	UG/L				-						1 U	1.1 U
		0	0%		0	0	19	10 U			1 U	1.1 U
N-Nitrosodiphenylamine	UG/L	0	0%		0	0	19	U 01			l U	1.1 U
N-Nitrosodipropylamine	UG/L	0	0%		0	0	19	10 U			1 U	1.1 U
Naphthalene	UG/L	0	0%		0	0	19	10 U			1 U	1.1 U
Nitrobenzene	UG/L	0	0%	0.4	0	0	19	10 U			ΙU	1.1 U
Pentachlorophenol	UG/L	0	0%	1	0	0	18	25 U			2.5 U	2.8 U
Phenanthrene	UG, L	0	0%		0	0	19	10 U			1 U	11 U
Phenol	UG/L	0	0%	1	0	0	18	10 U			i Ü	1.1 U
Pyrene	UG/L	0	0%		0	0	19	10 U			1 U	11 U
Explosives	00,00		0.0		· ·	•	"	10 0			1 0	110
1,3,5-Trinitrobenzene	UG,L	0	0%	5	0	0	20	0.13.11				
				-		0	20	0.13 U			0.25 U	0.25 U
1,3-Dinitrobenzene	UG/L	0	0%	5	0	0	20	0.13 U			0.25 U	0.25 U
2,4,6-Trinitrotoluene	UG/L	0	0%	5	0	0	20	0.13 U			0.25 U	0.25 U
2,4-Dinitrotoluene	UG/L	0	0%	5	0	0	20	0.13 U			0.25 U	0.25 U
2,6-Dinitrotoluene	UG, L	0	0%	5	0	0	20	0.13 U			0.25 U	0.25 U
2-Nitrotoluene	UG:L	0	0%	5	0	0	16				0.25 U	0.25 U
2-amino-4,6-Dinitrotoluene	UG/L	0	0%		0	0	20	0.13 U			0.25 U	0.25 U
3-Nitrotoluene	UG/L	0	0%	5	0	0	16				0.25 U	0.25 U
4-Nitrotoluene	UG/L	0	0%	5	0	0	16				0.25 U	0.25 U
4-amino-2,6-Dinitrotoluene	UG/L	0	0%	,	0	0	20	0.13 U				
											0.25 U	0.25 U
IIMX	UG/L	0	0%	0.4	0	0	20	0.13 U			0.25 U	0.25 LI
Nitrobenzene	UG/L	0	0%	0.4	0	0	16				0.25 U	0.25 L1
RDX	UG/L	0	0%		0	0	20	0.13 U			0.25 U	0 25 U
Tetryl	UG/L	0	0%		0	0	20	0.13 U			0.25 U	0.25 U
Pesticides and PCBs												

							BELLECA	MUNI DEL	OI ACIIVII I			
								SEAD-57 MW57-1 GW	SEAD-57 MW57-1 GW	SEAD-57 MW57-1 GW	SEAD-57 MW57-1 GW	SEAD-57 MW57-1 GW
								MW57-1	122029	122227	572002	572100
								3.1 5.2	7	7 7	7 7	7
								2/3/1994	4/23/1999	12/2/1999	1/23/2000	4/26/2000
								SA	SA	SA	SA	SA
		Maximum	Frequency	0-241-	Number of	Number of Times	Number	ESI 0	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1-PLUT RESAMP	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1
Parameter	Units	Value	Detection	Criteria Level	Exceedances	Detected	of Samples Analyzed	Value (Q)	Value (Q)	2 Value (Q)	1 Value (Q)	2 Value (Q)
4,4'-DDD	UG/L	0	0%	0.3	0	0	19	0.11 U	· utae (4)	value (Q)	0.01 U	0.012 U
4,4'-DDE	UG/L	0	0%	0.2	0	0	19	0.11 U			0.01 U	0.012 U
4,4'-DDT Aldrin	UG/L UG/L	0	0% 0%	0.2	0	0	19 19	0.11 U 0.054 U			0.01 U 0.0052 U	0.012 U
Alpha-BHC	UG/L	0	0%	0.01	0	0	19	0.054 U			0.0052 U	0.0058 U 0.0058 U
Alpha-Chlordane	UG/L	0	0%		0	0	19	0.054 U			0.0052 U	0.0058 U
Aroclor-1016	UG/L	0	0%	0.09	0	0	19	1.1 U			0.1 U	0.12 U
Aroclor-1221 Aroclor-1232	UG/L UG/L	0	0% 0%	0.09	0	0	19 19	2.2 U			0.21 U	0.23 U
Aroclor-1232 Aroclor-1242	UG/L	0	0%	0.09	0	0	19	1.1 U 1.1 U			0.1 U 0.1 U	0.12 U 0.12 U
Aroclor-1248	UG/L	0	0%	0.09	0	0	19	1.1 U			0.1 U	0.12 U
Aroclor-1254	UG/L	0	0%	0.09	0	0	19	1.1 U			0.1 U	0.12 U
Aroclor-1260	UG/L	0	0%	0.09	0	0	19	1.1 U			0.1 U	0.12 U
Beta-BHC Delta-BHC	UG/L UG/L	0	0% 0%	0.04	0	0	19 19	0.054 U			0.0052 U	0.0058 U
Dieldrin	UG/L	0	0%	0.004	0	0	19	0.054 U 0.11 U			0.0052 U 0.01 U	0.0058 U 0.012 U
Endosulfan I	UG/L	o	0%	0.004	0	0	19	0.054 U			0.0052 U	0.0058 U
Endosulfan II	UG/L	0	0%		0	0	19	0.11 U			0.01 U	0.012 U
Endosulfan sulfate	UG/L	0	0%		0	0	19	0.11 U			0.01 U	0.012 U
Endrin Endrin aldehyde	UG/L UG/L	0	0%	0 5	0	0	19 19	0.11 U 0.11 U			0.01 U	0.012 U
Endrin ketone	UG/L	0	0%	5	0	0	19	0.11 U			0.01 U 0.01 U	0.012 U 0.012 U
Gamma-BHC/Lindane	UG/L	0	0%	0.05	o	o	19	0.054 U			0.0052 U	0.0058 U
Gamma-Chlordane	UG/L	0	0%		0	0	19	0.054 U			0.0052 U	0.0058 U
Heptachlor	UG/L	0	0%	0.04	0	0	19	0.054 U			0.0052 U	0.0058 U
Heptachlor epoxide Hexachlorobenzene	UG/L UG/L	0	0% 0%	0.03	0	0	19 16	0.054 U			0.0052 U 0.01 U	0.0058 U 0.012 U
Methoxychlor	UG/L	0	0%	35	0	0	19	0.54 U			0.052 U	0.012 U
Toxaphene	UG/L	0	0%	0.06	0	0	19	5.4 U			0.52 U	0.58 U
Herbicides	****		001			0						
2,4,5-T 2,4,5-TP/Silvex	UG/L UG/L	0	0% 0%	35 0.26	0	0	3	0.12 U 0.12 U				
2,4-D	UG/L	0	0%	50	0	0	3	1.2 U				
2,4-DB	UG/L	0	0%		0	0	3	1.2 U				
Dalapon	UG/L	0	0%	50	0	0	3	2.7 U				
Dicamba	UG/L UG/L	0	0% 0%	0.44	0	0	3	0.12 U				
Dichloroprop Dinoseb	UG/L	0	0%	1	0	0	3	1.2 U 0.58 U				
MCPA	UG/L	0	0%	0.44	0	0	3	120 U				
MCPP	UG/L	0	0%		0	0	3	120 U				
Metals												
Aluminum Antimony	UG/L UG/L	6540 44.7	100% 14%	3	0 2	21	21	4200 44.7 J	716 J 2.2 U	686 2.7 U	692 J 3 J	136 J
Arsenic	UG/L	4.1	10%	10	0	2	21	1.4 U	1.8 U	2.7 U	2.5 U	4.6 U 2.5 U
Barium	UG/L	129	100%	1000	o	21	21	36.5 J	15.7 J	19.4 J	17.5 J	16 J
Beryllium	UG/L	0.63	5%	4	0	1	21	0.4 U	0.1 U	0.2 U	0.1 U	0.3 U
Cadmium	UG/L	3.1	10%	5	0	2	21	2.1 U	0.3 U	0.3 U	0.25 J	0.3 U
Calcium Chromium	UG/L UG/L	297000 14,5	100% 62%	50	0	21 13	21 21	82000 7.7 J	49400 J 1.3 J	67300 0.9 U	63700 1.3 J	70100 J 2.2 U
Cobalt	UG/L	14.8	5%	30	0	13	21	4.4 U	1.5 U	0.9 U 2 U	1.3 U	2.2 U
Copper	UG/L	19.5	48%	200	0	10	21	3.1 U	2.3 J	3.2 J	3.7 J	19.5 J
Cyanide	UG/L	0	0%		0	0	21	5 U	5 U	10 UJ	10 U	10 U
Iron Iron+Manganese	UG/L UG/L	9260 9587	90% 90%	300 500	12	19	21	6360	446 J	7,992	399 J	84.5 J
Iron+Manganese Lead	UG/L	2.2	14%	15	6	19	21 21	2.1 J	451 J 0.9 U	397.1 J 1 U	410 J 1.3 U	107.7 J 2.3 U
Magnesium	UG/L	36900	100%		0	21	21	11400	6330 J	8140	7980	8410

SEAD-57

MW57-1

GW

SEAD-57

MW57-1

GW

SEAD-57 MW57-1

GW

SEAD-57

MW57-1

GW

SEAD-57 MW57-1

GW

								GW	GW	GW	GW	GW
								MW57-1	122029	122227	572002	572100
								3.1	7	7	7	7
								5.2	7	7	7	7
								2/3/1994	4/23/1999	12/2/1999	1/23/2000	4/26/2000
								SA	SA	SA	SA	SA
			Frequency		Number	Number	Number	ESI	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1-PLUT RESAMP	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1
		Maximum	of	Criteria	of	of Times	of Samples	0	1	2	1	2
Parameter	Units	Value	Detection	Level	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Manganese	UG/L	327	90%	300	1	19	21	245	5 J	5.1 J	11 Ј	23.2
Mercury	UG/L	0	0%	0.7	0	0	21	0.04 U	0.1 U	0.1 UJ	0.1 U	0.1 U
Nickel	UG/L	18.8	29%	100	0	6	21	8.2 J	2 J	1.7 U	1.9 J	2.9 U
Potassium	UG/L	4600	100%		0	21	21	3860 J	567 J	629 Ј	481 J	551 J
Selenium	UG/L	2.4	10%	10	0	2	21	0.69 U	1.8 U	2.4 U	2.5 U	4 U
Silver	UG/L	3.1	14%	50	0	3	21	4.2 U	0.9 U	1.9 UJ	1.3 U	1.9 U
Sodium	UG/L	26100	100%	20000	2	21	21	4080 J	5730 J	7750	7000 J	7570
Thallium	UG/L	6.7	19%	2	4	4	21	1.2 U	1.9 U	5.2	3.2	3.9 U
Vanadium	UG/L	9.2	24%		0	5	21	7.6 J	1.6 U	1.5 U	1.8 U	2.9 U
Zinc	UG/L	85.1	95%		0	20	21	57.4	4.5 J	7.1 J	22	2.8 Ј
Other Analytes												
COD	MG/L	16	40%		0	6	15				5 U	12
Nitrate/Nitrite Nitrogen	MG/L	0.49	94%	10000	0	15	16				0.06	0.01 U
Total Dissolved Solids	MG/L	1030	100%		0	15	15				233	234
Total Hardness-CaCO3	MG/L	790	100%		0	15	15				180	210

<sup>(1)</sup> GA = NYSDEC Class GA Groundwater Standard (TOGS 1.1.1, June 1998)

MCL = Maximum Contaminant Level - Drinking Water Standards and Health Advisory (EPA 822-B-00-001)

<sup>(2)</sup> Shading indicates a concentration above the groundwater standard.

U = compound was not detected
J = the reported value is an estimated concentration
R = the analytical result was rejected during data validation.

SEAD-57

SEAD-57

SEAD-57

SEAD-57

SEAD-57

SEAD-57

SEAD-57

								MW57-2	MW57-2	MW57-2	MW57-2	MW57-2	MW57-3	MW57-3
								GW	GW	GW	GW	GW	GW	GW
								MW57-2	572006	572000	572108	572101	MW57-4	MW57-3
								4.1	8	8	8	8	4.1	4.1
								6.1	8	8	8	8	6.1	6.1
								2/3/1994	1/23/2000	1/23/2000	4/27/2000	4/27/2000	2/3/1994	2/3/1994
								SA	DU	SA	DU	SA	DU	SA
			Frequency		Number	Number	Number	ESI	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	ESI	ESI
		Maximum	of	Criteria	of	of Times	of Samples		1	1	2	2		
Parameter	Units	Value	Detection	Level	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds														
1,1,1,2-Tetrachloroethane	UG/L	0	0%	5	0	0	16		0.5 U	0.5 U	0.5 U	0.5 U		
1,1,1-Trichloroethane	UG/L	0	0%	5	0	0	19	10 U	0.5 U	0.5 U	0.5 U	0.5 U		10 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	11	10 U	0.5 U	0.5 U	0.5 UR	0.5 UR		10 U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	19	10 U	0.5 U	0.5 U	0.5 U	0.5 U		10 U
1,1-Dichloroethane	UG/L	0	0%	5	0	0	19	10 U	0.5 U	0.5 U	0.5 U	0.5 U		10 U
1,1-Dichloroethene 1,1-Dichloropropene	UG/L UG/L	0	0% 0%	5	0	0	19	10 U	0.5 U	0.5 U	0.5 U	0.5 U		10 U
1,2,3-Trichlorobenzene	UG/L	0	0%	5 5	0	0	16 16		0.5 U	0.5 U	0.5 U	0.5 U		
1,2,3-Trichloropropane	UG/L	0	0%	0.04	0	0	16		0.5 U 0.5 U	0.5 U 0.5 U	0.5 U	0.5 U		
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	16		0.5 U	0.5 U	0.5 U 0.5 U	0.5 U 0.5 U		
1,2,4-Trimethylbenzene	UG/L	0	0%	5	0	0	16		0.5 U	0.5 U	0.5 U	0.5 U		
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	16		0.5 U	0.5 U	0.5 UJ	0.5 UJ		
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	16		0.5 U	0.5 U	0.5 U	0.5 U		
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	16		0.5 U	0.5 U	0.5 U	0.5 U		
1,2-Dichloroethane	UG/L	0	0%	0.6	0	0	19	10 U	0.5 U	0.5 U	0.5 U	0.5 U		10 U
1,2-Dichloroethene (total)	UG/L	0	0%	5	0	0	3	10 U	0.0	0.0	0.5 0	0.5 0		10 U
1,2-Dichloropropane	UG/L	0	0%	1	0	0	19	10 U	0.5 U	0.5 U	0.5 U	0.5 U		10 U
1,3,5-Trimethylbenzene	UG/L	0	0%	5	0	0	16		0.5 U	0.5 U	0.5 U	0.5 U		
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	16		0.5 U	0.5 U	0.5 U	0.5 U		
1,3-Dichloropropane	UG/L	0	0%	5	0	0	16		0.5 U	0.5 U	0.5 U	0.5 U		
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	16		0.5 U	0.5 U	0.5 U	0.5 U		
2,2-Dichloropropane	UG/L	0	0%		0	0	16		0.5 U	0.5 U	0.5 U	0.5 U		
2-Chlorotoluene	UG/L	0	0%	5	0	0	16		0.5 U	0.5 U	0.5 U	0.5 U		
2-Nitropropane	UG/L	0	0%		0	0	16		25 U	25 U	25 UJ	25 UJ		
Acetone	UG/L	0	0%		0	0	19	10 U	5 U	5 U	5 U	5 U		10 U
Acrylonitrile	UG/L	0	0%	5	0	0	16		0.5 U	0.5 U	0.5 U	0.5 U		
Allyl chloride Benzene	UG/L UG/L	0	0%	5 1	0	0	16 19	10 77	0.5 U	0.5 U	0.5 U	0.5 U		
Bromobenzene	UG/L	0	0%	5	0	0	16	10 U	0.5 U	0.5 U	0.5 U	0.5 U		10 U
Bromochloromethane	UG/L	0	0%	5	0	0	16		0.5 U 0.5 U	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U 0.5 U		
Bromodichloromethane	UG/L	0	0%	80	0	0	19	10 U	0.5 U	0.5 U	0.5 U	0.5 U		10 U
Bromoform	UG/L	0	0%	80	0	0	19	10 U	0.5 U	0.5 U	0.5 U	0.5 U		10 U
Butyl chloride	UG/L	0	0%	5	0	0	16	10 0	0.5 U	0.5 U	0.5 U	0.5 U		10 0
Carbon disulfide	UG/L	0	0%		0	0	19	10 U	0.5 U	0.5 U	0.5 U	0.5 U		10 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	19	10 U	0.5 U	0.5 U	0.5 U	0.5 U		10 U
Chloroacetonitrile	UG/L	0	0%		0	0	16		25 U	25 U	25 U	25 U		•• •
Chlorobenzene	UG/L	0	0%	5	0	0	19	10 U	0.5 U	0.5 U	0.5 U	0.5 U		10 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	19	10 U	0.5 U	0.5 U	0.5 U	0.5 U		10 U
Chloroethane	UG/L	0	0%	5	0	0	19	10 U	0.5 U	0.5 U	0.5 U	0.5 U		10 U
Chloroform	UG/L	0	0%	7	0	0	19	10 U	0.5 U	0.5 U	0.5 U	0.5 U		10 U
Cis-1,2-Dichloroethene	UG/L	0	0%	5	0	0	16		0.5 U	0.5 U	0.5 U	0.5 U		
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	19	10 U	0.5 U	0.5 U	0.5 U	0.5 U		10 U
Dichlorodifluoromethane	UG/L	0	0%	5	0	0	16		0.5 U	0.5 U	0.5 U	0.5 U		
Dichloromethyl methyl ketone Ethyl benzene	UG/L	0	0% 0%	5	0	0	11	10.77	25 U	25 U	25 UR	25 UR		
Ethyl ether	UG/L	0	0%	3	0	0	19	10 U	0.5 U	0.5 U	0.5 U	0.5 U		10 U
Ethyl methacrylate	UG/L	0	0%		0	0	16 16		0.5 U 0.5 U	0.5 U	0.5 U	0.5 U		
Hexachlorobutadiene	UG/L	0	0%	0.5	0	0	16		0.5 U	0.5 U 0.5 U	0.5 U 0.5 U	0.5 U		
Hexachloroethane	UG/L	0	0%	5	0	0	16		0.5 U	0.5 U	0.5 U	0.5 U 0.5 U		
Isopropylbenzene	UG/L	0	0%	5	0	0	16		0.5 U	0.5 U	0.5 U	0.5 U		
Meta/Para Xylene	UG/L	0	0%	•	0	0	16		0.5 U	0.5 U	0.5 U	0.5 U		
Methacrylonitrile	UG/L	0	0%	5	0	0	16		0.5 U	0.5 U	0.5 U	0.5 U		
Methyl 2-propenoate	UG/L	0	0%	-	o	0	16		0.5 U	0.5 U	0.5 U	0.5 U		
Methyl Tertbutyl Ether	UG/L	0	0%		0	0	16		0.5 U	0.5 U	0.5 U	0.5 U		
Methyl bromide	UG/L	0	0%	5	0	0	19	10 U	0.5 U	0.5 U	0.5 U	0.5 U		10 U

TABLE 2 SEAD-57 GROUNDWATER SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

									1 DELOT METITIE	•				
								SEAD-57	SEAD-57	SEAD-57	SEAD-57	SEAD-57	SEAD-57	SEAD-57
								MW57-2	MW57-2	MW57-2	MW57-2	MW57-2	MW57-3	MW57-3
								GW	GW					
										GW	GW	GW	GW	GW
								MW57-2	572006	572000	572108	572101	MW57-4	MW57-3
								4.1	8	8	8	8	4.1	4.1
								6.1	8	8	8	8	6.1	6.1
								2/3/1994	1/23/2000	1/23/2000	4/27/2000	4,27,2000	2,3,1994	2.3.1994
								SA	DU	SA	DU	SA	DU	SA
			Frequency		Number	Number	Number	ESI	RI PHASE 1 STEP 1					
		A.1		0.1				E31	KI PIIASE I STEP I	RI PIIASE 1 STEP 1	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	ES1	ES1
		Maximum	of	Criteria	of	of Times	of Samples		1	1	2	2		
Parameter	Units	Value	Detection	Level	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl butyl ketone	UG/L	0	00/0		0	0	19	10 U	2.5 U	2.5 U	2.5 U	2.5 U		10 U
Methyl chloride	UG, L	0	0%	5	0	0	19	10 U	0.5 U	0.5 U	0.5 U	0.5 U		10 U
Methyl ethyl ketone	UG/L	0	0%		0	0	19	10 U	5 U	5 U	5 U	5 U		
Methyl iodide	UG/L	0	0%	5	0	0	16	10 0	0.5 U	0.5 U	0.5 U			10 U
Methyl isobutyl ketone	UG/L	0	0%	,	0	0		10.11				0.5 U		
						-	19	10 U	2.5 U	2.5 U	2.5 U	2.5 U		10 U
Methyl methacrylate	UG/L	0	0%	50	0	0	16		0.5 U	0.5 U	0.5 U	0.5 U		
Methylene bromide	UG/L	0	0%	5	0	0	16		0.5 U	0.5 U	0.5 U	0.5 U		
Methylene chłoride	UG/L	0	0%	5	0	0	19	10 U	0.5 U	0.5 U	0.5 U	0.5 U		10 U
Naphthalene	UG, L	0	0%		0	0	16		0.5 U	0.5 U	0.5 U	0.5 U		10 0
Nitrobenzene	UG/L	0	0%	0.4	0	0	16		25 UJ	25 UJ				
Ortho Xylene	UG/L	0	0%	5	0	0					25 U	25 U		
						-	16		0.5 U	0.5 U	0.5 U	0.5 U		
Pentachloroethane	UG/L	0	0%	5	0	0	8		0.5 UJ	0.5 UJ	2 UR	2 UR		
Propionitrile	UG/L	0	0%		0	0	16		25 U	25 U	25 U	25 U		
Propylbenzene	UG/L	0	0%	5	0	0	16		0.5 U	0.5 U	0.5 U	0.5 U		
Styrene	UG/L	0	0%	5	0	0	19	10 U	0.5 U	0.5 U	0.5 U	0.5 U		10 U
Tetrachloroethene	UG/L	0	0%	5	0	0	19	10 U	0.5 U	0.5 U	0.5 U	0.5 U		
Tetrahydrofuran	UG/L	0	0%		0	0	16	10 0	2.5 U					10 U
				-						2.5 U	2.5 U	2.5 U		
Toluene	UG/L	0	0%	5	0	0	19	10 U	0.5 U	0.5 U	0.5 U	0.5 U		10 U
Total Xylenes	UG/L	0	0%	5	0	0	19	10 U	0.5 U	0.5 U	0.5 U	0.5 U		10 U
Trans-1,2-Dichloroethene	UG/L	0	0%	5	0	0	16		0.5 U	0.5 U	0.5 U	0.5 U		
Frans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	19	10 U	0.5 U	0.5 U	0.5 U	0.5 U		10 U
Trans-1,4-Dichloro-2-butene	UG/L	0	0%		0	0	16		0.5 U	0.5 U	0.5 U	0.5 U		
Trichloroethene	UG/L	0	0%	5	0	O	19	10 U	0.5 U	0.5 U	0.5 U	0.5 U		10 U
Trichlorofluoromethane	UG/L	0	0%	5	0	0	16	10 0						10 0
Vinyl chloride	UG/L		0%	2	0	-			0.5 U	0.5 U	0.5 U	0.5 U		
		0				0	19	10 U	0.5 U	0.5 U	0.5 U	0.5 U		10 U
n-Butylbenzene	UG/L	0	0%	5	0	0	16		0.5 U	0,5 U	0.5 U	0.5 U		
p-Chlorotoluene	UG/L	0	0%	5	0	0	16		0.5 U	0.5 U	0.5 U	0.5 U		
p-Isopropyltoluene	UG/L	0	0%	5	0	0	16		0.5 U	0.5 U	0.5 U	0.5 U		
sec-Butylbenzene	UG/L	0	0%	5	0	0	16		0.5 U	0.5 U	0.5 U	0.5 U		
tert-Butylbenzene	UG/L	0	0%	5	0	0	16		0.5 U	0.5 U	0.5 U	0.5 U		
Semivolatile Organic Compound				-	-				0.5	0.5 0	0.5 0	0.5 6		
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	19	10 U	1.11	1.111				10.11
1,2-Dichlorobenzene	UG/L	0	0%	3	0	-			1 U	I UJ	1 U	1 U		10 U
				-		0	19	10 U	1 U	1 UJ	1 U	1 U		10 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	19	10 U	1 U	1 UJ	1 U	1 U		10 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	19	10 U	1 U	1 UJ	1 U	1 U		10 U
2,2'-oxybis(1-Chloropropane)	UG/L	0	00/a		0	0	3	10 U						10 U
2,4,5-Trichlorophenol	UG/L	0	0%	1	0	0	18	25 U	2.6 U	2.5 UJ	2.6 U	2.8 UR		25 U
2,4,6-Trichlorophenol	UG/L	0	0%	1	0	0	18	10 U	1 U	1 UJ	1 U	1.1 UR		10 U
2,4-Dichlorophenol	UG/L	0	0%	5	0	0	18	10 U	i U	1 UJ	1 U			
2,4-Dimethylphenol	UG/L	0	0%	-	0	-						1.1 UR		10 U
						0	18	10 U	1 U	1 UJ	1 U	1.1 UR		10 1
2,4-Dinitrophenol	UG/L	0	0%		0	0	17	25 U	2.6 UJ	2.5 UR	2.6 UJ	2.8 UR		25 U
2,4-Dinitrotoluene	UG/L	0	0%	5	0	0	19	10 U	1 U	1 UJ	1 U	1 U		10 U
2,6-Dinitrotoluene	UG/L	0	0%	5	0	0	19	10 U	1 U	1 UJ	1 U	1 U		10 U
2-C'hloronaphthalene	UG/L	0	0%		0	0	19	10 U	1 U	1 UJ	1.0	1 U		10 U
2-C'hlorophenol	UG, L	0	0%		0	0	18	10 U	1 U	1 UJ	1 U	1.1 UR		10 U
2-Methylnaphthalene	UG/L	0	0%		0	0	19	10 U	1 U	1 UJ				
	UG/L	0	0%		0	0					1 U	1 U		10 U
2-Methylphenol						•	18	10 U	1 U	1 UJ	1 U	1 UR		10 U
2-Nitroaniline	UG/L	0	0%	5	0	0	19	25 U	2.6 U	2.5 UJ	2.6 U	2.5 U		25 U
2-Nitrophenol	UG/L	0	0%	1	0	0	18	10 U	1 U	1 UJ	1 U	1 UR		10 U
3,3'-Dichlorobenzidine	UG. L	0	0%	5	0	0	11	10 U	1 U	1 UJ	1 UR	l UR		10 U
3-Nitroaniline	UG/L	0	0%	5	0	0	19	25 U	2.6 UJ	2.5 UJ	2.6 UJ	2.5 UJ		25 U
4,6-Dinitro-2-methylphenol	UG/L	0	Oo,6	1	0	0	18	25 U	2.6 U	2.5 UJ	2.6 U	2.5 UR		25 U
4-Bromophenyl phenyl ether	UG/L	0	0%	•	0	0	19	10 U	1 U	1 UJ	1 U	2.5 UK		10 U
4-Chloro-3-methylphenol	UG/L	()	0%	1	0	0	18	10 U	1 U	1 UJ				
4-Chloroaniline	UG/L	0	0%	5	0	-					1 U	1 UR		10 U
		-		Э	-	0	19	10 U	1 U	1 UJ	1 UJ	1 (1)		10 U
4-Chlorophenyl phenyl ether	UG/L	0	0%		0	0	19	10 U	1 U	1 01	1 U	1 U		10 U

								SEAD-57 MW57-2	SEAD-57	SEAD-57	SEAD-57	SEAD-57	SEAD-57	SEAD-57
								GW	MW57-2 GW	MW57-2 GW	MW57-2 GW	MW57-2 GW	MW57-3 GW	MW57-3 GW
						•		MW57-2	572006	572000	572108	572101	MW57-4	MW57-3
								4.1	8	8	8	8	4.1	4.1
								6.1	8	8	8	8	6.1	6.1
								2/3/1994	1/23/2000	1/23/2000	4/27/2000	4/27/2000	2/3/1994	2/3/1994
								SA	DU	SA	DU	SA	DU	SA
			Frequency		Number	Number	Number	ESI	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	ES1	ESI
Programator	Units	Maximum Value	of	Criteria	of	of Times	of Samples	V-1 (0)	1	1	2	2		
Parameter 4-Methylphenol	UG/L	O	Detection 0%	Level	Exceedances	Detected	Analyzed 18	Value (Q) 10 U	Value (Q)	Value (Q) 1 UJ	Value (Q)	Value (Q)	Value (Q)	Value (Q)
4-Nitronniline	UG/L	0	0%	5	0	0	19	25 U	2.6 UJ	2.5 UJ	1 U 2.6 UJ	1 UR 2.5 UJ		10 U 25 U
4-Nitrophenol	UG/L	Ö	0%	1	0	0	17	25 U	2.6 U	2.5 UR	2.6 UJ	2.5 UR		25 U
Acenaphthene	UG/L	0	0%	-	0	0	19	10 U	1 U	1 UJ	1 U	1 U		10 U
Acenaphthylene	UG/L	0	0%		0	0	19	10 U	1 U	1 UJ	1 U	1 U		10 U
Anthracene	UG/L	0	0%		0	0	19	10 U	1 U	, 1 UJ	1 U	1 U		10 U
Benzo(a)anthracene	UG/L	0	0%		0	0	19	10 U	1 U	1 UJ	1 U	1 U		10 U
Benzo(a)pyrene	UG/L	0	0%	0	0	0	19	10 U	1 U	1 UJ	1 U	1 U		10 U
Benzo(b)fluoranthene Benzo(ghi)perylene	UG/L UG/L	0	0% 0%		0	0	19	10 U	1 U	1 UJ	1 U	1 U		10 U
Benzo(k)fluoranthene	UG/L	0	0%		0	0	19 19	10 U 10 U	1 U 1 U	1 UJ 1 UJ	1 U 1 U	1 U		10 U
Bis(2-Chloroethoxy)methane	UG/L	0	0%	5	0	0	19	10 U	1 U	1 UJ	1 UJ	1 U 1 U		10 U 10 U
Bis(2-Chloroethyl)ether	UG/L	0	0%	1	0	0	19	10 U	1 U	1 UJ	1 U	1 U		10 U
Bis(2-Chloroisopropyl)ether	UG/L	0	0%	5	0	0	16	10 0	1 U	1 UJ	1 U	1 U		10 0
Bis(2-Ethylhexyl)phthalate	UG/L	20	5%	5	1	1	19	10 U	1 U	1 UJ	1 U	1 U		20
Butylbenzylphthalate	UG/L	0.077	5%		0	1	19	10 U	1 U	1 UJ	1 U	1 U		10 U
Carbazole	UG/L	0	0%		0	0	19	10 U	1 U	1 UJ	1 UJ	1 UJ		10 U
Chrysene	UG/L	0	0%		0	0	19	10 U	, 1 U	1 UJ	1 U	1 U		10 U
Di-n-butylphthalate	UG/L	0	0%	50	0	0	19	10 U	1 U	1 UJ	1 U	1 U		10 U
Di-n-octylphthalate Dibenz(a,h)anthracene	UG/L UG/L	0	0% 0%		0	0	19 19	10 U 10 U	1 U 1 U	1 UJ 1 UJ	1 U	1 U		10 U
Dibenzofuran	UG/L	0	0%		0	0	19	10 U	1 U	1 UJ	1 U 1 U	1 U 1 U		10 U 10 U
Diethyl phthalate	UG/L	1.9	5%		0	1	19	10 U	1 U	1 UJ	1 U	1 U		10 U
Dimethylphthalate	UG/L	0	0%		o	ò	19	10 U	1 U	1 UJ	1 U	1 U		10 U
Fluoranthene	UG/L	0	0%		0	0	19	10 U	1 U	1 UJ	1 U	1 U		10 U
Fluorene	UG/L	0	0%		0	0	19	10 U	1 U	1 UJ	1 U	1 U		10 U
Hexachlorobenzene	UG/L	0	0%	0.04	0	0	19	10 U	1 U	1 UJ	1 U	1 U		10 U
Hexachlorobutadiene Hexachlorocyclopentadiene	UG/L UG/L	0	0% 0%	0.5 5	0	0	19	10 U	1 U	1 UJ	1 U	1 U		10 U
Hexachloroethane	UG/L	0	0%	5	0	0	19 19	10 U 10 U	1 U 1 U	1 UJ 1 UJ	1 U 1 U	1 U 1 U		10 U
Indeno(1,2,3-cd)pyrene	UG/L	0	0%	3	0	0	19	10 U	1 U	1 UJ	1 U	1 U		10 U 10 U
Isophorone	UG/L	0	0%		0	Ö	19	10 U	1 U	1 UJ	1 U	1 U		10 U
N-Nitrosodiphenylamine	UG/L	0	0%		0	0	19	10 U	1 U	1 UJ	1 U	1 U		10 U
N-Nitrosodipropylamine	UG/L	0	0%		0	0	19	10 U	1 U	1 UJ	1 U	1 U		10 U
Naphthalene	UG/L	0	0%		0	0	19	10 U	1 U	1 UJ	1 U	1 U		10 U
Nitrobenzene	UG/L	0	0%	0.4	0	0	19	10 U	1 U	1 UJ	1 U	1 U		10 U
Pentachlorophenol Phenanthrene	UG/L UG/L	0	0% 0%	1	0	0	18 19	25 U 10 U	2.6 U 1 U	2.5 UJ 1 UJ	2.6 U 1 U	2.5 UR 1 U		25 U 10 U
Phenol	UG/L	0	0%	1	0	0	18	10 U	1 U	1 UJ	1 U	1 UR		10 U
Pyrene	UG/L	0	0%	•	0	0	19	10 U	1 U	1 UJ	1 U	1 U		10 U
Explosives								0	. 0	. 03	, 0	. 0		100
1,3,5-Trinitrobenzene	UG/L	0	0%	5	0	0	20	0.13 U	0.25 U	0.25 U	0.25 U	0.25 U	0.13 U	0.13 U
1,3-Dinitrobenzene	UG/L	0	0%	5	0	0	20	0.13 U	0.25 U	0.25 U	0.25 U	0.25 U	0.13 U	0.13 U
2,4,6-Trinitrotoluene	UG/L	0	0%	5	0	0	20	0.13 U	0.25 U	0.25 U	0.25 U	0.25 U	0.13 U	0.13 U
2,4-Dinitrotoluene 2,6-Dinitrotoluene	UG/L UG/L	0	0%	5	0	0	20	0.13 U	0.25 U	0.25 U	0.25 U	0.25 U	0.13 U	0.13 U
2-Nitrotoluene	UG/L	0	0% 0%	5 5	0	0	20 16	0.13 U	0.25 U 0.25 U	0.25 U	0.25 U	0.25 U	0.13 U	0.13 U
2-amino-4,6-Dinitrotoluene	UG/L	0	0%	,	0	0	20	0.13 U	0.25 U	0.25 U 0.25 U	0.25 U 0.25 U	0.25 U 0.25 U	0.13 U	0.13 U
3-Nitrotoluene	UG/L	0	0%	5	0	0	16	V.15 U	0.25 U	0.25 U	0.25 U	0.25 U	U.13 U	0.13 U
4-Nitrotoluene	UG/L	0	0%	5	ō	0	16		0.25 U	0.25 U	0.25 U	0.25 U		
4-amino-2,6-Dinitrotoluene	UG/L	0	0%		0	0	20	0.13 U	0.25 U	0.25 U	0.25 U	0.25 U	0.13 U	0.13 U
HMX	UG/L	0	0%		0	0	20	0.13 U	0.25 U	0.25 U	0.25 U	0.25 U	0.13 U	0.13 U
Nitrobenzene	UG/L	0	0%	0.4	0	0	16		0.25 U	0.25 U	0.25 U	0.25 U		
RDX	UG/L	0	0%		0	0	20	0.13 U	0.25 U	0.25 U	0.25 U	0.25 U	0.13 U	0.13 U
Tetryl Pesticides and PCBs	UG/L	U	0%		0	0	20	0.13 U	0.25 U	0.25 U	0.25 U	0.25 U	0.13 U	0.13 U
residence and reps														

TABLE 2
SEAD-57 GROUNDWATER SAMPLE RESULTS
SENECA ARMY DEPOT ACTIVITY

SEAD-57

SEAD-57

SEAD-57

SEAD-57

SEAD-57

SEAD-57

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								MW57-2	MW57-2	MW57-2	MW57-2	MW57-2	MW57-3	MW57-3
								GW	GW	GW	GW	GW	GW	GW
								MW57-2	572006	572000	572108	572101	MW57-4	MW57-3
								4.1	8	8	8	8	4.1	4.1
								6.1	8	8	8	8	6.1	6.1
								2/3/1994	1/23/2000	1,23/2000	4,27/2000	4/27/2000	2/3/1994	2/3/1994
								SA	DU	SA	DU	SA	DU	SA
			Frequency		Number	Number	Number	ES1	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	ESI	ESI
B		Maximum	of	Criteria	of	of Times	of Samples		1	1	2	2		
Parameter	Units	Value	Detection	Level	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
4,4'-DDD 4,4'-DDE	UG/L	0	0%	0.3	0	0	19	0.11 U	0.01 U	0.01 U	0.012 U	0.011 U		0.12 U
4,4'-DDT	UG/L UG/L	0	0% 0%	0.2	0	0	19	0.11 U	0.01 U	0.01 U	0.012 U	0.011 U		0.12 U
Aldrin	UG/L	0	0%	0.2	0	0	19	0.11 U	0.01 U	0.01 U	0.012 U	0.011 U		0.12 U
Alpha-BIIC	UG/L	0	0%	0.01	0	0	19 19	0.054 U 0.054 U	0.0052 U	0.0051 U	0.0059 U	0.0056 U		0.059 U
Alpha-Chlordane	UG, L	0	0%	0.01	0	0	19	0.054 U	0.0052 U 0.0052 U	0.0051 U	0.0059 U	0.0056 U		0.059 U
Aroclor-1016	UG/L	0	0%	0.09	0	0	19	1.1 U	0.0032 U	0.0051 U	0.0059 U	0.0056 U		0.059 U
Aroclor-1221	UG/L	0	0%	0.09	0	0	19	2.2 U	0.1 U	0.1 U 0.2 U	0.12 U	0.11 U		1.2 U
Aroclor-1232	UG/L	0	0%	0.09	0	0	19	1.1 U	0.1 U	0.2 U	0.24 U 0.12 U	0.22 U		2.4 U
At octor-1242	UG/L	0	0%	0.09	0	0	19	1.1 U	0.1 U	0.1 U	0.12 U	0.11 U		1.2 U
Aroclor-1248	UG/L	0	0%	0.09	0	0	19	1.1 U	0.1 U	0.1 U	0.12 U	0.11 U 0.11 U		1.2 U 1.2 U
Aroclor-1254	UG/L	0	0%	0.09	0	0	19	1.1 U	0.1 U	0.1 U	0.12 U	0.11 U		1.2 U
Arocior-1260	UG/L	0	0%	0.09	0	0	19	1.1 U	0.1 U	0.1 U	0.12 U	0.11 U		1.2 U
Beta-BHC	UG/L	0	0%	0.04	0	0	19	0.054 U	0.0052 U	0.0051 U	0.0059 U	0.0056 U		0.059 U
Delta-BHC	UG, L	0	0%	0.04	0	0	19	0.054 U	0.0052 U	0.0051 U	0.0059 U	0.0056 U		0.059 LI
Dieldrin	UG/L	0	0%	0.004	0	0	19	0.11 U	0.01 U	0.01 U	0.012 U	0.011 U		0.12 U
Endosulfan I	UG/L	0	0%		0	0	19	0.054 U	0.0052 U	0.0051 U	0.0059 U	0.0056 U		0.059 U
Endosulfan II	UG/L	0	0%		0	0	19	0.11 U	0.01 U	0.01 U	0.012 U	0.011 U		0.12 U
Endosulfan sulfate	UG/L	0	0%		0	0	19	0.11 U	0.01 U	0.01 U	0.012 U	0.011 U		0.12 LI
Endrin	UG, L	0	00.0	0	0	0	19	0.11 U	0.01 U	0.01 U	0.012 U	0.011 U		0.12 U
Endrin aldehyde	UG/L	0	0%	5	0	0	19	0.11 U	0.01 U	0.01 U	0.012 U	0.011 U		0 12 U
Endrin ketone	UG/L	0	0%	5	0	0	19	0.11 U	0.01 U	0.01 U	0.012 U	0.011 U		0.12 L <sup>r</sup>
Gamma-BHC/Lindane	UG/L	0	0%	0.05	0	0	19	0.054 U	0.0052 U	0.0051 U	0.0059 U	0.0056 ひ		0.059 U
Gamma-Chlordane	UG/L	0	0%		0	0	19	0.054 U	0.0052 U	0.0051 U	0.0059 ∪	0.0056 U		0.059 U
Heptachlor Heptachlor epoxide	UG/L UG/L	0	0% 0%	0.04	0	0	19	0.054 U	0.0052 U	0.0051 U	0.0059 U	0.0056 U		0.059 U
Hexachlorobenzene	UG/L	0	0%	0.03	0	0	19	0.054 ひ	0.0052 U	0.0051 U	0.0059 U	0.0056 U		0.059 U
Methoxychlor	UG/L	0	0%	35	0	0	16 19	0.54 U	0.01 U 0.052 U	0.01 U	0.012 U	0.011 U		
Toxaphene	UG/L	0	0%	0.06	0	0	19	5.4 U	0.032 U	0.051 U 0.51 U	0.059 U	0.056 U		0.59 U
Herbicides	OOIL	0	070	0.00	V	O	19	3.4 0	0.32 0	0.51 0	0.59 U	0.56 U		5.9 U
2,4,5-T	UG/L	0	0%	35	0	0	3	0.11 U						0.11 U
2,4,5-TP/Silvex	UG, L	0	0%	0.26	0	0	3	0.11 U						0.11 U
2,4-D	UG/L	0	0%	50	0	0	3	1.1 U						1.1 U
2,4-DB	UG/L	0	0%		0	0	3	1.1 U						1.1 U
Dalapon	UG/L	0	0%	50	0	0	3	2.5 U						2.5 U
Dicamba	UG/L	0	0%	0.44	0	0	3	0.11 U						0.11 U
Dichloroprop	UG/L	0	0%		0	0	3	1.1 U						1.1 U
Dinoseb	UG/L	0	0%	1	0	0	3	0.54 U						0.53 U
MCPA	UG/L	0	0%	0.44	0	0	3	110 U						110 U
MCPP	UG/L	0	0%		0	0	3	110 U						110 U
Metals														
Aluminum	UG/L	6540	100%		0	21	21	6540	51.4 J	43.9 J	25.1 J	18.4 J		482
Antimony	UG/L	44.7	14%	3	2	3	21	21.6 UJ	5.4 U	5.4 U	4.6 U	4.6 U		35.7
Arsenic	UG/L	4.1	10%	10	0	2	21	1.4 U	2.4 U	2.4 U	2.5 U	2.5 U		1.4 U
Barrum	UG/L	129	100%	1000	0	21	21	83.5 J	20.3 J	22 J	23.6 J	23.4 J		65.5 J
Beryllium	UG/L UG/L	0.63	5%	4	0	1	21	0.63 J	0.6 U	0.6 U	0.3 U	0.3 U		0.4 U
Cadmium Calcium	UG/L	3.1 297000	10% 100%	5	0	2 21	21 21	3.1 J 288000	0.8 U 227000	0.8 U 233000	0.3 U	0.3 U		2.1 U
Chromium	UG/L	14.5	62%	50	0	13	21	14.5	1.2 J	233000 1 J	297000 J	297000 J		97900
Cobalt	UG/L	14.8	5%	50	0	13	21	14.8 J	1.2 J 3.5 U	3.5 U	2.2 U 3 U	2.2 U 3 U		3.7 J 4.4 U
Copper	UG/L	19.5	48%	200	0	10	21	5.2 J	1.6 U	3.5 U 1.6 U	2.1 U	2.1 U		3.1 U
Cyanide	UG/L	0	0%	~~~	0	0	21	5.2 J	1.0 U	1.6 U	2.1 U 10 U	2.1 U 10 U		5.1 U 5 U
Iron	UG, L	9260	90%	300	12	19	21	9260	142 J	138 J	24,9 U	24.9 U	1	652
Iron+Manganese	UG/L	9587	90%	500	6	19	21	9587	213.6 J	182.1 J	25.9 U	25.9 U		774
Lead	UG/L	2.2	14%	15	0	3	21	2.2 J	1 U	1 U	2.3 U	2.3 U		1.1 J
Magnesium	UG, L	36900	100%		0	21	21	36900	28500	29600	31200	31200		21100

TABLE 2 SEAD-57 GROUNDWATER SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

SEAD-57

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SEAD-57

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SEAD-57

SEAD-57

								SEAD-57	SEAD-57	SEAD-57	SEAD-57	SEAD-5/	SEAD-3/	SEAD-3/
								MW57-2	MW57-2	MW57-2	MW57-2	MW57-2	MW57-3	MW57-3
								GW	GW	GW	GW	GW	GW	GW
								MW57-2	572006	572000	572108	572101	MW57-4	MW57-3
								4.1	8	8	8	8	4.1	4.1
								6.1	8	8	8	8	6.1	6.1
								2/3/1994	1/23/2000	1/23/2000	4/27/2000	4/27/2000	2/3/1994	2/3/1994
								SA	DU	SA	DU	SA	DU	SA
			Frequency		Number	Number	Number	ESI	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	ESI	ESI
		Maximum	of	Criteria	of	of Times	of Samples		1	1	2	2		
Parameter	Units	Value	Detection	Level	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Manganese	UG/L	327	90%	300	1	19	21	327	71.6 J	44.1 J	1 U	1 U		122
Mercury	UG/L	0	0%	0.7	0	0	21	0.04 U	0.1 U	0.1 U	0.1 U	0.1 U		0.04 U
Nickel	UG/L	18.8	29%	100	0	6	21	18.8 J	4.2 U	4.2 U	2.9 U	2.9 U		4 U
Potassium	UG/L	4600	100%		0	21	21	4600 J	1180 J	1180 J	1210 J	1230 J		2150 J
Selenium	UG/L	2.4	10%	10	0	2	21	2.2 J	2.2 U	2.2 U	4 U	4 U		0.7 U
Silver	UG/L	3.1	14%	50	0	3	21	4.2 U	1 U	1 U	2.1 J	1.9 U		4.2 U
Sodium	UG/L	26100	100%	20000	2	21	21	8920	11300	8500	8230	7680		5540
Thallium	UG/L	6.7	19%	2	4	4	21	1.2 U	3.6 U	<b>5.9</b> J	3.9 U	3.9 U		1.2 U
Vanadium	UG/L	9.2	24%		0	5	21	9.2 J	2.8 U	2.8 U	2.9 U	2.9 U		4.5 J
Zinc	UG/L	85.1	95%		0	20	21	85.1	6.2 J	8 J	1.5 U	1.5 J		51.2
Other Analytes														
COD	MG/L	16	40%		0	6	15			5 U	6	5 U		
Nitrate/Nitrite Nitrogen	MG/L	0.49	94%	10000	0	15	16		0.03	0.02	0.49	0.37		
Total Dissolved Solids	MG/L	1030	100%		0	15	15			910	1010	1030		
Total Hardness-CaCO3	MG/L	790	100%		0	15	15			660	740	790		

<sup>(1)</sup> GA = NYSDEC Class GA Groundwater Standard (TOGS 1.1.1, June 1998)

MCL = Maximum Contaminant Level - Drinking Water Standards and Health Advisory (EPA 822-B-00-001)
(2) Shading indicates a concentration above the groundwater standard.

U = compound was not detected

J = the reported value is an estimated concentration

R = the analytical result was rejected during data validation.

								20.120111111111111111111111111111111111	0 1 110 11 11 1				
								SEAD-57	SEAD-57	SEAD-57	SEAD-57	SEAD-57	SEAD-57
								MW57-3	MW57-3	MW57-4	MW57-4	MW57-5	MW57-5
								GW	GW	GW	GW	GW	GW
								572001	572102	572007	572103	572005	572104
								372001	8	11	372103		
								9	8	11		22	22
								1,23,2000	4/27/2000		11	22	22
										1,25,2000	4/26/2000	1/24/2000	4/26/2000
			Frequency		No.	B1	N2	SA	SA	SA	SA	SA	SA
		Maximum	of	0 11 11	Number	Number	Number	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	RI PHASE I STEP I
Parameter	F114			Criteria	of	of Times	of Samples	1	2	1	2	1	2
	Units	Value	Detection	Level	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds													
1,1,1,2-Tetrachloroethane	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	UG/L	0	0%	5	0	0	19	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	11	0.5 U	0.5 UR	0.5 U	0.5 UR	0.5 U	0.5 UR
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	19	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1, I-Dichloroethane	UG/L	0	0%	5	0	0	19	0.5 ป	0.5 U				
1,1-Dichloroethene	UG L	0	0%	5	0	0	19	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloropropene	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	UG L	0	0%	0.04	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	UG L	0	0%	3	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trimethylbenzene	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
1,2-Dibromo-3-chloropropane	UG-L	0	0%	0.04	n	0	16	0.5 U	0.5 UJ	0.5 U			0.5 U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	16	0.5 U	0.5 U		0.5 UJ	0.5 U	0.5 U
1,2-Dichlorobenzene	UG. L	0	0%	3	0	0	16	0.5 U		0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	UG. L	0	0%	0.6	0	0	19		0.5 U				
1,2-Dichloroethene (total)	UG, L	0	0%	5	0	0	3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	UG, L	0	0%	1	0								
					•	0	19	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene	UG.L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	UG, L	0	0%	3	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	UG, L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	UG, L	0	0%	3	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	UGL	0	0%		0	0	16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-C'hlorotoluene	UG, L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Nitropropane	UG, L	0	0%		0	0	16	25 U	25 UJ	25 U	25 UJ	25 U	25 UJ
Acetone	UG/L	0	0%		0	0	19	5 U	5 U	5 UJ	5 U	5 U	5 U
Acrylonitrile	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Allyl chloride	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene	UG/L	0	0%	1	0	0	19	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromobenzene	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	UG/L	0	0%	80	0	0	19	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	UG/L	0	0%	80	0	0	19	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Butyl chloride	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	UG, L	0	0%		0	0	19	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
Carbon tetrachloride	UG/L	0	0%	5	0	0	19	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U 0.5 U
Chloroacetonitrile	UG/L	0	0%	_	0	0	16	25 U	25 U	25 U			
Chlorobenzene	UG/L	0	0%	5	0	0	19	0.5 ป	0.5 U	0.5 U	25 U	25 U	25 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	19	0.5 U	0.5 U		0.5 U	0.5 U	0.5 U
Chloroethane	UG/L	0	0%	5	0	0	19			0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	UG/L	0	0%	7	0	0	19	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cis-1,2-Dichloroethene	UG/L	0	0% 0%	5	0	0		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				-	-	-	16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	19	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichloromethyl methyl ketone	UG/L	0	0%		0	0	11	25 U	25 UR	25 U	25 UJ	25 U	25 UJ
Ethyl benzene	UG/L	0	0%	5	0	0	19	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethyl ether	UG/L	0	0%		0	0	16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethyl methacrylate	UG/L	0	0%		0	0	16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexachlorobutadiene	UG/L	0	0%	0.5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexachloroethane	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Isopropylbenzene	UG/L	0	0%	5	0	C	16	0.5 U	0.5 U	0.5 ∪	0.5 U	0.5 U	0.5 U
Meta/Para Xylene	UG/L	0	0%		0	0	16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methacrylonitrile	UG:'L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl 2-propenoate	UG/L	0	0%		0	0	16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl Tertbutyl Ether	UG/L	0	0%		0	0	16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl bromide	UG/L	0	0%	5	0	0	19	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
				-	-	-	- *	0.5 0	0.0	0.5 03	0.5 0	0.5 0	0.5 0

P IPITIProjects\Seneca Munitions Response\Proposed PlantDraft\Risk Assessment\Human Health\SEAD-57 Conservation\Table 1\_Screening\_SEAD57.xts\SEAD-57\_GW\_Data

							K	SENECA ARMI DEF	OI ACIIVII I				
								SEAD-57	SEAD-57	SEAD-57	SEAD-57	SEAD-57	SEAD-57
								MW57-3	MW57-3	MW57-4	MW57-4	MW57-5	MW57-5
								GW	GW	GW	GW	GW	GW
								572001	572102	572007	572103	572005	572104
								8	8	11	11	22	22
								8	8	11	11	22	22
								1/23/2000	4/27/2000	1/25/2000	4/26/2000	1/24/2000	4/26/2000
								SA	SA	SA	SA	SA	SA
			P		Number	Manakan	M	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1				
			Frequency	~		Number	Number	RIPHASE I STEP I		RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1
		Maximum	of	Criteria	of	of Times	of Samples	1	2	1	2	1	2
Parameter	Units	Value	Detection	Level	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl butyl ketone	UG/L	0	0%		0	0	19	2.5 U					
Methyl chloride	UG/L	0	0%	5	0	0	19	0.5 U					
Methyl ethyl ketone	UG/L	0	0%		0	0	19	5 U	5 U	5 U	5 U	5 U	5 U
Methyl iodide	UG/L	0	0%		0	0							
				5	0	-	16	0.5 U					
Methyl isobutyl ketone	UG/L	0	0%		0	0	19	2.5 U					
Methyl methacrylate	UG/L	0	0%	50	0	0	16	0.5 U					
Methylene bromide	UG/L	0	0%	5	0	0	16	0.5 U					
Methylene chloride	UG/L	0	0%	5	0	0	19	0.5 U					
Naphthalene	UG/L	0	0%		0	0	16	0.5 U					
Nitrobenzene	UG/L	0	0%	0.4	0	•							
				0.4	•	0	16	25 UJ	25 U	25 U	25 UJ	25 UJ	25 UJ
Ortho Xylene	UG/L	0	0%	5	0	0	16	0.5 U					
Pentachloroethane	UG/L	0	0%	5	0	0	8	0.5 UJ	2 UR	0.5 UJ	2 UR	0.5 UJ	2 UR
Propionitrile	UG/L	0	0%		0	0	16	25 U					
Propylbenzene	UG/L	0	0%	5	0	0	16	0.5 U					
Styrene	UG/L	0	0%	5	o o	0	19	0.5 U					
		0		_	0	-							
Tetrachloroethene	UG/L		0%	5	•	0	19	0.5 U					
Tetrahydrofuran	UG/L	0	0%		0	0	16	2.5 U					
Toluene	UG/L	0	0%	5	0	0	19	0.5 U					
Total Xylenes	UG/L	0	0%	5	0	0	19	0.5 U					
Trans-1,2-Dichloroethene	UG/L	0	0%	5	0	0	16	0.5 U	0,5 U				
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	19	0.5 U					
Trans-1,4-Dichloro-2-butene	UG/L	0	0%	0.4	0	0							
					-		16	0.5 U					
Trichloroethene	UG/L	0	0%	5	0	0	19	0.5 U					
Trichlorofluoromethane	UG/L	0	0%	5	0	0	16	0.5 U					
Vinyl chloride	UG/L	0	0%	2	0	0	19	0.5 U					
n-Butylbenzene	UG/L	0	0%	5	0	0	16	0.5 U					
p-Chlorotoluene	UG/L	0	0%	5	0	0	16	0.5 U					
p-Isopropyltoluene	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U			
				-	_						0.5 U	0.5 U	0.5 U
sec-Butylbenzene	UG/L	0	0%	5	0	0	16	0.5 U					
tert-Butylbenzene	UG/L	0	0%	5	0	0	16	0.5 U					
Semivolatile Organic Compounds													
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	19	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	19	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	19	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	19	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
				3		_		1 0	1.2 0	1 0	1.2 0	1 0	1.1 0
2,2'-oxybis(1-Chloropropane)	UG/L	0	0%		0	0	3						
2,4,5-Trichlorophenol	UG/L	0	0%	1	0	0	18	2.6 U	2.9 U	2.6 U	2.9 U	2.6 U	2.7 U
2,4,6-Trichlorophenol	UG/L	0	0%	1	0	0	18	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
2,4-Dichlorophenol	UG/L	0	0%	5	0	0	18	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
2,4-Dimethylphenol	UG/L	0	0%		0	0	18	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
2,4-Dinitrophenol	UG/L	0	0%		0	0	17	2.6 UJ	2.9 U	2.6 UJ	2.9 U	2.6 UJ	2.7 UJ
2,4-Dinitrotoluene	UG/L	0	0%	5	0	0	19						
		-		-	-	-		1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
2,6-Dinitrotoluene	UG/L	0	0%	5	0	0	19	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
2-Chloronaphthalene	UG/L	0	0%		0	0	19	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
2-Chlorophenol	UG/L	0	0%		0	0	18	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
2-Methylnaphthalene	UG/L	0	0%		0	0	19	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
2-Methylphenol	UG/L	0	0%		0	0	18	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
2-Nitroaniline	UG/L	0	0%	5	0	0	19	2.6 U	2.9 U			2.6 U	
		0			*	_				2.6 U	2.9 U		2.7 U
2-Nitrophenol	UG/L	-	0%	1	0	0	18	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
3,3'-Dichlorobenzidine	UG/L	0	0%	5	0	0	11	1 U	1.2 UR	1 U	1.2 UR	1 UJ	1.1 UR
3-Nitroaniline	UG/L	0	0%	5	0	0	19	2.6 UJ	2.9 UJ	2.6 U	2.9 UJ	2.6 U	2.7 UJ
4,6-Dinitro-2-methylphenol	UG/L	0	0%	1	0	0	18	2.6 U	2.9 U	2.6 U	2.9 U	2.6 U	2.7 U
4-Bromophenyl phenyl ether	UG/L	0	0%		0	0	19	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
4-Chloro-3-methylphenol	UG/L	0	0%	1	0	0	18	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
4-Chloroaniline	UG/L	0		•		-							
			0%	5	0	0	19	1 U	1.2 UJ	1 U	1.2 UJ	1 U	1.1 UJ
4-Chlorophenyl phenyl ether	UG/L	0	0%		0	0	19	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U

							L.	DENECA ARMIT DEI	OTACIIVIII				
								SEAD-57	SEAD-57	SEAD-57	SEAD-57	SEAD-57	SEAD-57
								MW57-3	MW57-3	MW57-4	MW57-4	MW57-5	MW57-5
								GW	GW	GW	GW	GW	GW
								572001	572102	572007	572103	572005	572104
								8	8	11	11	22	22
								8	8	11	11	22	22
								1/23/2000	4/27/2000	1/25/2000	4/26/2000	1/24/2000	4:26.2000
								SA	SA	SA	SA	SA	SA
			Frequency		Number	Number	Number	RI PHASE I STEP I	RI PHASE I STEP I	RI PHASE 1 STEP 1	RI PHASE I STEP I	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1
		Maximum	of	Criteria	of	of Times	of Samples	1	2	1	2	KITIASE I STELL I	2
Parameter	Units	Value	Detection	Level	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (O)	Value (Q)
4-Methylphenol	UG, L	0	0%		0	0	18	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
4-Nitroaniline	UG/L	0	0%	5	0	0	19	2.6 UJ	2.9 UJ	2.6 U	2.9 UJ	2.6 UJ	2.7 UJ
4-Nitrophenol	UG/L	0	0%	1	0	0	17	2.6 U	2.9 U	2.6 U	2.9 U	2.6 U	2.7 UJ
Acenaphthene	UG/L	0	0%		0	0	19	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
Acenaphthylene	UG/L	0	0%		0	0	19	1 U	1.2 U	1 U	1.2 U	1 U	
Anthracene	UG/L	0	0%		0	0	19	1 U	1.2 U				1.1 U
Benzo(a)anthracene	UG/L	0	0%		0	0	19			1 U	1.2 U	1 U	1.1 U
	UG/L	0			_			1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
Benzo(a)pyrene			0%	0	0	0	19	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
Benzo(b)fluoranthene	UG/L	0	0%		0	0	19	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
Benzo(ghi)perylene	UG/L	0	0%		0	0	19	l U	1.2 U	ΙU	1.2 U	ιυ	1.1 U
Benzo(k)fluoranthene	UG/L	0	0%		0	0	19	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
Bis(2-Chloroethoxy)methane	UG, L	0	0.0	5	0	0	19	1 U	1.2 U	1 U	1.2 U	1 U	1 1 UJ
Bis(2-Chloroethyl)ether	UG L	0	0%	1	0	0	19	I U	1.2 U	1 U	1.2 U	I U	1.1 U
Bis(2-Chloroisopropyl)ether	UG/L	0	0%	5	0	0	16	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
Bis(2-Ethylhexyl)phthalate	UG/L	20	5%	5	1	1	19	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
Butylbenzylphthalate	UG L	0.077	5%		0	1	19	1 U	1.2 U	1 U	1.2 U	1.11	1.1 U
Carbazole	UG, L	0	Ou, o		0	0	19	1 U	1.2 UJ	1 U	1.2 UJ	1 U	1.1 UJ
Chrysene	UG/L	0	0%		0	0	19	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
Di-n-butylphthalate	UG/L	0	0%	50	0	0	19	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
D1-n-octylphthalate	UG, L	0	0%		0	0	19	1 U	1.2 U	เบ	1.2 U	1 U	1.1 U
Dibenz(a,h)anthracene	UG/L	0	00,0		0	0	19	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
Dibenzofuran	UG/L	0	0%		0	0	19	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
Diethyl phthalate	UG/L	1.9	5%		0	1	19	1 U	1.2 U	1.9	1.2 U	1 U	1.1 U
Dimethylphthalate	UG, L	0	0%		0	0	19	1 U	1.2 U	1.9 1 U	1.2 U		
Fluoranthene	UG: L	0	0%		0	0	19	1 U				1 U	1.1 U
Fluorene	UG, L	0	0%		0	0	19		1.2 U	1 U	1.2 U	1 U	1.1 U
		-			-			1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
Hexachlorobenzene	UG/L	0	0%	0.04	0	0	19	1 U	1.2 U	1 UJ	1.2 U	1 U	1.1 U
Hexachlorobutadiene	UG/L	0	0%	0.5	0	0	19	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
Hexachlorocyclopentadiene	UG, L	0	0°6	5	0	0	19	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
Hexachloroethane	UG, L	0	00,0	5	0	0	19	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
Indeno(1,2,3-cd)pyrene	UG/L	0	0%		0	0	19	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
Isophorone	UG/L	0	0%		0	0	19	1 U	1.2 U	1 U	1.2 U	1 U	11 U
N-Nitrosodiphenylamine	UG/L	0	0%		0	0	19	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
N-Nitrosodipropylamine	UG, L	0	0%		0	0	19	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
Naphthalene	UG/L	0	0%		0	0	19	1 U	1.2 U	1 U	1.2 U	I U	1.1 U
Nitrobenzene	UG.L	0	0%	0.4	0	0	19	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
Pentachlorophenol	UG/L	0	0%	1	0	0	18	2.6 U	2.9 U	2.6 U	2.9 U	2.6 U	2.7 U
Phenanthrene	UG/L	0	0%		0	0	19	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
Phenol	UG/L	0	0%	1	0	0	18	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
Pyrene	UG/L	0	0%		0	0	19	1 U	1.2 U	1 U	1.2 U	1 U	1.1 U
Explosives													
1,3,5-Trinitrobenzene	UG/L	0	0%	5	0	0	20	0.25 U					
1,3-Dinitrobenzene	UG, L	0	0%	5	0	0	20	0.25 U					
2.4.6-Trinitrotoluene	UG/L	0	0%	5	0	0	20	0.25 U					
2,4-Dinitrotoluene	UG, L	0	0%	5	0	0	20	0.25 U					
2,6-Dinitrotoluene	UG, L	0	0%	5	0	0	20	0.25 U					
2-Nitrotoluene	UG-L	0	0%	5	0	0				0.25 U			
				J	-		16	0.25 U	0.25 U		0.25 U	0.25 U	0.25 U
2-anino-4,6-Dinitrotoluene	UG, L	0	00.9	_	0	0	20	0.25 U					
3-Nitrotoluene	UG, L	0	0%	5	0	0	16	0.25 U	0.25 LT				
4-Nitrotoluene	UG, L	0	0%	5	0	0	16	0.25 U					
4-amino-2,6-Dinitrotoluene	UG, L	0	0%		0	0	20	0.25 U					
IIMX	UG/L	0	0%		Ü	0	20	0.25 U					
Nitrobenzene	UG, L	0	0%	0.4	0	0	16	0.25 U					
RDX	UG/L	0	0%		0	0	20	0.25 U					
Tetryl	UG, L	0	0%		0	0	20	0.25 U					
B -1.11 1.00B													

Pesticides and PCBs

								DIVECTATION I DEL	OI IIOII II				
								SEAD-57	SEAD-57	SEAD-57	SEAD-57	SEAD-57	SEAD-57
								MW57-3	MW57-3	MW57-4	MW57-4	MW57-5	MW57-5
								GW	GW	GW	GW	GW	GW
								572001	572102	572007	572103	572005	572104
								8	8	11	11	22	22
								8	8	11	11	22	22
								1/23/2000	4/27/2000	1/25/2000	4/26/2000	1/24/2000	4/26/2000
								SA	SA	SA	SA	SA	SA
			Frequency		Number	Number	Number	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1
		Maximum	of	Criteria	of	of Times	of Samples	1	2	1	2	1	2
Parameter	Units	Value	Detection	Level	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
4,4'-DDD	UG/L	0	0%	0.3	0	0	19	0.011 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U
4,4'-DDE	UG/L	0	0%	0.2	0	0	19	0.011 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U
4,4'-DDT	UG/L	0	0%	0.2	0	0	19	0.011 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U
Aldrin	UG/L	0	0%	0	0	0	19	0.0056 U	0.0053 U	0.005 U	0.0057 U	0.0052 U	0.0052 U
Alpha-BHC	UG/L	0	0%	0.01	0	0	19	0.0056 U	0.0053 U	0.005 U	0.0057 U	0.0052 U	0.0052 U
Alpha-Chlordane	UG/L	0	0%		0	0	19	0.0056 U	0.0053 U	0.005 U	0.0057 U	0.0052 U	0.0052 U
Aroclor-1016	UG/L	0	0%	0.09	0	0	19	0.11 U	0.1 U	0.1 U	0.11 U	0.1 U	0.1 U
Aroclor-1221	UG/L	0	0%	0.09	0	0	19	0.22 U	0.21 U	0.2 U	0.23 U	0.21 U	0.21 U
Aroclor-1232	UG/L	0	0%	0.09	0	0	19	0.11 U	0.1 U	0.1 U	0.11 U	0.1 U	0.1 U
Aroclor-1242	UG/L	0	0%	0.09	0	0	19	0.11 U	0.1 U	0.1 U	0.11 U	0.1 U 0.1 U	0.1 U 0.1 U
Aroclor-1248	UG/L	0	0%	0.09	0	0	19	0.11 U	0.1 U	0.1 U	0.11 U	0.1 U	0.1 U
Aroclor-1254	UG/L	0	0%	0.09	0	0	19	0.11 U	0.1 U	0.1 U 0.1 U	0.11 U	0.1 U	0.1 U
Aroclor-1260	UG/L UG/L	0	0% 0%	0.09	0	0	19 19	0.11 U 0.0056 U	0.1 U	0.005 U	0.11 U 0.0057 U	0.0052 U	0.0052 U
Beta-BHC Delta-BHC	UG/L	0	0%	0.04	0	0	19	0.0056 U	0.0053 U 0.0053 U	0.005 U	0.0057 U	0.0052 U	0.0052 U
Dieldrin	UG/L	0	0%	0.004	0	0	19	0.011 U	0.0033 U	0.003 U	0.011 U	0.0032 U	0.0032 U
Endosulfan I	UG/L	0	0%	0.004	0	0	19	0.0056 U	0.0053 U	0.005 U	0.0057 U	0.0052 U	0.0052 U
Endosulfan II	UG/L	0	0%		0	0	19	0.011 U	0.01 U	0.003 U	0.011 U	0.01 U	0.01 U
Endosulfan sulfate	UG/L	0	0%		0	0	19	0.011 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U
Endrin	UG/L	0	0%	0	0	0	19	0.011 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U
Endrin aldehyde	UG/L	0	0%	5	0	0	19	0.011 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U
Endrin ketone	UG/L	0	0%	5	0	0	19	0.011 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U
Gamma-BHC/Lindane	UG/L	0	0%	0.05	0	0	19	0.0056 U	0.0053 U	0.005 U	0.0057 U	0.0052 U	0.0052 U
Gamma-Chlordane	UG/L	0	0%	0.00	0	0	19	0.0056 U	0.0053 U	0.005 U	0.0057 U	0,0052 U	0.0052 U
Heptachlor	UG/L	0	0%	0.04	0	0	19	0.0056 U	0.0053 U	0.005 U	0.0057 U	0.0052 U	0.0052 U
Heptachlor epoxide	UG/L	0	0%	0.03	0	0	19	0.0056 U	0.0053 U	0.005 U	0.0057 U	0.0052 U	0.0052 U
Hexachlorobenzene	UG/L	0	0%	0.04	0	0	16	0.011 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U
Methoxychlor	UG/L	0	0%	35	0	0	19	0.056 U	0.053 U	0.05 U	0.057 U	0.052 U	0.052 U
Toxaphene	UG/L	0	0%	0.06	0	0	19	0.56 U	0.53 U	0.5 U	0.57 U	0.52 U	0.52 U
Herbicides													
2,4,5-T	UG/L	0	0%	35	0	0	3						
2,4,5-TP/Silvex	UG/L	0	0%	0.26	0	0	3						
2,4-D	UG/L	0	0%	50	0	0	3						
2,4-DB	UG/L	0	0%		0	0	3						
Dalapon	UG/L	0	0%	50	0	0	3						
Dicamba	UG/L	0	0%	0.44	0	0	3						
Dichloroprop	UG/L	0	0%		0	0	3						
Dinoseb	UG/L	0	0%	1	0	0	3						
MCPA	UG/L	0	0%	0.44	0	0	3						
MCPP	UG/L	0	0%		0	0	3						
Metals	7107	(540	1000/		0	21	0.1	72.2.1	298	323	140 J	1950 J	324 J
Aluminum	UG/L	6540	100% 14%	3	2	21	21 21	72.2 J 5.4 U	4.6 U	5.4 U	4.6 U	2.2 U	4.6 U
Antimony	UG/L UG/L	44.7	10%	10	0	2	21	2.4 U	2.5 U	2.4 U	2.5 U	2.2 U	2.5 U
Arsenic	UG/L	4.1 129	100%	1000	0	21	21	58.6 J	49.3 J	43.6 J	62.2 J	129 J	99.9 J
Barium Bervilium	UG/L	0.63	5%	4	0	1	21	0.6 U	0.3 U	0,6 U	0.3 U	0.1 U	0.3 U
Cadmium	UG/L	3.1	10%	5	0	2	21	0.8 U	0.3 U	0.8 U	0.3 U	0.1 U	0.3 U
Calcium	UG/L	297000	100%	3	0	21	21	78900	97600 J	89000	81000 J	78300	72600 J
Chromium	UG/L	14.5	62%	50	0	13	21	1,4 J	5.3 J	1.8 J	2.2 U	2.9 J	2.2 U
Cobalt	UG/L	14.3	5%	30	0	1	21	3.5 U	3.3 J	3.5 U	3 U	1.3 U	3 U
Copper	UG/L	19.5	48%	200	0	10	21	1.6 U	2.1 U	1.6 U	5.7 J	7.2 J	2.1 U
Cyanide	UG/L	0	0%	200	0	0	21	10 U	10 U	10 U	10 U	10 U	10 U
Iron	UG/L	9260	90%	300	12	19	21	29.5 J	395 J	408 J	87.4 J	2030 J	412 J
Iron+Manganese	UG/L	9587	90%	500	6	19	21	30.6 J	375.6 J	472.1 J	89.9 J	2091.4 J	455.8 J
Lead	UG/L	2.2	14%	15	0	3	21	1 U	2.3 U	1 U	2.3 U	1.3 U	2.3 U
Magnesium	UG/L	36900	100%		0	21	21	17400	30000	28500	17100	20000	19100
-													

SEAD-57

MW57-3

572102

GW

SEAD-57

MW57-4

GW

572007

SEAD-57

MW57-4

572103

GW

SEAD-57 MW57-3

GW

572001

							8	8	11	11	22	22
							8	8	11	11	22	22
							1/23/2000	4/27/2000	1/25/2000	4/26/2000	1/24/2000	4/26/2000
							SA	SA	SA	SA	SA	SA
		Frequency		Number	Number	Number	RI PHASE 1 STEP 1	RI PHASE I STEP 1	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1
	Maximum	of	Criteria	of	of Times	of Samples	1	2	1	2	1	2
Units	Value	Detection	Level	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
UG/L	327	90%	300	1	19	21	1.1 J	20.6	64.1	2.5 J	61.4	43.8
UG/L	0	0%	0.7	0	0	21	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
UG/L	18.8	29%	100	0	6	21	4.2 U	4.3 J	4.2 U	2.9 U	6.2 J	2.9 U
UG/L	4600	100%		0	21	21	1030 J	2940 J	3870 J	1130 Ј		3020 J
UG/L	2.4	10%	10	0	2	21	2.2 U	4 U	2.4 J	4 U	2.5 U	4 UJ
UG/L	3.1	14%	50	0	3	21	1 U	1.9 U	1 U	1.9 U	1.3_U	1.9 U
UG/L	26100	100%	20000	2	21	21	6730	9620	9100			26100
UG/L	6.7	19%	2	4	4	21	3.6 U	3.9 U	Street er an in the 677 J	3.9 U	3.2 U	3.9 UJ
UG/L	9.2	24%		0	5	21	2.8 U	2.9 U	2.8 U	2.9 U	5.2 J	2.9 U
UG/L	85.1	95%		0	20	21	7.4 Ј	3.5 J	3.4 J	6.7 Ј	8.2 J	10.6 J
MG/L	16	40%		0	6	15	5 U	8	6			6
MG/L	0.49	94%	10000	0	15	16	0.03	0.09	0.1			0.03
MG/L	1030	100%		0	15	15	297	416	435			334
MG/L	790	100%		0	15	15	260	380	325	320	315	280
	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L	Units Value UG/L 327 UG/L 0 UG/L 18.8 UG/L 4600 UG/L 2.4 UG/L 26100 UG/L 26100 UG/L 6.7 UG/L 9.2 UG/L 85.1 MG/L 16 MG/L 0.49 MG/L 1030	Maximum         of           Units         Value         Detection           UG/L         327         90%           UG/L         0         0%           UG/L         18.8         29%           UG/L         4600         100%           UG/L         2.4         10%           UG/L         3.1         14%           UG/L         6.7         19%           UG/L         6.7         19%           UG/L         9.2         24%           UG/L         85.1         95%           MG/L         16         40%           MG/L         0.49         94%           MG/L         1030         100%	Maximum         of Units         Criteria           Units         Value         Detection         Level           UG/L         327         90%         300           UG/L         0         0%         0.7           UG/L         18.8         29%         100           UG/L         2.4         10%         10           UG/L         2.4         10%         50           UG/L         3.1         14%         50           UG/L         26100         100%         20000           UG/L         6.7         19%         2           UG/L         9.2         24%         UG/L           UG/L         85.1         95%            MG/L         16         40%         MG/L           MG/L         1030         100%         10000	Maximum	Maximum	Maximum	Maximum	Frequency	Number   N	Frequency	Frequency   Frequency   Frequency   Of   Criteria   Number   Of   Of   Times   Of   Of   Of   Of   Of   Of   Of   O

(1) GA = NYSDEC Class GA Groundwater Standard (TOGS 1.1.1, June 1998)

MCL = Maximum Contaminant Level - Drinking Water Standards and Health Advisory (EPA 822-B-00-001)

SEAD-57

MW57-5

572104

GW

SEAD-57

MW57-5

GW

572005

<sup>(2)</sup> Shading indicates a concentration above the groundwater standard.

U = compound was not detected J = the reported value is an estimated concentration R = the analytical result was rejected during data validation.

					21	ENECA A	KWI DEF	OI ACTIVITY			
								SEAD-57 MW57-6 GW 572004	SEAD-57 MW57-6 GW 572105	SEAD-57 MW57-7 GW 572003	SEAD-57 MW57-7 GW 572106
								12.04	12	12	12
								12.04	12	12	12
								1/24/2000	4/27/2000	1/24/2000	4/28/2000
								SA	SA	SA	SA
			Frequency		Number	Number	Number	RI PHASE 1 STEP 1			
		Maximum	of	Criteria	of	of Times	of Samples	KITIMSE I STEF I	2	1	2
P	¥1-14-							Mahar (O)			
Parameter	Units	Value	Detection	Level	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds	*107		004	-		•	1.0	0.5.11	0.6.11	0.5 **	
1,1,1,2-Tetrachloroethane	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	UG/L	0	0%	5	0	0	19	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	11	0.5 U	0.5 UR	0.5 U	0.5 UR
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	19	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	UG/L	0	0%	5	0	0	19	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	UG/L	0	0%	5	0	0	19	0.5 U	0.5 Ŭ	0.5 U	0.5 U
1,1-Dichloropropene	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	UG/L	0	0%	0.04	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trimethylbenzene	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	16	0.5 U	0.5 UJ	0.5 U	0.5 UJ
	UG/L	0	0%	0.0006	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromoethane					-	_					
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	UG/L	0	0%	0.6	0	0	19	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethene (total)	UG/L	0	0%	5	0	0	3				
1,2-Dichloropropane	UG/L	0	0%	1	0	0	19	0.5 U	0.5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	UG/L	0	0%		0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
2-Chlorotoluene	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
2-Nitropropane	UG/L	0	0%		0	0	16	25 U	25 UJ	25 U	25 UJ
Acetone	UG/L	0	0%		0	0	19	5 U	5 U	5 U	5 U
Acrylonitrile	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
Allyl chloride	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
Benzene	UG/L	0	0%	1	0	0	19	0.5 U	0.5 U	0.5 U	0.5 U
Bromobenzene	UG/L	ō	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	UG/L	0	0%	80	0	0	19	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	UG/L	0	0%	80	0	0	19	0.5 U	0.5 U	0.5 U	0.5 U
			0%	5	0	0	16				0.5 U
Butyl chloride	UG/L	0		5		-		0.5 U	0.5 U	0.5 U	
Carbon disulfide	UG/L	0	0%		0	0	19	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	19	0.5 U	0.5 U	0.5 U	0.5 U
Chloroacetonitrile	UG/L	0	0%		0	0	16	25 U	25 U	25 U	25 U
Chlorobenzene	UG/L	0	0%	5	0	0	19	0.5 U	0.5 U	0.5 U	0.5 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	19	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	UG/L	0	0%	5	0	0	19	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	UG/L	0	0%	7	0	0	19	0.5 U	0.5 U	0.5 U	0.5 U
Cis-1,2-Dichloroethene	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	19	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
Dichloromethyl methyl ketone	UG/L	0	0%		0	0	11	25 U	25 UR	25 U	25 UR
Ethyl benzene	UG/L	0	0%	5	0	0	19	0.5 U	0.5 U	0.5 U	0.5 U
Ethyl ether	UG/L	0	0%		0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
Ethyl methacrylate	UG/L	0	0%		o	o	16	0.5 U	0.5 U	0.5 U	0.5 U
Hexachlorobutadiene	UG/L	0	0%	0.5	o	0	16	0.5 U	0.5 U	0.5 U	0.5 U
Hexachloroethane	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
Isopropylbenzene	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
	UG/L	0	0%	J	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
Meta/Para Xylene	UG/L				0	0					
Methacrylonitrile		0	0%	5	•	_	16	0.5 U	0.5 U	0.5 U	0.5 U
Methyl 2-propenoate	UG/L	0	0%		0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
Methyl Tertbutyl Ether	UG/L	0	0%		0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
Methyl bromide	UG/L	0	0%	5	0	0	19	0.5 U	0.5 U	0.5 U	0.5 U

								SEAD-57	SEAD-57	SEAD-57	SEAD-57
								MW57-6	MW57-6	MW57-7	MW57-7
								GW	GW	GW	GW
								572004	572105	572003	572106
								12.04	12	12	12
								12.04	12	12	12
								1/24/2000	4/27/2000	1/24/2000	4,28,2000
			E		Maria	N	N	SA	SA	SA	SA
			Frequency		Number	Number	Number	RI PITASE 1 STEP 1	RI PITASE 1 STEP 1	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1
		Maximom	of	Criteria	of	of Times	of Samples	1	2	1	2
Parameter	Units	Value	Detection	Level	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl butyl ketone	UG/L	0	0%		0	0	19	2.5 U	2.5 U	2.5 U	2.5 ∪
Methyl chloride	UG/L	0	0%	5	0	0	19	0.5 U	0.5 U	0.5 U	0.5 U
Methyl ethyl ketone	UG/L	0	0%		0	0	19	5 U	5 U	5 U	5 U
Methyl iodide	UG/L	0	0%	5	0	0	16	0.5 U	0.5 LI	0.5 U	0.5 U
Methyl isobutyl ketone	UG/L	0	0%		0	0	19	2.5 U	2.5 U	2.5 U	2.5 U
Methyl methacrylate	UG, L	0	0%	50	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
Methylene bromide	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
Methylene chloride	UG/L	0	0%	5	0	0	19	0.5 U	0.5 LF	0.5 U	0.5 U
Naphthalene	UG/L	0	0%		0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
Nitrobenzene	UG/L	0	0%	0.4	0	0	16	25 UJ	25 U	25 UJ	25 U
Ortho Xylene	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
Pentachloroethane	UG/L	0	0%	5	0	0	8	0.5 UJ	2 UR	0.5 UJ	2 UR
Propionitrile	UG/L	0	0%		0	0	16	25 U	25 U	25 U	25 U
Propylbenzene	UG/L	Ö	0%	5	ő	0	16	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	UG/L	0	0%	5	0	0	19	0.5 U	0.5 U		
Tetrachloroethene	UG/L	0	0%	5	0	0	19	0.5 U	0.5 U	0.5 U	0.5 U
	UG/L	0	0%	3	0					0.5 U	0.5 U
Tetrahydrofuran				5		0	16	2.5 U	2.5 U	2.5 U	2.5 U
Foluene	UG/L	0	0%	-	0	0	19	0.5 U	0.5 U	0.5 U	0.5 U
Total Xylenes	UG/L	0	0%	5	0	0	19	0.5 U	0.5 U	0.5 U	0.5 U
Trans-1,2-Diehloroethene	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	19	0.5 U	0.5 U	0.5 U	0.5 U
Trans-1,4-Dichloro-2-butene	UG/L	0	0%		0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	UG/L	0	0%	5	0	0	19	0.5 U	0.5 U	0.5 U	0.5 U
Trichlorofluoromethane	UG/L	0	Oº%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	UG/L	0	0%	2	0	0	19	0.5 U	0.5 U	0.5 U	0.5 U
n-Butylbenzene	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
p-Chlorotoluene	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
p-Isopropyltoluene	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
sec-Butylbenzene	UG/L	0	0%	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
tert-Butylbenzene	UG/L	0	046	5	0	0	16	0.5 U	0.5 U	0.5 U	0.5 U
Semivolatile Organic Compound	ds										
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	19	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	19	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	UG, L	0	0%	3	0	0	19	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	19	1 U	1 U	1 U	1 U
2,2'-oxybis(1-Chloropropane)	UG/L	0	0%	-	0	0	3	. 0		, ,	. 0
2,4,5-Trichlorophenol	UG/L	0	0%	1	0	0	18	2.5 U	2.6 U	2.6 U	2.5 U
2,4,6-Trichlorophenol	UG/L	0	0%	1	0	0	18	1 U	1 U	1 U	1 U
2,4-Dichlorophenol	UG/L	0	0%	5	0	0	18	1 U	1 U	1 U	1.0
2,4-Dimethylphenol	UG/L	0	0%	_	0	0	18	1 U	1 U	1 U	1 U
2,4-Dinitrophenol	UG/L	0	0%		0	0	17	2.5 UJ	2.6 UJ	2.6 UJ	2.5 U
2,4-Dinitrophenor	UG/L	0	0%	5	0	0	19	2.5 U	2.6 U	2.6 U	2.5 U
	UG/L	0	0%	5	0	0	19				
2,6-Dinitrotoluene				5				1 U	1 U	1 U	1 U
2-Chloronaphthalene	UG/L	0	0%		0	0	19	I U	1 U	1 U	1 U
2-Chlorophenol	UG/L	0	0.4		0	0	18	1 U	1 U	1 U	1 U
2-Methylnaphthalene	UG/L	0	0%		0	0	19	1 U	1 U	1 U	1 U
2-Methylphenol	UG/L	0	0%		0	0	18	1 U	1 U	1 U	1 U
2-Nitroaniline	UG/L	0	0%	5	0	0	19	2.5 U	2.6 U	2.6 U	2.5 U
2-Nitrophenol	UG/L	0	0%	1	0	0	18	1 U	1 (1	1 U	1 U
3,3'-Diehlorobenzidine	UG/L	0	0%	5	0	0	11	1 U	1 UR	1 U	1 UR
3-Nitroaniline	UG/L	0	0%	5	0	0	19	2.5 UJ	2.6 UJ	2.6 UJ	2.5 UJ
4,6-Dinitro-2-methylphenol	UG/L	0	0%	1	0	0	18	2.5 U	2.6 U	2.6 U	2.5 U
4-Bromophenyl phenyl ether	UG/L	0	0%		0	0	19	1 U	1 U	1.0	1 U
4-C'hloro-3-methylphenol	UG/L	0	0%	1	0	0	18	1 U	1 U	1 U	1 U
4-Chloroaniline	UG/L	0	0%	5	0	0	19	1 U	1 UJ	1 U	l UJ
4-Chlorophenyl phenyl ether	UG/L	0	0%		0	0	19	1 U	1 U	1.11	1 U

					31	SINE CA A	MINI DEI	OI ACIIVII I			
								SEAD-57 MW57-6 GW	SEAD-57 MW57-6	SEAD-57 MW57-7	SEAD-57 MW57-7
								572004	GW 572105	GW 572003	GW 572106
								12.04	12	12	12
								12.04	12	12	12
								1/24/2000	4/27/2000	1/24/2000	4/28/2000
								SA	SA	SA	SA
			Frequency		Number	Number	Number	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1
		Maximum	of	Criteria	of	of Times	of Samples	1	2	1	2
Parameter	Units	Value	Detection	Level	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)
4-Methylphenol	UG/L	0	0%		0	0	18	1 U	1 U	1 U	1 U
4-Nitroaniline	UG/L	0	0%	5	0	0	19	2.5 UJ	2.6 UJ	2.6 UJ	2.5 UJ
4-Nitrophenol Acenaphthene	UG/L UG/L	0	0% 0%	1	0	0	17	2.5 U	2.6 UJ	2.6 U	2.5 U
Acenaphthylene	UG/L	0	0%		0	0	19 19	1 U 1 U	1 U 1 U	1 U	1 U
Anthracene	UG/L	0	0%		0	0	19	1 0	1 U	1 U 1 U	1 U 1 U
Benzo(a)anthracene	UG/L	0	0%		o	o	19	1 U	1 U	1 U	1 U
Benzo(a)pyrene	UG/L	Ö	0%	0	0	0	19	1 U	1 U	1 U	1 U
Benzo(b)fluoranthene	UG/L	0	0%		0	0	19	1 U	1 U	i U	1 U
Benzo(ghi)perylene	UG/L	0	0%		0	0	19	1 U	1 U	1 U	1 U
Benzo(k)fluoranthene	UG/L	0	0%		0	0	19	1 U	1 U	1 U	1 U
Bis(2-Chloroethoxy)methane	UG/L	0	0%	5	0	0	19	1 U	1 UJ	1 U	1 U
Bis(2-Chloroethyl)ether	UG/L	0	0%	1	0	0	19	1 U	1 U	1 U	1 U
Bis(2-Chloroisopropyl)ether	UG/L	0	0%	5	0	0	16	1 U	1 U	1 U	1 U
Bis(2-Ethylhexyl)phthalate	UG/L	20	5%	5	1	1	19	1 U	1 U	1 U	1 U
Butylbenzylphthalate	UG/L	0.077	5%		0	1	19	1 U	1 U	0.077 J	1 U
Carbazole Chrysene	UG/L UG/L	0	0% 0%		0	0	19	1 U	1 UJ	1 U	1 UJ
Di-n-butylphthalate	UG/L	0	0%	50	0	0	19 19	1 U	1 U	1 U	1 U
Di-n-octylphthalate	UG/L	0	0%	30	0	0	19	1 U 1 U	1 U 1 U	1 U	1 U 1 U
Dibenz(a,h)anthracene	UG/L	0	0%		0	0	19	1 U	1 U	1 U	1 U
Dibenzofuran	UG/L	Õ	0%		o	0	19	1 U	1 U	1 U	1 U
Diethyl phthalate	UG/L	1.9	5%		0	1	19	1 U	1 U	1 U	1 U
Dimethylphthalate	UG/L	0	0%		0	0	19	1 U	i U	1 U	1 U
Fluoranthene	UG/L	0	0%		0	0	19	1 U	ı U	1 U	1 U
Fluorene	UG/L	0	0%		0	0	19	1 U	1 U	1 U	1 U
Hexachlorobenzene	UG/L	0	0%	0.04	0	0	19	1 U	1 U	1 U	1 U
Hexachlorobutadiene	UG/L	0	0%	0.5	0	0	19	1 U	1 U	1 U	1 U
Hexachlorocyclopentadiene	UG/L	0	0%	5	0	0	19	1 U	1 U	1 U	1 U
Hexachloroethane Indeno(1,2,3-cd)pyrene	UG/L UG/L	0	0% 0%	5	0	0	19 19	1 U 1 U	1 U 1 U	1 U 1 U	1 U
Isophorone	UG/L	0	0%		0	0	19	1 U	1 U	1 U	1 U 1 U
N-Nitrosodiphenylamine	UG/L	0	0%		0	0	19	1 U	1 U	1 U	1 U
N-Nitrosodipropylamine	UG/L	0	0%		0	0	19	1 U	1 U	1 U	1 U
Naphthalene	UG/L	0	0%		0	0	19	1 U	1 U	1 U	1 U
Nitrobenzene	UG/L	0	0%	0.4	0	0	19	1 U	i U	1 U	1 U
Pentachlorophenol	UG/L	0	0%	1	0	0	18	2.5 U	2.6 U	2.6 U	2.5 U
Phenanthrene	UG/L	0	0%		0	0	19	1 U	1 U	1 U	1 U
Phenol	UG/L	0	0%	1	0	0	18	1 U	1 U	1 U	1 U
Pyrene	UG/L	0	0%		0	0	19	1 U	1 U	1 U	1 U
Explosives	1107										
1,3,5-Trinitrobenzene 1,3-Dinitrobenzene	UG/L UG/L	0	0% 0%	5	0	0	20	0.25 U	0.25 U	0.25 U	0.25 U
2,4,6-Trinitrotoluene	UG/L	0	0%	5	0	0	20 20	0.25 U 0.25 U	0.25 U 0.25 U	0.25 U 0.25 U	0.25 U
2,4-Dinitrotoluene	UG/L	0	0%	5	0	0	20	0.25 U	0.25 U 0.25 U	0.25 U 0.25 U	0.25 U 0.25 U
2,6-Dinitrotoluene	UG/L	0	0%	5	0	0	20	0.25 U	0.25 U	0.25 U	0.25 U
2-Nitrotoluene	UG/L	0	0%	5	o	0	16	0.25 U	0.25 U	0.25 U	0.25 U
2-amino-4,6-Dinitrotoluene	UG/L	o	0%	-	o	Ö	20	0.25 U	0.25 U	0.25 U	0.25 U
3-Nitrotoluene	UG/L	0	0%	5	Ö	0	16	0.25 U	0.25 U	0.25 U	0.25 U
4-Nitrotoluene	UG/L	0	0%	5	0	0	16	0.25 U	0.25 U	0.25 U	0.25 U
4-amino-2,6-Dinitrotoluene	UG/L	0	0%		0	0	20	0.25 U	0.25 U	0.25 U	0.25 U
HMX	UG/L	0	0%		0	0	20	0.25 U	0.25 U	0.25 U	0.25 U
Nitrobenzene	UG/L	0	0%	0.4	0	0	16	0.25 U	0.25 U	0.25 U	0.25 U
RDX	UG/L	0	0%		0	0	20	0.25 U	0.25 U	0.25 U	0.25 U
Tetryl	UG/L	0	0%		0	0	20	0.25 U	0.25 U	0.25 U	0.25 U
Pesticides and PCBs											

						JI I DOLL I	udii DDI	OTACIIVIII			
							•	SEAD-57	SEAD-57	SEAD-57	SEAD-57
								MW57-6	MW57-6	MW57-7	MW57-7
								GW	GW	GW	GW
								572004	572105	572003	572106
								12.04	12	12	12
								12.04	12	12	12
								1/24/2000	4/27/2000	1/24/2000	4/28/2000
								SA	SA	SA	SA
			Frequency		Number	Number	Number	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1
		Maximum	of	Criteria	of	of Times	of Samples	1	2	1	2
Parameter	Units	Value	Detection	Level	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)
4.4'-DDD	UG/L	0	0%	0.3	0	0	19	0.01 U	0.011 U	0.01 U	0.012 U
4,4'-DDE	UG/L	0	0%	0.2	0						
						0	19	0.01 U	0.011 U	0.01 U	0.012 U
4,4'-DDT	UG/L	0	0%	0.2	0	0	19	0.01 U	0.011 U	0.01 U	0.012 U
Aldrin	UG/L	0	0%	0	0	0	19	0.005 U	0.0054 U	0.005 U	0.006 U
Alpha-BHC	UG/L	0	0%	0.01	0	0	19	0.005 U	0.0054 U	0.005 U	0.006 U
Alpha-Chlordane	UG/L	0	0%		0	0	19	0.005 U	0.0054 U	0.005 U	0.006 U
Aroclor-1016	UG/L	0	0%	0.09	0	0	19	0.1 U	0.11 U	0.1 U	0.12 U
Aroclor-1221	UG/L	0	0%	0.09	0	0	19	0.2 U	0.22 U	0.2 U	0.24 U
Aroclor-1232	UG/L	0	0%	0.09	0	0	19	0.1 U	0.11 U	0.1 U	0.12 U
Aroclor-1242	UG/L	0	0%	0.09	0	0	19	0.1 U	0.11 U	0.1 U	0.12 U
Aroclor-1248	UG/L	0	0%	0.09	0	0	19	0.1 U			
									0.11 U	0.1 U	0.12 U
Aroclor-1254	UG/L	0	0%	0.09	0	0	19	0.1 U	0.11 U	0.1 U	0.12 U
Aroclor-1260	UG/L	0	0%	0.09	0	0	19	0.1 U	0.11 U	0.1 U	0.12 U
Beta-BHC	UG/L	0	0%	0.04	0	0	19	0.005 U	0.0054 U	0.005 U	0.006 U
Delta-BHC	UG/L	0	0%	0.04	0	0	19	0.005 U	0.0054 U	0.005 U	0.006 U
Dieldrin	UG/L	0	0%	0.004	0	0	19	0.01 U	0.011 U	0.01 U	0.012 U
Endosulfan I	UG/L	0	0%		0	0	19	0.005 U	0.0054 U	0.005 U	0.006 U
Endosulfan II	UG/L	0	0%		0	0	19	0.01 U	0.011 U	0.01 U	0.012 U
Endosulfan sulfate	UG/L	0	0%		0	0	19	0.01 U	0.011 U	0.01 U	0.012 U
Endrin	UG/L	0	0%	0	0	0	19	0.01 U	0.011 U	0.01 U	
		0			_	0					0.012 U
Endrin aldehyde	UG/L		0%	5	0		19	0.01 U	0.011 U	0.01 U	0.012 U
Endrin ketone	UG/L	0	0%	5	0	0	19	0.01 U	0.011 U	0.01 U	0.012 U
Gamma-BHC/Lindane	UG/L	0	0%	0.05	0	0	19	0.005 U	0.0054 U	0.005 U	0.006 U
Gamma-Chlordane	UG/L	0	0%		0	0	19	0.005 U	0.0054 U	0.005 U	0.006 U
Heptachlor	UG/L	0	0%	0.04	0	0	19	0.005 U	0.0054 U	0.005 U	0.006 U
Heptachlor epoxide	UG/L	0	0%	0.03	0	0	19	0.005 U	0.0054 U	0.005 U	0.006 U
Hexachlorobenzene	UG/L	0	0%	0.04	0	0	16	0.01 U	0.011 U	0.01 U	0.012 U
Methoxychlor	UG/L	0	0%	35	0	0	19	0.05 U	0.054 U	0.05 U	0.06 U
Toxaphene	UG/L	0	0%	0.06	0	Õ	19	0.5 U	0.54 U	0.5 U	0.6 U
Herbicides	00/2		070	0.00	•	0	17	0.5 0	0.54 0	0.5 0	0.0 0
	1107	0	001	2.5	0		2				
2,4,5-T	UG/L		0%	35		0	3				
2,4,5-TP/Silvex	UG/L	0	0%	0.26	0	0	3				
2,4-D	UG/L	0	0%	50	0	0	3				
2,4-DB	UG/L	0	0%		0	0	3				
Dalapon	UG/L	0	0%	50	0	0	3				
Dicamba	UG/L	0	0%	0.44	0	0	3				
Dichloroprop	UG/L	0	0%		0	0	3				
Dinoseb	UG/L	0	0%	1	0	0	3				
MCPA	UG/L	0	0%	0.44	0	0	3				
MCPP	UG/L	0	0%	0.44	0	0	3				
	UG/L	U	070		U	U	3				
Metals											
Aluminum	UG/L	6540	100%		0	21	21	1500 J	504 J	250 J	149 J
Antimony	UG/L	44.7	14%	3	2	3	21	5.4 U	4.6 U	5.4 U	4.6 U
Arsenic	UG/L	4.1	10%	10	0	2	21	2.4 U	2.9 J	2.4 U	4.1 J
Barium	UG/L	129	100%	1000	0	21	21	46.7 J	46.5 J	91.2 J	90.4 J
Beryllium	UG/L	0.63	5%	4	0	1	21	0.6 U	0.3 U	0.6 U	0.3 U
Cadmium	UG/L	3.1	10%	5	0	2	21	0.8 U	0.3 U	0.8 U	0.3 U
Calcium	UG/L	297000	100%	-	0	21	21	74800	78100 J	113000	115000 J
Chromium	UG/L	14.5	62%	50	0	13	21	3.5 J	2.3 J	1 U	2.2 U
				30	0		21				
Cobalt	UG/L	14.8	5%	200		1		3.5 U	3 U	3.5 U	3 U
Copper	UG/L	19.5	48%	200	0	10	21	1.8 J	4 Ј	2.2 J	2.1 U
Cyanide	UG/L	0	0%		0	0	21	10_U	10 U	10 U	10 U
Iron	UG/L	9260	90%	300	12	19	21	, 1190 J	545 J	270 J	162 J
Iron+Manganese	UG/L	9587	90%	500	6	19	21	Indiana in the second	581.3 J	307 Ј	173.5 Ј
Lead	UG/L	2.2	14%	15	0	3	21	1 U	2.3 U	1 U	2.3 U
Magnesium	UG/L	36900	100%		0	21	21	11600	11700	21800	21200
			- 3070						*****	=.000	

MW57-6

GW

572004

12.04

SEAD-57 MW57-6

572105

SEAD-57

MW57-7

572003

GW

12

SEAD-57

MW57-7

GW

572106 12

								12.04	12	12	12
								1/24/2000	4/27/2000	1/24/2000	4/28/2000
								SA	SA	SA	SA
			Frequency		Number	Number	Number	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1	RI PHASE 1 STEP 1
		Maximum	of	Criteria	of	of Times	of Samples	1	2	1	2
Parameter	Units	Value	Detection	Level	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Manganese	UG/L	327	90%	300	1	19	21	37.2	36.2	37	11.5 J
Mercury	UG/L	0	0%	0.7	0	0	21	0.1 U	0.1 U	0.1 U	0.1 U
Nickel	UG/L	18.8	29%	100	0	6	21	4.2 U	2.9 U	4.2 U	2.9 U
Potassium	UG/L	4600	100%		0	21	21	1790 J	1800 J	2330 Ј	1540 J
Selenium	UG/L	2.4	10%	10	0	2	21	2.2 U	4 UJ	2.2 U	4 U
Silver	UG/L	3.1	14%	50	0	3	21	1 U	3.1 J	1 U	2 J
Sodium	UG/L	26100	100%	20000	2	21	21	4590 J	3610 J	4770 J	3940 J
Thellium	UG/L	6.7	19%	2	4	4	21	3.6 U	3.9 UJ	3.6 U	3.9 U
Vanadium	UG/L	9.2	24%		0	5	21	3 J	2.9 U	2.8 U	2.9 U
Zinc	UG/L	85.1	95%		0	20	21	6.7 J	2.9 J	3.8 J	2.9 J
Other Analytes											
COD	MG/L	16	40%		0	6	15	5 U	16	5 U	5 U
Nitrate/Nitrite Nitrogen	MG/L	0.49	94%	10000	0	15	16	0.06	0.03	0.13	0.1 6
Total Dissolved Solids	MG/L	1030	100%		0	15	15	263	248	415	421 ,
Total Hardness-CaCO3	MG/L	790	100%		0	15	15	215	240	350	400 *

<sup>(1)</sup> GA = NYSDEC Class GA Groundwater Standard (TOGS 1.1.1, June 1998)

MCL = Maximum Contaminant Level - Drinking Water Standards and Health Advisory (EPA 822-B-00-001)

(2) Shading indicates a concentration above the groundwater standard.

U = compound was not detected
J = the reported value is an estimated concentration

R = the analytical result was rejected during data validation.

# TABLE 3A OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN IN SEAD-57 SOIL SENECA ARMY DEPOT ACTIVITY

Scenario Time frame: Curent/Future
Medium: Soil
Exposure Medium: Soil
Exposure Point: SEAD-57

CAS Number	Chemical	Minimum Detected Concentration <sup>1</sup> (mg/kg)	Q	Maximum Detected Concentration <sup>1</sup> (mg/kg)	Q	Location of Maximum Concentration		ection uency 1		of Rep limits mg/kg)	1	Concentration Used for Screening <sup>2</sup> (mg/kg)	Background Value <sup>3</sup> (mg/kg)	Screening Value (mg/kg)	Potential ARAR/TBC Source	ARAR / TBC Value <sup>5</sup> (mg/kg)	COPC Fing	Rationale for Contaminant Deletion or Selection <sup>6</sup>
voc								_		T							-	
67-64-1	Acetone	0.002	J	0.7	J	SD57-6	95	/ 133	0.008	-	0.028	0.7		6100	NYSDEC Subpart 375-6	0.05	NO	BSL
71-43-2	Benzene	0.001	J	0.001	J		2	/ 125	0.033	-	0.062	0.001		1.1	NYSDEC Subpart 375-6	0.1	NO	BSL
75-15-0	Carbon disulfide	0.0009	J	0.022		SS57-8	130		0	-	0	0.022		67			NO	BSL
67-66-3	Chloroform	0.007	J	0.007		SS57-8	130		0	-	0	0.007		0.3			NO	BSL
78-93-3	Methyl ethyl ketone	0.006		0.064		SD57-6	100		0.02	1.	0.07	0.064		2800	NYSDEC Subpart 375-6	0.18	NO	BSL
75-09-2	Methylene chloride	0.001		0.001		SD57-6	100	/ 130	0.02	-	0.07	0.001		11	NYSDEC Subpart 375-6	0.18	NO	BSL
127-18-4	Tetrachloroethene	0.00037	J	0.006	J		52	/ 130	0	-	230	0.006		0.57			NO	BSL
108-88-3	Toluene	0.001	J	0.033		SS57-51	98	/ 130	0.16	-	2.2	0.033		500			NO	BSL
1330-20-7	Total Xylenes	0.001	J	0.002	-	SS57-51	98	/ 130	0.16		2.2	0.002		60			NO	BSL
SVOC			-		-					-								
91-57-6	2-Methylnaphthalene	0.0037	J	0.75	J		3	/ 124	0.07	-	0.78	0.75		31			NO	BSL
106-44-5	4-Methylphenol	0.0049	J	0.013	J		3	/ 124	0.07	1-	2	0.013		31	NYSDEC Subpart 375-6	0.33	NO	BSL
120-12-7	Anthracene	0.0051	J	0.0082	J		7	/ 125	0.0017	-	0.0032	0.0082		1700	NYSDEC Subpart 375-6	0.094	NO	BSL
56-55-3	Benzo(a)anthracene	0.0047	J	0.062	J		2	/ 125	0.033	-	0.062	0.062		0.15	NYSDEC Subpart 375-6	0,1	NO	CSG
50-32-8	Benzo(a)pyrene	0.0046	J	0.076	J			/ 125			0.062	0.076		0.015	NYSDEC Subpart 375-6	0,1	YES	ASL
205-99-2	Benzo(b)fluoranthene	0.0046	1		1			/ 125	01000	_	0.062	0.067		0.15	NYSDEC Subpart 375-6	0.1	NO	CSG
191-24-2	Benzo(ghi)perylene	0.0054	J		J			/ 125	01000	_	0.062	0,054			NYSDEC Subpart 375-6	0.1		NSV
207-08-9	Benzo(k)fluoranthene	0.0054	J		J			/ 125		_	0.062	0.05		1.5	NYSDEC Subpart 375-6	0.1	NO	CSG
117-81-7	Bis(2-Ethylhexyl)phthalate	0.0057	J		J			/ 125	0.0017	-	0.0032	3.4		35	NYSDEC Subpart 375-6	0.036	NO	BSL
218-01-9	Chrysene	0.0044		0.11		SB57-3	130	/ 130	0	-	0	0.11		15	NYSDEC Subpart 375-6	30	NO	CSG
84-74-2	Di-n-butylphthalate	0.0041		0.39	J			/ 130	0	-	31.6	0.39		610	NYSDEC Subpart 375-6	50	NO	BSL
117-81-7	Di-n-octylphthalate	0.0026		0.0026	J		120		0	-	31.6	0.0026		3.5	NYSDEC Subpart 375-6	50	NO	BSL
53-70-3	Dibenz(a,h)anthracene	0.0042		0.024	3	TP57-2	120	/ 130	0	-	31.6	0.024		0.015	NYSDEC Subpart 375-6	50	YES	ASL
84-66-2	Diethyl phthalate	0.0026		0.0088	J			/ 130	0	-	31.6	0.0088		4900	NYSDEC Subpart 375-6	50	NO	BSL
206-44-0	Fluoranthene	0.0041		0.15	J		120		0	-	31.6	0.15		230	NYSDEC Subpart 375-6	50	NO	BSL
86-73-7	Fluorene	0.0081		0.12	J		120	/ 130	0	-	31.6	0.12		230	NYSDEC Subpart 375-6	50	NO	BSL
193-39-5	Indeno(1,2,3-cd)pyrene	0.006		0.037	J	2247 0	120	/ 130	0	-	31.6	0.037		0.15	NYSDEC Subpart 375-6	50	NO	CSG
86-30-6	N-Nitrosodiphenylamine	0.0092	J	0.075		S-57-Berm-EX-FL	130	/ 130	0	-	0	0.075		99	NYSDEC Subpart 375-6	30	NO	BSL
91-20-3	Naphthalene	0.18		0.18		SD57-6	100	/ 130	0.02	-	0.07	0.18		3.9	NYSDEC Subpart 375-6	0.18	NO	BSL
85-01-8	Phenanthrene	0.0029	J	0.23		S-57-Berm-EX-FL	130		0	-	0	0.23			NYSDEC Subpart 375-6	30		NSV
108-95-2	Phenol	0.0039	3	0.051		S-57-Berm-EX-FL	130		0	4	0	0.051			NYSDEC Subpart 375-6	30		NSV
129-00-0	Pyrene	0.004	J	0.23		TP57-6	130	/ 130	0	-	0	0.23		170			NO	BSL
Pesticides/PCBS																		
72-54-8	4,4'-DDD	0.0017	J	0.054		SS57-24	8	/ 125	0.0033	-	0.0062	0.054		2	NYSDEC Subpart 375-6	0.0033	NO	BSL
72-55-9	4,4'-DDE	0.0025	J	0.032		SS57-8	9	/ 125	0.0033	-	0.0062	0.032		1.4	NYSDEC Subpart 375-6	0.0033	NO	BSL
50-29-3	4,4'-DDT	0.0029	J	0.023		TP57-4	_	/ 125	0.0033	-	0.0062	0.023		1.7	NYSDEC Subpart 375-6	0.0033	NO	BSL
319-84-6	Alpha-BHC	0.0011	J	0.0014	J		-	/ 125	0.0017	-	0.0032	0.0014		0.077	NYSDEC Subpart 375-6	0.02	NO	BSL
12789-03-6	Alpha-Chlordane	0.0012	J	0.016	J		_	/ 125	0.0017	-	0.0032	0.016		1.6	NYSDEC Subpart 375-6	0.094	NO	BSL
11096-82-5	Aroclor-1260	0.024	J	0.027	J		-	/ 125	0.033	-	0.062	0.027		0.22	NYSDEC Subpart 375-6	0.1	NO	BSL
319-85-7	Beta-BHC	0.0045	J	0.0045	J		1	/ 125	0.0017	-	0.0032	0.0045		0.27	NYSDEC Subpart 375-6	0.036	NO	BSL
60-57-1	Dieldrin	0.0034		0.027	J		120		0	-	31.6	0.027		0.03	NYSDEC Subpart 375-6	50_	NO	BSL
115-29-7	Endosulfan I	0.0052		0.0052	J		120		0	-	31.6	0.0052		37	NYSDEC Subpart 375-6	50	NO	BSL
891-86-1	Endosulfan II	0.0031		0.0031	J		120	/ 130	0	-	31.6	0.0031			NYSDEC Subpart 375-6	50		NSV
7421-93-4	Endrin aldehyde	0.0038		0.0038	J		120		0	-	31.6	0.0038			NYSDEC Subpart 375-6	50		NSV
53494-70-5	Endrin ketone	0.004		0.004	J			/ 130	0	-	31.6	0.004			NYSDEC Subpart 375-6	50		NSV
76-44-8	Heptachlor	0.0016		0.0016	J			/ 130		-	31.6	0.0016		0.11	NYSDEC Subpart 375-6	50	NO	BSL
66240-71-9	Heptachlor epoxide	0.002		0.002	J	TP57-2	120	/ 130	0	-	31.6	0.002			NYSDEC Subpart 375-6	50		NSV
Metals																		
7429-90-5	Aluminum	3940	J	22900	J		7	/ 125	0.0017	_	0.0032	22900	20,500	7700	NYSDEC Subpart 375-6	0.094	YES	ASL
7440-36-0	Antimony	0.36	J	6.5	J			/ 125		_	010000	6.5	6.55	3.1	NYSDEC Subpart 375-6	0,094	YES	ASL
7440-38-2	Arsenic	1.6	J	17.8	J			/ 125	01000	-	0.062	17.8	21.5	0.39	NYSDEC Subpart 375-6	0.1	YES	ASL
7440-39-3	Barium	25.5	J	237	J			/ 125		-	0.062	237	159	1500	NYSDEC Subpart 375-6	0.1	NO	BSL
7440-41-7	Beryllium	0.091	J	1.8	J		2		0.033	-	0.062	1.8	1.4	16	NYSDEC Subpart 375-6	0.1	NO	BSL
7440-43-9	Cadmium	0.06	3	28.6	J		1	/ 125	0.0017	-	0.0032	28.6	2.9	7	NYSDEC Subpart 375-6	0.036	YES	ASL
111-11-1	Calcium	835	J	213000		SS57-8		/ 130	0	-	0	213000	293,000					NUT
7440-47-3	Chromium	7.4		32.1		SB57-3	130		0	-	0	32.1	32.7	280	NYSDEC Subpart 375-6	30	NO	BSL
7440-48-4	Cobalt	3.6	J	29.7		SD57-10	130	/ 130	0	4	0	29.7	29.1	2.3			YES	ASL
7440-50-8	Copper	7.6		2930	J	AAUT'B	120		0	-	31,6	2930	62.8	310	NYSDEC Subpart 375-6	50	YES	ASL
7439-89-6	Iron	7540		39800	J	0.0077-0	130			4-1	0	39800	381,600	5500			YES	ASL
7439-92-1	Lead	3.6		1860		TP57-2		/ 130	0	-	0	1860	266	40	NYSDEC Subpart 375-6	63	YES	ASL
7439-95-4	Magnesium	1420	J	27600		TP57-9		/ 130	0	-	0	27600	29,100					NUT
7439-96-5	Manganese	99.3		2580	J	0001-10	130	/ 130	0	-	0	2580	2,380	180	NYSDEC Subpart 375-6	1600	YES	ASL
7439-97-6	Mercury	0.02		0.15		SD57-6	100		0.02	-	0.07	0.15	0.13	0.43	NYSDEC Subpart 375-6	0.18	NO	BSL
7440-02-0	Nickel	6.5	J	59.2		S-57-Berm-EX-FL	130	/ 130	0	-	0	59.2	62.3	150	NYSDEC Subpart 375-6	30	NO	BSL
7440-09-7	Potassium	351	J	3250		TP57-6	130		0	-	0	3250	3,160					NUT
7782-49-2	Selenium	0.31	J	2.7	J		84	/ 130	0.18	~	0.9	2.7	1.7	39	NYSDEC Subpart 375-6	3.9	NO	BSL
7440-22-4	Silver	0.22	T	1.7	J	SS57-1	51	/ 130	0.099	1-1	1.5	1.7	0.87	39	NYSDEC Subpart 375-6	1 2	NO	BSL

## TABLE 3A OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN IN SEAD-57 SOIL SENECA ARMY DEPOT ACTIVITY

Scenario Time frame: Curent/Future Medium: Soil Exposure Medium: Soil Exposure Point: SEAD-57

CAS Number	Chemical	Minimum Detected Concentration <sup>1</sup> (mg/kg)	Q	Maximum Detected Concentration 1 (mg/kg)	Q	Location of Maximum Concentration		ection uency <sup>1</sup>	I	of Reporting limits <sup>1</sup> mg/kg)	Used for Screening <sup>2</sup> (mg/kg)	Value <sup>3</sup> (mg/kg)	Screening Value <sup>4</sup> (mg/kg)	Potential ARAR/TBC Source	ARAR / TBC Value <sup>5</sup> (mg/kg)	COPC Flag	Rationale for Contaminant Deletion or Selection <sup>6</sup>
17341-25-2	Sodium	39.2	J	270	J	SB57-2	52	/ 130	0	- 230	270	269					NUT
7440-28-0	Thallium	0.24	J	6.7		SS57-51	98	/ 130	0.16	- 2.2	6.7	1.2	0.51			YES	ASL
7440-62-2	Vanadium	11.2		104	П	TP57-4	129	/ 130	0	- 26	104	32.7	55			YES	ASL
7440-66-6	Zinc	41.2		1250	J	TP57-2	122	/ 122	0	- 0	1250	126	2300	NYSDEC Subpart 375-6	109	NO	BSL
Other Analytes					П												
14797-55-8	Nitrate/Nitrite Nitrogen	0.01	J	6.32		S-57-Berm-EX-FL	130	/ 130	0	- 0	6.32		13000	NYSDEC Subpart 375-6	30	NO	BSL

- 1. Field duplicate pairs were presented as a discrete samples. Laboratory duplicates were not included in the assessment. Range of reporting limits were presented for nondetects only.
- 2. The maximum detected concentration was used for screening.
- 3. Background value is the maximum Seneca background concentration.
- 4. EPA Regional Screening Levels for residential soil. On-line resources available at http://www.epa.gov/region09/superfund/prg/index.html. Last updated April 2009. Region 9 PRGs were derived based on Direct contact exposure (ingestion and dermal contact) and a target Cancer Risk of 1E-6 or a Target Hazard Quotient of 0.1.

Screening values for calcium, magnesium, potassium, and sodium were calculated based on an assumption of 200 mg/day soil ingestion and recommended dietary allowances and adequate intakes for 1-3 yr children

(500 mg/day and 80 mg/day for calcium and magnesium) and minimum requirements for 1 yr children (225 mg/day and 1000 mg/day for sodium and potassium) from Marilyn Wright (2001) Dietary Reference Intakes.

PRG for total chromium (1:6 ratio Cr VI: Cr III) was used as screening value for chromium.

PRG for nickel (soluble salts) was used as screening value for nickel. 5. Potential ARAR/TBC values are from NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives, http://www.dec.state.ny.us/website/regs/subpart375 6.html

6. Rationale codes Selection Reason: No Screening Value (NSV)

Above Screening Levels (ASL) Chemicals in the Same Group were retained as COPC (CSG)

Deletion Reason: Essential Nutrient (NUT)

Below Screening Level (BSL)

Definitions:

COPC = Chemical of Potential Concern

ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered

O = Oualifier

J = Estimated Value

## TABLE 3B

# OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN IN SEAD-57 GROUNDWATER SENECA ARMY DEPOT ACTIVITY

Scenario Time frame: Current/Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Aquifer -- Tap Water

CAS Number	Chemical	Minimum Detected Concentration 1 (ug/L)	Q	Maximum Detected Concentration 1 (ug/L)	Q	Location of Maximum Concentration		uency	Rang Repo Lim (ug	orting its 1	Concentration Used for Screening 2 (ug/L)	Background Value <sup>3</sup> (ug/L)	Screening Value <sup>4</sup> (ug/L)	Potential ARAR /TBC Value (ug/L)	Potential ARAR/TBC Source	COPC	Rationale for Contaminant Deletion or Selection <sup>5</sup>
SVOC					T												
117-81-7	Bis(2-Ethylhexyl)phthalate	20		20		MW57-3		19	1	- 10			4.80	5	GA	YES	ASL
85-68-7	Butylbenzylphthalate	0.077	J	0.077	J	MW57-7	1	19	1	- 10	0.077		35			NO	BSL
84-66-2	Diethyl phthalate	1.9		1.9		MW57-4	1	19	1	- 10	1.9		29,000			NO	BSL
Metals																	
7429-90-5	Aluminum	18.4	J	6540		MW57-2	21	21	0	- (	6540	2,730	37,000			NO	BSL
7440-36-0	Antimony	3	J	44.7	J	MW57-1	3	21	2.2	- 21.	6 44.7	8	15	3	GA	YES	ASL
7440-38-2	Arsenic	2.9	J	4.1	J	MW57-7	2	21	1.4	- 2.:	5 4,1	2	0.05	10	MCL	YES	ASL
7440-39-3	Barium	15.7	J	129	J	MW57-5	21	/ 21	0	- (	0 129	78.2	7,300	1,000	GA	NO	BSL
7440-41-7	Beryllium	0.63	J	0.63	J	MW57-2	1	/ 21	0.1	- 0.0	0.63	0.21	73	4	MCL	NO	BSL
7440-43-9	Cadmium	0.25	J	3.1	J	MW57-2	2	/ 21	0.2	- 2.	1 3.1	0.5		5	GA	NO	NSV
7440-70-2	Calcium	49400	J	297000	J	MW57-2	21	/ 21	0	- 1	0 297000	116,000				YES	NUT
7440-47-3	Chromium	1	J	14.5		MW57-2	13	/ 21	0.9	- 2.	2 14.5	4.7		50	GA	NO	NSV
7440-48-4	Cobalt	14.8	J	14.8	J	MW57-2	1	/ 21	1.3	- 4.	4 14.8	3.7	11			YES	ASL
7440-50-8	Copper	1.8	J	19.5	J	MW57-1	10	/ 21	1.6	- 3.	1 19.5	3.3	1,500	200	GA	NO	BSL
7439-89-6	Iron	29.5	J	9260		MW57-2	19	/ 21	24.9	- 24.	9 9260	4,480	26,000	300	GA	NO	BSL
	Iron+Manganese	30.6	J	9587	T	MW57-2	19	/ 21	25.9	- 25.	9 9587			500	GA	YES	NA
7439-92-1	Lead	1.1	J	2.2	J	MW57-2	3	/ 21	0.9	- 2.	3 2.2	3	0.00	15	MCL	NO	BSL
7439-95-4	Magnesium	6330	J	36900		MW57-2	21	/ 21	0	-	0 36900	28,600				YES	NUT
7439-96-5	Manganese	1.1	J	327		MW57-2	19	/ 21	1	-	1 327	224	880			NO	BSL
7440-02-0	Nickel	1.9	J	18.8	J	MW57-2	6	/ 21	1.7	- 4.	2 18.8	7	730	100	GA	NO	BSL
7440-09-7	Potassium	481	J	4600	J	MW57-2	21	/ 21	0	-	0 4600	3,830				YES	NUT
7782-49-2	Selenium	2.2	J	2.4	J	MW57-4	2	/ 21	0.69	-	4 2.4	2	180	10	GA	NO	BSL
7440-22-4	Silver	2	J	3.1	J	MW57-6	3	/ 21	0.9	- 4.	2 3.1	1	180	50	GA	NO	BSL
17341-25-2	Sodium	3610	J	26100		MW57-5	21	/ 21	0	-	0 26100	14,600		20,000	GA	YES	NUT
7440-28-0	Thallium	3.2		6.7	J	MW57-4	4	/ 21	1.2	- 3.	9 6.7	2	2.40	2	MCL	YES	ASL
7440-62-2	Vanadium	3	J	9.2	J	MW57-2	5	/ 21	1.5	- 2.	9 9.2	5.2	260			NO	BSL
7440-66-6	Zinc	1.5	J	85.1		MW57-2	20	/ 21	1.5		5 85.1	23.1	11,000			NO	BSL
Other Analytes																	
14797-55-8	Nitrate/Nitrite Nitrogen	20		490	1	MW57-2	15	/ 16	0.01	- 0.0	1 490	23.1	58,000	10,000	GA	NO	BSL

### Notes

- 1. Analytical results are from the 1994 ESI, 1999 RI, and 2000 OE EE/CA sampling rounds.
- Laboratory duplicates were not included in the assessment. Range of reporting limits were presented for nondetects only.
- 2. The maximum detected concentration was used for screening.
- 3. Background values are average concentrations of background sample results.
- EPA Regional Screening Levels for tap water. On-line resources available at http://www.epa.gov/region09/superfund/prg/index.html. Last updated April 2009.

Target Cancer Risk = IE-6; Target Hazard Quotient =0.1. Ingestion from drinking and inhalation of volatiles during showering are evaluated to derive the PRGs.

Screening values for calcium, magnesium, potassium, and sodium were calculated based on an assumption of 2L/day water intake

and recommended dietary allowances and adequate intakes for 1-3 yr children (500 mg/day and 80 mg/day for calcium and magnesium) and

minimum requirements for 2-5 yr children (1400 mg/day for potassium) from Marilyn Wright (2001) Dietary Reference Intakes.

For sodium, an upper limit intake of 2,400 mg/day (http://www.mealformation.com/dailyval.html) was used.

PRG for chromium (VI) was used as screening value for chromium.
5. Rationale codes Selection Reason:

Deletion Reason:

Definitions: COPC = Chemical of Potential Concern

Above Screening Levels (ASL)
Essential Nutrient (NUT)
Below Screening Level (BSL)

No Screening Value (NSV)

ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered

MCL = Federal Maximum Contaminant Level

GA = New York State Class GA Groundwater Standard (TOGS 1.1.1, June 1998 with updates)

NA = Not Applicable Q = Qualifier

J = Estimated Value

# TABLE 4A SEAD-57 SURFACE SOIL EXPOSURE POINT CONCENTRATION SUMMARY SENECA ARMY DEPOT ACTIVITY

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Soil
Exposure Point:	SEAD-57

	Chemical	Units	Arithmetic	EPA ProUCL	Maximum	Q	EPC		Reasonable Maximum Exposure (	2)
CAS#	of		Mean	Student-t 95th	Detected		Units	EPA ProUCL	Medium	Medium
CAS#	Potential		(1)	UCL Value	Concentration			Recommended	EPC	EPC
	Concern			(1, 2)	(1)			UCL Value	Statistic	Rationalc
56-55-3	Benzo(a)anthracene	mg/kg	0.016	0.022	0.062	J	mg/kg	0.022	95% KM Student-t	Non-parametric
50-32-8	Benzo(a)pyrene	mg/kg	0.022	0.030	0.076	J	mg/kg	0.030	95% KM Student-t	Non-parametric
205-99-2	Benzo(b)fluoranthene	mg/kg	0.016	0.021	0.067	J	mg/kg	0.021	95% KM Student-t	Non-parametric
191-24-2	Benzo(ghi)perylene	mg/kg	0.019	0.025	0.054	J	mg/kg	0.025	95% KM Student-t	Non-parametric
207-08-9	Benzo(k)fluoranthene	mg/kg	0.015	0.018	0.050	J	mg/kg	0.018	95% KM Student-t	Non-parametric
218-01-9	Chrysene	mg/kg	0.019	0.023	0.110		mg/kg	0.023	95% KM Student-t	Non-parametric
53-70-3	Dibenz(a,h)anthracene	mg/kg	0.013	0.017	0.024	J	mg/kg	0.017	95% KM Student-t	Non-parametric
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	0.015	0.020	0.037	J	mg/kg	0.020	95% KM Student-t	Non-parametric
85-01-8	Phenanthrene	mg/kg	0.020	0.018	0.230		mg/kg	0.018	95% KM Student-t	Non-parametric
108-95-2	Phenol	mg/kg	0.011	0.011	0.051		mg/kg	0.011	95% KM Student-t	Non-parametric
891-86-1	Endosulfan II	mg/kg	0.003	- (3)	0.003	J	mg/kg	0.003	-	-
7421-93-4	Endrin aldehyde	mg/kg	0.004	- (3)	0.004	J	mg/kg	0.004	-	-
53494-70-5	Endrin ketone	mg/kg	0.004	-(3)	0.004	J	mg/kg	0.004	-	-
66240-71-9	Heptachlor epoxide	mg/kg	0.002	-(3)	0.002	J	mg/kg	0.002	-	*
7429-90-5	Aluminum	mg/kg	13995	14450	22,900	J	mg/kg	14,450	95% Student's-t UCL	Normal
7440-36-0	Antimony	mg/kg	1.126	0.817	6.50	J	mg/kg	0.8	95% KM (BCA) UCL	Non-parametric
7440-38-2	Arsenic	mg/kg	4.794	5.0	17.80	J	mg/kg	5.0	95% KM (BCA) UCL	Non-parametric
7440-43-9	Cadmium	mg/kg	2.613	2.3	28.60	J	mg/kg	2.3	95% KM (Chebyshev) UCL	Non-parametric
7440-48-4	Cobalt	mg/kg	11	10.8	29.70		mg/kg	10.78	95% Approximate Gamma	Gamma
7440-50-8	Copper	mg/kg	48	21.2	2,930	J	mg/kg	21.18	95% KM (BCA) UCL	Non-parametric
7439-89-6	Iron	mg/kg	24607	24889	39,800	J	mg/kg	24,889	95% Student's-t UCL	Normal
7439-92-1	Lead	mg/kg	36	23.2	1,860		mg/kg	23.2	95% Chebyshev (Mean, Sd) UCL	Non-parametric
7439-96-5	Manganese	mg/kg	578	679.1	2,580	J	mg/kg	679	95% H-UCL	Lognormal
7440-28-0	Thallium	mg/kg	2	2.6	6.70		mg/kg	2.57	95% KM (BCA) UCL	Non-parametric
7440-62-2	Vanadium	mg/kg	26	26.3	104		mg/kg	26.28	95% KM (BCA) UCL	Non-parametric

## Notes:

- Field duplicates were not averaged and presented as discreet samples. Laboratory duplicates were not included in the assessment.
   Non-detectes were included in the dataset and 95% UCL analysis was performed as 'With ND' in ProUCL.
- 2. The EPCs were calculated using the ProUCL (Version 4.00.02) and the EPCs were selected in accordance with the ProUCL Version 4.0 User Guide (USEPA, 2004) and the Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites (USEPA, 2002).
  - Q qualifier
  - J = Estimated Value
  - KM = Kaplan-Meier statistical method
- 3. Insufficient number of detects in the dataset to perform 95th UCL analysis in ProUCL. This typical means there was a single detect in the dataset for this compound.

# TABLE 4A SEAD-57 SOIL SUBFACE EXPOSURE POINT CONCENTRATION SUMMARY SENECA ARMY DEPOT ACTIVITY

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposurc Medium:	Soil
Exposure Point:	SEAD-57

	Chemical	Units	Arithmetic	EPA ProUCL	Maximum	Q	EPC		Reasonable Maximum Exposure (	2)
0.10.11	of		Mean	Student-t 95th	Detected		Units	EPA ProUCL	Medium	Medium
CAS#	Potential		(1)	UCL Value	Concentration			Recommended	EPC	EPC
	Concern			(1, 2)	(1)			UCL Value	Statistic	Rationale
56-55-3	Benzo(a)anthracene	mg/kg	0.016	2.2E-02	0.062	J	mg/kg	0.022	95% KM Student-t	Non-parametric
50-32-8	Benzo(a)pyrene	mg/kg	0.022	2.9E-02	0.076	J	mg/kg	0.029	95% KM Student-t	Non-parametric
205-99-2	Benzo(b)fluoranthene	mg/kg	0.016	2.1E-02	0.067	J	mg/kg	0.021	95% KM Student-t	Non-parametric
191-24-2	Benzo(ghi)perylene	mg/kg	0.019	2.5E-02	0.054	J	mg/kg	0.025	95% KM Student-t	Non-parametric
207-08-9	Benzo(k)fluoranthene	mg/kg	0.015	1.8E-02	0.050	J	mg/kg	0.018	95% KM Student-t	Non-parametric
218-01-9	Chrysene	mg/kg	0.019	2.1E-02	0.110		mg/kg	0.021	95% KM Student-t	Non-parametric
53-70-3	Dibenz(a,h)anthracene	mg/kg	0.013	1.7E-02	0.024	J	mg/kg	0.017	95% KM Student-t	Non-parametric
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	0.015	2.0E-02	0.037	J	mg/kg	0.020	95% KM Student-t	Non-parametric
85-01-8	Phenanthrene	mg/kg	0.020	2.0E-02	0.230		mg/kg	0.020	95% KM Student-t	Non-parametric
108-95-2	Phenol	mg/kg	0.011	1.6E-02	0.051		mg/kg	0.016	95% KM Student-t	Non-parametric
891-86-1	Endosulfan II	mg/kg		- (3)	0.003	J	mg/kg	0.003	-	-
7421-93-4	Endrin aldehyde	mg/kg		- (3)	0.004	J	mg/kg	0.004	-	-
53494-70-5	Endrin ketone	mg/kg		- (3)	0.004	J	mg/kg	0.004	-	-
66240-71-9	Heptachlor epoxide	mg/kg		- (3)	0.002	J	mg/kg	0.002	-	-
7429-90-5	Aluminum	mg/kg	13995	1.4E+04	22,900	J	mg/kg	14,381	95% Student's-t UCL	Normal
7440-36-0	Antimony	mg/kg	1.126	1.2E+00	6.50	J	mg/kg	1.2	95% KM (BCA) UCL	Non-parametric
7440-38-2	Arsenic	mg/kg	4.794	5.1E+00	17.80	J	mg/kg	5.1	95% KM (BCA) UCL	Non-parametric
7440-43-9	Cadmium	mg/kg	2.613	1.9E+00	28.60	J	mg/kg	1.9	95% KM (Chebyshev) UCL	Non-parametric
7440-48-4	Cobalt	mg/kg	11	1.1E+01	29.70		mg/kg	11.01	95% Approximate Gamma	Gamma
7440-50-8	Copper	mg/kg	48	9.5E+01	2,930	J	mg/kg	94.99	95% KM (BCA) UCL	Non-parametric
7439-89-6	Iron	mg/kg	24607	2.5E+04	39,800	J	mg/kg	25,409	95% Student's-t UCL	Normal
7439-92-1	Lead	mg/kg	36	1.0E+02	1,860		mg/kg	103.2	95% Chebyshev (Mean, Sd) UCL	Non-parametric
7439-96-5	Manganese	mg/kg	578	6.2E+02	2,580	J	mg/kg	625	95% H-UCL	Lognormal
7440-28-0	Thallium	mg/kg	2	2.3E+00	6.70		mg/kg	2.31	95% KM (BCA) UCL	Non-parametric
7440-62-2	Vanadium	mg/kg	26	2.7E+01	104		mg/kg	27.13	95% KM (BCA) UCL	Non-parametric

### Notes:

- Field duplicates were not averaged and presented as discreet samples. Laboratory duplicates were not included in the assessment.
   Non-detectes were included in the dataset and 95% UCL analysis was performed as 'With ND' in ProUCL.
- 2. The EPCs were calculated using the ProUCL (Version 4.00.02) and the EPCs were selected in accordance with the ProUCL Version 4.0 User Guide (USEPA, 2004) and the Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites (USEPA, 2002).

Q - qualifier

J = Estimated Value

KM = Kaplan-Meier statistical method

3. Insufficient number of detects in the dataset to perform 95th UCL analysis in ProUCL. This typical means there was a single detect in the dataset for this compound.

# TABLE 4B SEAD-57 GROUNDWATER EXPOSURE POINT CONCENTRATION SUMMARY SENECA ARMY DEPOT ACTIVITY

Scenario Timeframe:	Current/Future
Medium:	Groundwater
Exposure Medium:	Groundwater
Exposure Point:	AquiferTap Water

	Chemical	Units	Arithmetic	Maximum			Reasonable Maximum Exposure	(2)
CAS#	of		Mean	Detected	Q	Medium	Medium	Medium
	Potential			Concentration		EPC	EPC	EPC
	Concern			(mg/L)		Value (mg/L)	Statistic	Rationale
117-81-7	Bis(2-Ethylhexyl)phthalate	mg/L	2.0E-02	2.0E-02		2.0E-02	MDC	See note
7440-36-0	Antimony	mg/L	4.5E-02	4.5E-02	J	1.9E-02	97.5% KM (Chebyshev) UCL	Gamma
7440-38-2	Arsenic	mg/L	3.5E-03	4.1E-03	J	3.1E-03	95% KM Student-t <sup>3</sup>	Non-parametric
7440-48-4	Cobalt	mg/L	1.5E-02	1.5E-02	J	1.5E-02	MDC	See note
7440-28-0	Thallium	mg/L	5.3E-03	6.7E-03	J	4.1E-03	95% KM Student-t	Non-parametric

## Notes:

1. Laboratory duplicates were not included in the assessment.

Concentrations for nondetects were assumed to be half the detection limits.

2. The maximum detected concentration was used as EPC for the RME scenario.

As residential use of groundwater has been based on the assumption that a single private well can be placed anywhere in the contaminated plume, the MDC across several rounds of monitoring was used as the EPC for groundwater as a conservative step for both the RME scenario.

EPC = Exposure Point Concentration

KM = Kaplan-Meier statistical method

MDC = Maximum Detected Concentration

RME = Reasonable Maximum Exposure

<sup>3.</sup> Insufficient number of detects in dataset to get meaningful results from ProUCL. Warning message from ProUCL regarding dataset:

<sup>&</sup>quot;This may not be adequate enough to compute meaningful and reliable test statistics and estimates."

<sup>&</sup>quot;The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods."

# TABLE 4C

# SEAD-57 AMBIENT AIR EXPOSURE POINT CONCENTRATIONS FOR PARK WORKERS, VISITORS, & RESIDENTS SENECA ARMY DEPOT ACTIVITY

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Air
Exposure Point:	SEAD-57

Equation for Air EPC from Surface Soil (mg/m<sup>3</sup>) = CSsurf x PM10 x CF

Variables:

CSsurf = Chemical Concentration in Surface Soil, from EPC data (mg/kg)

PM10 = Average Measured PM10 Concentration = 44 ug/m<sup>3</sup>

CF = Conversion Factor = 1E-9 kg/ug

	Reasonable Ma	aximum Exposure
	EPC Data for	Calculated Air EPC
Analyte	Surface Soil	Surface Soil
	(mg/kg)	(mg/m³)
Benzo(a)anthracene	2.2E-02	9.9E-10
Benzo(a)pyrene	3.0E-02	5.2E-10
Benzo(b)fluoranthene	2.1E-02	3.6E-10
Benzo(ghi)perylene	2.5E-02	4.3E-10
Benzo(k)fluoranthene	1.8E-02	3.1E-10
Chrysene	2.3E-02	4.0E-10
Dibenz(a,h)anthracene	1.7E-02	2.9E-10
Indeno(1,2,3-cd)pyrene	2.0E-02	3.3E-10
Phenanthrene	1.8E-02	3.0E-10
Phenol	1.1E-02	1.9E-10
Endosulfan II	3.1E-03	5.3E-11
Endrin aldehyde	3.8E-03	6.5E-11
Endrin ketone	4.0E-03	6.8E-11
Heptachlor epoxide	2.0E-03	3.4E-11
Aluminum	1.4E+04	2.5E-04
Antimony	8.2E-01	1.4E-08
Arsenic	5.0E+00	8.5E-08
Cadmium	2.3E+00	3.8E-08
Cobalt	1.1E+01	1.8E-07
Copper	2.1E+01	3.6E-07
Iron	2.5E+04	4.2E-04
Lead	2.3E+01	3.9E-07
Manganese	6.8E+02	1.2E-05
Thallium	2.6E+00	4.4E-08
Vanadium	2.6E+01	4.5E-07

# **TABLE 4D**

# SEAD-57 AMBIENT AIR EXPOSURE POINT CONCENTRATIONS FOR CONSTRUCTION WORKER SENECA ARMY DEPOT ACTIVITY

Scenario Timeframe: Current/Future

Medium: Soil
Exposure Medium: Air
Exposure Point: SEAD-57

Equation for Air EPC from Total Soils (mg/m³) = CStot x PM10 x CF

## Variables

CStot = Chemical Concentration in Total Soils, from EPC data (mg/kg)

PM10 = PM10 Concentration Calculated for Construction Worker= 383 ug/m<sup>3</sup>

CF = Conversion Factor = 1E-9 kg/ug

	Reasonable Maximum Exposure						
	EPC Data for	Calculated Air EPC					
Analyte	Surface and	Surface					
	Subsurface Soil	and Subsurface Soil					
	(mg/kg)	(mg/m³)					
Benzo(a)anthracene	2.2E-02	9.6E-10					
Benzo(a)pyrene	2.9E-02	1.3E-09					
Benzo(b)fluoranthene	2.1E-02	9.3E-10					
Benzo(ghi)perylene	2.5E-02	1.1E-09					
Benzo(k)fluoranthene	1.8E-02	7.9E-10					
Chrysene	2.1E-02	9.5E-10					
Dibenz(a,h)anthracene	1.7E-02	7.6E-10					
Indeno(1,2,3-cd)pyrene	2.0E-02	8.6E-10					
Phenanthrene	2.0E-02	8.9E-10					
Phenol	1.6E-02	7.2E-10					
Endosulfan II	3.1E-03	1.4E-10					
Endrin aldehyde	3.8E-03	1.7E-10					
Endrin ketone	4.0E-03	1.8E-10					
Heptachlor epoxide	2.0E-03	8.8E-11					
Aluminum	1.4E+04	6.3E-04					
Antimony	1.2E+00	5.3E-08					
Arsenic	5.1E+00	2.2E-07					
Cadmium	1.9E+00	8.4E-08					
Cobalt	1.1E+01	4.9E-07					
Copper	9.5E+01	4.2E-06					
Iron	2.5E+04	1.1E-03					
Lead	1.0E+02	4.6E-06					
Manganese	6.2E+02	2.8E-05					
Thallium	2.3E+00	1.0E-07					
Vanadium	2.7E+01	1.2E-06					

# TABLE 4E SEAD-57 CALCULATION OF AIR CONCENTRATION IN SHOWER FROM VOLATILIZATION OF GROUNDWATER (DAILY) SENECA ARMY DEPOT ACTIVITY

Scenario Timeframe: Current/Future
Medium: Groundwater
Exposure Medium: Air
Exposure Point: SEAD-57

Residential Resi														
Analyte	Time of	EPC Air	Time of	EPC Air	Rate of	EPC	Flow Rate of	Volume of	Henry Laws	Asymptotic	Rate	Efficiency	Efficiency of	Henry Laws
	Shower -Tevent		Shower -Tevent		Shower -	Groundwater	in Shower-Fa	Bathroom-	Constant-H	ConcCinf	Constant-	Release-E	Release for	Constant- H-
	(min)	(mg/m³)	(min)	(mg/m³)	(L/min)	(mg/l)	(m³/min)	(m³)	(m³-atm/mol)	(mg/m³)	(1/min)	(unitless)	TCE - E-TCE	(m³-atm/mol)
Bis(2-Ethylhexyl)phthalate	35	1.02E-06	60	1.02E-06	19	2.00E-02	2.4	12	1.07E-07	1.12E-06	0.20	7.05E-06	0.6	0.0091
Antimony	35	1.36E-01	60	1.36E-01	19	1.87E-02	2.4	12	2.45E-02	1.48E-01	0.20	1.00E+00	0.6	0.0091
Arsenic	35	NA	60	NA	19	3.10E-03	2.4	12	NA					
Cobalt	35	NA	60	NA	19	1.48E-02	2.4	12	NA					
Thallium	35	NA	60	NA	19	4.06E-03	2.4	12	NA					
	Concentration in Air $(mg/m^3) = Cinf[1+(1/(kTs)(exp(-kTs)-1)]$					Variables: Assumptions:								
Asymptotic Air Conc Cinf $(mg/m^3) = [(E)(Fw)(EPCgw)]/Fa$					•	Fa CA = Chemical Concentration in Air (mg/m³) EPC - Groundwater Data - RME  Ts = Time of Shower (minutes) 35 and 60 minutes for adult and child, respectively					nectively			
		Rate Constan	t - k (l/min) = Fa	/Vb			Fw = Flow Rate of Shower (L/min) Fa = Flow Rate of Air in Shower (m³/min)				2.4 (Average Air Flow)			
		Efficiency of I	Release - E (unit	less) = (E-tce)(I	H)/(H-tce)									

### Note:

Henry's law constants not available for the inorganic COPC.

# TABLE 5 SEAD-57 CALCULATION OF INTAKE AND RISK FROM THE INGESTION OF SOIL REASONABLE MAXIMUM EXPOSURE (RME) SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) =

EPC x IR x CF x F1 x EF x ED x B

BW x AT

Variables (Assumptions for Each Receptor are Listed at the Bottom): EPC = Exposure Point Concentration in Soil, mg/kg

EF = Exposure Frequency

IR = Ingestion Rate

ED = Exposure Duration

CF = Conversion Factor

B = Bioavailability BW = Bodyweight

FI = Fraction Ingested

AT = Averaging Time

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Oral	Carc. Slope		EPC	Park Worker		Construction Worker				Recreational Child Visitor					
Analyte	RfD	Oral	Bioavailability	Surface Soil	Int	ake	Hazard	Cancer	Int	ake	Hazard	Cancer	Int	ake	Hazard	Cancer
					(mg/k	g-day)	Quotient	Risk	(mg/k	g-day)	Quotient	Risk	(mg/k	g-day)	Quotient	Risk
	(mg/kg-day)	(mg/kg-day)-1	(unitless)	(mg/kg)	(Nc)	(Car)			(Nc)	(Car)			(Nc)	(Car)		
Benzo(a)anthracene	N/A	7.3E-01	l l	2.2E-02		5.48E-09		4E-09		1.03E-09		8E-10		8.19E-10		6E-10
Benzo(a)pyrene	N/A	7.3E+00	1	3.0E-02		7.43E-09		5E-08		1.40E-09		1 E-08		1.11E-09	- 1	8E-09
Benzo(b)fluoranthene	N/A	7.3E-01	1	2.1E-02		5.17E-09		4E-09		9.76E-10		7E-10		7.73E-10		6E-10
Benzo(ghi)pervlene	N/A	N/A	1	2.5E-02												
Benzo(k)fluoranthene	N/A	7.3E-02	1	1.8E-02		4.40E-09	1	3E-10		8.30E-10		6E-11		6.58E-10		5E-11
Chrysene	3.00E-04	7.3E-03	1	2.3E-02	1.61E-08	5.74E-09	5E-05	4E-11	7.57E-08	1.08E-09	3E-04	8E-12	1.20E-08	8.57E-10	4E-05	6E-12
Dibenz(a,h)anthracene	N/A	7.3E+00	1	1.7E-02		4.21E-09		3E-08		7.94E-10		6E-09		6.29E-10		5E-09
Indeno(1,2,3-cd)pyrene	N/A	7.3E-01	1	2.0E-02		4.79E-09		3E-09		9.03E-10		7E-10		7.15E-10		5E-10
Phenanthrene	N/A	N/A	1	1.8E-02											i	
Phenol	3.00E-01	3.0E-01	1	1.1E-02	7.72E-09	2.76E-09	3E-08	8E-10	3.64E-08	5.20E-10	IE-07	2E-10	5.76E-09	4.12E-10	2E-08	1E-10
Endosulfan II	6.00E-03	N/A	l l	3.1E-03	2.12E-09		4E-07		1.00E-08		2E-06		1.59E-09		3E-07	
Endrin aldehyde	N/A	N/A	1	3.8E-03						i i						
Endrin ketone	N/A	N/A	1	4.0E-03	1		1									
Heptachlor epoxide	1.30E-05	9.1E+00	1	2.0E-03	1.37E-09	4.89E-10	1E-04	4E-09	6.46E-09	9.23E-11	5E-04	8E-10	1.02E-09	7.31E-11	8E-05	7E-10
Aluminum	1.00E+00	N/A	1	1.4E+04	9.90E-03		1E-02		4.67E-02	1	5E-02		7.39E-03		7E-03	
Antimony	4.00E-04	N/A	1 1	8.2E-01	5.60E-07		1E-03		2.64E-06	1	7E-03		4.18E-07		1E-03	
Arsenic	3.00E-04	1.5E+00	1	5.0E+00	3.42E-06	1.22E-06	1E-02	2E-06	1.61E-05	2.31E-07	5E-02	3E-07	2.56E-06	1.83E-07	9E-03	3E-07
Cadmium	5.00E-04	N/A	1	2.3E+00	1.55E-06		3E-03		7.29E-06		1E-02		1.15E-06		2E-03	
Cobalt	3.00E-04	N/A	ı	1.1E+01	7.38E-06	l	2E-02		3.48E-05	1	1E-01		5.51E-06		2E-02	
Copper	4.00E-02	N/A	1	2.1E+01	1.45E-05		4E-04		6.84E-05		2E-03		1.08E-05		3E-04	
Iron	3.00E-01	N/A	1	2.5E+04	1.70E-02		6E-02		8.04E-02		3E-01		1.27E-02		4E-02	
Lead	NA	N/A	1	2.3E+01	1	ĺ	1			1			1			
Manganese	2.40E-02	N/A	1	6.8E+02	4.65E-04	1	2E-02		2.19E-03		9E-02		3.47E-04		1E-02	
Thallium	6.47E-04	N/A	1	2.6E+00	1.76E-06		3E-03		8.28E-06		1E-02		1.31E-06		2E-03	
Vanadium	1.00E-03	N/A	1	2.6E+01	1.80E-05	l	2E-02		8.49E-05		8E-02		1.34E-05		1E-02	
Total Hazard Quotien	t and Cancer	Risk:					1E-01	2E-06			7E-01	4E-07			1E-01	3E-07

	12-01 22	,-00	7201 120	, I	12 01	3 0 /		
	Assumptions for Park Worker	Assu	mptions for Construction Worker	Assun	Assumptions for Recreational Child Visitor			
CF -	1E-06 kg/mg	CF-	1E-06 kg/mg	CF -	1E-06 kg/mg			
EPC-	EPC Surface Only	EPC-	EPC Surface and Subsurface	EPC-	EPC Surface Only			
BW	70 kg	BW -	70 kg	BW ~	15 kg			
IR -	100 mg/day	IR -	330 mg/day	IR -	200 mg/day			
FI -	1 unitless	FI	1 unitless	FI -	1 unitless			
EF -	175 days/year	EF -	250 days/year	EF -	14 days/year			
ED -	25 years	ED -	l years	ED -	5 years			
AT (Nc) -	9,125 days	AT (Nc) -	365 days	AT (Nc) -	1,825 days			
AT (Car) -	25,550 days	AT (Car) -	25,550 days	AT (Car) -	25,550 days			

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

NA= Information not available.

# TABLE 5 SEAD-57 CALCULATION OF INTAKE AND RISK FROM THE INGESTION OF SOIL REASONABLE MAXIMUM EXPOSURE (RME) SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) = 

EPC x IR x CF x FI x EF x ED x B

BW x AT

Variables (Assumptions for Each Receptor are Listed at the Bottom):

EPC = Exposure Point Concentration in Soil, mg/kg

EF = Exposure Frequency

IR = Ingestion Rate

ED = Exposure Duration

CF = Conversion Factor B = Bioavailability BW = Bodyweight

FI = Fraction Ingested AT = Averaging Time

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Oral	Carc. Slope		EPC		Residen	t (Adult)			Residen	t (Child)		Resident
Analyte	RfD	Oral	Bioavailability	Surface Soil		ake g-day)	Hazard Quotient	Cancer Risk		ake g-day)	Hazard Quotient	Cancer Risk	Total Lifetime
	(mg/kg-day)	(mg/kg-day)-1	(unitless)	(mg/kg)	(Nc)	(Car)			(Nc)	(Car)			Cancer Risk
Benzo(a)anthracene	N/A	7.3E-01	1	2.2E-02		1.05E-08		8E-09		2.46E-08		2E-08	3E-08
Benzo(a)pyrene	N/A	7.3E+00	1	3.0E-02		1.43E-08		1E-07		3.33E-08		2E-07	3E-07
Benzo(b)fluoranthene	N/A	7.3E-01	1	2.1E-02		9.93E-09		7E-09		2.32E-08		2E-08	2E-08
Benzo(ghi)perylene	N/A	N/A	1	2.5E-02									
Benzo(k)fluoranthene	N/A	7.3E-02	1	1.8E-02		8.45E-09		6E-10		1.97E-08		1E-09	2E-09
Chrysene	3.00E-04	7.3E-03	1	2.3E-02	3.21E-08	1.10E-08	1E-04	8E-11	3.00E-07	2.57E-08	1E-03	2E-10	3E-10
Dibenz(a,h)anthracene	N/A	7.3E+00	1	1.7E-02		8.09E-09		6E-08		1.89E-08		1E-07	2E-07
ndeno(1,2,3-cd)pyrene	N/A	7.3E-01	1	2.0E-02		9.19E-09		7E-09		2.14E-08		2E-08	2E-08
Phenanthrene	N/A	N/A	1	1.8E-02									
henol	3.00E-01	3.0E-01	1	1.1E-02	1.54E-08	5.29E-09	5E-08	2E-09	1.44E-07	1.24E-08	5E-07	4E-09	5E-09
Endosulfan II	6.00E-03	N/A	1	3.1E-03	4.25E-09		7E-07		3.96E-08		7E-06		
Endrin aldehyde	N/A	N/A	1	3.8E-03									
Endrin ketone	N/A	N/A	1	4.0E-03									
Heptachlor epoxide	1.30E-05	9.1E+00	1	2.0E-03	2.74E-09	9.39E-10	2E-04	9E-09	2.56E-08	2.19E-09	2E-03	2E-08	3E-08
Aluminum	1.00E+00	N/A	1	1.4E+04	1.98E-02		2E-02		1.85E-01		2E-01		
Antimony	4.00E-04	N/A	1	8.2E-01	1.12E-06		3E-03		1.04E-05		3E-02		
Arsenic	3.00E-04	1.5E+00	1	5.0E+00	6.85E-06	2.35E-06	2E-02	4E-06	6.39E-05	5.48E-06	2E-01	8E-06	1E-05
Cadmium	5.00E-04	N/A	1	2.3E+00	3.09E-06		6E-03		2.89E-05		6E-02		
Cobalt	3.00E-04	N/A	1	1.1E+01	1.48E-05		5E-02		1.38E-04		5E-01		
Copper	4.00E-02	N/A	1	2.1E+01	2.90E-05		7E-04		2.71E-04		7E-03		
ron	3.00E-01	N/A	1	2.5E+04	3.41E-02		1E-01		3.18E-01		1E+00		
Lead	NA	N/A	1	2.3E+01									
Manganese	2.40E-02	N/A	1	6.8E+02	9.30E-04		4E-02		8.68E-03		4E-01		
Thallium	6.47E-04	N/A	1	2.6E+00	3.51E-06		5E-03		3.28E-05		5E-02		
Vanadium	1.00E-03	N/A	1	2.6E+01	3.60E-05		4E-02		3.36E-04		3E-01		
Total Hazard Quotien	t and Cancer	Risk:		***			3E-01	4E-06			3E+00	9E-06	1E-05

As	sumptions for Resident (Adult)	Ass	sumptions for Resident (Child)
CF =	1E-06 kg/mg	CF -	1E-06 kg/mg
EPC-	EPC Surface Only	EPC-	EPC Surface Only
BW =	70 kg	BW-	15 kg
IR =	100 mg/day	IR -	200 mg/day
FI -	1 unitless	FI -	1 unitless
EF -	350 days/year	EF =	350 days/year
ED -	24 years	ED -	6 years
AT (Nc) =	8,760 days	AT (Nc) =	2,190 days
AT (Car) =	25,550 days	AT (Car) =	25,550 days

Note: Cells in this table were intentionally left blank due to a lack of toxicity data. NA= Information not available.

# TABLE 6 SEAD-57 CALCULATION OF INTAKE AND RISK FROM THE INTAKE OF GROUNDWATER REASONABLE MAXIMUM EXPOSURE (RME) SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) =	EPC x IR x E	FxED
i	BWxA	AT
Variables (Assumptions for Each Receptor a	re Listed at the Bottom):	
EPC = Exposure Point Concentration in Gro	oundwater (mg/L)	ED=Exposure Duration
IR = Intake Rate		BW=Bodyweight
EF = Exposure Frequency		AT=Averaging Time

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

Oral Carc. Slope EPC					Worker		(	Construct	ion Worke	r	Recreational Vistor				
Analyte	RfD	Oral	Groundwater	Inta	ike	Hazard	Cancer	Inta	ke	Hazard	Cancer	Inta	ke	Hazard	Cancer
				(mg/kg	g-day)	Quotient	Risk	(mg/kg	-day)	Quotient	Risk	(mg/kg	-day)	Quotient	Risk
	(mg/kg-day)	(mg/kg-day)-1	(mg/liter)	(Nc)	(Car)			(Nc)	(Car)			(Nc)	(Car)		
Bis(2-Ethylhexyl)phthalate	2.E-02	1.4E-02	2.00E-02	1.4E-04	4.9E-05	7E-03	7E-07	2.0E-04	2.8E-06	1E-02	4E-08	7.7E-05	5.5E-06	4E-03	8E-08
Antimony	4.E-04	N/A	1.87E-02	1.3E-04	4.6E-05	3E-01		1.8E-04	2.6E-06	5E-01		7.2E-05	5.1E-06	2E-01	
Arsenic	3.E-04	1.5E+00	3.10E-03	2.1E-05	7.6E-06	7E-02	1E-05	3.0E-05	4.3E-07	1E-01	7E-07	1.2E-05	8.5E-07	4E-02	1E-06
Cobalt	3.E-04	N/A	1.48E-02	1.0E-04	3.6E-05	3E-01		1.4E-04	2.1E-06	5E-01		5.7E-05	4.1E-06	2E-01	
Thallium	6.E-04	N/A	4.06E-03	2.8E-05	9.9E-06	4E-02		4.0E-05	5.7E-07	6E-02		1.6E-05	1.1E-06	2E-02	
Total Hazard Quotient and Cancer Risk:				8E-01	1E-05			1E+00	7E-07			4E-01	IE-06		

Assur	mptions	for Park Worker	Assumption	ons for C	Construction Worker	Assumptions for Recreational child Visitor					
BW =	70	kg	BW =	70	kg	BW=	15	kg			
IR =	1	liters/day	IR =	1	liters/day	IR =	1.5	liters/day			
EF =	175	days/year	EF=	250	days/year	EF =	14	days/year			
ED =	25	years	ED =	1	years	ED =	5	years			
AT (Nc) =	9,125	days	AT (Nc) =	365	days	AT (Nc) =	1,825	days			
AT (Car) =	25,550	days	AT (Car) =	25,550	days	AT (Car) =	25,550	days			

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

# TABLE 6 SEAD-57 CALCULATION OF INTAKE AND RISK FROM THE INTAKE OF GROUNDWATER REASONABLE MAXIMUM EXPOSURE (RME) SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) =	EPC x IR x EI	ExED
	BWxA	T
Variables (Assumptions for Each Receptor ar	e Listed at the Bottom):	
EPC = Exposure Point Concentration in Grou	indwater (mg/L)	ED=Exposure Duration
IR = Intake Rate		BW=Bodyweight
EF = Exposure Frequency		AT=Averaging Time

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Oral	Carc. Slope	EPC		Residen	t (Adult)			Resident			
Analyte	RfD Oral		Groundwater	Intake (mg/kg-day)		Hazard Quotient	Cancer Risk	Intake (mg/kg-day)		Hazard Quotient	Cancer Risk	Total Lifetime
	(mg/kg-day)	(mg/kg-day)-1	(mg/liter)	(Nc)	(Car)			(Nc)	(Car)			Cancer Risk
Bis(2-Ethylhexyl)phthalate	2.E-02	1.4E-02	2.00E-02	5.5E-04	1.9E-04	3E-02	3E-06	1.9E-03	1.6E-04	1E-01	2E-06	5E-06
Antimony	4.E-04	N/A	1.87E-02	5.1E-04	1.8E-04	1E+00		1.8E-03	1.5E-04	4E+00		
Arsenic	3.E-04	1.5E+00	3.10E-03	8.5E-05	2.9E-05	3E-01	4E-05	3.0E-04	2.6E-05	1E+00	4E-05	8E-05
Cobalt	3.E-04	N/A	1.48E-02	4.1E-04	1.4E-04	1E+00		1.4E-03	1.2E-04	5E+00		
Thallium	6.E-04	N/A	4.06E-03	1.1E-04	3.8E-05	2E-01		3.9E-04	3.3E-05	6E-01		
Total Hazard Quotient and	Cancer Risk:					3E+00	5E-05			1E+01	4E-05	9E-05

Assun	nptions fo	r Resident Adult	Assur	for Resident Child	
BW=	70	kg	BW=	15	kg
IR =	2	liters/day	1R =	1.5	liters/day
EF =	350	days/year	EF =	350	days/year
ED =	24	years	ED =	6	years
AT(Nc) =	8,760	days	AT (Nc) =	2,190	days
AT (Car) =	25,550	days	AT (Car) =	25,550	days

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

# TABLE 6A SEAD-57 CALCULATION OF INTAKE AND RISK FROM THE INTAKE OF GROUNDWATER REASONABLE MAXIMUM EXPOSURE (RME) EXCLUDING ESI SAMPLES SENECA ARMY DEPOT ACTIVITY

1	Equation for Intake (mg/kg-day) =	EPC x IR x E1	XED
		BWxA	T
	Variables (Assumptions for Each Receptor a	re Listed at the Bottom):	
	EPC = Exposure Point Concentration in Gro	undwater (mg/L)	ED=Exposure Duration
	IR = Intake Rate		BW=Bodyweight
	EF = Exposure Frequency		AT=Averaging Time

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

AT (Car) = 25,550 days

AT (Car) = 25,550 days

	Oral	Carc. Slope	EPC		Park	Worker		(	Construct	ion Worke	r		Recreation	onal Vistor	
Analyte	RM	Oral	Groundwater	Inta	ike	Hazard	Cancer	Inta	ke	Hazard	Cancer	Inta	ke	Hazard	Cancer
				(mg/kg	g-day)	Quotient	Risk	(mg/kg	-day)	Quotient	Risk	(mg/kg	-day)	Quotient	Risk
	(mg/kg-day)	(mg/kg-day)- l	(mg/liter)	(Nc)	(Car)			(Nc)	(Car)			(Nc)	(Car)		
Bis(2-Ethylhexyl)phthalate	2.E-02	1.4E-02	2.00E-02	1.4E-04	4.9E-05	7E-03	7E-07	2.0E-04	2.8E-06	1E-02	4E-08	7.7E-05	5.5E-06	4E-03	8E-08
Antimony	4.E-04	N/A	3.00E-03	2.1E-05	7.3E-06	5E-02		2.9E-05	4.2E-07	7E-02		1.2E-05	8.2E-07	3E-02	
Arsenic	3.E-04	1.5E+00	3.10E-03	2.1E-05	7.6E-06	7E-02	1E-05	3.0E-05	4.3E-07	1E-01	7E-07	1.2E-05	8.5E-07	4E-02	1E-06
Cobalt	3.E-04	N/A		0.0E+00	0.0E+00	0E+00		0.0E+00	0.0E+00	0E+00		0.0E+00	0.0E+00	0E+00	İ
Thallium	6.E-04	N/A	4.06E-03	2.8E-05	9.9E-06	4E-02		4.0E-05	5.7E-07	6E-02		1.6E-05	1.1E-06	2E-02	
Total Hazard Quotient and	Cancer Risk:					2E-01	1E-05			2E-01	7E-07			1E-01	1E-06
				Ass	umptions	for Park Wo	rker	Assump	tions for (	Construction	Worker	Assumptio	ons for Rec	creational ch	ild Visitor
				BW=	70	kg		BW =	70	kg		BW =	15	kg	
				IR =	1	liters/day		IR =	1	liters/day		IR =	1.5	liters/day	
				EF =	EF = 175 days/year			EF=	250	days/year		EF =	14	days/year	
				ED =	ED = 25 years			ED = 1 years			ED = 5 years				
				AT (Nc) =	9,125	days		AT (Nc) =	365	days		AT (Nc) =	1,825	days	

AT (Car) = 25,550 days

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

### TABLE 6A

## SEAD-57 CALCULATION OF INTAKE AND RISK FROM THE INTAKE OF GROUNDWATER REASONABLE MAXIMUM EXPOSURE (RME) EXCLUDING ES! SAMPLES SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) =	EPC x IR x EF x ED
	BWxAT
Variables (Assumptions for Each Receptor are I	listed at the Bottom):
EPC = Exposure Point Concentration in Ground	lwater (mg/L) ED=Exposure Duratio
IR = Intake Rate	BW=Bodyweight
EF = Exposure Frequency	AT=Averaging Time

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Oral Carc. Slope EPC								Resident					
Analyte	RfD	Oral	Groundwater	Intake		Intake Ha		Hazard	Cancer	Intake		Hazard	Cancer	Total
				(mg/kg	(mg/kg-day)		Risk	(mg/kg-day)		Quotient	Risk	Lifetime		
	(mg/kg-day)	(mg/kg-day)-1	(mg/liter)	(Nc)	(Car)			(Nc)	(Car)			Cancer Risk		
Bis(2-Ethylhexyl)phthalate	2.E-02	1.4E-02	2.00E-02	5.5E-04	1.9E-04	3E-02	3E-06	1.9E-03	1.6E-04	1E-01	2E-06	5E-06		
Antimony	4.E-04	N/A	3.00E-03	8.2E-05	2.8E-05	2E-01		2.9E-04	2.5E-05	7E-01				
Arsenic	3.E-04	1.5E+00	3.10E-03	8.5E-05	2.9E-05	3E-01	4E-05	3.0E-04	2.6E-05	1E+00	4E-05	8E-05		
Cobalt	3.E-04	N/A		0.0E+00	0.0E+00	0E+00		0.0E+00	0.0E+00	0E+00		l i		
Thallium	6.E-04	N/A	4.06E-03	1.1E-04	3.8E-05	2E-01		3.9E-04	3.3E-05	6E-01				
otal Hazard Quotient and Cancer Risk:						7E-01	5E-05			2E+00	4E-05	9E-05		

As	sumptions for Resident Adult	Assumptions for Resident Child						
BW=	70 kg	BW=	15 kg	┪				
IR =	2 liters/day	IR =	1.5 liters/day					
EF=	350 days/year	EF=	350 days/year					
ED=	24 years	ED =	6 years					
AT (Nc) :	= 8,760 days	AT (Nc) =	2,190 days					
AT (Car)	= 25,550 days	AT (Car) =	25,550 days					

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

#### TABLE 7 SEAD-57 CALCULATION OF ABSORBED DOSE AND RISK FROM DERMAL CONTACT TO SOIL REASONABLE MAXIMUM EXPOSURE (RME) SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) =

EPC x CF x SA x AF x ABS x EV x EF x ED B W x AT

Variables (Assumptions for Each Receptor are Listed at the Bottom):

EPC = Chemical Concentration in Soil, mg/kg

CF = Conversion Factor

SA = Surface Area Contact AF = Adherence Factor ABS - Absorption Factor

EV = Event Frequency EF = Exposure Frequency

ED = Exposure Duration BW = Bodyweight

AT = Averaging Time

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Dermal	Carc. Slope	Absorption	EPC	EPC from		Park V	Vorker			Constructi	on Worker		Recreational Child Visitor				
Analyte	RfD	Dermal	Fraction*	Surface Soil	Total Soils	Absorb	ed Dose	Hazard	Cancer	Absorb	ed Dose	Hazard	Cancer	Absorb	ed Dose	Hazard	Cancer	
	1					(mg/k	g-day)	Quotient	Risk	(mg/k	ng/kg-day) Quotient		Risk	(mg/kg-day)		Quotient	Risk	
	(mg/kg-day)	(mg/kg-day)-1	(unitless)	(mg/kg)	(mg/kg)	(Nc)	(Car)			(Nc)	(Car)			(Nc)	(Car)			
Benzo(a)anthracene	N/A	7.3E-01	1.3E-01	2.2E-02	2.2E-02		4.71E-09		3E-09		3.93E-10		3E-10		2.98E-10		2.18E-1	
Benzo(a)pyrene	N/A	7.3E+00	1.3E-01	3.0E-02	2.9E-02	1	6.38E-09		5E-08	1 1	5.14E-10		4E-09		4.04E-10		2.95E-0	
Benzo(b)fluoranthene	N/A	7.3E-01	1.3E-01	2.1E-02	2.1E-02		4.44E-09		3E-09		3.80E-10		3E-10		2.81E-10		2.05E-1	
Benzo(ghi)perylene	N/A	N/A	1.3E-01	2.5E-02	2.5E-02			l 1										
Benzo(k)fluoranthene	N/A	7.3E-02	1.3E-01	1.8E-02	1.8E-02		3.78E-09		3E-10		3.24E-10		2E-11	1	2.39E-10		1.75E-1	
Chrysene	3.00E-04	7.3E-03	1.3E-01	2.3E-02	2.1E-02	1.38E-08	4.92E-09	5E-05	4E-11	2.70E-08	3.86E-10	9E-05	3E-12	4.37E-09	3.12E-10	1.46E-05	2.28E-1	
Dibenz(a,h)anthracene	N/A	7.3E+00	1.3E-01	1.7E-02	1.7E-02		3.61E-09		3E-08		3.10E-10		2E-09	i	2.29E-10		1.67E-0	
Indeno(1,2,3-cd)pyrene	N/A	7.3E-01	1.3E-01	2.0E-02	2.0E-02		4.11E-09	l i	3E-09		3.52E-10		3E-10		2.60E-10		1.90E-1	
Phenanthrene	N/A	N/A	1.3E-01	1.8E-02	2.0E-02		1								]			
Phenol	3.00E-01	3.0E-01	2.5E-01	1.1E-02	1.6E-02	1.27E-08	4.55E-09	4E-08	1E-09	3.96E-08	5.65E-10	1E-07	2E-10	4.03E-09	2.88E-10	1.34E-08	8.65E-1	
Endosulfan II	6.00E-03	N/A	4E-02	3.1E-03	3.1E-03	5.19E-10	1	9E-08		1.11E-09		2E-07		1.64E-10		2.74E-08	i	
Endrin aldehyde	N/A	N/A	4E-02	3.8E-03	3.8E-03													
Endrin ketone	N/A	N/A	4E-02	4.0E-03	4.0E-03		1			1					ı			
Heptachlor epoxide	1.30E-05	9.1E+00	4E-02	2.0E-03	2.0E-03	3.35E-10	1.19E-10	3E-05	1E-09	7.17E-10	1.02E-11	6E-05	9E-11	1.06E-10	7.57E-12	8.15E-06	6.89E-1	
Aluminum	1.00E+00	N/A	1E-03	1.4E+04	1.4E+04	6.53E-05		7E-05		1.39E-04		1E-04		2.07E-05		2.07E-05		
Antimony	6.00E-05	N/A	1E-03	8.2E-01	1.2E+00	3.69E-09		6E-05		1.16E-08		2E-04		1.17E-09		1.95E-05		
Arsenic	3.00E-04	1.5E+00	3E-02	5.0E+00	5.1E+00	6.78E-07	2.42E-07	2E-03	4E-07	1.48E-06	2.11E-08	5E-03	3E-08	2.15E-07	1.53E-08	7.16E-04	2.30E-0	
Cadmium	5.00E-04	N/A	1E-03	2.3E+00	1.9E+00	1.02E-08		2E-05		1.85E-08		4E-05		3.23E-09		6.47E-06		
Cobalt	3.00E-04	N/A	1E-03	1.1E+01	1.1E+01	4.87E-08		2E-04		1.07E-07		4E-04		1,54E-08		5.15E-05		
Copper	4.00E-02	N/A	1E-03	2.1E+01	9.5E+01	9.57E-08		2E-06		9.20E-07		2E-05		3.03E-08	Į.	7.58E-07		
Iron	3.00E-01	N/A	1E-03	2.5E+04	2.5E+04	1.13E-04	1	4E-04		2.46E-04		8E-04		3.56E-05	1	1.19E-04		
Lead	N/A	N/A	1E-03	2.3E+01	1.0E+02									1				
Manganese	9.60E-04	N/A	1E-03	6.8E+02	6.2E+02	3.07E-06		3E-03		6.05E-06		6E-03		9.72E-07		1.01E-03		
Thallium	6.47E-04	N/A	1E-03	2.6E+00	2.3E+00	1.16E-08		2E-05		2.24E-08		3E-05		3.67E-09	1	5.68E-06		
Vanadium	2.60E-05	N/A	1E-03	2.6E+01	2.7E+01	1.19E-07		5E-03		2.63E-07		1E-02		3.76E-08		1.45E-03		
	L						L											
Total Hazard Quotier	nt and Cancer	Risk:						6E-03	4E-07	L		1E-02	4E-08			2E-03	3E-08	

	0E-03 4E-	0/	1E-U2 4E	2-00	2E-03 3E-00
	Assumptions for Park Worker		Assumptions for Construction Worker	Assun	nptions for Recreational Child Visitor
CF	IE-06 kg/mg	CF	1E-06 kg/mg	CF	1E-06 kg/mg
CS	EPC Surface Only	EPC.	EPC Surface and Subsurface	EPC.	EPC Surface Only
BW	70 kg	BW	70 kg	BW	15 kg
SA	3,300 cm <sup>2</sup>	SA	3,300 cm <sup>2</sup>	SA	2,800 cm <sup>2</sup>
AF	0.2 mg/cm <sup>2</sup> -event	AF	0.3 mg/cm <sup>2</sup> -event	AF	0.2 mg/cm <sup>2</sup> -event
EV	I event/day	EV	l event/day	EV	1 event/day
EF	175 days/year	EF	250 days/year	EF	14 days/year
ED	25 years	ED	1 years	ED	5 years
AT (Nc)	9,125 days	AT (Nc)	365 days	AT (Nc)	1,825 days
AT (Car)	25,550 days	AT (Car)	25,550 days	AT (Car)	25.550 days

Note: Cells in this table were intentionally left blank due to a lack of toxicity data. NA= Information not available.

10/5/2009

<sup>\*</sup> Absorption factors from Exhibit 3-4 of USEPA (2004) Supplemental Guidance for Dermal Risk Assessment, Part E of Risk Assessment Guidance for Superfund, Human Health Evaluation Manual (Volume 1).

Absorption factor for VOC was assumed to be 0.01 and metals not presented in the EPA (2004) document,

a ssumed to be 0.001 in accordance with the USEPA Region 4 (2000)

Supplemental Guidance to RAGS: Region 4 Bulletins, Human Health Risk Assessment Bulletins (http://www.epa.gov/region4/waste/ots/healtbul.htm).

Absorption factor for pesticides was assumed to be 0.037 in accordance with the average absorption factor of chlordane (0.03), DDT (0.04), and lindane (0.04) in accordance with USEPA Region 4 (2000).

#### TABLE 7

#### SEAD-57 CALCULATION OF ABSORBED DOSE AND RISK FROM DERMAL CONTACT TO SOIL REASONABLE MAXIMUM EXPOSURE (RME)

SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) = EPC x CF x SA x AF x ABS x EV x EF x ED B Wx AT

Variables (Assumptions for Each Receptor are Listed at the Bottom): EPC = Chemical Concentration in Soil, mg/kg

EV = Event Frequency CF = Conversion Factor EF = Exposure Frequency SA = Surface Area Contact ED = Exposure Duration AF = Adherence Factor BW = Bodyweight AT = Averaging Time ABS = Absorption Factor

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Dermal	Carc. Slope	Absorption	EPC	EPC from		Resident	(Adult)			Residen	t (Child)		Resident
Analyte	RfD	Dermal	Fraction*	Surface Soil	Total Soils		ed Dose g-day)	Hazard Quotient	Cancer Risk		ed Dose g-day)	Hazard Quotient	Cancer Risk	Total Lifetime
	(mg/kg-day)	(mg/kg-day)-1	(unitless)	(mg/kg)	(mg/kg)	(Nc)	(Car)			(Nc)	(Car)			Cancer Risk
Benzo(a)anthracene	N/A	7.3E-01	1.3E-01	2.2E-02	2.2E-02		5.46E-09		4E-09		8.94E-09		6.53E-09	1E-08
Benzo(a)pyrene	N/A	7.3E+00	1.3E-01	3.0E-02	2.9E-02		7.40E-09		5E-08		1.21E-08		8.85E-08	1E-07
Benzo(b)fluoranthene	N/A	7.3E-01	1.3E-01	2.1E-02	2.1E-02		5.15E-09		4E-09		8.44E-09		6.16E-09	1E-08
Benzo(ghi)perylene	N/A	N/A	1.3E-01	2.5E-02	2.5E-02									
Benzo(k)fluoranthene	N/A	7.3E-02	1.3E-01	1.8E-02	1.8E-02		4.39E-09		3E-10		7.18E-09		5.24E-10	8E-10
Chrysene	3.00E-04	7.3E-03	1.3E-01	2.3E-02	2.1E-02	1.67E-08	5.71E-09	6E-05	4E-11	1.09E-07	9.35E-09	3.64E-04	6.83E-11	1E-10
Dibenz(a,h)anthracene	N/A	7.3E+00	1.3E-01	1.7E-02	1.7E-02		4.20E-09		3E-08		6.87E-09		5.01E-08	8E-08
Indeno(1,2,3-cd)pyrene	N/A	7.3E-01	1.3E-01	2.0E-02	2.0E-02		4.77E-09		3E-09		7.81E-09		5.70E-09	9E-09
Phenanthrene	N/A	N/A	1.3E-01	1.8E-02	2.0E-02									
Phenol	3.00E-01	3.0E-01	2.5E-01	1.1E-02	1.6E-02	1.54E-08	5.28E-09	5E-08	2E-09	1.01E-07	8.65E-09	3.36E-07	2.59E-09	4E-09
Endosulfan II	6.00E-03	N/A	4E-02	3.1E-03	3.1E-03	6.27E-10		1E-07		4.11E-09		6.84E-07		
Endrin aldehyde	N/A	N/A	4E-02	3.8E-03	3.8E-03									
Endrin ketone	N/A	N/A	4E-02	4.0E-03	4.0E-03									
Heptachlor epoxide	1.30E-05	9.1E+00	4E-02	2.0E-03	2.0E-03	4.04E-10	1.39E-10	3E-05	1E-09	2.65E-09	2.27E-10	2.04E-04	2.07E-09	3E-09
Aluminum	1.00E+00	N/A	1E-03	1.4E+04	1.4E+04	7.90E-05		8E-05		5.17E-04		5.17E-04		
Antimony	6.00E-05	N/A	1E-03	8.2E-01	1.2E+00	4.47E-09		7E-05		2.92E-08		4.87E-04		
Arsenic	3.00E-04	1.5E+00	3E-02	5.0E+00	5.1E+00	8.20E-07	2.81E-07	3E-03	4E-07	5.37E-06	4.60E-07	1.79E-02	6.90E-07	1E-06
Cadmium	5.00E-04	N/A	1E-03	2.3E+00	1.9E+00	1.23E-08		2E-05		8.08E-08		1.62E-04		
Cobalt	3.00E-04	N/A	1E-03	1.1E+01	1.1E+01	5.89E-08		2E-04		3.86E-07		1.29E-03		
Copper	4.00E-02	N/A	1E-03	2.1E+01	9.5E+01	1.16E-07		3E-06		7.58E-07		1.90E-05		
Iron	3.00E-01	N/A	1E-03	2.5E+04	2.5E+04	1.36E-04		5E-04		8.91E-04		2.97E-03		
Lead	N/A	N/A	1E-03	2.3E+01	1.0E+02									
Manganese	9.60E-04	N/A	1E-03	6.8E+02	6.2E+02	3.71E-06		4E-03		2.43E-05		2.53E-02		
Thallium	6.47E-04	N/A	1E-03	2.6E+00	2.3E+00	1.40E-08		2E-05		9.18E-08		1.42E-04		
Vanadium	2.60E-05	N/A	1E-03	2.6E+01	2.7E+01	1.44E-07		6E-03		9.41E-07		3.62E-02		
Total Hazard Quotie	nt and Cancer	Risk:						8E-03	5E-07			5E-02	9E-07	1E-06

As	sumptions for Resident (Adult)	As	sumptions for Resident (Child)
CF =	1E-06 kg/mg	CF =	1E-06 kg/mg
EPC	EPC Surface Only	EPC =	EPC Surface Only
BW ···	70 kg	BW =	15 kg
SA -	5,700 cm <sup>2</sup>	SA-	2,800 cm <sup>2</sup>
AF -	0.07 mg/cm <sup>2</sup> -event	AF =	0.2 mg/cm <sup>2</sup> -event
EV -	1 event/day	EV	1 event/day
EF	350 days/year	EF =	350 days/year
ED =	24 years	ED	6 years
AT (Nc) =	8,760 days	AT (Nc)	2,190 days
AT (Car)	25,550 days	AT (Car)	25,550 days

Note: Cells in this table were intentionally left blank due to a lack of toxicity data. NA= Information not available.

<sup>\*</sup> Absorption factors from Exhibit 3-4 of USEPA (2004) Supplemental Guidance for Dermal Risk Assessment, Part E of Risk Assessment Guidance for Superfund, Human Health Evaluation Manual (Volume I).

Absorption factor for VOC was assumed to be 0.01 and metals not presented in the EPA (2004) document, a ssumed to be 0.001 in accordance with the USEPA Region 4 (2000)

Supplemental Guidance to RAGS: Region 4 Bulletins, Human Health Risk Assessment Bulletins (http://www.epa.gov/region4/waste/ots/healtbul.htm).

Absorption factor for pesticides was assumed to be 0.037 in accordance with the average absorption factor of chlordane (0.03), DDT (0.04), and lindane (0.04) in accordance with USEPA Region 4 (2000).

# TABLE 8 SEAD-57 CALCULATION OF ABSORBED DOSE AND RISK FROM DERMAL CONTACT TO GROUNDWATER REASONABLE MAXIMUM EXPOSURE (RME) SENECA ARMY DEPOT ACTIVITY

	x EF x ED x EV W x AT		$K_p$ = Permeability Coefficient, cnv/hr EPC = EPC in Groundwater, mg/L $C$ = Conversion Factor, $10^{-3}$ L/cm <sup>3</sup> PC x C ((6 t <sub>event</sub> x t <sub>event</sub> ) / p) $1^{1/2}$
Variables (Assumptions for Each Receptor are Listed at a  DA – Absorbed Dose per Event, mg/cm²-event  SA = Surface Area Contact  EF = Exposure Frequency	he Bottom):  ED = Exposure Duration  BW = Bodyweight  AT = Averaging Time	B = Dimensionless ratio of the permeability of	$x \in \{(t_{event}/1+B)+2 t_{event}((1+3 B+3 B^2)/(1+B)^2)\}$ coefficient of a compound through the stratum corneum cost the viable epidermis (ve) (dimensionless)
EV = Event Frequency		B = Kp (MW) <sup>1/2</sup> / 2.6 $t_{\text{event}}$ is Lag Time per event (hr/event) = 0.105 x 10 <sup>(0.005661)</sup> $t^*$ is time to reach steady-state (hr) $t_{\text{event}}$ = duration of event, hr/event	If $B <= 0.6$ , then $t^* = 2.4$ t <sub>event</sub> If $B > 0.6$ , then $t^* = 6t_{event} (b \cdot SQRT(b^2 \cdot c^2))$ $b = ((2(1+B)^2)/p) - c$ $c = (1+3B+3B^2)/3(1+B)$

Equation for Hazard Quotient = <u>Chronic Daily Intake (Ne)</u>
Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car)
x Slope Factor

	Dermal	Carc. Slope	Permeability		Fraction			EPC	Absorbed	Park	Worker			Construc	tion Worker	r	Recreatio	nal Child V	isitor
Analyte	RfD	Dermal	Coefficient	tevent	Absorbed	В	t*	Ground	Dose/Event	Intake	Hazard	Cancer	Inta	ike	Hazard	Cancer	Intake	Hazard	Cancer
			Кp		Water			Water	1	(mg/kg-day)	Quotient	Risk	(mg/kg	g-day)	Quotient	Risk	(mg/kg-day)	Quotient	Risk
	(mg/kg-day)	(mg/kg-day)-1	(cm/hr)	(hr/event)			(hour)	(mg/L)	(mg/cm2-event)	(Nc) (Car)			(Nc)	(Car)			(Nc) (Car)		
Bis(2-Ethylhexyl)phthalate	2.E-02	1.4E-02	6.60E-01	1.1.E-01	1.00E+00	0.0.E+00	2.5.E-01	2.E-02	8.4.E-06								1		
Antimony	6.E-05	N/A	1.00E-03	1.1.E-01	1.00E+00	0.0.E+00	2.5.E-01	2.E-02	1.2.E-08				1E-07		2E-03				
Arsenic	3.E-04	1.5E+00	1.00E-03	8.9.E-01	1.00E+00	5.0.E-03	2.1.E+00	3.E-03	5.7.E-09				6E-08	8E-10	2E-04	1E-09			
Cobalt	3.E-04	N/A	1.00E-03	1.1.E-01	1.00E+00	0.0.E+00	2.5.E-01	1.E-02	9.4.E-09										
Thallium	6.E-04	N/A	1.00E-03	1.1.E-01	1.00E+00	0.0.E+00	2.5.E-01	4.E-03	2.6.E-09				3E-08		4E-05				
Total Hazard Quotient an	al Hazard Quotient and Cancer Risk:														2E-03	1E-09			

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

NA= Information not available.

Kp value from Exhibit B1 or B-2 of "Supplemental Guidance for Dermal Risk Assessment", Part E of Risk Assessment Guidance for Superfund, Human Health E valuation Manual (Volume 1), August 16, 2004. For chemicals that did not have a Kp value listed in Exibit B-1 or B-2, Kp was calculated using: Kp = 10^(-2.80+0.66(logKow)-0.0056(MW))

#### TABLE 8

## SEAD-57 CALCULATION OF ABSORBED DOSE AND RISK FROM DERMAL CONTACT TO GROUNDWATER REASONABLE MAXIMUM EXPOSURE (RME) SENECA ARMY DEPOT ACTIVITY

	EFxEDxEV xAT	EP	= Permeability Coefficient, cm/hr C = EPC in Groundwater, mg/L = Conversion Factor, 10 <sup>-3</sup> L/cm <sup>3</sup> x C ( (6 t <sub>event</sub> x t <sub>evens</sub> ) / p) <sup>1/2</sup>
Variables (Assumptions for Each Receptor are Listed at	the Bottom):	if $t_{event} > t^*$ , then: $DA_{event} = FA \times K_p \times EPC \times C$	$C[(t_{event}/1+B)+2t_{event}((1+3B+3B^2)/(1+B)^2)]$
DA = Absorbed Dose per Event, mg/cm <sup>2</sup> -event SA = Surface Area Contact EF = Exposure Frequency	ED = Exposure Duration BW = Bodyweight AT = Averaging Time		refficient of a compound through the stratum corneum ss the viable epidermis (ve) (dimensionless)
EV = Event Frequency		$B = Kp (MW)^{1/2} / 2.6$	If B<= 0.6, then $t^*=2.4 t_{event}$
		$t_{event}$ is Lag Time per event (hr/event) = 0.105 x $10^{(0.0056MW)}$	If B > 0.6, then $t^* = 6t_{event} (b-SQRT(b^2-c^2))$
		t* is time to reach steady-state (hr) t <sub>event</sub> = duration of event, hr/event	$b = ((2(1+B)^2)/p) - c$ $c = (1+3B+3B^2)/3(1+B)$

Equation for Hazard Quotient = <u>Chronic Daily Intake (Nc)</u>

Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x

Slope Factor

	Dermal	Carc. Slope	Permeability		Fraction			EPC	Absorbed		Reside	nt Adult			Resid	dent Child		Resident
Analyte	RfD	Dermal	Coefficient	tevent	Absorbed	В	t*	Ground	Dose/Event	Inta		Hazard	Cancer	Intal	ke	Hazard	Cancer	Total
			Kp		Water			Water		(mg/kg	-day)	Quotient	Risk	(mg/kg	-day)	Quotient	Risk	Lifetime
	(mg/kg-day)	(mg/kg-day)-1	(cm/hr)	(hr/event)			(hour)	(mg/L)	(mg/cm2-event)	(Nc)	(Car)			(Nc)	(Car)			Cancer Risk
Bis(2-Ethylhexyl)phthalate	2.E-02	1.4E-02	6.60E-01	1.1.E-01	1.00E+00	0.0.E+00	2.5.E-01	2.E-02	1.2.E-05	3E-03	1E-03	1E-01	1E-05	5E-03	4E-04	2E-01	6E-06	2E-05
Antimony	6.E-05	N/A	1.00E-03	1.1.E-01	1.00E+00	0.0.E+00	2.5.E-01	2.E-02	1.7.E-08	4E-06		7E-02		7E-06		1E-01		0E+00
Arsenic	3.E-04	1.5E+00	1.00E-03	8.9.E-01	1.00E+00	5.0.E-03	2.1.E+00	3.E-03	8.1.E-09	2E-06	7E-07	7E-03	1E-06	3E-06	3E-07	1E-02	4E-07	1E-06
Cobalt	3.E-04	N/A	1.00E-03	1.1.E-01	1.00E+00	0.0.E+00	2.5.E-01	1.E-02	1.3.E-08	3E-06		1E-02		6E-06		2E-02		0E+00
Thallium	6.E-04	N/A	1.00E-03	1.1.E-01	1.00E+00	0.0.E+00	2.5.E-01	4.E-03	3.6.E-09	9E-07		1E-03		2E-06		2E-03		0E+00
Total Hazard Ouotient	and Cancer	Risk:										2E-01	2E-05			4E-01	6E-06	2E-05

Assumptions for Resident Adult Assumptions for Resident Child 70 kg BW≃ 15 kg BW= 18,000 cm2 6,600 cm2 SA = SA = EV= 1 event/day EV= 1 event/day EF = 350 days/year EF = 350 days/year ED= 24 years 0.58 hr/event ED = 6 years 1 hr/event AT (Nc) = 8,760 days AT (Nc) = 2,190 days AT (Car) = AT (Car) = 25,550 days 25,550 days

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

Kp value from Exhibit B1 or B-2 of "Supplemental Guidance for Dermal Risk Assessment", Part E of Risk Assessment Guidance for Superfund, Human Health Evaluation Manual (Volume 1), August 16, 2004. For chemicals that did not have a Kp value listed in Exibit B-1 or B-2, Kp was calculated using: Kp = 10^(-2.80+0.66(logKow)-0.0056(MW))

#### TABLE 8A

## SEAD-57 CALCULATION OF ABSORBED DOSE AND RISK FROM DERMAL CONTACT TO GROUNDWATER REASONABLE MAXIMUM EXPOSURE (RME) EXCLUDING ESI SAMPLES SENECA ARMY DEPOT ACTIVITY

	x EF x ED x EV W x AT		$K_p$ = Permeability Coefficient, em/hr EPC = EPC in Groundwater, mg/L C = Conversion Factor, $10^{-3}$ L/cm <sup>3</sup> $PC \times C ((6 t_{event} \times t_{event}) / p)^{1/2}$
Variables (Assumptions for Each Receptor are Listed at the DA - Absorbed Dose per Event, mg/cm²-event SA = Surface Area Contact EF = Exposure Frequency	ne Bottom);  ED = Exposure Duration  BW = Bodyweight  AT = Averaging Time	B = Dimensionless ratio of the permeability of	$x \in \left[ (t_{event} / 1 + B) + 2 t_{event} ((1 + 3 B + 3 B^2) / (1 + B)^2) \right]$ coefficient of a compound through the stratum corneum ross the viable epidermis (ve) (dimensionless)
EV – Event Frequency		B = Kp (MW) <sup>1/2</sup> / 2.6 $t_{\text{event}}$ is Lag Time per event (hr/event) = 0.105 x 10 <sup>(0 0056M)</sup> $t^*$ is time to reach steady-state (hr) $t_{\text{event}}$ = duration of event, hr/event	If $B \le 0.6$ , then $t^* = 2.4 t_{event}$ If $B > 0.6$ , then $t^* = 6 t_{event} (b - SQRT(b^2 - c^2))$ $b = ((2(1+B)^2)/p) - c$ $c = (1+3B+3B^2)/3(1+B)$

Equation for Hazard Quotient = <u>Chronic Daily Intake (Ne)</u>
Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car)

x Slope Factor

	Dermal	Carc. Slope	Permeability		Fraction			EPC	Absorbed		ark W	Vorker			Construc	tion Worker	r	Recreatio	nal Child V	/isitor
Analyte	RID	Dermal	Coefficient	tevent	Absorbed	В	t*	Ground	Dose/Event	Intake	F	Hazard	Cancer	Inta	ike	Hazard	Cancer	Intake	Hazard	Cancer
			Kp	1	Water			Water		(mg/kg-da)	() Q	Quotient	Risk	(mg/kg	g-day)	Quotient	Risk	(mg/kg-day)	Quotient	Risk
	(mg/kg-day)	(mg/kg-day)-1	(cm/hr)	(hr/event)			(hour)	(mg/L)	(mg/cm2-event)	(Nc) (C	ar)			(Nc)	(Car)			(Nc) (Car)		
Bis(2-Ethylhexyl)phthalate	2.E-02	1.4E-02	6.60E-01	1.1.E-01	1.00E+00	0.0.E+00	2.5.E-01	2.E-02	8.4.E-06											
Antimony	6.E-05	N/A	1.00E-03	1.1.E-01	1.00E+00	0.0.E+00	2.5.E-01	2.E-02	1.2.E-08					1E-07		2E-03				
Arsenic	3.E-04	1.5E+00	1.00E-03	8.9.E-01	1.00E+00	5.0.E-03	2.1.E+00	3.E-03	5.7.E-09			- 1		6E-08	8E-10	2E-04	1E-09			
Cobalt	3.E-04	N/A	1.00E-03	1.1.E-01	1.00E+00	0.0.E+00	2.5.E-01	1.E-02	9.4.E-09								l			
Thallium	6.E-04	N/A	1.00E-03	1.1.E-01	1.00E+00	0.0.E+00	2.5.E-01	4.E-03	2.6.E-09					3E-08		4E-05				
Total Hazard Quotient an	nd Cancer R	isk:														2E-03	1E-09			

Assum	Assumptions for Construction Worker											
BW =	70	kg										
SA=	2,490	cm2										
EV= EF =	1	event/day										
EF =	100	days/year										
ED =	1	years										
t <sub>event</sub> =	0.5	hr/event										
t <sub>event</sub> = AT (Nc) = AT (Car) =	365	days										
AT (Car) =	25,550	days										

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

NA= Information not available.

Kp value from Exhibit B1 or B-2 of "Supplemental Guidance for Dermal Risk Assessment", Part E of Risk Assessment Guidance for Superfund, Human Health E valuation Manual (Volume 1), August 16, 2004. For chemicals that did not have a Kp value listed in Exibit B-1 or B-2, Kp was calculated using: Kp = 10°(-2.80+0.66(logKow)-0.0056(MW))

#### TABLE 8A

## SEAD-57 CALCULATION OF ABSORBED DOSE AND RISK FROM DERMAL CONTACT TO GROUNDWATER REASONABLE MAXIMUM EXPOSURE (RME) EXCLUDING ESI SAMPLES SENECA ARMY DEPOT ACTIVITY

Equation for Absorbed Dose per Event (DA):

K<sub>p</sub> = Permeability Coefficient, cm/hr

EPC = EPC in Groundwater, mg/L

For inorgan: DA = Kp x EPC x t<sub>event</sub> x C

C = Conversion Factor, 10<sup>3</sup> L/cm<sup>3</sup>

For organic: If t<sub>event</sub> <= t\*, then: DA<sub>creat</sub> = 2 FA x K<sub>p</sub> x EPC x C ((6 t<sub>event</sub> x t<sub>event</sub>)/p)<sup>1/2</sup>

if  $t_{event} > t^*$ , then:  $DA_{event} = FA \times K_p \times EPC \times C[(t_{event} / 1 + B) + 2t_{event}((1 + 3B + 3B^2) / (1 + B)^2)]$ 

ED = Exposure Duration

B = Dimensionless ratio of the permeability coefficient of a compound through the stratum comeum

BW = Bodyweight

relative to its permeability coefficient across the viable epidermis (ve) (dimensionless)

FA = Fraction absorbed water (dimensionless)

 $B = Kp (MW)^{1/2} / 2.6$  If  $B \le 0.6$ , then  $t^* = 2.4 t_{event}$ 

 $t_{event}$  is Lag Time per event (hr/event) = 0.105 x 10<sup>(0.0056MW)</sup>

t\* is time to reach steady-state (hr) b =  $((2(1+B)^2)/p) - c$  $t_{event}$  = duration of event, hr/event  $c = (1+3B+3B^2)/3(1+B)$  Equation for Hazard Quotient = Chronic Daily Intake (Nc)

Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Dermal	Carc. Slope	Permeability		Fraction			EPC	Absorbed		Reside	nt Adult			Resi	dent Child		Resident
Analyte	RfD	Dermal	Coefficient Kp	t <sub>event</sub>	Absorbed Water	В	t*	Ground Water	Dose/Event	Intal (mg/kg		Hazard Quotient	Cancer Risk	Inta (mg/kg		Hazard Quotient	Cancer Risk	Total Lifetime
	(mg/kg-day)	(mg/kg-day)-1	(cm/hr)	(hr/event)			(hour)	(mg/L)	(mg/cm2-event)	(Nc)	(Car)			(Nc)	(Car)		-	Cancer Risk
Bis(2-Ethylhexyl)phthalate	2.E-02	1.4E-02	6.60E-01	1.1.E-01	1.00E+00	0.0.E+00	2.5.E-01	2.E-02	1.2.E-05	3E-03	1E-03	1E-01	1E-05	5E-03	4E-04	2E-01	6E-06	2E-05
Antimony	6.E-05	N/A	1.00E-03	1.1.E-01	1.00E+00	0.0.E+00	2.5.E-01	3.E-03	3.0.E-09	7E-07		1E-02		1E-06		2E-02		0E+00
Arsenic	3.E-04	1.5E+00	1.00E-03	8.9.E-01	1.00E+00	5.0.E-03	2.1.E+00	3.E-03	8.1.E-09	2E-06	7E-07	7E-03	1E-06	3E-06	3E-07	1E-02	4E-07	1E-06
Cobalt	3.E-04	N/A	1.00E-03	1.1.E-01	1.00E+00	0.0.E+00	2.5.E-01		0.0.E+00	0E+00		0E+00		0E+00		0E+00		0E+00
Thallium	6.E-04	N/A	1.00E-03	1.1.E-01	1.00E+00	0.0.E+00	2.5.E-01	4.E-03	3.6.E-09	9E-07		1E-03		2E-06		2E-03		0E+00
Total Hazard Quotient	and Cancer	Risk:										2E-01	2E-05			3E-01	6E-06	2E-05

	iptions to	r Resident Adult			for Resident Child
BW =	70	kg	BW=	15	kg
SA =	18,000	cm2	SA =	6,600	cm2
EV=	1	event/day	EV=	1	event/day
EF =	350	days/year	EF =	350	days/year
ED =	24	years	ED =	6	years
t <sub>event</sub> m	0.58	hr/event	tevent =	1	hr/event
AT (Nc) =	8,760	days	AT (Nc) =	2,190	days
AT (Car) =	25,550	days	AT (Car) =	25,550	days

If B > 0.6, then  $t^* = 6t_{event} (b-SQRT(b^2-c^2))$ 

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

DA x SA x EF x ED x EV

AT = Averaging Time

BW×AT

NA= Information not available.

Equation for Dermal (mg/kg-day) =

SA = Surface Area Contact

EF = Exposure Frequency

EV = Event Frequency

DA = Absorbed Dose per Event, mg/cm2-event

Variables (Assumptions for Each Receptor are Listed at the Bottom):

Kp value from Exhibit B1 or B-2 of "Supplemental Guidance for Dermal Risk Assessment", Part E of Risk Assessment Guidance for Superfund, Human Health Evaluation Manual (Volume 1), August 16, 2004. For chemicals that did not have a Kp value listed in Exibit B-1 or B-2, Kp was calculated using: Kp = 10\(^2\cdot -2.80 + 0.66(logKow) - 0.0056(MW)\)

#### TABLE 9

# CALCULATION OF INTAKE AND RISK FROM INHALATION OF GROUNDWATER (WHILE SHOWERING) REASONABLE MAXIMUM EXPOSURE (RME) SEAD-57 SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) =	EPC x IR x t <sub>event</sub> x EV x EF x ED
	BW x AT
Variables (Assumptions for Each Receptor are Listed at the Bottom):	
EPC =Exposure Point Concentration in Air (mg/m <sup>3</sup> )	ED=Exposure Duration
t <sub>event</sub> = Event Duration	EV = Event Frequency
IR = Inhalation Rate	BW=Body Weight
EF = Exposure Frequency	AT = Averaging Time

Equation f	or Hazard	Quotient = Chroni	c Daily Intake (	Nc)/Reference Dose
Equation 1	for Cancer	Risk = Chronic Da	ily Intake (Car)	x Slope Factor

Inhalation	Carc. Slope	EPC*	EPC*	EPC*	EPC*	pe EPC*	EPC*	EPC*	EPC*	EPC*	EPC*		Reside	nt Adult			Reside	ent Child		Resident
RID	Inhalation	Air	Air	Int	ake	Hazard	Contribution	Inta	ake	Hazard	Contribution	Total								
		Adult	Child	(mg/k	g-day)	Quotient	to Lifetime	(mg/kg	g-day)_	Quotient	to Lifetime	Lifetime								
(mg/kg-day)	(mg/kg-day)-1	$(mg/m^3)$	(mg/m³)	(Nc)	(Car)	1	Cancer Risk	(Nc)	(Car)		Cancer Risk	Cancer Risk								
N/A	N/A	1.02E-06	1.02E-06																	
N/A	N/A	1.36E-01	1.36E-01				1				i	ĺ								
N/A	4.30E-03	NA	NA																	
1.71E-06	9.00E-03	NA	NA																	
N/A	N/A	NA	NA							i										
ind Cancer F	Risk:																			
	RfD (mg/kg-day) N/A N/A N/A 1.71E-06 N/A	RfD         Inhalation           (mg/kg-day)         (mg/kg-day)-1           N/A         N/A           N/A         N/A           N/A         N/A           N/A         4.30E-03           1.71E-06         9.00E-03	RfD         Inhalation         Air Adult (mg/kg-day)-1           N/A         N/A         1.02E-06           N/A         N/A         1.36E-01           N/A         4.30E-03         NA           1.71E-06         9.00E-03         NA           N/A         N/A         NA	RfD         Inhalation         Air Adult (mg/kg-day)         Air Adult (mg/m³)         Air Child (mg/m³)           N/A         N/A         1.02E-06         1.02E-06           N/A         N/A         1.36E-01         1.36E-01           N/A         4.30E-03         NA         NA           1.71E-06         9.00E-03         NA         NA           N/A         N/A         NA         NA	RfD         Inhalation         Air Adult (mg/kg-day)         Air (mg/kg-day)         Interest (mg/kg-day)         Interest (mg/kg-day)         Interest (mg/m²) (mg/m²)         Interest (mg/m²)         Interest (mg/m²)         (Nc)           N/A         N/A         1.02E-06         1.02E-06         1.02E-06         1.36E-01         NA         NA	RfD         Inhalation         Air Adult (mg/kg-day)         Air Child (mg/kg-day)         Intake (mg/kg-day)           (mg/kg-day)         (mg/m³)         (mg/m³)         (Nc)         (Car)           N/A         N/A         1.02E-06         1.02E-06         Na         Na           N/A         N/A         1.36E-01         1.36E-01         Na         Na           N/A         4.30E-03         NA         NA         NA           1.71E-06         9.00E-03         NA         NA         NA           N/A         N/A         NA         NA	RfD         Inhalation         Air Adult (mg/kg-day)         Air (mg/kg-day)         Air (mg/kg-day)         Hazard (mg/kg-day)         Quotient           N/A         N/A         1.02E-06         1.02E-06         (Nc)         (Car)           N/A         N/A         1.36E-01         1.36E-01         1.36E-01           N/A         4.30E-03         NA         NA         NA           1.71E-06         9.00E-03         NA         NA         NA           N/A         N/A         NA         NA         NA	RfD         Inhalation         Air Adult (mg/kg-day)         Air (mg/kg-day)         Hazard (mg/kg-day)         Contribution to Lifetime (mg/kg-day)           (mg/kg-day)         (mg/kg-day)         (mg/m³)         (Nc)         (Car)         Cancer Risk           N/A         N/A         1.02E-06         1.02E-06         1.02E-06         1.36E-01           N/A         N/A         1.36E-01         1.36E-01         1.36E-01           N/A         4.30E-03         NA         NA         NA           1.71E-06         9.00E-03         NA         NA         NA           N/A         N/A         NA         NA         NA	RfD         Inhalation         Air Adult (mg/kg-day)         Air (mg/kg-day)         Hazard (mg/kg-day)         Contribution to Lifetime (mg/kg-day)         Interest (mg/kg-day)           (mg/kg-day)         (mg/kg-day)         (mg/m³)         (Nc)         (Car)         Cancer Risk         (Nc)           N/A         N/A         1.02E-06         1.02E-06         1.02E-06         Na         <	RfD         Inhalation         Air Adult (mg/kg-day)         Air Adult (mg/kg-day)         Intake (mg/kg-day)         Hazard Quotient         Contribution to Lifetime (mg/kg-day)         Intake (mg/kg-day)           N/A         N/A         1.02E-06         1.02E-06         N/A         N/A         1.36E-01         N/A         N/	RfD         Inhalation         Air Adult         Air Child (mg/kg-day)         Air (mg/kg-day)         Intake (mg/kg-day)         Hazard Quotient         Contribution to Lifetime Cancer Risk         Intake (mg/kg-day)         Hazard Quotient           N/A         N/A         1.02E-06         1.02E-06         (Nc)         (Car)         (Nc)         (Car)           N/A         N/A         1.36E-01         1.36E-01         1.36E-01         NA         NA         NA           1.71E-06         9.00E-03         NA         NA         NA         NA         NA         NA           N/A         N/A         NA         NA         NA         NA         NA         NA	RfD         Inhalation         Air Adult (mg/kg-day)         Air Adult (mg/kg-day)         Hazard (mg/kg-day)         Contribution to Lifetime (mg/kg-day)         Intake (mg/kg-day)         Hazard (mg/kg-day)         Contribution to Lifetime (mg/kg-day)         Hazard (mg/kg-day)         Contribution to Lifetime (mg/kg-day)         Quotient         Locar Risk         N/A         N/A         N/A         N/A         1.02E-06         1.02E-06         N/A         N/A								

Assump	otions for Future Resident (Adult)	Assum	ptions for Future Resident (Child)
BW =	70 kg	BW =	15 kg
IR =	1.0 m <sup>3</sup> /hr	IR =	1.0 m <sup>3</sup> /hr
t <sub>event</sub> =	0.58 hr/event	t <sub>event</sub> =	1.0 hr/event
EV =	1 event/day	EV =	1 event/day
EF =	350 days/year	EF=	350 days/year
ED =	24 years	ED =	6 years
AT (Nc) =	8,760 days	AT (Nc) =	2,190 days
AT (Car) =	25,550 days	AT (Car) =	25,550 days

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

<sup>\*</sup> EPC air is the concentration of chemical available for inhalation after accounting for partitioning between the air and water in the shower.

#### TABLE 9

# CALCULATION OF INTAKE AND RISK FROM INHALATION OF GROUNDWATER (WHILE SHOWERING) REASONABLE MAXIMUM EXPOSURE (RME) SEAD-57 EXCLUDING ESI SAMPLES SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) =	EPC x IR x t <sub>event</sub> x EV x EF x ED
	B W x AT
Variables (Assumptions for Each Receptor are Listed at the Bottom):	
EPC =Exposure Point Concentration in Air (mg/m³)	ED=Exposure Duration
t <sub>event</sub> = Event Duration	EV = Event Frequency
IR = Inhalation Rate	BW=Body Weight
EF = Exposure Frequency	AT = Averaging Time

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Inhalation	Carc. Slope	EPC*	EPC*		Reside	nt Adult			Resident			
Analyte	RfD	Inhalation	Air	Air	Int	ake	Hazard	Contribution	Int	ake	Hazard	Contribution	Total
		1	Adult	Child	(mg/k	g-day)	Quotient	to Lifetime	(mg/k	g-day)	Quotient	to Lifetime	Lifetime
	(mg/kg-day)	(mg/kg-day)-1	(mg/m³)	(mg/m³)	(Nc)	(Car)		Cancer Risk	(Nc)	(Car)		Cancer Risk	Cancer Risk
Bis(2-Ethylhexyl)phthalate	N/A	N/A	1.02E-06	1.02E-06									
Antimony	N/A	N/A	1.36E-01	1.36E-01									
Arsenic	N/A	4.30E-03	NA	NA									
Cobalt	1.71E-06	9.00E-03	NA	NA									
Thallium	N/A	N/A	NA	NA									
Total Hazard Quotient:	and Cancer F	Risk:											

Assump	otions for Future Resident (Adult)	Assum	ptions for Future Resident (Child)
BW=	70 kg	BW =	15 kg
IR =	1.0 m <sup>3</sup> /hr	IR =	1.0 m <sup>3</sup> /hr
t <sub>event</sub> =	0.58 hr/event	t <sub>event</sub> =	1.0 hr/event
EV =	I event/day	EV =	1 event/day
EF=	350 days/year	EF=	350 days/year
ED =	24 years	ED =	6 years
AT (Nc) =	8,760 days	AT (Nc) =	2,190 days
AT (Car) =	25,550 days	AT (Car) =	25,550 days

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

<sup>\*</sup> EPC air is the concentration of chemical available for inhalation after accounting for partitioning between the air and water in the shower.

### TABLE 10 SEAD-57 CALCULATION OF INTAKE AND RISK FROM INHALATION OF DUST IN AMBIENT AIR REASONABLE MAXIMUM EXPOSURE (RME) SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) =

EPC x IR x EF x ED

BW x AT

Variables (Assumptions for Each Receptor are Listed at the Bottom): EPC = EPC in Air, mg/m3

ED = Exposure Duration

IR = Inhalation Rate

BW = Bodyweight

EF = Exposure Frequency

AT = Averaging Time

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Inhalation	Carc. Slope	Air EPC from	Air EPC from		Park V	Vorker			Constructi	on Worker		Re	creational	Child Visit	or
Analyte	RfD	Inhalation	Surface Soil	Total Soils	Int	ake	Hazard	Cancer	Int	ake	Hazard	Cancer	Int	ake	Hazard	Cancer
					(mg/k	g-day)	Quotient	Risk		g-day)	Quotient	Risk	(mg/kg		Quotient	Risk
	(mg/kg-day)	(mg/kg-day)-1	(mg/m3)	(mg/m3)	(Nc)	(Car)			(Nc)	(Car)			(Nc)	(Car)		
Benzo(a)anthracene	N/A	N/A	9.9E-10	9.6E-10												
Benzo(a)pyrene	N/A	3.85E+00	5.2E-10	1.3E-09		1.01E-11		4E-11		1.83E-12		7E-12		8.21E-13		3E-12
Benzo(b)fluoranthene	N/A	3.85E-01	3.6E-10	9.3E-10		7.04E-12		3E-12		1.36E-12		5E-13		5.71E-13		2E-13
Benzo(ghi)perylene	N/A	N/A	4.3E-10	1.1E-09												
Benzo(k)fluoranthene	N/A	3.85E-01	3.1E-10	7.9E-10	l .	5.99E-12		2E-12		1.16E-12		4E-13		4.86E-13		2E-13
Chrysene	N/A	3.85E-02	4.0E-10	9.5E-10		7.80E-12		3E-13		1.38E-12		5E-14		6.33E-13		2E-14
Dibenz(a,h)anthracene	N/A	4.20E+00	2.9E-10	7.6E-10		5.73E-12		2E-11		1.10E-12		5E-12		4.65E-13		2E-12
Indeno(1,2,3-cd)pyrene	N/A	3.85E-01	3.3E-10	8.6E-10		6.51E-12		3E-12		1.26E-12		5E-13		5.29E-13		2E-13
Phenanthrene	N/A	N/A	3.0E-10	8.9E-10						İ						
Phenol	5.71E-02	N/A	1.9E-10	7.2E-10	1.05E-11		2E-10		7.34E-11		1E-09		4.26E-12		7E-11	
Endosulfan II	N/A	N/A	5.3E-11	1.4E-10												
Endrin aldehyde	N/A	N/A	6.5E-11	1.7E-10												
Endrin ketone	N/A	N/A	6.8E-11	1.8E-10												
Heptachlor epoxide	N/A	9.10E+00	3.4E-11	8.8E-11		6.65E-13		6E-12		1.28E-13		1E-12		5.40E-14		5E-13
Aluminum	1.43E-03	N/A	2.5E-04	6.3E-04	1.35E-05		9E-03		6.46E-05		5E-02		5.46E-06		4E-03	
Antimony	N/A	N/A	1.4E-08	5.3E-08												
Arsenic	N/A	1.51E+01	8.5E-08	2.2E-07		1.66E-09		3E-08		3.26E-10		5E-09		1.35E-10		2E-09
Cadınium	2.86E-06	6.30E+00	3.8E-08	8.4E-08	2.10E-09	7.51E-10	7E-04	5E-09	8.59E-09	1.23E-10	3E-03	8E-10	8.54E-10	6.10E-11	3E-04	4E-10
Cobalt	1.71E-06	3.15E+01	1.8E-07	4.9E-07	1.00E-08	3.59E-09	6E-03	1 E-07	4.95E-08	7.07E-10	3E-02	2E-08	4.08E-09	2.91E-10	2E-03	9E-09
Copper	N/A	N/A	3.6E-07	4.2E-06	1	l	l									
Iron	N/A	N/A	4.2E-04	1.1E-03												
Lead	N/A	N/A	3.9E-07	4.6E-06												
Manganese	1.43E-05	N/A	1.2E-05	2.8E-05	6.33E-07		4E-02		2.81E-06		2E-01		2.57E-07		2E-02	
Thallium	N/A	N/A	4.4E-08	1.0E-07												
Vanadium	N/A	N/A	4.5E-07	1.2E-06										L		
Total Hazard Quotient	and Cancer I	Risk:					6E-02	1E-07			3E-01	3E-08			2E-02	1E-08

Assi	umptions for Park Worker	Assump	tions for Construction Worker	Assumption	ns for Recreational Child Visitor
CA =	EPC Surface Only	CA =	EPC Surface and Sub-Surface	CA =	EPC Surface Only
BW =	70 kg	BW =	70 kg	BW =	15 kg
IR =	8 m3/day	IR =	10.4 m3/day	IR =	8.7 m3/day
EF =	175 days/year	EF =	250 days/year	EF =	14 days/year
ED =	25 years	ED =	l year	ED =	5 years
AT (Nc) =	9,125 days	AT (Nc) =	365 days	AT (Nc) =	1,825 days
AT (Car) =	25,550 days	AT (Car) =	25,550 days	AT (Car) =	25,550 days

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

# TABLE 10 SEAD-57 CALCULATION OF INTAKE AND RISK FROM INHALATION OF DUST IN AMBIENT AIR REASONABLE MAXIMUM EXPOSURE (RME) SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) = CA x IR x EF x ED
B W x AT

Variables (Assumptions for Each Receptor are Listed at the Bottom):
CA = Chemical Concentration in Air from Stockpile Soil, mg/m³ ED = Exposure Duration, year
IR = Inhalation Rate, m³/day
BW = Bodyweight, kg
EF = Exposure Frequency, day/year
AT = Averaging Time, day

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

Analyte RfD  (mg/kg-da  Benzo(a)anthracenc Benzo(a)pyrene Benzo(b)fluoranthene Benzo(b)fluoranthene Benzo(b)fluoranthene Chrysene Dibenz(a,b)anthracene Indeno(1,2,3-cd)pyrene Phenanthrene Endosulfan II Endrin aldehyde Endrin ketone Aluminum Antimony Arsenic Cadmium Cobalt Copper  N/A  (mg/kg-da  N/A  N/A  N/A  N/A  N/A  N/A  N/A  N/	Inhalation  // (mg/kg-day) <sup>-1</sup> N/A  3.85E+00  3.85E-01  N/A  3.85E-02  4.20E+00  3.85E-01  N/A  N/A  N/A  N/A  N/A	(mg/m³)  9.9E-10 5.2E-10 3.6E-10 4.3E-10 3.1E-10 4.0E-10 2.9E-10 3.3E-10 3.0E-10 1.9E-10 5.3E-11 6.8E-11		4.85E-11 3.38E-11 2.87E-11 3.74E-11 2.75E-11 3.13E-11	Hazard Quotient	Contribution to Lifetime Cancer Risk  2E-10 1E-11  1E-11 1E-12 1E-10 1E-11		2.46E-11 1.71E-11 1.46E-11 1.90E-11 1.49E-11	Hazard Quotient	Contribution to Lifetime Cancer Risk  9E-11 7E-12  6E-12 7E-13 6E-11 6E-12	Total Lifetime Cancer Risk  3E-10 2E-11  2E-11 2E-12 2E-10 2E-11
Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(ghi)perylene Benzo(k)fluoranthene Chrysene Dibenz(a,h)anthracene Phenol Endosulfan II Endrin aldehyde Endrin ketone Heptachlor epoxide Aluminum Antimony Antimony N/A Cadmium Benzo(a)nanthracene N/A N/A N/A N/A N/A N/A See-00 Cobalt N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	N/A 3.85E+00 3.85E-01 N/A 3.85E-01 3.85E-02 4.20E+00 3.85E-01 N/A N/A N/A N/A	9,9E-10 5,2E-10 3,6E-10 4,3E-10 3,1E-10 4,0E-10 2,9E-10 3,3E-10 3,0E-10 1,9E-10 5,3E-11 6,5E-11	(Nc)	(Car) 4.85E-11 3.38E-11 2.87E-11 3.74E-11 2.75E-11	9E-10	2E-10 1E-11 1E-11 1E-12 1E-10	(Nc)	2.46E-11 1.71E-11 1.46E-11 1.90E-11 1.40E-11		9E-11 7E-12 6E-12 7E-13 6E-11	3E-10 2E-11 2E-11 2E-12 2E-10
Benzo(a)pyrene N/A Benzo(b)fluoranthene N/A Benzo(ghi)perylene N/A Benzo(k)fluoranthene N/A Dibenz(a,h)anthracene N/A Dibenz(a,h)anthracene N/A Phenol 5.71E-02 Endosulfan II N/A Endrin ketone N/A Heptachlor epoxide N/A Aluminum 1.43E-03 Antimony N/A Cadmium 2.86E-00 Cobalt 1.71E-00	3.85E+00 3.85E-01 N/A 3.85E-01 3.85E-02 4.20E+00 3.85E-01 N/A N/A N/A	5.2E-10 3.6E-10 4.3E-10 3.1E-10 4.0E-10 2.9E-10 3.3E-10 3.0E-10 1.9E-10 5.3E-11 6.5E-11	5.25E-11	3.38E-11 2.87E-11 3.74E-11 2.75E-11	9E-10	1E-11 1E-11 1E-12 1E-10	1.07E-10	1.71E-11 1.46E-11 1.90E-11 1.40E-11	2E-09	7E-12 6E-12 7E-13 6E-11	2E-11 2E-11 2E-12 2E-10
Benzo(a)pyrene N/A Benzo(b)fluoranthene N/A Benzo(ghi)perylene N/A Benzo(k)fluoranthene N/A Dibenz(a,h)anthracene N/A Dibenz(a,h)anthracene N/A Phenol 5.71E-02 Endosulfan II N/A Endrin ketone N/A Heptachlor epoxide N/A Aluminum 1.43E-03 Antimony N/A Cadmium 2.86E-00 Cobalt 1.71E-00	3.85E+00 3.85E-01 N/A 3.85E-01 3.85E-02 4.20E+00 3.85E-01 N/A N/A N/A	5.2E-10 3.6E-10 4.3E-10 3.1E-10 4.0E-10 2.9E-10 3.3E-10 3.0E-10 1.9E-10 5.3E-11 6.5E-11	5.25E-11	3.38E-11 2.87E-11 3.74E-11 2.75E-11	9E-10	1E-11 1E-11 1E-12 1E-10	1.07E-10	1.71E-11 1.46E-11 1.90E-11 1.40E-11	2E-09	7E-12 6E-12 7E-13 6E-11	2E-11 2E-11 2E-12 2E-10
Benzo(b)fluoranthene Benzo(ghi)perylene Benzo(k)fluoranthene Chrysene Dibenz(a,h)anthracene Indeno(1,2,3-ed)pyrene Phenanthrene Phenol Endroulfan II Endrin aldehyde Endrin ketone Heptachlor epoxide Aluminum Antimony Antimony N/A Cadmium 2.86E-00 Cobalt N/A N/A N/A N/A N/A N/A N/A Cadmium 2.86E-00 Cobalt N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	N/A 3.85E-01 3.85E-02 4.20E+00 3.85E-01 N/A N/A N/A	4.3E-10 3.1E-10 4.0E-10 2.9E-10 3.3E-10 3.0E-10 1.9E-10 5.3E-11 6.5E-11	5.25E-11	2.87E-11 3.74E-11 2.75E-11	9E-10	1E-11 1E-12 1E-10	1.07E-10	1.46E-11 1.90E-11 1.40E-11	2E-09	6E-12 7E-13 6E-11	2E-11 2E-12 2E-10
Benzo(ghi)perylene N/A Benzo(k)fluoranthene N/A Chrysene N/A Dibenz(a,h)anthracene N/A Indeno(1,2,3-cd)pyrene N/A Phenanthrene N/A Phenol 5.71E-02 Endosulfan II N/A Endrin ladehyde N/A Heptachlor epoxide N/A Aluminum 1.43E-03 Antimony N/A Cadmium 2.86E-04 Cobalt 1.71E-06	N/A 3.85E-01 3.85E-02 4.20E+00 3.85E-01 N/A N/A N/A	4.3E-10 3.1E-10 4.0E-10 2.9E-10 3.3E-10 3.0E-10 1.9E-10 5.3E-11 6.5E-11	5.25E-11	3.74E-11 2.75E-11	9E-10	1E-12 1E-10	1.07E-10	1.90E-11 1.40E-11	2E-09	7E-13 6E-11	2E-12 2E-10
Benzo(k)fluoranthene	3.85E-02 4.20E+00 3.85E-01 N/A N/A N/A N/A	4.0E-10 2.9E-10 3.3E-10 3.0E-10 1.9E-10 5.3E-11 6.5E-11	5.25E-11	3.74E-11 2.75E-11	9E-10	1E-12 1E-10	1.07E-10	1.90E-11 1.40E-11	2E-09	7E-13 6E-11	2E-12 2E-10
Chrysene         N/A           Dibenz(a,h)anthracene         N/A           Indeno(1,2,3-cd)pyrene         N/A           Phenanthrene         N/A           Phenol         5.71E-02           Endosulfan II         N/A           Endrin aldehyde         N/A           Endrin ketone         N/A           Heptachlor epoxide         N/A           Aluminum         1.43E-03           Antimony         N/A           Arsenic         N/A           Cadmium         2.86E-00           Cobalt         1.71E-00	3.85E-02 4.20E+00 3.85E-01 N/A N/A N/A N/A	4.0E-10 2.9E-10 3.3E-10 3.0E-10 1.9E-10 5.3E-11 6.5E-11	5.25E-11	2.75E-11	9E-10	1E-10	1.07E-10	1.40E-11	2E-09	6E-11	2E-10
Dibenz(a,h)anthracene         N/A           Indeno(1,2,3-cd)pyrene         N/A           Phenanthrene         N/A           Phenol         5.71E-02           Endosulfan II         N/A           Endrin aldehyde         N/A           Endrin ketone         N/A           Heptachlor epoxide         N/A           Aluminum         1.43E-03           Antimony         N/A           Arsenic         N/A           Cadmium         2.86E-00           Cobalt         1.71E-06	3.85E-01 N/A N/A N/A N/A	3.3E-10 3.0E-10 1.9E-10 5.3E-11 6.5E-11	5.25E-11		9E-10		1.07E-10		2E-09		
Indeno(1,2,3-ed)pyrene	3.85E-01 N/A N/A N/A N/A	3.3E-10 3.0E-10 1.9E-10 5.3E-11 6.5E-11	5.25E-11	3.13E-11	9E-10	1E-11	1.07E-10	1.59E-11	2E-09	6E-12	2E-11
Phenanthrene         N/A           Phenol         5.71E-02           Endosulfan II         N/A           Endrin ladehyde         N/A           Endrin ketone         N/A           Heptachlor epoxide         N/A           Aluminum         1.43E-03           Antimony         N/A           Arsenic         N/A           Cadmium         2.86E-00           Cobalt         1.71E-00	N/A N/A N/A	1.9E-10 5.3E-11 6.5E-11	5.25E-11		9E-10		1.07E-10		2E-09		
Phenol         5.71E-02           Endosulfan II         N/A           Endrin aldehyde         N/A           Endrin ketone         N/A           Heptachlor epoxide         N/A           Aluminum         1.43E-03           Antimony         N/A           Arsenic         N/A           Cadmium         2.86E-06           Cobalt         1.71E-06	N/A N/A	5.3E-11 6.5E-11	5.25E-11		9E-10		1.07E-10		2E-09		
Endosulfan II         N/A           Endrin aldehyde         N/A           Endrin ketone         N/A           Heptachlor epoxide         N/A           Aluminum         1.43E-03           Antimony         N/A           Arsenic         N/A           Cadmium         2.86E-00           Cobalt         1.71E-00	N/A	6.5E-11									
Endrin aldehyde         N/A           Endrin ketone         N/A           Heptachlor epoxide         N/A           Aluminum         1.43E-03           Antimony         N/A           Arsenic         N/A           Cadmium         2.86E-00           Cobalt         1.71E-00			!				l .				
Endrin ketone         N/A           Heptachlor epoxide         N/A           Aluminum         1.43E-03           Antimony         N/A           Arsenic         N/A           Cadmium         2.86E-00           Cobalt         1.71E-00	N/A	6.8F-11							l		
Heptachlor epoxide			1	I				1			
Aluminum         1.43E-03           Antimony         N/A           Arsenic         N/A           Cadmium         2.86E-06           Cobalt         1.71E-06	9.10E+00	3.4E-11		3.19E-12		3E-11		1.62E-12		1E-11	4E-11
Arsenic N/A Cadmium 2.86E-06 Cobalt 1.71E-06	N/A	2.5E-04	6.73E-05		5E-02		1.37E-04		1E-01		
Arsenic         N/A           Cadmium         2.86E-00           Cobalt         1.71E-00	N/A	1.4E-08									
Cobalt I.71E-06	1.51E+01	8.5E-08	Į.	7.98E-09		1E-07		4.05E-09		6E-08	2E-07
	6.30E+00	3.8E-08	1.05E-08	3.61E-09	4E-03	2E-08	2.13E-08	1.83E-09	7E-03	1E-08	3E-08
Copper N/A	3.15E+01	1.8E-07	5.02E-08	1.72E-08	3E-02	5E-07	1.02E-07	8.74E-09	6E-02	3E-07	8E-07
	N/A	3.6E-07					i				
Iron N/A	N/A	4.2E-04	1				1	İ	İ		
Lead N/A	N/A	3.9E-07							1		
Manganese 1.43E-05	N/A	1.2E-05	3.16E-06		2E-01		6.42E-06		4E-01		
Thallium N/A	N/A	4.4E-08	1								
Vanadium N/A	N/A	4.5E-07									
Total Hazard Quotient and			-		3E-01	7E-07			6E-01	3E-07	1E-06

Assumptions for Resident Adult		Assumptions for Resident Child	
EPC Surface Only	CA =	EPC Surface Only	
70 kg	BW =	15 kg	
20 m3/day	IR =	8.7 m3/day	
350 days/year	EF=	350 days/year	
24 years	ED =	6 years	
8,760 days	AT (Nc) =	2,190 days	
25,550 days	AT (Car) =	25,550 days	
	EPC Surface Only 70 kg 20 m3/day 350 days/year 24 years 8,760 days	EPC Surface Only  70 kg  8W =  20 m3/day  IR =  350 days/year  24 years  8,760 days  AT (Nc) =	

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

# TABLE 11 SEAD-57 CALCULATION OF TOTAL NONCARCINOGENIC AND CARCINOGENIC RISKS REASONABLE MAXIMUM EXPOSURE (RME) SENECA ARMY DEPOT ACTIVITY

			DNABLE MAXIMUM		
RECEPTOR	EXPOSURE ROUTE	HAZARI INDEX	D	CANCER RISK	
		Hazard Index	Percent	Cancer Risk	Percent
PARK WORKER	Inhalation of Dust in Ambient Air	6E-02	6%	1E-07	1%
	Ingestion of Soil	1 E-01	15%	2E-06	13%
	Intake of Groundwater	8E-01	78%	1E-05	83%
	Dermal Contact to Soil	6E-03	1%	4E-07	3%
	Dermal Contact to Groundwater	NA NA		NA NA	
	TOTAL RECEPTOR RISK (Nc & Car)	<u>1E+00</u>	100%	1E-05	100%
CONSTRUCTION WORKER	Inhalation of Dust in Ambient Air	3E-01	13%	3E-08	2%
	Ingestion of Soil	7E-01	33%	4E-07	33%
	Intake of Groundwater	1E+00	53%	7E-07	61%
	Dermal Contact to Soil	1E-02	1%	4E-08	3%
	Dermal Contact to Groundwater	2E-03	0%	1E-09	0%
	TOTAL RECEPTOR RISK (Nc & Car)	2.1E+00	100%	<u>1E-06</u>	100%
RECREATIONAL CHILD VISITOR	Inhalation of Dust in Ambient Air	2E-02	4%	1E-08	1%
	Ingestion of Soil	1E-01	19%	3E-07	17%
	Intake of Groundwater	4E-01	76%	1E-06	80%
	Dermal Contact to Soil	2E-03	0%	3E-08	2%
	Dermal Contact to Groundwater	NA		NA	
	TOTAL RECEPTOR RISK (Nc & Car)	6E-01	100%	2E-06	100%
RESIDENT (ADULT)	Inhalation of Dust in Ambient Air	3E-01	8%	7E-07	1%
	Inhalation of Groundwater	NA		NA	
	Ingestion of Soil	3E-01	7%	4E-06	6%
	Iutake of Groundwater	3E+00	79%	5E-05	70%
	Dermal Contact to Soil	8E-03	0%	5E-07	1%
	Dermal Contact to Groundwater	2E-01	6%	2E-05	23%
	TOTAL RECEPTOR RISK (Nc & Car)	4E+00	100%	7E-05	100%
RESIDENT (CHILD)	Inhalation of Dust in Ambient Air	6E-01	4%	3E-07	1%
	Inhalation of Groundwater	NA NA		NA	
	Ingestion of Soil	3E+00	19%	9E-06	15%
	Intake of Groundwater	1E+01	74%	4E-05	71%
	Dermal Contact to Soil	5E-02	0%	9E-07	1%
	Dermal Contact to Groundwater	4E-01	3%	6E-06	11%
	TOTAL RECEPTOR RISK (No. & Car)	1E+01	100%	6E-05	100%
DECIDENT (TOTAL)	Inhalation of Dust in Ambient Air	12.01	10070	1E-06	1%
RESIDENT (TOTAL)	Inhalation of Groundwater				170
				NA 1E 05	1004
	Ingestion of Soil			1E-05	10%
	Intake Groundwater			9E-05	71%
	Dermal Contact to Soil			1E-06	1%
	Dermal Contact to Groundwater			2E-05	17%
NA - Not Applicable	TOTAL RECEPTOR CANCER RISK			1E-04	100%

NA - Not Applicable

### TABLE 11A SEAD-57 CALCULATION OF TOTAL NONCARCINOGENIC AND CARCINOGENIC RISKS REASONABLE MAXIMUM EXPOSURE (RME) EXCLUDING ESI SAMPLES SENECA ARMY DEPOT ACTIVITY

		HAZARD		M EXPOSURE (RME)  CANCER	
RECEPTOR	EXPOSURE ROUTE	INDEX		RIS	K
		Hazard Index	Percent	Cancer Risk	Percent
PARK WORKER	Inbalation of Dust in Ambient Air	6E-02	15%	1E-07	1%
	Ingestion of Soil	1E-01	38%	2 E-06	13%
	Intake of Groundwater	2E-01	44%	1E-05	83%
	Dermal Contact to Soil	1E-02	3%	4E-07	3%
	Dermal Contact to Groundwater	NA		NA	
	TOTAL RECEPTOR RISK (Nc & Car)	4.E-01	100%	1E-05	100%
CONSTRUCTION WORKER	Inbalation of Dust in Ambient Air	3E-01	22%	3E-08	2%
	Ingestion of Soil	7E-01	56%	4E-07	33%
	Intake of Groundwater	2E-01	20%	7E-07	61%
	Dermal Contact to Soil	2E-02	2%	4E-08	3%
	Dermal Contact to Groundwater	2E-03	0%	1E-09	0%
	TOTAL RECEPTOR RISK (Nc & Car)	1.2E+00	100%	1E-06	100%
RECREATIONAL CHILD VISITOR	Inhalation of Dust in Ambient Air	2E-02	10%	1E-08	1%
	Ingestion of Soil	1E-01	47%	3E-07	17%
	Intake of Groundwater	1E-01	41%	1E-06	80%
	Dermal Contact to Soil	3E-03	1%	3E-08	2%
	Dermal Contact to Groundwater	NA		NA	
	TOTAL RECEPTOR RISK (Ne & Car)	2E-01	100%	2E-06	100%
RESIDENT (ADULT)	Inhalation of Dust in Ambient Air	3E-01	21%	7E-07	1%
	Inhalation of Groundwater	NA		NA	
	Ingestion of Soil	3E-01	20%	4E-06	6%
	Intake of Groundwater	7E-01	47%	5E-05	70%
	Dermal Contact to Soil	1E-02	1%	5E-07	1%
	Dermal Contact to Groundwater	2E-01	11%	2E-05	23%
	TOTAL RECEPTOR RISK (Nc & Car)	1E+00	100%	7E-05	100%
RESIDENT (CHILD)	Inhalation of Dust in Ambient Air	6E-01	10%	1E-08	0%
	Inhalation of Groundwater	NA		NA	
	Ingestion of Soil	3E+00	45%	9E-06	15%
	Intake of Groundwater	2E+00	39%	4E-05	72%
- 1	Dermal Contact to Soil	9E-02	1%	9E-07	2%
	Dermal Contact to Groundwater	3E-01	5%	6E-06	11%
	TOTAL RECEPTOR RISK (Nc & Car)	6E+00	100%	6E-05	100%
RESIDENT (TOTAL)	Inhalation of Dust in Ambient Air			1E-06	1%
	Inhalation of Groundwater			0E+00	0%
	Ingestion of Soil			1E-05	10%
	Intake Groundwater			9E-05	71%
	Dermal Contact to Soil			1E-06	1%
	Dermal Contact to Groundwater			2E-05	17%
	TOTAL RECEPTOR CANCER RISK			1E-04	100%

### TABLE 12 SEAD-57 RESIDENT ADULT LEAD BLOOD CALCULATION SENECA ARMY DEPOT ACTIVITY

### Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee Version date 6/21/09

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004	GSDi and PbBo from Analysis of NHANES III (Phases 1&2)
PbS	Soil lead concentration	ug/g or ppm	103.2	103.2
R <sub>fetal/maternal</sub>	Fetal/maternal PbB ratio		0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4
GSD,	Geometric standard deviation PbB		1.8	2.1
PbB <sub>0</sub>	Baseline PbB	ug/dL	1.0	1.5
IR <sub>s</sub>	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.050	0.050
$IR_{S \cdot D}$	Total ingestion rate of outdoor soil and indoor dust	g/day		~
W <sub>S</sub>	Weighting factor; fraction of IR <sub>S+D</sub> ingested as outdoor soil			
K <sub>SD</sub>	Mass fraction of soil in dust			
AF <sub>S, D</sub>	Absorption fraction (same for soil and dust)		0.12	0.12
EF <sub>S, D</sub>	Exposure frequency (same for soil and dust)	days, yr	219	219
AT <sub>S. D</sub>	Averaging time (same for soil and dust)	days/yr	365	365
PbB <sub>adult</sub>	PbB of adult worker, geometric mean	ug/dL	1.1	1.6
PbB <sub>fetal, 0.95</sub>	95th percentile PbB among fetuses of adult workers	ug/dL	2.7	5.0
$PbB_t$	Target PbB level of concern (e.g., 10 ug dL)	ug/dL	10.0	10.0
$PbB_{fetal} > PbB_t$	Probability that fetal PbB > PbB <sub>t</sub> , assuming lognormal distribution	%	0.0%	0.5%

### **LEAD MODEL FOR WINDOWS Version 1.1**

Model Version: 1.1 Build9

**User Name:** Date: Site Name: **Operable Unit:** Run Mode: Research

\*\*\*\*\* Air \*\*\*\*\*

Indoor Air Pb Concentration: 30.000 percent of outdoor.

Other Air Parameters:

Age	Time Outdoors	Ventilation Rate	Lung Absorption	
	(hours)	(m³/day)	(%)	(µg Pb/m³) 
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

\*\*\*\*\* Diet \*\*\*\*\*

Age	Diet Intake(μg/day)
.5-1	2.260
1-2	1.960
2-3	2.130
3-4	2.040
4-5	1.950
5-6	2.050
6-7	2.220

\*\*\*\*\* Drinking Water \*\*\*\*\*

### Water Consumption:

Age	Water (L/day)
.5-1	0.200
1-2	0.500
2-3	0.520
3-4	0.530
4-5	0.550
5-6	0.580
6-7	0.590

Drinking Water Concentration: 4.000 µg Pb/L

\*\*\*\*\* Soil & Dust \*\*\*\*\*

Multiple Source Analysis Used

Average multiple source concentration: 26.240 µg/g

Mass fraction of outdoor soil to indoor dust conversion factor: 0.700 Outdoor airborne lead to indoor household dust lead concentration: 100.000

Use alternate indoor dust Pb sources? No

Age	Soil (µg Pb/g)	House Dust (µg Pb/g)
.5-1	23.200	26.240
1-2	23.200	26.240
2-3	23.200	26.240
3-4	23.200	26.240
4-5	23.200	26.240
5-6	23.200	26.240
6-7	23.200	26.240

\*\*\*\*\* Alternate Intake \*\*\*\*\*

Age	Alternate (µg Pb/day)
E 4	0.000
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

\*\*\*\*\*\* Maternal Contribution: Infant Model \*\*\*\*\*\*

Maternal Blood Concentration: 1.000 µg Pb/dL

\*\*\*\*\*\*\*\*\*\*

## CALCULATED BLOOD LEAD AND LEAD UPTAKES:

\*\*\*\*\*\*\*\*\*\*\*\*\*

Year	Air (μg/day)	Diet (μg/day)	Alternate (µg/day)	Water (µg/day)
.5-1	0.021	1.103	0.000	0.391
1-2	0.034	0.956	0.000	0.975
2-3	0.062	1.041	0.000	1.017
3-4	0.067	1.001	0.000	1.040
4-5	0.067	0.960	0.000	1.084
5-6	0.093	1.011	0.000	1.144
6-7	0.093	1.096	0.000	1.165

Year	Soil+Dust (µg/day)	Total (µg/day)	Blood (μg/dL)
.5-1	0.619	2.134	1.2
1-2	0.982	2.947	1.2
2-3	0.985	3.105	1.2
3-4	0.988	3.096	1.1
4-5	0.735	2.846	1.0
5-6	0.662	2.911	0.9
6-7	0.626	2.980	8.0

## Attachment C SEAD-002-R-01 – EOD-2

SITE LOCATION LOCATION ID MATRIX SAMPLE ID								EOD2 EOD2-A1 SOIL 002R011001	EOD2 EOD2-A2 SOIL 002R011002	EOD2 EOD2-A3 SOIL 002R011003	EOD2 EOD2-A4 SOIL 002R011004	EOD2 EOD2-B1 SOIL 002R011008	EOD2 EOD2-B2 SOIL 002R011007
TOP OF SAMPLE								002R011001	002K011002	002R011003	002R011004	0028011008	002K011007
BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								12/11/2006	12/11/2006	12/11/2006	12/11/2006	12/11/2006	12.11,2006
QC CODE								SA	SA	SA	SA	SA	SA
STUDY ID			Frequency	NYSDEC	Number	Number	Number	RA	RA	RA	RA	RA	RA
		Maximum	of	Unresticted	of	of Times	of Samples						
Parameter	Units	Concentration	Detection	Use Value (1)	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds 1,1,1-Trichloroethane	UG/KG	0	0%	680	0	0	12	7 U	7.8 U	8 U	7.1 U	7.7 U	7.5 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	080	0	0	12	7 U	7.8 U	8 U	7.1 U	7.7 U	7.5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		0	0	12	7 U	7.8 U	8 U	7.1 U	7.7 U	7.5 U
1,1,2-Trichloroethane	L/G/KG	0	0%		0	0	12	7 U	7.8 U	8 U	7.1 U	7.7 U	7.5 U
1,1-Dichloroethane	UG/KG	0	0%	270	0	0	12	7 U	7.8 U	8 U	7.1 U	7.7 U	7.5 U
1,1-Dichloroethene	UG/KG	0	Ono	330	0	0	12	7 U	7.8 U	8 U	7.1 U	7.7 U	7.5 U
1,2,4-Trichlorobenzene	UG/KG	0	00.0		0	0	12	7 U	7.8 U	8 U	7.1 U	7.7 U	7.5 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		0	0	12	7 UJ	7.8 UJ	8 UJ	7.1 UJ	7.7 UJ	7.5 UJ
1,2-Dibromoethane	UG/KG	0	0%		0	0	12	7 U	7.8 U	8 U	7.1 U	7.7 U	7.5 U
1,2-Dichlorobenzene	UG/KG	0	0%	1100	0	0	12	7 U	7.8 U	8 U	7.1 U	7.7 U	7.5 U
1,2-Dichloroethane	UG/KG	0	0%	20	0	0	12	7 U	7.8 U	8 U	7.1 U	7.7 U	7.5 U
1,2-Dichloropropane	UG/KG UG/KG	0	0% 0%	2400	0	0	12 12	7 U 7 U	7.8 U 7.8 U	8 U	7.1 U 7.1 U	7.7 U 7.7 U	7.5 U 7.5 U
1,3-Dichlorobenzene 1,4-Dichlorobenzene	UG/KG	0	0%	1800	0	0	12	7 U	7.8 U	8 U	7.1 U	7.7 U	7.5 U
Acetone	UG/KG	100	83%	50	8	10	12	68	31.2 U	32 U	56	61	98
Benzene	UG/KG	0	0%	60	0	0	12	7 U	7.8 U	8 U	7.1 U	7.7 U	7.5 U
Bromodichloromethane	UG/KG	0	0%	00	0	0	12	7 U	7.8 U	8 U	7.1 U	7.7 U	7.5 U
Bromoform	UG KG	0	0%		0	0	12	7 U	7.8 U	8 U	7.1 U	7.7 U	7.5 U
Carbon disulfide	UG/KG	2.4	8%		0	1	12	14 U	16 U	16 U	14 U	15 U	15 U
Carbon tetrachloride	UG/KG	0	0%	760	0	0	12	7 U	7.8 U	8 U	7.1 U	7.7 U	7.5 U
Chlorobenzene	UG/KG	0	0%	1100	0	0	12	7 U	7.8 U	8 U	7.1 U	7.7 U	7.5 U
Chlorodibromomethane	UG/KG	0	0%		0	0	12	7 U	7.8 U	8 U	7.1 U	7.7 U	7.5 U
Chloroethane	UG/KG	0	0%		0	0	12	14 U	16 U	16 U	14 U	15 U	15 U
Chloroform	UG/KG	0	0%	370	0	0	12	7 U	7.8 U	8 U	7.1 U	7.7 U	7.5 U
Cis-1,2-Dichloroethene	UG/KG	0	0%	250	0	0	12	7 U	7.8 U	8 U	7.1 U	7.7 U	7.5 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		0	0	12	7 U	7.8 U	8 U	7.1 U	7.7 U	7.5 U 7.5 UJ
Cyclohexane	UG/KG	0.88	8% 0%		0	0	12 12	7 UJ 7 U	7.8 UJ 7.8 U	8 UJ	7.1 UJ 7.1 U	7.7 UJ 7.7 U	7.5 U
Dichlorodifluoromethane Ethyl benzene	UG/KG UG/KG	0	0%	1000	0	0	12	7 U	7.8 U	8 U	7.1 U	7.7 U	7.5 U
Isopropylbenzene	UG/KG	0	0%	1000	0	0	12	7 U	7.8 U	8 U	7.1 U	7.7 U	7.5 U
Meta/Para Xylene	UG, KG	0	0%		0	0	12	7 U	7.8 U	8 U	7.1 U	7.7 U	7.5 U
Methyl Acetate	UG/KG	2.8	8%		0	1	12	14 UJ	16 UJ	16 UJ	14 UJ	15 UJ	15 UJ
Methyl Tertbutyl Ether	UG, KG	0	0%	930	0	0	12	7 U	7.8 U	8 U	7.1 U	7.7 U	7.5 U
Methyl bromide	UG/KG	0	0%		0	0	12	7 U	7.8 U	8 U	7.1 U	7.7 U	7.5 U
Methyl butyl ketone	UG/KG	0	0%		0	0	12	14 UJ	16 UJ	16 UJ	14 UJ	15 UJ	15 UJ
Methyl chloride	UG/KG	0	0%		0	0	12	7 U	7.8 U	8 U	7.1 U	7.7 U	7.5 U
Methyl cyclohexane	UG, KG	1.1	8%		0	1	12	7 UJ	7.8 UJ	8 UJ	7.1 UJ	7.7 UJ	7.5 UJ
Methyl ethyl ketone	UG/KG	15	92%	120	0	11	12	3 J	2.8 Ј	16 UJ	6.2 J	3.9 J	7.6 J
Methyl isobutyl ketone	UG/KG	0	0%	70	0	0	12	14 UJ	16 UJ	16 UJ 2.3 J	14 UJ 1.8 J	15 UJ 1.7 J	15 UJ 2 J
Methylene chloride	UG/KG	2.3	100%	50	0	12	12 12	1.4 J 7 U	2 J 7.8 U	2.3 J 8 U	7.1 U	7.7 U	7.5 U
Ortho Xylene	UG/KG UG/KG	-	0%		0	0	12	7 U	7.8 U	8 U	7.1 U	7.7 U	7.5 U
Styrene Tetrachloroethene	UG, KG	0	0%	1300	0	0	12	7 U	7.8 U	8 U	7.1 U	7.7 U	7.5 U
Toluene	UG, KG	1.4	25%	700	0	3	12	1.4 J	7.8 U	8 U	7.1 U	7.7 U	0 68 J
Trans-1,2-Dichloroethene	UG/KG	0	0%	190	0	0	12	7 U	7.8 U	8 U	7.1 U	7.7 U	7.5 U
Trans-1,3-Dichloropropene	UG:KG	0	0%	• • •	0	0	12	7 U	7.8 U	8 U	7.1 U	7.7 U	7.5 U
Trichloroethene	UG/KG	0	0%	470	0	0	12	7 U	7.8 U	8 U	7.1 U	7.7 U	7.5 U
Trichlorofluoromethane	UG/KG	0	0%		0	0	12	7 U	7.8 U	8 U	7.1 U	7.7 U	7.5 U
Vinyl chloride	UG-KG	0	0%	20	0	0	12	7 U	7.8 U	8 U	7.1 U	7.7 U	7.5 U
Semivolatile Organic Compounds													
1,1'-Biphenyl	UG, KG	0	0%		0	0	12	470 U	460 U	470 U	450 U	480 U	460 U
2,4,5-Trichlorophenol	UG, KG	0	0%		0	0	12	470 U	460 U	470 U	450 U	480 U	460 U
2,4,6-Trichlorophenol	UG KG	0	0%		0	0	12 12	470 U 470 U	460 U	470 U 470 U	450 U 450 U	480 U	460 U 460 U
2,4-Dichlorophenol	UG, KG	0	0%		U	U	12	4/0 (	460 U	4/0 0	430 U	400 U	400 (

SITE LOCATION								EOD2	EOD2	EOD2	EOD2	EOD2	EOD2
LOCATION ID								EOD2-A1	EOD2-A2	EOD2-A3	EOD2-A4	EOD2-B1	EOD2-B2
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								002R011001	002R011002	002R011003	002R011004	002R011008	002R011007
TOP OF SAMPLE								0	0	0	0	0	0
BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								12/11/2006	12/11/2006	12/11/2006	12/11/2006	12/11/2006	12/11/2006
QC CODE								SA	SA	SA	SA	SA	SA
STUDY ID			Frequency	NYSDEC	Number	Number	Number	RA.	RA	RA.	RA	RA	RA
		Maximum	of	Unresticted	of	of Times	of Samples						
Parameter	Units	Concentration	Detection	Use Value (1)	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
2,4-Dimethylphenol	UG/KG	0	0%		0	0	12	470 U	460 U	470 U	450 U	480 U	460 U
2,4-Dinitrophenol	UG/KG	0	0%		0	0	12	2400 U	2400 U	2400 U	2300 U	2500 U	2400 U
2,4-Dinitrotoluene	UG/KG	0	0%		0	0	12	470 U	460 U	470 U	450 U	480 U	460 U
2,6-Dinitrotoluene	UG/KG	0	0%		0	0	12	470 U	460 U	470 U	450 U	480 U	460 U
2-Chloronaphthalene	UG/KG	•	0%		•	•	12	470 U	460 U	470 U	450 U	480 U	460 U
2-Chlorophenol 2-Methylnaphthalene	UG/KG UG/KG	0	0%		0	0	12	470 U 470 U	460 U 460 U	470 U 470 U	450 U 450 U	480 U 480 U	460 U
2-Methylphenol	UG/KG	0	0%	330	0	0	12 12	470 U	460 U	470 U	450 U	480 U	460 U 460 U
2-Nitroaniline	UG/KG	0	0%	330	0	0	12	2400 U	2400 U	2400 U	2300 U	2500 U	2400 U
2-Nitrophenol	UG/KG	0	0%		0	0	12	470 U	460 U	470 U	450 U	480 U	460 U
3,3'-Dichlorobenzidine	UG/KG	0	0%		0	0	12	470 U	460 U	470 U	450 U	480 U	460 U
3-Nitroaniline	UG/KG	0	0%		0	0	12	2400 U	2400 U	2400 U	2300 U	2500 U	2400 U
4,6-Dinitro-2-methylphenol	UG/KG	0	0%		0	0	12	2400 U	2400 U	2400 U	2300 U	2500 U	2400 U
4-Bromophenyl phenyl ether	UG/KG	0	0%		0	0	12	470 U	460 U	470 U	450 U	480 U	460 U
4-Chloro-3-methylphenol	UG/KG	0	0%		0	0	12	470 U	460 U	470 U	450 U	480 U	460 U
4-Chloroaniline	UG/KG	0	0%		0	0	12	470 U	460 U	470 U	450 U	480 U	460 U
4-Chlorophenyl phenyl ether	UG/KG	0	0%		0	0	12	470 U	460 U	470 U	450 U	480 U	460 U
4-Methylphenol	UG/KG	0	0%	330	0	0	12	470 U	460 U	470 U	450 U	480 U	460 U
4-Nitroaniline	UG/KG	0	0%		0	0	12	2400 U	2400 U	2400 U	2300 U	2500 U	2400 U
4-Nitrophenol	UG/KG	0	0%		0	0	12	2400 U	2400 U	2400 U	2300 U	2500 U	2400 U
Acenaphthene	UG/KG	98	17%	20000	0	2	12	470 U	460 U	470 U	450 U	60 J	98 J
Acenaphthylene	UG/KG	0	0%	100000	0	0	12	470 U	460 U	470 U	450 U	480 U	460 U
Acetophenone	UG/KG	0	0%		0	0	12	470 U	460 U	470 U	450 U	480 U	460 U
Anthracene	UG/KG	240	17%	100000	0	2	12	470 U	460 U	470 U	450 U	87 J	240 J
Atrazine	UG/KG	0	0%		0	0	12	470 U	460 U	470 U	450 U	480 U	460 U
Benzaldehyde	UG/KG	0	0%	1000	0	0 2	12	470 U	460 U	470 U	450 U	480 U	460 U
Benzo(a)anthracene Benzo(a)pyrene	UG/KG UG/KG	410 310	17% 17%	1000 1000	0	2	12 12	470 U 470 U	460 U 460 U	470 U 470 U	450 U 450 U	150 J 110 J	410 J 310 J
Benzo(b)fluoranthene	UG/KG	230	17%	1000	0	2	12	470 U	460 U	470 U	450 U	100 J	230 J
Benzo(ghi)perylene	UG/KG	150	17%	100000	0	2	12	470 U	460 U	470 U	450 U	57 J	150 J
Benzo(k)fluoranthene	UG/KG	300	17%	800	0	2	12	470 U	460 U	470 U	450 U	120 J	300 J
Bis(2-Chloroethoxy)methane	UG/KG	0	0%	000	0	0	12	470 U	460 U	470 U	450 U	480 U	460 U
Bis(2-Chloroethyl)ether	UG/KG	0	0%		0	0	12	470 U	460 U	470 U	450 U	480 U	460 U
Bis(2-Chloroisopropyl)ether	UG/KG	0	0%		0	0	12	470 U	460 U	470 U	450 U	480 U	460 U
Bis(2-Ethylhexyl)phthalate	UG/KG	0	0%		0	0	12	470 U	460 U	470 U	450 U	480 U	460 U
Butylbenzylphthalate	UG/KG	0	0%		0	0	12	470 U	460 U	470 U	450 U	480 U	460 U
Caprolactam	UG/KG	0	0%		0	0	12	470 U	460 U	470 U	450 U	480 U	460 U
Carbazole	UG/KG	120	17%		0	2	12	470 U	460 U	470 U	450 U	48 J	120 J
Chrysene	UG/KG	350	17%	1000	0	2	12	470 U	460 U	470 U	450 U	140 J	350 J
Di-n-butylphthalate	UG/KG	0	0%		0	0	12	470 U	460 U	470 U	450 U	480 U	460 U
Di-n-octylphthalate	UG/KG	0	0%		0	0	12	470 U	460 U	470 U	450 U	480 U	460 U
Dibenz(a,h)anthracene	UG/KG	59	8%	330	0	1	12	470 U	460 U	470 U	450 U	480 U	59 J
Dibenzofuran	UG/KG	51	8%	7000	0	1	12	470 U	460 U	470 U	450 U	480 U	51 J
Diethyl phthalate	UG/KG	0	0%		0	0	12	470 U	460 U	470 U	450 U	480 U	460 U
Dimethylphthalate Fluoranthene	UG/KG UG/KG	0 750	0% 1 <b>7</b> %	100000	0	0	12 12	470 U 470 U	460 U 460 U	470 U 470 U	450 U 450 U	480 U	460 U 750
Fluorene	UG/KG	100	17%	30000	0	2	12	470 U	460 U			310 J	
Hexachlorobenzene	UG/KG	0	0%	330	0	0	12	470 U	460 U	470 U 470 U	450 U 450 U	50 J 480 U	100 J 460 U
Hexachlorobutadiene	UG/KG	0	0%	330	0	0	12	470 U	460 U	470 U	450 U	480 U	460 U
Hexachlorocyclopentadiene	UG/KG	0	0%		0	0	12	470 U	460 U	470 U	450 U	480 U	460 U
Hexachloroethane	UG/KG	0	0%		0	0	12	470 U	460 U	470 U	450 U	480 U	460 U
Indeno(1,2,3-cd)pyrene	UG/KG	150	17%	500	0	2	12	470 U	460 U	470 U	450 U	57 J	150 J
Isophorone	UG/KG	0	0%		0	ō	12	470 U	460 U	470 U	450 U	480 U	460 U
N-Nitrosodiphenylamine	UG/KG	0	0%		0	0	12	470 U	460 U	470 U	450 U	480 U	460 U
N-Nitrosodipropylamine	UG/KG	0	0%		0	0	12	470 U	460 U	470 U	450 U	480 U	460 U

EOD2

EOD2

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EOD2

EOD2

LOCATION ID EOD2-A1 EOD2-A2 EOD2-A3 EOD2-A4 EOD2-B1 EOD2-B2 MATRIX SOIL SOIL SOIL SOIL SOIL SOIL 002R011001 002R011002 002R011003 002R011004 002R011008 002R011007 SAMPLE ID TOP OF SAMPLE 0 BOTTOM OF SAMPLE 0.2 0.2 0.2 0.2 0.2 0.2 12,11/2006 12,11,2006 SAMPLE DATE 12/11/2006 12/11/2006 12,11,2006 12/11/2006 QC CODE SA SA SA SA SA SA NYSDEC STUDY ID Frequency Number Number Number RA RA RA RA RA RA Maximum Unresticted of Times of Samples Detection Value (Q) Value (O) Value (O) Value (O) Value (O) Value (Q) Parameter Units Concentration Use Value (1) Exceedances Detected Analyzed Naphthalene UG/KG 45 17% 12000 0 2 12 470 U 460 U 470 U 450 U 45.1 37 [ UG/KG 0 0% 12 470 U 460 U 470 U 450 U 480 U 460 U Nitrobenzene UG/KG 0% 800 2400 LI 2400 U 2400 U 2300 U 2500 U 2400 U Pentachlorophenol 0 0 0 Phenanthrene UG/KG 720 17% 100000 12 470 U 460 U 470 U 450 U 340 J 720 Phenol UG/KG 0% 330 0 0 12 470 U 460 U 470 U 450 U 480 U 460 U UG/KG 520 17% 100000 470 II 460 11 470 U 450 U 220.1 520 Рутепе () 2 12 Explosives 1,3,5-Trinitrobenzene UG/KG 0 00/0 0 0 12 2000 U 2000 U 2000 U 2000 U 2000 U 2000 U UG/KG 0% 2000 U 2000 U 2000 U 2000 11 2000 11 1.3-Dinitrobenzene 0 () Π 2000 U 2,4,6-Trinitrotoluene UG/KG 0,0 12 2000 U 2000 U 2000 U 2000 U 2000 U 2000 U UG/KG 0 0% 0 0 12 2000 U 2000 U 2000 U 2000 11 2000 U 2000 11 2.4-Dinstrotoluene 2.6-Dinstrotoluene UG/KG 0% 0 0 12 1000 U 1000 U 1000 II 1000 U 1000 U 1000 U 12 2000 U 2000 U 2000 U 2000 U 2000 U 2-Nitrotoluene UG/KG 0% 2000 U 2000 U 2-amino-4.6-Dinitrotoluene UG/KG 0% 0 0 12 2000 U 2000 U 2000 LF 2000 U 2000 U 3-Nitrotoluene UG/KG 0% 0 12 2000 U 2000 U 2000 U 2000 U 2000 11 11 0000 2000 U 2000 U 4-Nitrotoluene UG, KG 0% 0 12 2000 U 11 000g 2000 U 2000 U 0% 12 2000 U 2000 U 2000 U 2000 U 2000 U 4-amino-2,6-Dinitrotoluene UG/KG 0 0 2000 11 HMX UG/KG 0% 0 12 2000 U 2000 U 2000 U 2000 U 2000 U 2000 U 0 UG/KG 0% 12 500 U 500 U 500 U 500 U 500 U 500 U Nitrobenzene Nitroglycerine UG/KG 0 0% 0 12 2000 U 2000 U 2000 U 2000 U 2000 II 2000.11 Pentaerythritol Tetranitrate UG/KG 0 0% 0 0 2000 U 2000 U 2000 U 2000 U 2000 U 2000 U 2000 U 2000 U 2000 U 2000 U RDX UG/KG 0 0% 0 12 2000 U 2000 11 UG/KG 0% 0 0 12 2000 U 2000 U 2000 U 2000 U 2000 U 2000 U Tetryl PCBs 12 47 UJ 47 U 45 U 48 U 46 LI Aroclor-1016 UG/KG 0% 46 H Ω 0 0 Aroclor-1221 UG, KG 0% 0 12 95 UJ 94 II 96 U 92 U 98 11 94 LI Aroclor-1232 UG/KG 0 0% 0 12 47 UJ 46 U 47 U 45 U 48 U 46 LI 47 111 47 II 45 U 48 II Aroclor-1242 UG/KG () 0% Λ 12 46 II 46 H 0% 12 47 UJ 46 U 47 U 45 U 18 11 46 11 Aroclor-1248 UG/KG 48 U 46 U Aroclor-1254 UG/KG 0% 0 0 12 47 UJ 46 U 47 U 45 U 0 47 UJ 47 U 45 U 48 U 46 U Aroclor-1260 UG:KG 0 0% 0 Ω 12 46 U Pesticides UG/KG 0 0% 3.3 0 0 12 4.7 U 4.6 U 4.7 U 4.5 U 4.8 U 4.6 U 4.4'-DDD 47 II 48 U 4.6 U 4,4'-DDE UG/KG 0 0% 3.3 () 12 4.7 U 4.6 U 45 U 4.7 U 4.7 U 4.5 U 4.8 U 4.6 U 4.4'-DDT UG:KG 0% 3.3 12 4.6 U 0 2.4 U 2.3 U 2.5 U 24 U 0%6 12 2.4 U 2.4 U Aldrın UG:KG 0 0 0 Alpha-BHC UG/KG 0% 20 0 n 12 2.4 1/ 2.4 U 2.4 U 2.3 U 2.5 [] 24 11 UG/KG 0% 94 12 2.4 U 2.4 U 2.4 U 2.3 U 2.5 U 2.4 U Alpha-Chlordane 2.5 U 2.4 U Beta-BHC UG/KG 0% 36 Λ 0 12 2 4 11 2.4 II 2.4 11 2.3 1/ Delta-BIIC UG/KG 0% 40 0 0 12 2.4 U 2.4 U 2.4 U 2.3 U 2.5 U 24 U 12 4.7 U 4.6 U 4.7 U 4.5 U 48 H 4.6 U 0% Dieldrin LIG/KG 0 25 11 2.4.11 2.4 11 2.3 [1 Endosulfan 1 UG-KG 0% 2400 () 0 12 2.4 U 2.4 11 UG/KG 0% 2400 0 12 4.7 U 4.6 U 4.7 U 4.5 U 4.8 U 4.6 U Endosulfan II 0 12 4.7 U 46 U 4.7 U 4.5 U 4.8 U 46 U UG/KG 0% 2400 Endosulfan sulfate 0 0 Endrin UG/KG 0% 14 0 n 12 47 U 46 U 4.7 U 4.5 U 4.8 U 46 U 12 4.7 U 4.6 U 4.7 U 4.5 U 4.8 U 46 U Endrin aldebyde UG-KG 0% 12 4.7 U 4.6 U 4.7 U 4.5 U 4.8 U 46 U Endrin ketone UG,KG 0 0% 0% 100 12 2.4 U 2.4 U 2.4 U 2 3 11 2.5 U 2.4 U Gamma-BHC-Lindane UG/KG 2.4 U 2.5 U 24 U UG.KG 006 0 0 12 2.4 U 2.4 U 2.3 U 0 Gamma-Chlordane 42 2.4 U 2.4 U 2.4 U 2.3 U 2.5 U 2.4 U Heptachlor UG:KG 0 0% 0 Ω 12 Heptachlor epoxide UG/KG 0% 0 12 2.4 U 2.4 U 2.4 U 2.3 U 2.5 U 2.4 U 25 U 24 U 0 12 24 U 24 U 24 U 23 U Methoxychlor UG-KG () 0% 0 47 U 47 U 48 11 UG/KG 0% 0 0 12 46 U 45 U 46 U Toxaphene

SITE LOCATION

SITE LOCATION								EOD2	EOD2	EOD2	EOD2	EOD2	EOD2
LOCATION ID								EOD2-A1	EOD2-A2	EOD2-A3	EOD2-A4	EOD2-B1	EOD2-B2
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								002R011001	002R011002	002R011003	002R011004	002R011008	002R011007
TOP OF SAMPLE								0	0	0	0	0	0
BOTTOM OF SAMPLE								0.2	0,2	0.2	0.2	0.2	0.2
SAMPLE DATE								12/11/2006	12/11/2006	12/11/2006	12/11/2006	12/11/2006	12/11/2006
QC CODE								SA	SA	SA	SA	SA	SA
STUDY ID			Frequency	NYSDEC	Number	Number	Number	RA	RA	RA	RA	RA	RA
		Maximum	of	Unresticted	of	of Times	of Samples						
Parameter	Units	Concentration	Detection	Use Value (1)	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Metals													
Aluminum	MG/KG	18100	100%		0	12	12	16700	17100	14500	13100	16700	17400
Antimony	MG/KG	0	0%		0	0	12	0.49 UJ	0.49 UJ	0.49 UJ	0.48 UJ	0.49 UJ	0.49 UJ
Arsenic	MG/KG	4.5	100%	13	0	12	12	3.7	4.5	2.7	2.8	3.7	3.9
Barium	MG/KG	144	100%	350	0	12	12	100	144	89.7	84.1	111	95.2
Beryllium	MG/KG	0.91	92%	7.2	0	11	12	0.85	0.85	0.63 J	0.61 J	0.02 U	0.87
Cadmium	MG/KG	0.61	67%	2.5	0	8	12	0.05 U	0.61 J	0.05 U	0.13 J	0.1 J	0.06 J
Calcium	MG/KG	19200	100%		0	12	12	3260	2830	2630	2930	5250	2440
Chromium	MG/KG	26.8	100%		0	12	12	25.7	23.7	19.2	18.2	24.3	25.8
Cobalt	MG/KG	19.4	100%		0	12	12	10.1	19.4	6.4 J	7.3	9.6	10.3
Copper	MG/KG	37.3	100%	50	0	12	12	20.7	17.9	12.3	12.1	20.8	20.2
Iron	MG/KG	28200	100%		0	12	12	26500	26100	19200	18500	24200	26900
Lead	MG/KG	27.9	100%	63	0	12	12	21.6	24	17.2	15.4	22.3	22.4
Magnesium	MG/KG	6620	100%		0	12	12	4690	3590	3060	3060	4750	4480
Manganese	MG/KG	2770	100%	1600	1	12	12	442	2770	278	605	497	495
Mercury	MG/KG	0.06	100%	0.18	0	12	12	0.05	0.05	0.05	0.05	0.06	0.05
Nickel	MG/KG	49.9	100%	30	3	12	12	32.2	26	16.5	16	29.4	30.4
Potassium	MG/KG	2040	100%		0	12	12	1620 J	1320 J	1430 J	1470 J	2040 J	1860 J
Selenium	MG/KG	2.6	100%	3.9	0	12	12	1.8	2.6	1.6	1.7	1.9	2.1
Silver	MG/KG	0	0%	2	0	0	12	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Sodium	MG/KG	0	0%		0	0	12	140 U	139 U	138 U	138 U	139 U	138 U
Thallium	MG/KG	0	0%		0	0	12	0.41 U	4.1 U	0.4 U	1.2 U	1.2 U	0.4 U
Vanadium	MG/KG	33.8	100%		0	12	12	29.2	33.8	27.8	25.4	30	31.5
Zinc	MG/KG	79.2	100%	109	0	12	12	78.1	68.2	60.5	57.5	79.2	75.2
Other Analyses													
Nitrate Nitrogen	MG/KG	9.21	33%		0	4	12	7.07 U	7.99	7.17 U	7.16	7.29 U	7.03
Percent Solids	%	90.3	100%		0	12	12	70.7	71.3	69.7	72.6	68.6	71.1

<sup>(1)</sup> Criteria based on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives, http://www.dec.state.ny.us/website/regs/subpart375\_6.html

<sup>(2)</sup> A bolded and outlined cell indicates a concentration that exceeded the criteria.

U = compound was not detected

J = the reported value is an estimated concentration

UI = the compound was not detected; the associated reporting limit is approximate R = the analytical result was rejected during data validation.

SHE LOCATION EOD2 EOD2 EOD2 EOD2 LOCATION ID EOD2-B3 EOD2-B4 EOD2-C1 EOD2-C2 MATRIX SOIL SOIL SOIL SOIL SAMPLE ID 002R011006 002R011005 002R011011 002R011010 TOP OF SAMPLE 0 BOTTOM OF SAMPLE 0.2 0.2 0.2 SAMPLE DATE 12/11/2006 12/11/2006 12/11/2006 12/11/2006

QC CODE								SA	SA	12/11/2000	12/11/2006	12/11/2000	12/11/2006
STUDY ID			Frequency	NYSDEC	Number	Number	Name			SA	SA	SA	SA
5105115		Maximum	of		Number	Number	Number	RA	RA	RA	RA	RA	RA
Parameter	Units			Unresticted	of	of Times	of Samples						
	Units	Concentration	Detection	Use Value (1)	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/KG	0	0%	680	0	0	12	6.9 U	6.7 U	6.3 U	8 U	7.8 U	5.5 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%		0	0	12	6.9 U	6.7 U	6.3 U	8 U	7.8 U	5.5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		0	0	12	6.9 U	6.7 U	6.3 U	8 U	7.8 U	5.5 U
1,1,2-Trichloroethane	UG/KG	0	O%		0	0	12	6.9 U	6.7 U	6.3 U	8 U	7.8 U	5.5 U
1,1-Dichloroethane	UG/KG	0	0%	270	0	0	12	6.9 U	6.7 U	6.3 U	8 U	7,8 U	5.5 U
1,1-Dichloroethene	UG/KG	0	0%	330	0	0	12	6.9 U	6.7 U	6.3 U	8 U	7.8 U	5.5 U
1,2,4-Trichlorobenzene	UG/KG	0	0%		0	0	12	6.9 U	6.7 U	6.3 U	8 U	7.8 U	5.5 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		0	0	12	6.9 UJ	6.7 UJ	6.3 UJ	8 UJ	7.8 UJ	5.5 U
1,2-Dibromoethane	UG, KG	0	0%		0	0	12	6.9 U	6.7 U	6.3 U	8 U	7.8 U	5.5 U
1,2-Dichlorobenzene	UG/KG	0	0%	1100	0	0	12	6.9 U	6.7 U				
1,2-Dichloroethane	UG/KG	0	0%	20	0	0	12			6.3 U	8 U	7.8 Lf	5.5 U
1,2-Dichloropropane	UG/KG	0	0%	20	0	0		6.9 U	6.7 U	6.3 U	8 U	7.8 U	5 5 U
1,3-Dichlorobenzene	UG/KG	0		2400		-	12	6.9 U	6.7 U	6.3 U	8 U	7.8 U	5.5 U
			0%	2400	0	0	12	6.9 U	6.7 U	6.3 U	8 U	7.8 U	5.5 U
1,4-Dichlorobenzene	UG/KG	0	0%	1800	0	0	12	6.9 U	6.7 U	6,3 U	8_U	7.8 U	3.5 U
Acetone	UG/KG	100	83%	50	8	10	12	47	62	63	75	50	100
Benzene	UG/KG	0	0%	60	0	0	12	6.9 U	6.7 U	6.3 U	8 U	7.8 U	5.5 U
Bromodichloromethane	UG/KG	0	0%		0	0	12	6.9 U	6.7 U	6.3 U	8 U	7.8 U	5.5 U
Bromoform	UG, KG	0	0%		0	0	12	6.9 U	6.7 U	6.3 U	8 U	7.8 U	5.5 U
Carbon disulfide	UG/KG	2.4	8%		0	1	12	14 U	13 U	13 U	16 U	16 U	2.4 J
Carbon tetrachloride	UG/KG	0	0%	760	0	0	12	6.9 U	6.7 U	6.3 U	8 U	7.8 U	5.5 U
Chlorobenzene	UG KG	0	0%	1100	0	0	12	6.9 U	6.7 U	6.3 U	8 U	7.8 U	5.5 U
Chlorodibromomethane	UG/KG	0	0%		0	0	12	6.9 U	6.7 U	6.3 U	8 U	7.8 U	5.5 U
Chloroethane	UG/KG	0	0%		0	0	12	14 U	13 U	13 U	16 U	16 U	
C'hloroform	UG/KG	0	0%	370	0	0	12	6.9 U	6.7 U	6.3 U	8 U	7.8 U	11 U
Cis-1,2-Dichloroethene	UG/KG	0	0%	250	0	0	12						5.5 U
Cis-1,3-Dichloropropene	UG/KG	0		230	0			6.9 U	6.7 U	6.3 U	8 U	7.8 U	5.5 U
		-	0%			0	12	6.9 U	6.7 U	6.3 U	8 U	7.8 U	5.5 U
Cyclohexane	UG/KG	0.88	8%		0	1	12	6.9 UJ	0.88 J	6.3 UJ	8 UJ	7.8 UJ	5.5 U
Dichlorodifluoromethane	UG/KG	0	0%		0	0	12	6.9 U	6.7 U	6.3 U	8 U	7.8 U	5.5 U
Ethyl benzene	UG/KG	0	0%	1000	0	0	12	6.9 U	6.7 U	6.3 U	8 U	7.8 U	5.5 U
lsopropylbenzene	UG/KG	0	0%		0	0	12	6.9 U	6.7 U	6.3 U	8 U	7.8 U	5.5 U
Meta/Para Xylene	UG/KG	0	0%a		C	0	12	6.9 U	6.7 U	6.3 U	8 U	7.8 U	2.5 U
Methyl Acetate	UG/KG	2.8	8%		0	1	12	2.8 J	13 UJ	13 UJ	16 UJ	16 UJ	11. U
Methyl Tertbutyl Ether	UG/KG	0	0%	930	0	0	12	6.9 U	6.7 U	6.3 U	8 U	7.8 U	5.5 U
Methyl bromide	UG/KG	0	0%		0	0	12	6.9 U	6.7 U	6.3 U	8 U	7.8 U	5.5 U
Methyl butyl ketone	UG/KG	0	0%		0	0	12	14 UJ	13 UJ	13 UJ	16 UJ	16 UJ	11 U
Methyl chloride	UG/KG	0	0%		0	0	12	6.9 U	6.7 U	6.3 U	8 U	7.8 U	5.5 U
Methyl cyclohexane	UG/KG	1.1	8%		0	1	12	6.9 UJ	1.1 J	6.3 UJ	8 UJ	7.8 UJ	5.5 U
Methyl ethyl ketone	UG/KG	15	92%	120	0	ú	12						
Methyl isobutyl ketone	UG/KG	0	0%	120	0	0		3.1 J	15	4.4 J	6.3 J	4.6 J	3.8 J
				10			12	14 UJ	13 UJ	13 UJ	16 UJ	16 UJ	11 U
Methylene chloride	UG/KG	2.3	100%	50	0	12	12	2.3 J	1.4 J	1.6 J	1.4 J	1.9 J	0.51 J
Ortho Xylene	UG/KG	0	0%		0	0	12	6.9 U	6.7 U	6.3 U	8 U	7.8 U	5 5 U
Styrene	UG/KG	0	0%		0	0	12	6.9 U	6.7 U	6.3 U	8 U	7.8 U	5.5 U
l'etrachloroethene	UG/KG	0	0%	1300	0	0	12	6.9 U	6.7 U	6.3 U	8 U	7.8 U	5.5 U
Toluene	UG/KG	1.4	25%	700	0	3	12	6.9 U	0.44 J	6.3 U	8 U	7 8 U	5 5 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	190	0	0	12	6.9 U	6.7 U	6.3 U	8 U	7.8 U	5.5 U
Trans-1,3-Dichloropropene	UG/KG	0	00%		0	0	12	6.9 U	6.7 U	6.3 U	8 U	7.8 LI	55 U
Trichloroethene	UG/KG	0	0%	470	0	0	12	6.9 U	6.7 U	6.3 U	8 U	7.8 U	5.5 U
Trichlorofluoromethane	UG/KG	0	0%		0	0	12	6.9 U	6.7 U	6.3 U	8 U	7.8 U	5.5 U
Vinvl chloride	UG KG	0	0%	20	0	0	12	6.9 U	6.7 U	6.3 U	8 U	7.8 U	5.5 U
Semivolatile Organic Compounds	00.100	•	070	20	•	V	14	0.7 0	0.7 0	0.5 (	0 U	7.0 U	3.1 0
1,1'-Biphenyl	UG/KG	0	0%		0	0	12	200.17	450.11	410.11	510.11	170 1	270 (1
							12	390 U	450 U	440 U	510 U	470 U	370 U
2,4,5-Trichlorophenol	UG/KG	0	0%		0	0	12	390 U	450 U	440 U	510 U	470 U	370 U
2,4,6-Trichlorophenol	UG/KG	0	0%		0	0	12	390 U	450 U	440 U	510 U	470 U	370 U
2,4-Dichlorophenol	UG/KG	0	0.00		0	0	12	390 U	450 U	440 U	510 U	470 U	370 U

EOD2

SOIL

0.2

EOD2-C3

002R011009

12,11,2006

0

0.2

EOD2

SOIL

0

0.2

EOD2-C4

002R011012

12/11/2006

SITE LOCATION LOCATION ID MATRIX								EOD2 EOD2-B3 SOIL	EOD2 EOD2-B4 SOIL	EOD2 EOD2-C1 SOIL	EOD2 EOD2-C2 SOIL	EOD2 EOD2-C3 SOIL	EOD2 EOD2-C4 SOIL
SAMPLE ID TOP OF SAMPLE								002R011006	002R011005	002R011011	002R011010	002R011009	002R011012
BOTTOM OF SAMPLE								0 0,2	0 0,2	0 0.2	0 0.2	0	0
SAMPLE DATE								12/11/2006	12/11/2006	12/11/2006	12/11/2006	0.2 12/11/2006	0.2 12/11/2006
OC CODE								SA	SA	SA	12/11/2000 SA	12/11/2008 SA	SA
STUDY ID			Frequency	NYSDEC	Number	Number	Number	RA	RA	RA	RA	RA	RA
		Maximum	of	Unresticted	of	of Times	of Samples	101	101	101	101	101	101
Parameter	Units	Concentration	Detection	Use Value (1)	Exceedances	Detected	Analyzed	Value (O)	Value (O)	Value (O)	Value (Q)	Value (O)	Value (Q)
2,4-Dimethylphenol	UG/KG	0	0%		0	0	12	390 U	450 U	440 U	510 U	470 U	370 U
2,4-Dinitrophenol	UG/KG	0	0%		0	0	12	2000 U	2300 U	2300 U	2600 U	2400 U	1900 UJ
2,4-Dinitrotoluene	UG/KG	0	0%		0	0	12	390 U	450 U	440 U	510 U	470 U	370 U
2,6-Dinitrotoluene	UG/KG	0	0%		0	0	12	390 U	450 U	440 U	510 U	470 U	370 U
2-Chloronaphthalene	UG/KG	0	0%		0	0	12	390 U	450 U	440 U	510 U	470 U	370 U
2-Chlorophenol	UG/KG	0	0%		0	0	12	390 U	450 U	440 U	510 U	470 U	370 U
2-Methylnaphthalene	UG/KG UG/KG	0	0%	330	0	0	12	390 U	450 U	440 U	510 U	470 U	370 U
2-Methylphenol 2-Nitroaniline	UG/KG	0	0% 0%	330	0	0	12 12	390 U	450 U	440 U	510 U	470 U	370 U
2-Nitrophenol	UG/KG	0	0%		0	0	12	2000 U 390 U	2300 U 450 U	2300 U 440 U	2600 U	2400 U 470 U	1900 U
3,3'-Dichlorobenzidine	UG/KG	0	0%		0	0	12	390 U	450 U	440 U	510 U 510 U	470 U	370 U 370 U
3-Nitroaniline	UG/KG	0	0%		0	0	12	2000 U	2300 U	2300 U	2600 U	2400 U	1900 U
4,6-Dinitro-2-methylphenol	UG/KG	0	0%		0	0	12	2000 U	2300 U	2300 U	2600 U	2400 U	1900 U
4-Bromophenyl phenyl ether	UG/KG	0	0%		0	0	12	390 U	450 U	440 U	510 U	470 U	370 U
4-Chloro-3-methylphenol	UG/KG	0	0%		0	0	12	390 U	450 U	440 U	510 U	470 U	370 U
4-Chloroaniline	UG/KG	0	0%		0	0	12	390 U	450 U	440 U	510 U	470 U	370 U
4-Chlorophenyl phenyl ether	UG/KG	0	0%		0	0	12	390 U	450 U	440 U	510 U	470 U	370 U
4-Methylphenol	UG/KG	0	0%	330	0	0	12	390 U	450 U	440 U	510 U	470 U	370 U
4-Nitroaniline	UG/KG	0	0%		0	0	12	2000 U	2300 U	2300 U	2600 U	2400 U	1900 U
4-Nitrophenol	UG/KG	0	0%		0	0	12	2000 U	2300 U	2300 U	2600 U	2400 U	1900 U
Acenaphthene	UG/KG	98	17%	20000	0	2	12	390 U	450 U	440 U	510 U	470 U	370 U
Acenaphthylene	UG/KG	0	0%	100000	0	0	12	390 U	450 U	440 U	510 U	470 U	370 U
Acetophenone	UG/KG	0	0%		0	0	12	390 U	450 U	440 U	510 U	470 U	370 U
Anthracene	UG/KG	240	17%	100000	0	2	12	390 U	450 U	440 U	510 U	470 U	370 U
Atrazine Benzaldehyde	UG/KG	0	0%		0	0	12	390 U	450 U	440 U	510 U	470 U	370 U
Benzaldenyde Benzo(a)anthracene	UG/KG UG/KG	0 410	0% 17%	1000	0	0	12	390 U	450 U	440 U	510 U	470 U	370 U
Benzo(a)pyrene	UG/KG	310	17%	1000	0	2 2	12 12	390 U 390 U	450 U 450 U	440 U 440 U	510 U 510 U	470 U 470 U	370 U
Benzo(b)fluoranthene	UG/KG	230	17%	1000	0	2	12	390 U	450 U	440 U	510 U	470 U	370 U 370 U
Benzo(ghi)perylene	UG/KG	150	17%	100000	0	2	12	390 U	450 U	440 U	510 U	470 U	370 U
Benzo(k)fluoranthene	UG/KG	300	17%	800	0	2	12	390 U	450 U	440 U	510 U	470 U	370 U
Bis(2-Chloroethoxy)methane	UG/KG	0	0%		0	0	12	390 U	450 U	440 U	510 U	470 U	370 U
Bis(2-Chloroethyl)ether	UG/KG	0	0%		0	0	12	390 U	450 U	440 U	510 U	470 U	370 U
Bis(2-Chloroisopropyl)ether	UG/KG	0	0%		0	0	12	390 U	450 U	440 U	510 U	470 U	370 U
Bis(2-Ethylhexyl)phthalate	UG/KG	0	0%		0	0	12	390 U	450 U	440 U	510 U	470 U	370 U
Butylbenzylphthalate	UG/KG	0	0%		0	0	12	390 U	450 U	440 U	510 U	470 U	370 U
Caprolactam	UG/KG	0	0%		0	0	12	390 U	450 U	440 U	510 U	470 U	370 U
Carbazole	UG/KG	120	17%		0	2	12	390 U	450 U	440 U	510 U	470 U	370 U
Chrysene	UG/KG	350	17%	1000	0	2	12	390 U	450 U	440 U	510 U	470 U	370 U
Di-n-butylphthalate	UG/KG	0	0%		0	0	12	390 U	450 U	440 U	510 U	470 U	370 U
Di-n-octylphthalate	UG/KG	0	0%	220	0	0	12	390 U	450 U	440 U	510 U	470 U	370 U
Dibenz(a,h)anthracene Dibenzofuran	UG/KG UG/KG	59 51	8% 8%	330 7000	0	1	12	390 U	450 U	440 U	510 U	470 U	370 U
Diethyl phthalate	UG/KG	0	0%	7000	0	1	12	390 U 390 U	450 U	440 U	510 U	470 U	370 U
Dimethylphthalate	UG/KG	0	0%		0	0	12 12	390 U	450 U 450 U	440 U 440 U	510 U 510 U	470 U 470 U	370 U 370 U
Fluoranthene	UG/KG	750	17%	100000	0	2	12	390 U	450 U	440 U	510 U	470 U	370 U
Fluorene	UG/KG	100	17%	30000	0	2	12	390 U	450 U	440 U	510 U	470 U	370 U
Hexachlorobenzene	UG/KG	0	0%	330	0	0	12	390 U	450 U	440 U	510 U	470 U	370 U
Hexachlorobutadiene	UG/KG	0	0%		0	o	12	390 U	450 U	440 U	510 U	470 U	370 U
Hexachlorocyclopentadiene	UG/KG	0	0%		0	0	12	390 U	450 U	440 U	510 U	470 U	370 U
Hexachloroethane	UG/KG	0	0%		0	0	12	390 U	450 U	440 U	510 U	470 U	370 U
Indeno(1,2,3-cd)pyrene	UG/KG	150	17%	500	0	2	12	390 U	450 U	440 U	510 U	470 U	370 U
Isophorone	UG/KG	0	0%		0	0	12	390 U	450 U	440 U	510 U	470 U	370 U
N-Nitrosodiphenylamine	UG/KG	0	0%		0	0	12	390 U	450 U	440 U	510 U	470 U	370 U
N-Nitrosodipropylamine	UG/KG	0	0%		0	0	12	390 U	450 U	440 U	510 U	470 U	370 U

EOD2

EOD2

EOD2

EOD2

EOD2

EOD2

LOCATION ID EOD2-B3 EOD2-B4 EOD2-C2 EOD2-C3 EOD2-C4 EOD2-C1 MATRIX SOIL SOIL SOIL SOIL SOIL SOIL 002R011011 002R011012 SAMPLE ID 002R011006 002R011005 002R011010 002R011009 TOP OF SAMPLE 0 0 0 BOTTOM OF SAMPLE 0.2 0.2 0.2 0.2 0.2 0.2 SAMPLE DATE 12/11/2006 12/11/2006 12/11/2006 12/11/2006 12/11/2006 12 11/2006 QC CODE SA SA SA SA SA SA STUDY ID Frequency NYSDEC Number Number Number RA RA RA RA RA RA Maximum Unresticted of of Times of Samples Parameter Units Concentration Detection Use Value (1) Exceedances Detected Analyzed Value (Q) Value (Q) Value (Q) Value (Q) Value (Q) Value (Q) Naphthalene UG/KG 45 17% 12000 12 390 U 450 U 440 U 510 U 470 U 370 U UG/KG 0% Nitrobenzene 0 0 Ω 12 390 11 450 U 440 11 510 II 470 II 370 IJ Pentachlorophenol UG:KG 0 0% 800 0 0 12 2000 U 2300 U 2300 U 2600 U 2400 U 1900 U Phenanthrene UG/KG 720 17% 100000 0 12 390 U 450 U 440 U 510 U 470 U 370 U Phenol UG/KG 0 0% 390 11 450 LI 330 440 U 510 U 470 H 370 LL Ω Ω Pyrene UG/KG 520 17% 100000 0 2 12 390 U 450 U 440 U 510 U 470 U 370 U Explosives 1.3.5-Trinitrobenzene UG/KG 0 0% 0 12 0 2000 U 2000 U 2000.11 2000.11 2000 LI 2000 II 1,3-Dinitrobenzene UG/KG 0 0% 12 2000 U 2000 U 2000 U 2000 U 2000 U 0 2000 U 2,4,6-Trinitrotoluene UG/KG 0 0% 0 0 12 2000 U 2000 U 2000 U 2000 U 2000 € 2000 U 2.4-Dinitrotoluene UG/KG 0 0% n N 12 2000 U 2000 U 2000 U 2000 U 2000 U 2000 U 2,6-Dinitrotoluene UG/KG 0% 0 12 1000 U 1000 U 1000 U 1000 U 1000 U 1000 U 2-Nitrotoluene UG/KG 0%0 0 2000 U 2000 U 0 12 2000 U 2000 11 2000 U 2000-11 2-amino-4,6-Dinitrotoluene UG/KG 0% 0 0 12 2000 U 2000 U 2000 U 2000 U 2000 U 2000 U 3-Nitrotoluene UG/KG 0% 2000 U 2000 U 2000 U 0 12 2000 U 2000 U 2000 U 4-Nitrotoluene UG/KG 0% 0 0 12 2000 U 2000 U 2000 U 2000 U 2000 U 2000 LI 4-amino-2,6-Dinitrotoluene UG/KG 0% 2000 U 2000 U 2000 U 2000 U 0 12 2000 U 2000 U HMX UG/KG O<sup>2</sup>/n 2000 U 2000 [] 0 12 2000 U 2000 U 2000 U 2000 11 Nitrobenzene UG/KG 0% () 0 12 500 U 500 U 500 U 500 U 500 U 500 U Nitroglycerine UG/KG 0% 0 12 2000 U 2000 U 2000 U 2000 U 2000 U 2000 U Pentaerythritol Tetranitrate UG/KG 0% 0 0 12 2000 11 2000 U 2000 [] 11 000° 11 0000 2000 11 RDX UG/KG 0% 0 12 2000 U 2000 U 2000 U 2000 U 2000 U 2000 U Tetryl UG/KG 0% 0 0 12 2000 U 2000 U 2000 U 2000 U 2000 U 2000 U **PCBs** Aroclor-1016 UG/KG 0% 0 0 12 39 U 45 U 44 U 51 U 47 U 37 U Aroclor-1221 UG:KG 0 00% 0 Ω 12 79 U 92 U 89 U 100 U 96 U 74 17 Aroclor-1232 UG/KG 0 0% 0 12 39 11 45 11 44 [] 51 U 47 11 37.11 39 U 45 U 44 U 47 U Aroclor-1242 UG/KG 0% 12 51 U 37 U 44 U 47 U 37 U Aroclor-1248 UG/KG 0 0% 0 12 39 U 45 U 51 U 0 Aroclor-1254 UG/KG 0 0% 0 12 39 U 45 U 44 U 51 U 47 U 37 [] Aroclor-1260 UG/KG 0% 0 12 39 U 45 U 44 U 51 U 47 U 37 LI Pesticides 4,4'-DDD UG:KG 0 0% 3.3 0 0 12 3.9 U 4.5 U 4.4 U 5.1 U 47 U 3.7 LI 4,4'-DDE UG/KG 0% 3.3 12 3.9 U 4.5 U 4.4 U 5.1 U 4.7 U 3 7 U 0 4.4'-DDT UG/KG 0% 3.3 0 12 3.9 U 4.5 U 44 [] 5.1 U 47 H 37 U UG/KG 0% 2.3 U 2.3 U 2.6 U 2.4 U 1.9 U Aldrin 12 2 U Alpha-BHC UG/KG 20 2 U 2.3 U 2.3 LI 2.6 U 2.4 U 1.9 U 0% 0 12 Alpha-Chlordane UG:KG 0% 94 0 0 12 2 U 2.3 U 2.3 U 2.6 U 2.4 U 1.9 1/ Beta-BHC UG/KG 0% 36 0 0 12 2 U 2.3 U 2.3 U 2.6 U 2.4 U 1.9 [ 23 [] 2.4 [] 1911 UG/KG 2 U 2.3 [] 26.11 Delta-BHC 0% 40 0 Dieldrin UG/KG 0% 12 3.9 U 4.5 U 4.4 U 5.1 U 4.7 U 37 U Endosulfan I UG-KG 0 0% 2400 0 12 2 U 2.3 U 2.3 U 2.6 U 2.4 U 1.9 U 3.9 LJ 4411 5.1.11 J 7 11 3.7 U Endosulfan II UG/KG 0 0% 2400 0 12 4.5 U Endosulfan sulfate UG/KG 0% 2400 12 3.9 U 4.5 U 4.4 U 5.1 U 4.7 U 3.7 U UG/KG 0% 14 0 12 3.9 U 4.5 U 4.4 U 5.1 U 4.7 U 3.7 U Endrin 0 4.7 11 3.7 LI Endrin aldehyde UG:KG 0 0% 0 0 12 39 U 4.5 U 44 [] 5.1 U 12 3.9 U 4.5 U 4.4 U 5.1 U 4.7 U 3.7 U Endrin ketone UG/KG 0% 2.4 U 1.9 U UG/KG 0% 100 0 0 12 2.3 U 2.3 U 2.6 U Gamma-BHC/Lindane 0 2 U Gamma-Chlordane UG/KG 0 0% 0 12 2 U 2.3 U 2.3 U 2.6 U 2.4 U 1.9 U 2.3 U 2.4 U 1.9 U Hentachlor UG-KG 0% 42 0 12 2 U 2.3 U 2.6 U 1.9 U 2.3 LI 2.6 U 2.4 U i leptachlor epoxide UG-KG 0 0% 0 Ω 12 2.11 2.3 II UG/KG 0% 0 0 12 20 U 23 U 23 U 26 U 24 U 19 U Methoxychlor 0 12 39 U 45 U 44 U 51 U 47 U 37 U UG/KG 0% 0 Toxaphene 0

SITE LOCATION

TABLE 1 SEAD-002-R-01 (EOD-2) SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

SITE LOCATION LOCATION ID MATRIX SAMPLE ID TOP OF SAMPLE BOTTOM OF SAMPLE SAMPLE DATE QC CODE STUDY ID	Units	Maximum Concentration	Frequency of Detection	NYSDEC Unresticted Uge Value (1)	Number of Exceedances	Number of Times Detected	Number of Samples Analyzed	EOD2 EOD2-B3 SOIL 002R011006 0 0.2 12/11/2006 SA RA	EOD2 EOD2-B4 SOIL 002R011005 0 0.2 12/11/2006 SA RA	EOD2 EOD2-C1 SOIL 002R011011 0 0.2 12/11/2006 SA RA	EOD2 EOD2-C2 SOIL 002R011010 0 0.2 12/11/2006 SA RA Value (Q)	EOD2 EOD2-C3 SOIL 002R011009 0 0.2 12/11/2006 SA RA	EOD2 EOD2-C4 SOIL 002R011012 0 0.2 12/11/2006 SA RA
Metals	7												
Aluminum	MG/KG	18100	100%		0	12	12	11000	13800	18100	13800	14500	12700
Antimony	MG/KG	0	0%		0	0	12	0.41 UJ	0.46 UJ	0.46 UJ	0.53 UJ	0.51 UJ	0.37 UJ
Arsenic	MG/KG	4.5	100%	13	0	12	12	2.5	3.5	3.6	2.9	2.8	2.8
Barium	MG/KG	144	100%	350	0	12	12	70.8	103	111	91.3	91.9	28.5
Beryllium	MG/KG	0.91	92%	7.2	0	11	12	0.53 J	0.69	0.91	0.67 J	0.72	0.61
Cadmium	MG/KG	0.61	67%	2.5	0	8	12	0.08 J	0.07 J	0.07 J	0.05 U	0.14 J	0.04 U
Calcium	MG/KG	19200	100%		0	12	12	1900	19200	2490	2880	3530	18300
Chromium	MG/KG	26.8	100%		0	12	12	15.2	20.6	26.8	19.2	20.9	24.9
Cobalt	MG/KG	19.4	100%		0	12	12	5.1 J	8.8	15.3	6 J	8	14.1
Copper	MG/KG	37.3	100%	50	0	12	12	9.4	19.5	15.3	14	17.6	37.3
Iron	MG/KG	28200	100%		0	12	12	16200	22200	27800	18900	19100	28200
Lead	MG/KG	27.9	100%	63	0	12	12	14.2	17.6	21.1	17.1	22	27.9
Magnesium	MG/KG	6620	100%		0	12	12	2430	6400	4370	3110	3640	6620
Manganese	MG/KG	2770	100%	1600	1	12	12	297	423	859	317	442	349
Mercury	MG/KG	0.06	100%	0.18	0	12	12	0.04	0.05	0.05	0.06	0.04	0.02 J
Nickel	MG/KG	49.9	100%	30	3	12	12	13.3	25.4	29.2	16.4	22.6	49.9
Potassium	MG/KG	2040	100%		0	12	12	1050 J	1570 J	1510 J	1590 J	1660 J	1350 J
Selenium	MG/KG	2.6	100%	3.9	0	12	12	1.5	1.9	2.2	1.4 J	2	2
Silver	MG/KG	0	0%	2	0	0	12	0.13 U	0.15 U	0.15 U	0.17 U	0.17 U	0.12 U
Sodium	MG/KG	0	0%		0	0	12	117 U	132 U	130 U	152 U	144 U	105 U
Thallium	MG/KG	0	0%		0	0	12	0.34 U	0.39 U	1.1 U	0.44 U	0.42 U	0.31 U
Vanadium	MG/KG	33.8	100%		0	12	12	21.6	27.2	31.5	27	27.4	18
Zinc	MG/KG	79.2	100%	109	0	12	12	51.3	71.8	75	59.2	71.3	78.2
Other Analyses									444			2.21	
Nitrate Nitrogen	MG/KG	9.21	33%		0	4	12	5.87 U	6.86 U	6.65 U	7.66 U	9.21	5.54 U
Percent Solids	%	90.3	100%		0	12	12	85.2	72.9	75.2	65.3	69.5	90.3

#### Notes:

<sup>(1)</sup> Criteria based on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives, http://www.dec.state.ny.us/website/regs/subpart375\_6.html

<sup>(2)</sup> A bolded and outlined cell indicates a concentration that exceeded the criteria.

U = compound was not detected

J= the reported value is an estimated concentration UJ= the compound was not detected; the associated reporting limit is approximate

R = the analytical result was rejected during data validation.

## TABLE 2 OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN IN SEAD-002-R-01 (EOD-2) SOIL SENECA ARMY DEPOT ACTIVITY

Scenario Time fri Cuurent/Future Medium: Soil

Exposure Mediur Soil

Exposure Point: SEAD 002-R-01 (EOD-2)

CAS Number	Chemical	Minimum Detected Concentration (1) (mg/kg)	Q	Maximum Detected Concentration (1) (mg/kg)	Q	Location of Maximum Concentration	Free	ection uency (1)	Range of Limi (mg		1)	Concentration Used for Screening (2) (mg/kg)	Background Value (3) (mg/kg)	Screening Value (4) (mg/kg)	Potential ARAR/TBC Source	ARAR / TBC Value (5) (mg/kg)	COPC Flag	Rationale for Contaminant Deletion or Selection (6)
VOC																		-
67-64-1	Acetone	0.047		0.1		EOD2-C4	10	/ 12	0.0312	-	0.032	0.1		6,100	NYSDEC Subpart 375-6	0.05	NO	BSL
75-15-0	Carbon disulfide	0.0024	J	0.0024	J	EOD2-C4	1	/ 12	0.013	-	0.016	0.0024		67			NO	BSL
110-82-7	Cyclohexane	0.00088	3	0.00088	J	EOD2-B4	1	/ 12	0.0055	-	0.008	0.00088		720			NO	BSL
79-20-9	Methyl Acetate	0.0028	J	0.0028	J	EOD2-B3	1	/ 12	0.011	-	0.016	0.0028		7,800			NO	BSL
108-87-2	Methyl cyclohexane	0.0011	J	0.0011	J	EOD2-B4	1	/ 12	0.0055	-	0.008	0.0011					NSV	NSV
78-93-3	Methyl ethyl ketone	0.0028	J	0.015		EOD2-B4	11	/ 12	0.016	-	0.016	0.015		2,800	NYSDEC Subpart 375-6	0.12	NO	BSL
75-09-2	Methylene chloride	0.00051	J	0.0023	J	EOD2-A3	12	/ 12	0	-	0	0.0023		11	NYSDEC Subpart 375-6	0.05	NO	BSL
108-88-3	Toluene	0.00044	J	0.0014	J	EOD2-AI	3	/ 12	0.0055	-	0.008	0.0014		500	NYSDEC Subpart 375-6	0.7	NO	BSL
SVOC																		
83-32-9	Acenaphthene	0.06	J	0.098	J	EOD2-B2	2		0.37	-	0.51	0.098		340	NYSDEC Subpart 375-6	20	NO	BSL
120-12-7	Anthracene	0.087	J	0.24	J	EOD2-B2	2	/ 12	0.37	-	0.51	0.24		1,700	NYSDEC Subpart 375-6	100	NO	BSL
56-55-3	Benzo(a)anthracene	0.15	J	0.41	J	EOD2-B2	2	/ 12	0.37	-	0.51	0.41		0.15	NYSDEC Subpart 375-6	1	YES	ASL
50-32-8	Benzo(a)pyrene	0.11	J		J	EOD2-B2	2		0.37	-	0.51	0.31		0.015	NYSDEC Subpart 375-6	1	YES	ASL
205-99-2	Benzo(b)fluoranthene	0.1	J		1	EOD2-B2	2	/ 12	0.37	-	0.51	0.23		0.15	NYSDEC Subpart 375-6	1	YES	ASL
191-24-2	Benzo(ghi)perylene	0.057	1		J	EOD2-B2	2		0.37	-	0.51	0.15			NYSDEC Subpart 375-6	100	NSV	NSV
207-08-9	Benzo(k)fluoranthene	0.12	J		J	EOD2-B2		/ 12	0.37	-	0.51	0.3		1.5	NYSDEC Subpart 375-6	0.8	NO	CSG
86-74-8	Carbazole	0.048	J		J	EOD2-B2	2		0.37	-	0.51	0.12					NSV	NSV
218-01-9	Chrysene	0.14	J		1	EOD2-B2	2		0.37	-	0.51	0.35		15	NYSDEC Subpart 375-6	1	NO	CSG
53-70-3	Dibenz(a,h)anthracene	0.059	J		J	EOD2-B2		/ 12	0.37	-	0.51	0.059		0.015	NYSDEC Subpart 375-6	0.33	YES	ASL
132-64-9	Dibenzofuran	0.051	J	0.051	I	EOD2-B2	1		0.37	-	0.51	0.051			NYSDEC Subpart 375-6	7	NSV	NSV
206-44-0	Fluoranthene	0.31	J	0.75		EOD2-B2	2	/ 12	0.37	-	0.51	0.75		230	NYSDEC Subpart 375-6	100	NO	BSL
86-73-7	Fluorene	0.05	J		J	EOD2-B2	2		0.37	- [	0.51	0.1		230	NYSDEC Subpart 375-6	30	NO	BSL
193-39-5	Indeno(1,2,3-cd)pyrene	0.057	J		J	EOD2-B2	2		0.37	-	0.51	0.15		0.15	NYSDEC Subpart 375-6	0.5	NO	CSG
91-20-3	Naphthalene	0.037	J	0.045	J	EOD2-B1	2	/ 12	0.37	-	0.51	0.045		3.9	NYSDEC Subpart 375-6	12	NO	BSL
85-01-8	Phenanthrene	0.34	J			EOD2-B2	2		0.37	-	0.51	0.72			NYSDEC Subpart 375-6	100	NSV	NSV
129-00-0	Pyrene	0.22	J	0.52		EOD2-B2	2	/ 12	0.37	-	0.51	0,52		170	NYSDEC Subpart 375-6	100	NO	BSL
METALS																		
7429-90-5	Aluminum	11,000		18,100		EOD2-C1	12		0	-	0	18,100	20,500	7,700			YES	ASL
7440-38-2	Arsenic	2.5		4.5		EOD2-A2	12		0	-	0	4.5	21.5	0.39	NYSDEC Subpart 375-6	13	YES	ASL
7440-39-3	Barium	28.5		144		EOD2-A2	12		0	-	0	144	159	1,500	NYSDEC Subpart 375-6	350	NO	BSL
7440-41-7	Beryllium	0.53	J	0.91		EOD2-C1	11	/ 12	0.02	-	0.02	0.91	1.4	16	NYSDEC Subpart 375-6	7.2	NO	BSL
7440-43-9	Cadmium	0.06	J	0.61	J	EOD2-A2	8	/ 12	0.04	-	0.05	0.61	2.9	7	NYSDEC Subpart 375-6	2.5	NO	BSL
7440-70-2	Calcium	1,900	-	19,200		EOD2-B4	1 20	/ 12	0	-	0	19,200	293,000				NSV	NUT
7440-47-3	Chromium	15.2		26.8	-	EOD2-C1	12	/ 12	0	-	0	26.8	32.7	280			NO	BSL
7440-48-4	Cobalt	5.1	J	19.4		EOD2-A2	12		0	-	0	19.4	29.1	2.3			YES	ASL
7440-50-8	Соррег	9.4		37.3		EOD2-C4	12		0	-	0	37.3	62.8	310	NYSDEC Subpart 375-6	50	NO	BSL
7439-89-6	Iron	16,200		28,200		EOD2-C4	12		0	-	0	28,200	381,600	5,500			YES	ASL
7439-92-1	Lead	14.2		27.9		EOD2-C4	12		0	-	0	27.9	266	40	NYSDEC Subpart 375-6	63	NO	BSL
7439-95-4	Magnesium	2,430		6,620		EOD2-C4	12		0	-	0	6,620	29,100				NSV	NUT
7439-96-5	Manganese	278		2,770		EOD2-A2	12		0	-	0	2,770	2,380	180	NYSDEC Subpart 375-6	1,600	YES	ASL
7439-97-6	Mercury	0.02	J	0.06		EOD2-B1	12		0	-	0	0.06	0.13	0.43	NYSDEC Subpart 375-6	0.18	NO	BSL
7440-02-0	Nickel	13.3		49.9		EOD2-C4	12		0	-	0	49.9	62.3	150	NYSDEC Subpart 375-6	30	NO	BSL
7440-09-7	Potassium	1,050	3	2,040	J	EOD2-B1	12		0	-	0	2,040	3,160				NSV	NUT
7782-49-2	Selenium	1.4	J	2.6		EOD2-A2	12	/ 12	0	-	0	2.6	1.7	39	NYSDEC Subpart 375-6	3.9	NO	BSL
7440-62-2	Vanadium	18		33.8		EOD2-A2	12	/ 12	0	-	0	33.8	32.7	55			NO	BSL
7440-66-6	Zinc	51.3		79.2		EOD2-B1	12	/ 12	0	-	0	79.2	126	2,300	NYSDEC Subpart 375-6	109	NO	BSL
Other Analytes								-							-			
14797-55-8	Nitrate Nitrogen	7.03		9.21		EOD2-C3	4	/ 12	5.54	-	7.66	9.21		13,000			NO	BSL

#### Notes:

- 1. Laboratory duplicates were not included in the assessment. Range of reporting limits were presented for nondetects only.
- 2. The maximum detected concentration was used for screening.
- 3. Background value is the maximum Seneca background concentration.
- 4. EPA Regional Screening Levels for residential soil. On-line resources available at http://www.epa.gov/region09/superfund/prg/index.html. Last updated April 2009. Region 9 PRGs were derived based on Direct contact exposure (ingestion and dermal contact) and a target Cancer Risk of 1E-6 or a Target Hazard Quotient of 0.1. Screening values for calcium, magnesium, potassium, and sodium were calculated based on an assumption of 200 mg/day soil ingestion and recommended dictary allowances and adequate intakes for 1-3 yr children (500 mg/day and 80 mg/day for calcium and magnesium) and minimum requirements for 1 yr children (225 mg/day and 1000 mg/day for sodium and potassium) from Marilyn Wright (2001) Dictary Reference Intakes. PRG for total chromium (1:6 ratio Cr VI: Cr III) was used as screening value for chromium. PRG for nickel (soluble salts) was used as screening value for chromium.
- 5. Potential ARAR/TBC values are from NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives, http://www.dec.state.ny.us/website/regs/subpari375\_6.btml
  6. Rationale codes Selection Reason: Above Screening Levels (ASL) No Screening Value (NSV)

Chemicals in the Same Group were retained as COPC (CSG)

Deletion Reason: Essential Nutrient (NUT)
Below Screening Level (BSL)

Definitions:

COPC = Chemical of Potential Concern

ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered

Q = Qualifier

J = Estimated Value

## TABLE 2 OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN IN SEAD-002-R-01 (EOD-2) SOIL SENECA ARMY DEPOT ACTIVITY

Scenario Time frame: Cuurent/Future

Medium: Soil

Exposure Medium: Soil

Exposure Point: SEAD 002-R-01 (EOD-2)

CAS Number	Chemical	Minimum Detected Concentration (1) (mg/kg)	Q	Maximum Detected Concentration (1) (mg/kg)	Q	Location of Maximum Concentration	Fre	tection quency (1)	Lit		eporting (1) (g)	Concentration Used for Screening (2) (mg/kg)	Background Value (3) (mg/kg)	Screening Value (4) (mg/kg)	Potential ARAR/TBC Source	ARAR / TBC Value (5) (mg/kg)	COPC	Rationale for Contaminant Deletion or Selection (6)
voc							-			T				-				
67-64-1	Acetone	0.047		0.1		EOD2-C4		/ 12	0.0312	4	- 0.032	0.1		6,100	NYSDEC Subpart 375-6	0.05	NO	BSL
75-15-0	Carbon disulfide	0.0024	1	0.0024	1	EOD2-C4	1	/ 12	0.013		- 0.016	0.0024		67			NO	BSL
110-82-7	Cyclohexane	0.00088	J	0.00088	J	EOD2-B4	1	/ 12	0.0055		- 0.008	0.00088		720			NO	BSL
79-20-9	Methyl Acetate	0.0028	J	0.0028	J	EOD2-B3	_	/ 12	0.011		- 0.016	0.0028		7,800			NO	BSL
108-87-2	Methyl cyclohexane	0.0011	J	0.0011	J	EOD2-B4	1	/ 12	0.0055		- 0.008	0.0011					NSV	NSV
78-93-3	Methyl ethyl ketone	0.0028	J	0.015		EOD2-B4		/ 12	0.016		- 0.016	0.015		2,800	NYSDEC Subpart 375-6	0.12	NO	BSL
75-09-2	Methylene chloride	0.00051	J	0.0023	J	EOD2-A3	12		0	_	- 0	0.0023		11	NYSDEC Subpart 375-6	0.05	NO	BSL
108-88-3	Toluene	0.00044	J	0.0014	J	EOD2-A1	3	/ 12	0.0055		- 0.008	0.0014		500	NYSDEC Subpart 375-6	0.7	NO	BSL
SVOC																		
83-32-9	Acenaphthene	0.06	1	0.098	J	EOD2-B2	2	/ 12	0.37		- 0.51	0.098		340	NYSDEC Subpart 375-6	20	NO	BSL
120-12-7	Anthracene	0.087	J	0.24	J	EOD2-B2	2				- 0.51	0.24		1,700	NYSDEC Subpart 375-6	100	NO	BSL
56-55-3	Benzo(a)anthracene	0.15	J	0.41	J			/ 12			- 0.51	0.41		0.15	NYSDEC Subpart 375-6	1	YES	ASL
50-32-8	Benzo(a)pyrene	0.11	J	0.31	J	EOD2-B2	2	/ 12	0.37		- 0.51	0.31		0.015	NYSDEC Subpart 375-6	1	YES	ASL
205-99-2	Benzo(b)fluoranthene	0.1	J	0.23	J	EOD2-B2	2	/ 12	0.37		- 0.51	0.23		0.15	NYSDEC Subpart 375-6	1	YES	ASL
191-24-2	Benzo(ghi)perylene	0.057	J	0.15	J	EOD2-B2	2	/ 12	0.37	П	- 0.51	0.15			NYSDEC Subpart 375-6	100	NSV	NSV
207-08-9	Benzo(k)fluoranthene	0.12	J	0.3	J	EOD2-B2	2	/ 12	0.37		- 0.51	0.3		1.5	NYSDEC Subpart 375-6	0.8	NO	CSG
86-74-8	Carbazole	0.048	j	0.12	J	EOD2-B2	2	/ 12	0.37		- 0.51	0.12					NSV	NSV
218-01-9	Chrysene	0.14	J	0.35	J	EOD2-B2	2	/ 12	0.37	Т	- 0.51	0.35		15	NYSDEC Subpart 375-6	ì	NO	CSG
53-70-3	Dibenz(a,h)anthracene	0.059	J	0.059	J	EOD2-B2	1	/ 12	0.37	Т	- 0.51	0.059		0.015	NYSDEC Subpart 375-6	0.33	YES	ASL
132-64-9	Dibenzofuran	0.051	I	0.051	1	EOD2-B2	1	/ 12	0.37	Т	- 0.51	0.051			NYSDEC Subpart 375-6	7	NSV	NSV
206-44-0	Fluoranthene	0.31	J	0.75		EOD2-B2	2	/ 12	0.37		- 0.51	0.75		230	NYSDEC Subpart 375-6	100	NO	BSL
86-73-7	Fluorene	0.05	J	0.1	J		2				- 0.51	0.1		230	NYSDEC Subpart 375-6	30	NO	BSL
193-39-5	Indeno(1,2,3-cd)pyrene	0.057	J	0.15	I		2	/ 12	0.37		- 0.51	0.15		0.15	NYSDEC Subpart 375-6	0.5	NO	CSG
91-20-3	Naphthalene	0.037	J	0.045	J			/ 12			- 0.51	0.045		3.9	NYSDEC Subpart 375-6	12	NO	BSL
85-01-8	Phenanthrene	0.34	J		Ť	EOD2-B2	2				- 0.51	0.72			NYSDEC Subpart 375-6	100	NSV	NSV
129-00-0	Pyrene	0.22	J	0.52		EOD2-B2	2				- 0.51	0.52		170	NYSDEC Subpart 375-6	100	NO	BSL
METALS	1,10110		1		_													
7429-90-5	Aluminum	11,000		18,100		EOD2-C1	12	/ 12	0		. 0	18,100	20,500	7,700			YES	ASL
7440-38-2	Arsenic	2.5		4.5		EOD2-A2	12			7	- 0	4.5	21.5	0.39	NYSDEC Subpart 375-6	13	YES	ASL
7440-39-3	Barium	28.5		144		EOD2-A2	12				- 0	144	159	1,500	NYSDEC Subpart 375-6	350	NO	BSL
7440-41-7	Beryllium	0.53	J	0.91		EOD2-C1	11			7	- 0.02	0.91	1.4	16	NYSDEC Subpart 375-6	7.2	NO	BSL
7440-43-9	Cadmium	0.06	J	0.61	1	EOD2-A2	8			7	- 0.05	0.61	2.9	7	NYSDEC Subpart 375-6	2.5	NO	BSL
7440-70-2	Calcium	1,900	-	19,200	-	EOD2-B4	12				- 0	19,200	293,000				NSV	NUT
7440-47-3	Chromium	15.2	_	26.8	+	EOD2-C1	12				- 0	26.8	32.7	280			NO	BSL
7440-48-4	Cobalt	5.1	J			EOD2-A2	12				- 0	19.4	29.1	2.3			YES	ASL
7440-50-8	Copper	9.4	-	37.3		EOD2-C4		/ 12		7	. 0	37.3	62.8	310	NYSDEC Subpart 375-6	50	NO	BSL
7439-89-6	Iron	16,200		28,200		EOD2-C4	12				- 0	28,200	381,600	5,500			YES	ASL
7439-89-8	Lead	14.2	_	27.9		EOD2-C4	12	-		_	- 0	27.9	266	40	NYSDEC Subpart 375-6	63	NO	BSL
7439-92-1	Magnesium	2,430		6,620	+	EOD2-C4	12			-	- 0	6,620	29,100				NSV	NUT
7439-96-5	Manganese	2,430		2,770	1	EOD2-A2	12				- 0	2,770	2,380	180	NYSDEC Subpart 375-6	1,600	YES	ASL
7439-96-3	Mercury	0.02	J	0.06	-	EOD2-B1	12				- 0	0.06	0.13	0.43	NYSDEC Subpart 375-6	0.18	NO	BSL
	Nickel	13.3	-	49.9		EOD2-C4	12				- 0	49.9	62.3	150	NYSDEC Subpart 375-6	30	NO	BSL
7440-02-0 7440-09-7	Potassium	1,050	J	2.040	J		12				- 0	2,040	3,160	100	1 2220 0 22 2 2 2 2 2 2 2 2 2 2 2 2 2 2		NSV	NUT
	Selenium	1,030	1	2,040	1	EOD2-B1	12	-		-	- 0	2.6	1.7	39	NYSDEC Subpart 375-6	3.9	NO	BSL
7782-49-2		18	-	33,8	-	EOD2-A2	12				- 0	33.8	32.7	55		1	NO	BSL
7440-62-2	Vanadium Zinc	51.3	-	79.2	+	EOD2-A2	12			-	- 0	79.2	126	2,300	NYSDEC Subpart 375-6	109	NO	BSL
7440-66-6	Zinc	31.3	-	17.4	-	EUDZ-B1	12	1/2	0		-	17.4	120	2,500	TT SISTEC DISSPACE 373-0	107	1.0	
Other Analytes 14797-55-8	Nitrate Nitrogen	7.03	-	9.21	-	EOD2-C3	4	/ 12	5.54	-	7.66	9.21		13,000			NO	BSL

#### Notes

- Laboratory duplicates were not included in the assessment. Range of reporting limits were presented for nondetects only.
- 2. The maximum detected concentration was used for screening.
- 3. Background value is the maximum Seneca background concentration.
- 4. EPA Regional Screening Levels for residential soil. On-line resources available at http://www.epa.gov/region09/superfund/prg/index.html. Last updated April 2009. Region 9 PRGs were derived based on Direct contact exposure (ingestion and dermal contact) and a target Cancer Risk of 1E-6 or a Target Hazard Quotient of 0.1. Screening values for calcium, magnesium, potassium, and sodium were calculated based on an assumption of 200 mg/day soil ingestion and recommended dietary allowances and adequate intakes for 1-3 yr children (500 mg/day and 80 mg/day for calcium and magnesium) and minimum requirements for 1 yr children (225 mg/day and 1000 mg/day for sodium and potassium) from Marilyn Wright (2001) Dietary Reference Intakes. PRG for total chromium (1:6 ratio Cr VI: Cr III) was used as screening value for chromium. PRG for nickel (soluble satis) was used as screening value for chromium.
- 5. Potential ARAR/TBC values are from NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives, http://www.dec.state.ny.us/website/regs/subpart375\_6.html
  6. Rationale codes
  Selection Reason: Above Screening Levels (ASL)
  No Screening Value (NSV)

6. Rationale codes Selection Reason: Above Screening Levels (ASL)
Chemicals in the Same Group were retained as COPC (CSG)

Deletion Reason: Essential Nutrient (NUT)
Below Screening Level (BSL)

Definitions

COPC = Chemical of Potential Concern

ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered

Q = Qualifier

J = Estimated Value

# TABLE 3A SOIL EXPOSURE POINT CONCENTRATION SUMMARY FOR SEAD 002-R-01 (EOD-2) SENECA ARMY DEPOT ACTIVITY

CAS	Chemical	Units	Arithmetic	EPA ProUCL	Maximum	Q	EPC	Reasonable Maximum Exposure (2)		
Number	of		Mean	Student-t 95th	Detected		Units	EPA ProUCL	Medium	Medium
	Potential		(1)	UCL Value	Concentration			Recommended	EPC	EPC
	Concern			(1, 2, 4)	(1)			UCL Value	Statistic	Rationale
108-87-2	Methyl cyclohexane	mg/kg	0.00	- (3)	0.001	J	mg/kg	0.001	-	
56-55-3	Benzo(a)anthracene	mg/kg	0.28	0.358	0.41	J	mg/kg	0.358	95% KM Student-t 5	Non-parametric
50-32-8	Benzo(a)pyrene	mg/kg	0.21	0.390	0.31	J	mg/kg	0.390	95% KM Student-t 5	Non-parametric
205-99-2	Benzo(b)fluoranthene	mg/kg	0.17	0.282	0.23	J	mg/kg	0.282	95% KM Student-t 5	Non-parametric
191-24-2	Benzo(ghi)perylene	mg/kg	0.10	0.187	0.15	J	mg/kg	0.187	95% KM Student-t 5	Non-parametric
207-08-9	Benzo(k)fluoranthene	mg/kg	0.21	0.372	0.3	J	mg/kg	0.372	95% KM Student-t 5	Non-parametric
218-01-9	Chrysene	mg/kg	0.25	0.434	0.35	J	mg/kg	0.434	95% KM Student-t 5	Non-parametric
53-70-3	Dibenz(a,h)anthracene	mg/kg	0.06	- (3)	0.06	J	mg/kg	0.06		
132-64-9	Dibenzofuran	mg/kg	0.05	- (3)	0.05	J	mg/kg	0.05	-	<u> </u>
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	0.10	0.187	0.15	J	mg/kg	0.187	95% KM Student-t 5	Non-parametric
85-01-8	Phenanthrene	mg/kg	0.53	0.449	0.72		mg/kg	0.449	95% KM Student-t 5	Non-parametric
7429-90-5	Aluminum	mg/kg	14,950	16,097	18,100		mg/kg	16,097	95% Student's-t UCL	Normal
7440-38-2	Arsenic	mg/kg	3.3	3.6	4.5	Τ_	mg/kg	3.60	95% Student's-t UCL	Normal
7440-48-4	Cobalt	mg/kg	10.0	12.2	19.4		mg/kg	12.24	95% Student's-t UCL	Normal
7439-89-6	Iron	mg/kg	22,817	25,037	28,200		mg/kg	25,037	95% Student's-t UCL	Normal
7439-96-5	Manganese	mg/kg	647.8	1,512	2,770		mg/kg	1,512	95% Student's-t UCL	Normal

#### Notes:

- 1. Field duplicates were not averaged and presented as discreet samples. Laboratory duplicates were not included in the assessment. Non-detectes were included in the dataset and 95% UCL analysis was performed as 'With ND' in ProUCL.
- 2. The EPCs were calculated using the ProUCL (Version 4.00.02) and the EPCs were selected in accordance with the ProUCL Version 4.0 User Guide (USEPA, 2004) and the Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites (USEPA, 2002).
  - O qualifier
  - J = Estimated Value

KM = Kaplan-Meier statistical method

- 3. Insufficient number of detects in the dataset to perform 95th UCL analysis in ProUCL. This typical means there was a single detect in the dataset for this compound.
- 4. Bold values represent ProUCL recommened values that are greater than maximum detected value for a compound.
- 5. Insufficient number of detects in dataset to get meaningful results from ProUCL. Warning message from ProUCL regarding dataset:

# TABLE 3B AMBIENT AIR EXPOSURE POINT CONCENTRATIONS FOR PARK WORKERS, VISITORS, RESIDENTS AT SEAD 002-R-01 (EOD-2) SENECA ARMY DEPOT ACTIVITY

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Air
Exposure Point:	SEAD 002-R-01 (EOD-2)

Equation for Air EPC from Surface Soil (mg/m³) = CSsurf x PM10 x CF

Variables:

CSsurf = Chemical Concentration in Surface Soil, from EPC data (mg/kg)

PM10 = Average Measured PM10 Concentration = 32.21 ug/m<sup>3</sup>

CF = Conversion Factor = 1E-9 kg/ug

	Reasonable Ma	aximum Exposure
	EPC Data for	Calculated Air EPC
Analyte	Surface Soil	Surface Soil
	(mg/kg)	(mg/m³)
Methyl cyclohexane	1.1E-03	3.5E-11
Benzo(a)anthracene	3.6E-01	1.2E-08
Benzo(a)pyrene	3.9E-01	1.3E-08
Benzo(b)fluoranthene	2.8E-01	9.1E-09
Benzo(ghi)perylene	1.9E-01	6.0E-09
Benzo(k)fluoranthene	3.7E-01	1.2E-08
Chrysene	4.3E-01	1.4E-08
Dibenz(a,h)anthracene	5.9E-02	1.9E-09
Dibenzofuran	5.1E-02	1.6E-09
Indeno(1,2,3-cd)pyrene	1.9E-01	6.0E-09
Phenanthrene	4.5E-01	1.4E-08
Aluminum	1.6E+04	5.2E-04
Arsenic	3.6E+00	1.2E-07
Cobalt	1.2E+01	3.9E-07
Iron	2.5E+04	8.1E-04
Manganese	1.5E+03	4.9E-05

# TABLE 3C AMBIENT AIR EXPOSURE POINT CONCENTRATIOINS FOR CONSTRUCTION WORKER AT SEAD 002-R-01 (EOD-2) SENECA ARMY DEPOT ACTIVITY

Scenario Timeframe: Current/Future

Medium: Soil Exposure Medium: Air

Exposure Point: SEAD 002-R-01 (EOD-2)

Equation for Air EPC from Total Soils (mg/m<sup>3</sup>) = CStot x PM10 x CF

#### Variables:

CStot = Chemical Concentration in Total Soils, from EPC data (mg/kg)

PM10 = PM10 Concentration Calculated for Construction Worker= 279 ug/m<sup>3</sup>

CF = Conversion Factor = 1E-9 kg/ug

	Reasonable Ma	aximum Exposure
l	EPC Data for	Calculated Air EPC
Analyte	Surface and	Surface
	Subsurface Soil	and Subsurface Soil
	(mg/kg)	$(mg/m^3)$
Methyl cyclohexane	1.1E-03	3.5E-11
Benzo(a)anthracene	3.6E-01	1.2E-08
Benzo(a)pyrene	3.9E-01	1.3E-08
Benzo(b)fluoranthene	2.8E-01	9.1E-09
Benzo(ghi)perylene	1.9E-01	6.0E-09
Benzo(k)fluoranthene	3.7E-01	1.2E-08
Chrysene	4.3E-01	1.4E-08
Dibenz(a,h)anthracene	5.9E-02	1.9E-09
Dibenzofuran	5.1E-02	1.6E-09
Indeno(1,2,3-cd)pyrene	1.9E-01	6.0E-09
Phenanthrene	4.5E-01	1.4E-08
Aluminum	1.6E+04	5.2E-04
Arsenic	3.6E+00	1.2E-07
Cobalt	1.2E+01	3.9E-07
Iron	2.5E+04	8.1E-04
Manganese	1.5E+03	4.9E-05

#### TABLE 4 CALCULATION OF INTAKE AND RISK FROM THE INGESTION OF SOIL REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-002-R-01 (EOD-2) SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) =

EPC x IR x CF x FI x EF x ED x B

BW x AT

Variables (Assumptions for Each Receptor are Listed at the Bottom): EPC = Exposure Point Concentration in Soil, mg/kg

EF = Exposure Frequency ED = Exposure Duration

IR = Ingestion Rate

B = Bioavailability BW = Bodyweight

CF = Conversion Factor FI = Fraction Ingested

AT = Averaging Time

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Oral	Carc. Slope		EPC		Park V	Vorker			Constructi	on Worker		Re	ecreational	Child Visit	or
Analyte	RfD	Oral	Bioavailability	Surface Soil	Int	ake	Hazard	Cancer	Inta	ake	Hazard	Cancer	Int	ake	Hazard	Cancer
					(mg/k	g-day)	Quotient	Risk	(mg/kg	g-day)	Quotient	Risk	(mg/k	g-day)	Quotient	Risk
	(mg/kg-day)	(mg/kg-day)-1	(unitless)	(mg/kg)	(Nc)	(Car)			(Nc)	(Car)			(Nc)	(Car)		
Methyl cyclohexane	N/A	N/A	1	1.1E-03												
Benzo(a)anthracene	N/A	7.3E-01	1	3.6E-01		8.76E-08		6E-08		1.65E-08		1E-08		1.31E-08		1E-08
Benzo(a)pyrene	N/A	7.3E+00	1	3.9E-01		9.53E-08		7E-07	! I	1.80E-08		1E-07		1.42E-08		1E-07
Benzo(b)fluoranthene	N/A	7.3E-01	1	2.8E-01		6.89E-08		5E-08		1.30E-08		9E-09		1.03E-08		8E-09
Benzo(ghi)perylene	N/A	N/A	1	1.9E-01												
Benzo(k)fluoranthene	N/A	7.3E-02	1	3.7E-01	1	9.09E-08		7E-09		1.71E-08	1	1E-09		1.36E-08		1E-09
Chrysene	3.00E-04	7.3E-03	1	4.3E-01	2.97E-07	1.06E-07	1E-03	8E-10	1.40E-06	2.00E-08	5E-03	1E-10	2.22E-07	1.58E-08	7E-04	1E-10
Dibenz(a,h)anthracene	N/A	7.3E+00	1	5.9E-02		1.44E-08		1E-07		2.72E-09		2E-08		2.16E-09		2E-08
Dibenzofuran	N/A	N/A	1	5.1E-02												
Indeno(1,2,3-cd)pyrene	N/A	7.3E-01	1	1.9E-01		4.57E-08		3E-08		8.63E-09		6E-09		6.83E-09		5E-09
Phenanthrene	N/A	N/A	1	4.5E-01	i				i							
Aluminum	1.00E+00	N/A	1	1.6E+04	1.10E-02		1E-02		5.20E-02		5E-02		8.23E-03		8E-03	
Arsenic	3.00E-04	1.5E+00	1	3.6E+00	2.47E-06	8.81E-07	8E-03	1E-06	1.16E-05	1.66E-07	4E-02	2E-07	1.84E-06	1.32E-07	6E-03	2E-07
Cobalt	3.00E-04	N/A	l	1.2E+01	8.38E-06		3E-02		3.95E-05		1E-01		6.26E-06		2E-02	
Iron	3.00E-01	N/A	1	2.5E+04	1.71E-02		6E-02		8.08E-02		3E-01		1.28E-02	1	4E-02	
Manganese	2.40E-02	N/A	1	1.5E+03	1.04E-03		4E-02		4.88E-03		2E-01		7.73E-04		3E-02	
Total Hazard Quotient and Cancer Risk:					1E-01	2E-06			7E-01	4E-07			1E-01	3E-07		

	Assumptions for Park Worker	Assur	nptions for Construction Worker	Assum	ptions for Recreational Child Visitor
CF =	1E-06 kg/mg	CF =	1E-06 kg/mg	CF =	1E-06 kg/mg
EPC=	EPC Surface Only	EPC=	EPC Surface and Subsurface	EPC=	EPC Surface Only
BW =	70 kg	BW =	70 kg	BW =	15 kg
IR =	100 mg/day	IR =	330 mg/day	1R =	200 mg/day
F1 =	1 unitless	F1 =	1 unitless	FI =	1 unitless
EF =	175 days/year	EF =	250 days/year	EF =	14 days/year
ED =	25 years	ED =	1 years	ED =	5 years
AT (Nc) =	9,125 days	AT (Nc) =	365 days	AT (Nc) =	1,825 days
AT (Car) =	25,550 days	AT (Car) =	25,550 days	AT (Car) =	25,550 days

### CALCULATION OF INTAKE AND RISK FROM THE INGESTION OF SOIL REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-002-R-01 (EOD-2) SENECA ARMY DEPOT ACTIVITY

AT = Averaging Time

FI = Fraction Ingested

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Oral	Carc. Slope		EPC		Residen	t (Adult)			Residen	t (Child)		Resident
Analyte	RfD	Oral	Bioavailability	Surface Soil		ake g-day)	Hazard Quotient	Cancer Risk		ake g-day)	Hazard Quotient	Cancer Risk	Total Lifetime
	(mg/kg-day)	(mg/kg-day)-1	(unitless)	(mg/kg)	(Nc)	(Car)			(Nc)	(Car)			Cancer Risk
Methyl cyclohexane	N/A	N/A	1	1.1E-03									
Benzo(a)anthracene	N/A	7.3E-01	1	3.6E-01	1	1.68E-07		1E-07		3.92E-07		3E-07	4E-07
Benzo(a)pyrene	N/A	7.3E+00	1	3.9E-01		1.83E-07		1E-06		4.27E-07		3E-06	4E-06
Benzo(b)fluoranthene	N/A	7.3E-01	1	2.8E-01		1.32E-07		1E-07		3.09E-07		2E-07	3E-07
Benzo(ghi)pervlene	N/A	N/A	1	1.9E-01									
Benzo(k)fluoranthene	N/A	7.3E-02	1	3.7E-01		1.75E-07		1E-08		4.07E-07		3E-08	4E-08
Chrysene	3.00E-04	7.3E-03	1	4.3E-01	5.94E-07	2.04E-07	2E-03	1E-09	5.54E-06	4.75E-07	2E-02	3E-09	5E-09
Dibenz(a,h)anthracene	N/A	7.3E+00	1	5.9E-02		2.77E-08		2E-07		6.47E-08		5E-07	7E-07
Dibenzofuran	N/A	N/A	1	5.1E-02									
Indeno(1,2,3-cd)pyrene	N/A	7.3E-01	1	1.9E-01		8.78E-08		6E-08		2.05E-07		1E-07	2E-07
Phenanthrene	N/A	N/A	1	4.5E-01									
Aluminum	1.00E+00	N/A	1	1.6E+04	2.21E-02		2E-02		2.06E-01		2E-01		
Arsenic	3.00E-04	1.5E+00	1	3.6E+00	4.93E-06	1.69E-06	2E-02	3E-06	4.61E-05	3.95E-06	2E-01	6E-06	8E-06
Cobalt	3.00E-04	N/A	1	1.2E+01	1.68E-05		6E-02		1.56E-04		5E-01		
Iron	3.00E-01	N/A	1	2.5E+04	3.43E-02		1E-01		3.20E-01		1E+00		
Manganese	2.40E-02	N/A	1	1.5E÷03	2.07E-03		9E-02		1.93E-02		8E-01		
otal Hazard Quotient and Cancer Risk:							3E-01	4E-06			3E+00	1E-05	1E-05

As	sumptions for Resident (Adult)	Ass	sumptions for Resident (Child)	
CF =	1E-06 kg/mg	CF =	1E-06 kg/mg	
EPC=	EPC Surface Only	EPC=	EPC Surface Only	
BW =	70 kg	BW =	15 kg	
IR =	100 mg/day	IR =	200 mg/day	
FI =	1 unitless	FI =	1 unitless	
EF ==	350 days/year	EF =	350 days/year	
ED =	24 years	ED =	6 years	
AT (Nc) =	8,760 days	AT (Nc) =	2,190 days	
AT (Car) =	25,550 days	AT (Car) =	25,550 days	

10/9/2009

### TABLE 5 CALCULATION OF ABSORBED DOSE AND RISK FROM DERMAL CONTACT TO SOIL REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-002-R-01 (EOD-2) SOIL SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) = 

EPC x CF x SA x AF x ABS x EV x EF x ED BW x AT

Variables (Assumptions for Each Receptor are Listed at the Bottom):

EPC = Chemical Concentration in Soil, mg/kg

EV = Event Frequency

CF = Conversion Factor

EF = Exposure Frequency

SA = Surface Area Contact

AF = Adherence Factor

ABS = Absorption Factor

AT = Averaging Time

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Dermal	Carc. Slope	Absorption	EPC	EPC from		Park V	Vorker			Constructi	on Worker		Re	ecreational	Child Visit	or
Analyte	RMD	Dermal	Fraction*	Surface Soil	Total Soils		ed Dose	Hazard	Cancer	Absorb		Hazard	Cancer	Absorb		Hazard	Cancer
						(mg/k		Quotient	Risk	(mg/K		Quotient	Risk	(mg/k		Quotient	Risk
	(mg/kg-day)	(mg/kg-day)-1	(unitless)	(mg/kg)	(mg/kg)	(Nc)	(Car)			(Nc)	(Car)			(Nc)	(Car)		
Methyl cyclohexane	N/A	N/A	1.0E-02	1.1E-03	1.1E-03												
Benzo(a)anthracene	N/A	7.3E-01	1.3E-01	3.6E-01	3.6E-01	1	7.51E-08		5E-08		6.44E-09		5E-09		4.76E-09		3.47E-09
Benzo(a)pyrene	N/A	7.3E+00	1.3E-01	3.9E-01	3.9E-01		8.18E-08		6E-07		7.01E-09		5E-08		5.18E-09		3.78E-08
Benzo(b)fluoranthene	N/A	7.3E-01	1.3E-01	2.8E-01	2.8E-01	1	5.91E-08		4E-08		5.07E-09		4E-09		3.75E-09		2.73E-09
Benzo(ghi)perylene	N/A	N/A	1.3E-01	1.9E-01	1.9E-01			1								1	
Benzo(k)fluoranthene	N/A	7.3E-02	1.3E-01	3.7E-01	3.7E-01	1	7.80E-08		6E-09		6.69E-09		5E-10		4.94E-09		3.61E-10
Chrysene	3.00E-04	7.3E-03	1.3E-01	4.3E-01	4.3E-01	2.55E-07	9.10E-08	8E-04	7E-10	5.46E-07	7.80E-09	2E-03	6E-11	8.07E-08	5.77E-09	2.69E-04	4.21E-11
Dibenz(a,h)anthracene	N/A	7.3E+00	1.3E-01	5.9E-02	5.9E-02		1.24E-08		9E-08		1.06E-09		8E-09		7.85E-10		5.73E-09
Dibenzofuran	N/A	N/A	1.0E-01	5.1E-02	5.1E-02												
Indeno(1,2,3-cd)pyrene	N/A	7.3E-01	1.3E-01	1.9E-01	1.9E-01		3.92E-08		3E-08		3.36E-09		2E-09		2.49E-09	1	1.82E-09
Phenanthrene	N/A	N/A	1.3E-01	4.5E-01	4.5E-01	ı								1			
Aluminum	1.00E+00	N/A	1.0E-03	1.6E+04	1.6E+04	7.28E-05	l	7E-05		1.56E-04		2E-04		2.31E-05		2.31E-05	
Arsenic	3.00E-04	1.5E+00	3.0E-02	3.6E+00	3.6E+00	4.88E-07	1.74E-07	2E-03	3E-07	1.05E-06	1.50E-08	3E-03	2E-08	1.55E-07	1.11E-08	5.16E-04	1.66E-08
Cobalt	3.00E-04	N/A	1.0E-03	1.2E+01	1.2E+01	5.53E-08		2E-04		1.19E-07		4E-04		1.75E-08		5.84E-05	
Iron	3.00E-01	N/A	1.0E-03	2.5E+04	2.5E+04	1.13E-04	1	4E-04		2.43E-04		8E-04		3.59E-05		1.20E-04	
Manganese	9.60E-04	N/A	1.0E-03	1.5E+03	1.5E+03	6.84E-06		7E-03		1.46E-05		2E-02		2.17E-06	l	2.26E-03	
Total Hazard Ouotien	at and Cancer	Risk:						1E-02	1E-06			2E-02	9E-08			3E-03	7E-08

	Assumptions for Park Worker		Assumptions for Construction Worker	As	ssumptions for Recreational Child Visitor
CF -	1E-06 kg/mg	CF-	IE-06 kg/mg	CF -	1E-06 kg/mg
cs -	EPC Surface Only	EPC -	EPC Surface and Subsurface	EbC	EPC Surface Only
BW -	70 kg	BW -	70 kg	BW -	15 kg
SA -	3,300 cm <sup>2</sup>	SA -	3,300 cm <sup>2</sup>	SA =	2,800 cm <sup>2</sup>
AF -	0.2 mg/cm <sup>2</sup> -event	AF -	0.3 mg/cm <sup>2</sup> -event	AF -	0.2 mg/cm <sup>2</sup> -event
EV -	I event/day	EV -	1 event/day	EV-	1 event/day
EF-	175 days/year	EF-	250 days/year	EF -	14 days/year
ED -	25 years	ED -	l years	ED -	5 years
AT (Nc) ~	9,125 days	AT (Nc)	365 days	AT (Ne) =	1,825 days
AT (Car) =	25,550 days	AT (Car)	25,550 days	AT (Car) -	25,550 days

10/14/2009

### CALCULATION OF ABSORBED DOSE AND RISK FROM DERMAL CONTACT TO SOIL REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-002-R-01 (EOD-2) SOIL SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) = EPC x CF x SA x AF x ABS x EV x EF x ED
BW x AT

Variables (Assumptions for Each Receptor are Listed at the Bottom):
EPC = Chemical Concentration in Soil, mg/kg
CF = Conversion Factor
SA = Surface Area Contact
ED = Exposure Frequency
EF = Exposure Duration
AF = Adherence Factor
BW = Bodyweight
ABS = Absorption Factor
AT = Averaging Time

	Dermal	Carc. Slope	Absorption	EPC	EPC from		Residen	t (Adult)			Residen	t (Child)		Resident
Analyte	RfD	Dermal	Fraction*	Surface Soil	Total Soils	oils Absorbed Dose (mg/kg-day)		Hazard Quotient	Cancer Risk	Absorbed Dose (mg/kg-day)		Hazard Quotient	Cancer Risk	Total Lifetime
	(mg/kg-day)	(mg/kg-day)-1	(unitless)	(mg/kg)	(mg/kg)	(Nc)	(Car)			(Nc)	(Car)			Cancer Risk
Methyl cyclohexane	N/A	N/A	1.0E-02	1.1E-03	1.1E-03									
Benzo(a)anthracene	N/A	7.3E-01	1.3E-01	3.6E-01	3.6E-01		8.72E-08		6E-08		1.43E-07		1.04E-07	2E-07
Benzo(a)pyrene	N/A	7.3E+00	1.3E-01	3.9E-01	3.9E-01		9.49E-08		7E-07		1.55E-07		1.13E-06	2E-06
Benzo(b)fluoranthene	N/A	7.3E-01	1.3E-01	2.8E-01	2.8E-01		6.86E-08		5E-08		1.12E-07		8.20E-08	1E-07
Benzo(ghi)perylene	N/A	N/A	1.3E-01	1.9E-01	1.9E-01									
Benzo(k)fluoranthene	N/A	7.3E-02	1.3E-01	3.7E-01	3.7E-01		9.05E-08		7E-09		1.48E-07		1.08E-08	2E-08
Chrysene	3.00E-04	7.3E-03	1.3E-01	4.3E-01	4.3E-01	3.08E-07	1.06E-07	1E-03	8E-10	2.02E-06	1.73E-07	6.73E-03	1.26E-09	2E-09
Dibenz(a,h)anthracene	N/A	7.3E+00	1.3E-01	5.9E-02	5.9E-02		1.44E-08		1E-07		2.35E-08		1.72E-07	3E-07
Dibenzofuran	N/A	N/A	1.0E-01	5.1E-02	5.1E-02									
Indeno(1,2,3-cd)pyrene	N/A	7.3E-01	1.3E-01	1.9E-01	1.9E-01		4.56E-08		3E-08		7.46E-08		5.45E-08	9E-08
Phenanthrene	N/A	N/A	1.3E-01	4.5E-01	4.5E-01									
Aluminum	1.00E+00	N/A	1.0E-03	1.6E+04	1.6E+04	8.80E-05		9E-05		5.76E-04		5.76E-04		
Arsenic	3.00E-04	1.5E+00	3.0E-02	3.6E+00	3.6E+00	5.91E-07	2.03E-07	2E-03	3E-07	3.87E-06	3.32E-07	1.29E-02	4.97E-07	8E-07
Cobalt	3.00E-04	N/A	1.0E-03	1.2E+01	1.2E+01	6.69E-08	1000	2E-04		4.38E-07		1.46E-03		
Iron	3.00E-01	N/A	1.0E-03	2.5E+04	2.5E+04	1.37E-04		5E-04		8.96E-04		2.99E-03		
Manganese	9.60E-04	N/A	1.0E-03	1.5E+03	1.5E+03	8.26E-06		9E-03		5.41E-05		5.64E-02		
Total Hazard Quotien	al Hazard Quotient and Cancer Risk:						1E-02	1E-06			8E-02	2E-06	3E-06	

As	sumptions for Resident (Adult)	Ass	sumptions for Resident (Child)
CF =	1E-06 kg/mg	CF -	1E-06 kg/mg
EPC -	EPC Surface Only	EPC =	EPC Surface Only
BW =	70 kg	BW =	15 kg
SA -	5,700 cm <sup>2</sup>	SA =	2,800 cm <sup>2</sup>
AF -	0.07 mg/cm <sup>2</sup> -event	AF =	0.2 mg/cm <sup>2</sup> -event
EV =	1 event/day	EV -	1 event/day
EF =	350 days/year	EF =	350 days/year
ED-	24 years	ED =	6 years
AT (Nc) -	8,760 days	AT (Nc) =	2,190 days
AT (Car) =	25,550 days	AT (Car) =	25,550 days

#### TABLE 6 CALCULATION OF INTAKE AND RISK FROM INHALATION OF DUST IN AMBIENT AIR REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-002-R-01 (EOD-2) SOIL SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) =

EPC x IR x EF x ED

BW x AT

Variables (Assumptions for Each Receptor are Listed at the Bottom): EPC = EPC in Air, mg/m3

ED = Exposure Duration

IR = Inhalation Rate

BW = Bodyweight

EF = Exposure Frequency

AT = Averaging Time

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose

	Inhalation	Carc. Slope	Air EPC from	Air EPC from		Park V	Vorker		Construction Worker				Recreational Child Visitor			
Analyte	RfD	Inhalation	Surface Soil	Total Soils	Int: (mg/k	ake g-day)	Hazard Quotient	Cancer Risk	Inta (mg/k		Hazard Quotient	Cancer Risk	Inta (mg/k		Hazard Quotient	Cancer Risk
	(mg/kg-day)	(mg/kg-day)-1	$(mg/m^3)$	(mg/m <sup>3</sup> )	(Nc)	(Car)			(Nc)	(Car)			(Nc)	(Car)		
Methyl cyclohexane	8.57E-01	N/A	3.5E-11	3.5E-11	1.94E-12		2E-12		3.61E-12		4E-12		7.88E-13		9E-13	
Benzo(a)anthracene	N/A	N/A	1.2E-08	1.2E-08												
Benzo(a)pyrene	N/A	3.85E+00	1.3E-08	1.3E-08		2.46E-10		9E-10		1.82E-11		7E-11		1.99E-11		8E-11
Benzo(b)fluoranthene	N/A	3.85E-01	9.1E-09	9.1E-09		1.78E-10		7E-11		1.32E-11		5E-12		1.44E-11		6E-12
Benzo(ghi)perylene	N/A	N/A	6.0E-09	6.0E-09					1							ł
Benzo(k)fluoranthene	N/A	3.85E-01	1.2E-08	1.2E-08		2.34E-10		9E-11		1.74E-11		7E-12		1.90E-11		7E-12
Chrysene	N/A	3.85E-02	i.4E-08	1.4E-08		2.73E-10		1E-11	1	2.03E-11		8E-13		2.22E-11		9E-13
Dibenz(a,h)anthracene	N/A	4.20E+00	1.9E-09	1.9E-09	ľ	3.72E-11		2E-10		2.76E-12		1E-11		3.02E-12		iE-ii
Dibenzofuran	N/A	N/A	1.6E-09	1.6E-09	1								İ			i
Indeno(1,2,3-cd)pyrene	N/A	3.85E-01	6.0E-09	6.0E-09		1.18E-10		5E-11		8.76E-12		3E-12		9.57E-12		4E-12
Phenanthrene	N/A	N/A	1.4E-08	1.4E-08												1
Aluminum	1.43E-03	N/A	5.2E-04	5.2E-04	2.84E-05		2E-02		5.28E-05		4E-02	1	1.15E-05		8E-03	
Arsenic	N/A	1.51E+01	1.2E-07	1.2E-07		2.27E-09		3E-08		1.69E-10		3E-09		1.84E-10		3E-09
Cobalt	1.71E-06	3.15E+01	3.9E-07	3.9E-07	2.16E-08	7.71E-09	1E-02	2E-07	4.01E-08	5.73E-10	2E-02	2E-08	8.77E-09	6.26E-10	5E-03	2E-08
lron	N/A	N/A	8.1E-04	8.1E-04								1				1
Manganese	1.43E-05	N/A	4.9E-05	4.9E-05	2.67E-06		2E-01		4.96E-06		3E-01		1.08E-06		8E-02	
Total Hazard Quotient	and Cancer	Risk:					2E-01	3E-07			4E-01	2E-08			9E-02	2E-08
					As	ssumptions fo	or Park Wor	ker	Assum	ptions for C	onstruction \	Worker	Assumptions for Recreat		Recreational Child Visitor	

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

EPC Surface Only 70 kg 8 m3/day

175 days/year

CA= BW = IR =

EF=

10.4 m3/day

EPC Surface and Sub-Surface CA ≈ BW= IR =

EF =

ED =

EPC Surface Only 15 kg 8.7 m3/day

14 days/year 5 years

NA= Information not available.

ED = 25 years AT (Nc) = 9,125 days AT (Car) = 25,550 days

CA =

BW =

IR =

EF=

ED = AT (Nc) = AT (Car) =

l year 365 days 25,550 days

70 kg

250 days/year

AT (Nc) = 1,825 days AT (Car) = 25,550 days

### CALCULATION OF INTAKE AND RISK FROM INHALATION OF DUST IN AMBIENT AIR REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-002-R-01 (EOD-2) SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) =

CA x IR x EF x ED

BW x AT

Variables (Assumptions for Each Receptor are Listed at the Bottom):

CA = Chemical Concentration in Air from Stockpile Soil, mg/m<sup>3</sup>

.

ED = Exposure Duration, year

IR = Inhalation Rate, m<sup>3</sup>/day

BW = Bodyweight, kg

EF = Exposure Frequency, day/year

AT = Averaging Time, day

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Inhalation	Carc. Slope	Air EPC		Resid	ent Adult		Resident Child				Resident
Analyte	RfD	Inhalation		Int	ake	Hazard	Contribution	Int	ake	Hazard	Contribution	Total
				(mg/k	g-day)	Quotient	to Lifetime	(mg/k	g-day)	Quotient	to Lifetime	Lifetime
	(mg/kg-day)	(mg/kg-day)-1	$(mg/m^3)$	(Nc)	(Car)		Cancer Risk	(Nc)	(Car)		Cancer Risk	Cancer Risk
Methyl cyclohexane	8.57E-01	N/A	3.5E-11	9.71E-12		1E-11		1.97E-11		2E-11		
Benzo(a)anthracene	N/A	N/A	1.2E-08									
Benzo(a)pyrene	N/A	3.85E+00	1.3E-08		1.18E-09	1	5E-09		5.98E-10		2E-09	7E-09
Benzo(b)fluoranthene	N/A	3.85E-01	9.1E-09		8.52E-10		3E-10		4.33E-10		2E-10	5E-10
Benzo(ghi)perylene	N/A	N/A	6.0E-09			1						
Benzo(k)fluoranthene	N/A	3.85E-01	1.2E-08		1.12E-09		4E-10		5.71E-10		2E-10	7E-10
Chrysene	N/A	3.85E-02	1.4E-08		1.31E-09		5E-11		6.66E-10		3E-11	8E-11
Dibenz(a,h)anthracene	N/A	4.20E+00	1.9E-09		1.79E-10		7E-10		9.06E-11		4E-10	1E-09
Dibenzofuran	N/A	N/A	1.6E-09			1						
Indeno(1,2,3-cd)pyrene	N/A	3.85E-01	6.0E-09		5.66E-10		2E-10		2.87E-10		1E-10	3E-10
Phenanthrene	N/A	N/A	1.4E-08									
Aluminum	1.43E-03	N/A	5.2E-04	1.42E-04		1E-01		2.88E-04		2E-01		
Arsenic	N/A	1.51E+01	1.2E-07		1.09E-08		2E-07		5.53E-09		8E-08	2E-07
Cobalt	1.71E-06	3.15E+01	3.9E-07	1.08E-07	3.70E-08	6E-02	1E-06	2.19E-07	1.88E-08	1E-01	6E-07	2E-06
Iron	N/A	N/A	8.1E-04									
Manganese	1.43E-05	N/A	4.9E-05	1.33E-05		9E-01		2.71E-05		2E+00		
Total Hazard Quot	ient and Ca	ncer Risk:				1E+00	1E-06			2E+00	7E-07	2E-06

	Assumptions for Resident Adult		Assumptions for Resident Child	
CA =	EPC Surface Only	CA =	EPC Surface Only	
BW =	70 kg	BW =	15 kg	
IR =	20 m3/day	IR =	8.7 m3/day	
EF =	350 days/year	EF =	350 days/year	
ED =	24 years	ED =	6 years	
AT (Nc) =	8,760 days	AT (Nc) =	2,190 days	
AT (Car) =	25,550 days	AT (Car) =	25,550 days	

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

N/A= Information not available.

## TABLE 7 CALCULATION OF TOTAL NONCARCINOGENIC AND CARCINOGENIC RISKS - SEAD-002-R-01 (EOD-2) REASONABLE MAXIMUM EXPOSURE (RME) SENECA ARMY DEPOT ACTIVITY

		REASO	NABLE MAXIMUM	1 EXPOSURE (RM	E)
RECEPTOR	EXPOSURE ROUTE	HAZAR INDEX			ICER ISK
RECEITOR	EAI OSUKE KOUTE	INDEX	Percent		Percent
		Hazard Index	Contribution	Cancer Risk	Contribution
PARK WORKER	Inhalation of Dust in Ambient Air	2E-01	58%	3E-07	8%
	Ingestion of Soil	1E-01	39%	2E-06	63%
	Dermal Contact to Soil	1E-02	3%	1E-06	30%
	TOTAL RECEPTOR RISK (Nc & Car)	<u>4E-01</u>	100%	4E-06	100%
CONSTRUCTION WORKER	Inhalation of Dust in Ambient Air	4E-01	36%	2E-08	4%
	Ingestion of Soil	7E-01	62%	4E-07	79%
	Dermal Contact to Soil	2E-02	2%	9E-08	17%
	TOTAL RECEPTOR RISK (Nc & Car)	<u>1E+00</u>	100%	5E-07	100%
RECREATIONAL CHILD VISITOR	Inhalation of Dust in Ambient Air	9E-02	44%	2E-08	5%
	Ingestion of Soil	1E-01	55%	3E-07	79%
	Dermal Contact to Soil	3E-03	2%	7E-08	16%
	TOTAL RECEPTOR RISK (Nc & Car)	2E-01	100%	4E-07	100%
RESIDENT (ADULT)	Inhalation of Dust in Ambient Air	1E+00	78%	1E-06	19%
	Ingestion of Soil	3E-01	21%	4E-06	63%
	Dermal Contact to Soil	1E-02	1%	1E-06	18%
	TOTAL RECEPTOR RISK (Nc & Car)	<u>1E+00</u>	100%	<u>7E-06</u>	100%
RESIDENT (CHILD)	Inhalation of Dust in Ambient Air	2E+00	44%	7E-07	5%
	Ingestion of Soil	3E+00	55%	1E-05	79%
	Dermal Contact to Soil	8E-02	2%	2E-06	16%
	TOTAL RECEPTOR RISK (Nc & Car)	5E+00	100%	1E-05	100%
RESIDENT (TOTAL)	Inhalation of Dust in Ambient Air			2E-06	10%
	Ingestion of Soil			1E-05	73%
	Dermal Contact to Soil			3E-06	17%
NA NA A VIOLE	TOTAL RECEPTOR CANCER RISK			2E-05	100%

NA - Not Applicable

## Attachment D SEAD-002-R-01 – EOD-3

EOD3

EOD3

EOD3

SITE LOCATION EOD3-G18 EOD3-G19 EOD3-H18 EOD3-F18 EOD3-F19 LOCATION ID MATRIX SOIL SOIL SOIL SOIL SOIL SAMPLE ID 002R011013 002R011014 002R011016 002R011015 002R011017 TOP OF SAMPLE 0 0 0 0 Ω BOTTOM OF SAMPLE 0.2 0.2 0.2 0.2 0.2 SAMPLE DATE 12/11/2006 12/11.2006 12/11/2006 12/11/2006 12/12/2006 QC CODE SA SA SA SA SA STUDY ID NYSDEC Number Number RA RA RA RA RA Frequency Number Maximum of Unrestricted of of Times of Samples Units Concentration Detection Value (Q) Value (Q) Value (Q) Value (Q) Parameter Use Value (1) Exceedances Detected Analyzed Value (Q) Volatile Organic Compounds 1,1,1-Trichloroethane UG/KG 0% 680 7.7 U 8.8 U 7.2 U 11 U 5.2 U 1 1 2 2-Tetrachloroethane UG/KG 0 0% 0 7.2 U 11 U 5.2 IJ 0 7.7 U 88 [] 7.2 U 1.1.2-Trichloro-1.2.2-Trifluoroethane UG/KG 0 0% 0 0 8 7.7 U 8.8 U 11 U 5.2 U 1.1.2-Trichloroethane UG/KG 0 0% 0 7.7 U 8.8 U 7.2 U 11 U 5.2 U 0 72 U 1.1-Dichloroethane UG/KG 0% 270 77 U 11 U 5.2 U 0 0 0 8.8 11 1.1-Dichloroethene UG/KG 0 0% 330 0 0 7.7 U 8.8 U 7.2 U 11 U 5.2 U 1,2,4-Trichlorobenzene UG/KG 0 0% 0 7.7 U 8.8 U 7.2 U 11 U 5.2 U 0 0 11 U 1,2-Dibromo-3-chloropropane UG/KG 0% 77 LU 8.8 U 7.2 U 5.2 U 0 1,2-Dibromoethane UG/KG 0 0% 0 0 7.7 U 8.8 U 7.2 U 11 U 5.2 U 1,2-Dichlorobenzene UG/KG 0 0% 1100 0 0 7.7 U 8.8 U 7.2 U 11 U 5.2 U UG/KG 7.7 U 7.2 U 11 U 5.2 U 1,2-Dichloroethane 0% 8.8 11 0 20 0 0 1,2-Dicbloropropane UG/KG 0 0% 0 0 7.7 U 8.8 U 7.2 U 11 U 5.2 U 1,3-Dichlorobenzene UG/KG 0% 2400 0 7.7 U 8.8 U 7.2 U 11 U 5.2 U 1800 UG/KG 0% 8.8 U 11 U 5.2 U 1.4-Dichlorobenzene Λ 0 77 U 7.2 U UG/KG 260 100% 50 120 49 92 62 24 Acetone Benzene UG/KG 0.49 13% 60 0 7.7 U 8.8 U 7.2 U 11 U 0.49 J 5.2 U UG/KG 0% 7711 8.8 U 7.2 U 11 U Bromodichloromethane 0 0 Bromoform UG/KG 0 0% 7.7 U 8.8 U 7.2 U 11 U 5.2 U Carbon disulfide UG/KG 0.79 13% 15 U 18 U 14 U 21 U 0.79 J 52 II Carbon tetrachloride UG/KG 0 0% 760 0 7.7 U 8.8 U 7.2 U 11 U UG/KG 0 0% 1100 0 0 7.7 U 8.8 U 7.2 U 11 U 5.2 U Chlorobenzene 7.2 U 5.2 U Chlorodibromomethane UG/KG 0 0% 0 0 7.7 U 8.8 U 11 U 14 U 21 U 10 U 15 U 18 LI Chloroethane UG/KG 0 0% 0 0 Chloroform UG/KG 0 0% 370 7.7 U 8.8 U 7.2 U 11 U 5.2 U C1s-1,2-D1cbloroethene UG/KG 0 0% 250 7.7 U 8.8 U 7.2 U 11 U 5.2 U 8.8 U 7.2 U 11 U 5.2 U 77 U C1s-1,3-Dichloropropene UG/KG 0 0% Ω 7.7 UJ 8.8 U 7.2 U 11 U 1.2 J Cyclohexane UG/KG 1.2 13% Dichlorodifluoromethane UG/KG 0 0% 0 0 7.7 U 8.8 U 7.2 U 11 U 5.2 U 7.7 U 8.8 U 7.2 U 11 U 5.2 U 1000 Ethyl benzene UG/KG 0 0% 7.7 U 8.8 U 7.2 U li U 5.2 U UG/KG 0 0% Isopropylbenzene Meta/Para Xylene UG/KG 0 0% 0 7.7 U 8.8 U 7.2 U  $\Pi U$ 5.2 U 15 UJ 14 U 21 U 10 UJ 0 0% 0 0 18 U Methyl Acetate UG/KG 930 7.7 U 8.8 U 7.2 U 11 U 5.2 U Methyl Tertbutyl Ether UG/KG 0 0% 0 0 7.2 U 11 U 5.2 U Methyl bromide UG/KG 0 0% 0 0 7.7 U 8.8 U 15 UJ 18 U 14 U 21 U 10 U UG/KG 0% 0 Methyl butyl ketone 0 7.7 U 8.8 U 7.2 U 11 U 5.2 U Methyl chloride UG/KG 0 0% 0 11 U 1.3 J Methyl cyclohexane UG/KG 1.3 13% 0 7.7 UJ 8.8 U 7.2 U 5.4 J 9.7 J 5.1 J 10 U UG/KG 23 88% 120 0 6.5 J Methyl ethyl ketone 15 UJ 18 U 14 U 21 U 10 U Methyl isobutyl ketone UG/KG 0 0% 0 2 5 T 161 2 1 1 0.84 IMethylene chloride UG/KG 2.5 100% 50 0 1.7 J 7.7 U 8.8 U 7.2 U 11 U 5.2 U UG/KG 0% Ortho Xylene 0 0 7.7 U 8.8 U 7.2 U 11 U 5.2 U Styrene UG/KG 0 0% 5.2 U 7.2 LI 11 U Tetrachloroethene UG/KG 0 0% 1300 0 0 7.7 U 8.8 U 0.55 J 0.55 25% 0 0.48 J 8.8 U 7.2 U 11 U UG/KG 700 Toluene 190 7.7 U 8.8 U 7.2 U 11 U 5.2 U Trans-1.2-Dichloroethene UG/KG 0 0% 0 5.2 U 77 II 8.8 U 7.2 U 11 U Trans-1,3-Dichloropropene UG/KG 0 0% 0 0 5.2 U UG/KG 0% 470 7.7 U 8.8 U 7.2 U 11 U Trichloroethene 0 0 7.7 U 8.8 U 7.2 U 11 U 5.2 U Trichlorofluoromethane UG/KG 0 0% 5.2 U 8.8 U 7.2 U 11 U Vinyl chloride UG/KG 0% 20 0 7.7 U

EOD3

EOD3

SITE LOCATION								FODA	FODs	CODA	FORA	FOR
								EOD3	EOD3	EOD3	EOD3	EOD3
LOCATION ID								EOD3-F18	EOD3-F19	EOD3-G18	EOD3-G19	EOD3-H18
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								002R011013	002R011014	002R011016	002R011015	002R011017
TOP OF SAMPLE								0	0	0	0	0
BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								12/11/2006	12/11/2006	12/11/2006	12/11/2006	12/12/2006
QC CODE								SA	SA	SA	SA	SA
STUDY ID			Frequency	NYSDEC	Number	Number	Number	RA	RA	RA	RA	RA
		Maximum	of	Unrestricted	of	of Times	of Samples					
Parameter	Units	Concentration	Detection	Use Value (1)	Exceedances	Detected	Analyzed	Value (O)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Semivolatile Organic Compounds									(4/	100		
1,1'-Biphenyl	UG/KG	0	0%		0	0	8	460 U	520 U	440 U	590 U	400 U
2,4,5-Trichlorophenol	UG/KG	0	0%		0	0	8	460 U	520 U	440 U	590 U	400 U
2,4,6-Trichlorophenol	UG/KG	0	0%		0	0	8	460 U	520 U	440 U	590 U	400 U
2,4-Dichlorophenol	UG/KG	0	0%		0	0	8	460 U	520 U	440 U	590 U	400 U
2,4-Dimethylphenol	UG/KG	0	0%		0	0	8	460 U	520 U	440 U	590 U	400 U
2,4-Dinitrophenol	UG/KG	0	0%		0	0	8	2300 U	2700 U	2300 U	3000 U	2100 U
2,4-Dinitrotoluene	UG/KG	0	0%		0	0	8	460 U	520 U	440 U	590 U	400 U
2.6-Dinitrotoluene	UG/KG	0	0%		0	0	8	460 U	520 U	440 U	590 U	400 U
2-Chloronaphthalene	UG/KG	0	0%		0	0	8	460 U	520 U	440 U	590 U	400 U
2-Chlorophenol	UG/KG	0	0%		0	0	8	460 U	520 U	440 U	590 U	
2-Methylnaphthalene	UG/KG	0	0%		0	0	8					400 U
2-Methylphenol	UG/KG	0	0%	330	0	0	8	460 U	520 U	440 U	590 U	400 U
2-Nitroaniline	UG/KG	0	0%	330	0	0	8	460 U	520 U	440 U	590 U	400 U
					-	-	-	2300 U	2700 U	2300 U	3000 U	2100 U
2-Nitrophenol 3,3'-Dichlorobenzidine	UG/KG	0	0%		0	0	8	460 U	520 U	440 U	590 U	400 U
	UG/KG	0	0%		0	0	8	460 U	520 U	440 U	590 U	400 U
3-Nitroaniline	UG/KG	*	0%		0	0	8	2300 U	2700 U	2300 U	3000 U	2100 U
4,6-Dinitro-2-methylphenol	UG/KG	0	0%		0	0	8	2300 U	2700 U	2300 U	3000 U	2100 U
4-Bromophenyl phenyl ether	UG/KG	0	0%		0	0	8	460 U	520 U	440 U	590 U	400 U
4-Chloro-3-methylphenol	UG/KG	0	0%		0	0	8	460 U	520 U	440 U	590 U	400 U
4-Chloroaniline	UG/KG	0	0%		0	0	8	460 U	520 U	440 U	590 U	400 U
4-Chlorophenyl phenyl ether	UG/KG	0	0%		0	0	8	460 U	520 U	440 U	590 U	400 U
4-Methylphenol	UG/KG	0	0%	330	0	0	8	460 U	520 U	440 U	590 U	400 U
4-Nitroaniline	UG/KG	0	0%		0	0	8	2300 U	2700 U	2300 U	3000 U	2100 UJ
4-Nitrophenol	UG/KG	0	0%		0	0	8	2300 U	2700 U	2300 U	3000 U	2100 U
Acenaphthene	UG/KG	0	0%	20000	0	0	8	460 U	520 U	440 U	590 U	400 U
Acenaphthylene	UG/KG	0	0%	100000	0	0	8	460 U	520 U	440 U	590 U	400 U
Acetophenone	UG/KG	0	0%		0	0	8	460 U	520 U	440 U	590 U	400 U
Anthracene	UG/KG	0	0%	100000	0	0	8	460 U	520 U	440 U	590 U	400 U
Atrazine	UG/KG	0	0%		0	0	8	460 U	520 U	440 U	590 U	400 U
Benzaldehyde	UG/KG	0	0%		0	0	8	460 U	520 U	440 U	590 U	400 UJ
Benzo(a)anthracene	UG/KG	0	0%	1000	0	0	8	460 U	520 U	440 U	590 U	400 U
Benzo(a)pyrene	UG/KG	0	0%	1000	0	0	8	460 U	520 U	440 U	590 U	400 U
Benzo(b)fluoranthene	UG/KG	0	0%	1000	0	0	8	460 U	520 U	440 U	590 U	400 U
Benzo(ghi)perylene	UG/KG	0	0%	100000	0	0	8	460 U	520 U	440 U	590 U	400 U
Benzo(k)fluoranthene	UG/KG	0	0%	800	0	0	8	460 U	520 U	440 U	590 U	400 U
Bis(2-Chloroethoxy)methane	UG/KG	0	0%		0	0	8	460 U	520 U	440 U	590 U	400 U
Bis(2-Chloroethyl)ether	UG/KG	0	0%		0	0	8	460 U	520 U	440 U	590 U	400 U
Bis(2-Chloroisopropyl)ether	UG/KG	0	0%		0	0	8	460 U	520 U	440 U	590 U	400 U
Bis(2-Ethylhexyl)phthalate	UG/KG	0	0%		0	0	8	460 U	520 U	440 U	590 U	400 U
Butylbenzylphthalate	UG/KG	0	0%		0	0	8	460 U	520 U	440 U	590 U	400 U
Caprolactam	UG/KG	0	0%		0	0	8	460 U	520 U	440 U	590 U	400 UJ
Carbazole	UG/KG	0	0%		0	0	8	460 U	520 U	440 U	590 U	400 U
Chrysene	UG/KG	0	0%	1000	0	0	8	460 U	520 U	440 U	590 U	400 U
Di-n-butylphthalate	UG/KG	0	0%		0	0	8	460 U	520 U	440 U	590 U	400 U
Di-n-octylphthalate	UG/KG	0	0%		0	0	8	460 U	520 U	440 U	590 U	400 U
Dibenz(a,h)anthracene	UG/KG	0	0%	330	0	0	8	460 U	520 U	440 U	590 U	400 U
Dibenzofuran	UG/KG	0	0%	7000	0	0	8	460 U	520 U	440 U	590 U	400 U
Diethyl phthalate	UG/KG	0	0%	7000	0	0	8	460 U	520 U	440 U	590 U	400 U
Dimethylphthalate	UG/KG	0	0%		0	0	8	460 U	520 U	440 U	590 U	400 U
	00.110	•	070		· ·	U	O	400 0	320 0	440 0	390 0	400 0

SITE LOCATION LOCATION ID MATRIX SAMPLE ID TOP OF SAMPLE BOTTOM OF SAMPLE SAMPLE DATE QC CODE

EOD3 EQD3 EOD3 EOD3 EOD3 EOD3-F18 EOD3-F19 EOD3-G18 EOD3-G19 EOD3-H18 SOIL SOIL SOIL SOIL SOIL 002R011013 002R011014 002R011016 002R011015 002R011017 0 0.2 0.2 0.2 0.2 0.2 12/11/2006 12/11/2006 12/11/2006 12/11/2006 12/12 2006 SA SA SA SA SA

QC CODE								SA	SA	SA	SA	SA
STUDY ID			Frequency	NYSDEC	Number	Number	Number	RA	RA	RA	RA	RA
		Maximum	of	Unrestricted	of	of Times	of Samples					
Parameter	Units	Concentration	Detection	Use Value (1)	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Fluoranthene	UG/KG	0	0%	100000	0	0	8	460 U	520 U	440 U	590 U	400 U
Fluorene	UG/KG	0	0%	30000	0	0	8	460 U	520 U	440 U	590 U	400 U
Hexacblorobenzene	UG/KG	0	0%	330	0	0	8	460 U	520 U	440 U	590 U	400 U
Hexachlorobutadiene	UG/KĢ	0	0%		0	0	8	460 U	520 U	440 U	590 U	400 U
Hexachlorocyclopentadiene	UG/KĢ	0	0%		0	0	8	460 U	520 U	440 U	590 U	400 U
Hexachloroethane	UG/KG	0	0%		0	0	8	460 U	520 U	440 U	590 U	400 U
Indeno(1,2,3-cd)pyrene	UG/KG	0	0%	500	0	0	8	460 U	520 U	440 U	590 U	400 U
Isophorone	UG/KG	0	0%		0	0	8	460 U	520 U	440 U	590 U	400 U
N-Nitrosodiphenylamine	UG/KG	0	0%		0	0	8	460 U	520 U	440 U	590 U	400 U
N-Nitrosodipropylamine	UG/KG	0	0%		0	0	8	460 U	520 U	440 U	590 U	400 U
Naphthalene	UG/KG	0	0%	12000	0	0	8	460 U	520 U	440 U	590 U	400 U
Nitrobenzene	UG/KG	0	0%	12000	0	0	8	460 U	520 U	440 U	590 U	400 U
Pentachlorophenol	UG/KG	0	0%	800	0	0	8	2300 U	2700 U	2300 U	3000 U	2100 U
Phenanthrene	UG/KG	0	0%	100000	0	0	8	460 U	520 U	440 U	590 U	400 U
Phenol	UG/KG	0	0%	330	0	0	8	460 U	520 U	440 U	590 U	
Pyrene	UG/KG	0	0%	100000	0	0	8					400 U
Explosives	OG/KG	U	076	100000	U	0	8	460 U	520 U	440 U	590 U	400 U
1,3,5-Trinitrobenzene	LICIVO	0	00/		0	0	41	2000 11	2000 11	2000 11	2000 11	2000 11
1,3-Dinitrobenzene	UG/KG UG/KG	0	0% 0%		0	0	8	2000 U	2000 U	2000 U	2000 U	2000 U
							8	2000 U	2000 U	2000 U	2000 U	2000 U
2,4,6-Trinitrotoluene	UG/KG	0	0%		0	0	8	2000 U	2000 U	2000 U	2000 U	2000 U
2,4-Dinitrotoluene	UG/KG	0	0%		0	0	8	2000 U	2000 U	2000 U	2000 U	2000 U
2,6-Dinitrotoluene	UG/KG	0	0%		0	0	8	1000 U	1000 U	1000 U	1000 U	1000 U
2-Nitrotoluene	UG/KG	0	0%		0	0	8	2000 U	2000 U	2000 U	2000 U	2000 U
2-amino-4,6-Dinitrotoluene	UG/KG	0	0%		0	0	8	2000 U	2000 U	2000 U	2000 U	2000 U
3-Nitrotoluene	UG/KG	0	0%		0	0	8	2000 U	2000 U	2000 U	2000 U	2000 U
4-Nitrotoluene	UG/KG	0	0%		0	0	8	2000 U	2000 U	2000 U	2000 U	2000 U
4-ammo-2,6-Dinitrotoluene	UG/KG	0	0%		0	0	8	2000 U	2000 U	2000 U	2000 U	2000 U
HMX	UG/KG	0	0%		0	0	8	2000 U	2000 U	2000 U	2000 U	2000 U
Nitrobenzene	UG/KG	0	0%		0	0	8	500 U	500 U	500 U	500 U	500 U
Nitroglycerine	UG/KG	0	0%		0	0	8	2000 U	2000 U	2000 U	2000 U	2000 U
Pentaerythritol Tetranitrate	UG/KG	0	0%		0	0	8	2000 U	2000 U	2000 U	2000 U	2000 U
RDX	UG/KG	0	0%		0	0	8	2000 U	2000 U	2000 U	2000 U	2000 U
Tetryl	UG/KG	0	0%		0	0	8	2000 U	2000 U	2000 U	2000 U	2000 U
PCBs												
Aroclor-1016	UG/KG	0	0%		0	0	8	46 U	52 U	44 U	59 U	40 U
Aroclor-1221	UG/KG	0	0%		0	0	8	92 U	110 U	89 U	120 U	82 U
Aroclor-1232	UG/KG	0	0%		0	0	8	46 U	52 U	44 U	59 U	40 U
Aroclor-1242	UG/KG	0	0%		0	0	8	46 U	52 U	44 U	59 U	40 U
Aroclor-1248	UG/KG	0	0%		0	0	8	46 U	52 U	44 U	59 U	40 U
Aroclor-1254	UG/KG	0	0%		0	0	8	46 U	52 U	44 U	59 U	40 U
Aroclor-1260	UG/KG	0	0%		0	0	8	46 U	52 U	44 U	59 U	40 U
Pesticides	00.10	v	070		V	0	()	40 0	32 0	44 0	37 0	40 0
4,4'-DDD	UG/KG	0	0%	3.3	0	0	8	4.6 U	5.2 U	4.4 U	5.9 U	4 U
4,4'-DDE	UG/KG	0	0%	3.3	0	0	8	4.6 U		4.4 U	5.9 U	4 U
4,4'-DDT						0	-		5.2 U			
	UG/KG	0	0%	3.3	0		8	4.6 U	5.2 U	4.4 U	5.9 U	4 U
Aldrin	UG/KG	0	0%	5	0	0	8	2.3 U	2.7 U	2.3 U	3 U	2.1 U
Alpha-BHC	UG/KG	0	0%	20	0	0	8	2.3 U	2.7 U	2.3 U	3 U	2.1 U
Alpha-Chlordane	UG/KG	0	0%	94	0	0	8	2.3 U	2.7 U	2.3 U	3 U	2.1 U
Beta-BHC	UG/KG	0	0%	36	0	0	8	2.3 U	2.7 U	2.3 U	3 U	2.1 U
Delta-BHC	UG/KG	0	0%	40	0	0	8	2.3 U	2.7 U	2.3 U	3 U	2.1 U

SITE LOCATION LOCATION ID MATRIX SAMPLE ID								EOD3 EOD3-F18 SOIL 002R011013	EOD3 EOD3-F19 SOIL 002R011014	EOD3 EOD3-G18 SOIL 002R011016	EOD3 EOD3-G19 SOIL 002R011015	EOD3 EOD3-H18 SOIL 002R011017
TOP OF SAMPLE								0	0	0	0	0
BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								12/11/2006	12/11/2006	12/11/2006	12/11/2006	12/12/2006
QC CODE								SA	SA	SA	SA	SA
STUDY ID			Frequency	NYSDEC	Number	Number	Number	RA	RA	RA	RA	RA
		Maximum	of	Unrestricted	of	of Times	of Samples					
Parameter	Units	Concentration	Detection	Use Value (1)	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (O)	Value (O)	Value (Q)
Dieldrin	UG/KG	0	0%	5	0	0	8	4.6 U	5.2 U	4.4 U	5.9 U	4 U
Endosulfan I	UG/KG	0	0%	2400	0	0	8	2.3 U	2.7 U	2.3 U	3 U	2.1 U
Endosulfan II	UG/KG	0	0%	2400	0	0	8	4.6 U	5.2 U	4.4 U	5.9 U	4 U
Endosulfan sulfate	UG/KG	0	0%	2400	0	0	8	4.6 U	5.2 U	4.4 U	5.9 U	4 U
Endrin	UG/KG	0	0%	14	0	0	8	4.6 U	5.2 U	4.4 U	5.9 U	4 U
Endrin aldehyde	UG/KG	0	0%		0	0	8	4.6 U	5.2 U	4.4 U	5.9 U	4 U
Endrin ketone	UG/KG	0	0%		0	0	8	4.6 U	5.2 U	4.4 U	5.9 U	4 U
Gamma-BHC/Lindane	UG/KG	0	0%	100	0	0	8	2.3 U	2.7 U	2.3 U	3 U	2.1 U
Gamma-Chlordane	UG/KG	0	0%	100	0	0	8	2.3 U	2.7 U	2.3 U	3 U	2.1 U
Heptachlor	UG/KG	0	0%	42	0	0	8	2.3 U	2.7 U	2.3 U	3 U	2.1 U
Heptachlor epoxide	UG/KG	0	0%	72	0	0	8	2.3 U	2.7 U	2.3 U	3 U	2.1 U
Methoxychlor	UG/KG	0	0%		0	0	8	23 U	27 U	23 U	30 U	21 U
	UG/KG	0	0%		0	0	8	46 U	52 U	44 U	59 U	40 U
Toxaphene Metals	UG/KG	U	0%		U	O	0	40 0	32 0	44 0	39 0	40 0
	MOWO	16600	100%		0	8	8	14600	13600	14000	16600	8950
Aluminum	MG/KG	0	0%		0	0	8	0.46 UJ	0.54 UJ	0.46 UJ	0.62 UJ	0.43 UJ
Antimony	MG/KG			10	0	0	8	3.7	3.5	5.1	3.8	3.9
Arsenic	MG/KG	5.1	100%	13	0	8	8	111	110	115	163	79.6
Barium	MG/KG	163	100%	350	•	8	8		0.69 J	0.83	0.95	0.49 J
Beryllium	MG/KG	0.95	100%	7.2	0	8	8	0.81		0.83 0.18 J	0.93 0.2 J	0.49 J
Cadmium	MG/KG	0.2	75%	2.5	0	6 8	8	0.19 J	0.09 J		8570	105000
Calcium	MG/KG	105000	100%		0	•	•	2670	4870	3260		
Chromium	MG/KG	24	100%		0	8	8	21.7	18	20.5	24 8.5 J	15 8.5
Cobalt	MG/KG	10.6	100%		0	8	8	9.4	5.3	10.6	28.7	22.1
Copper	MG/KG	28.7	100%	50	0	8	8	18	18	26.8		
Iron	MG/KG	23300	100%	40	0	8	8	22100	17300	22300	23300	17100 10.9
Lead	MG/KG	25.3	100%	63	0	8	8	20.5	18.8	22.9	25.3	
Magnesium	MG/KG	14000	100%		0	8	8	3690	3300	3760	4700	14000
Manganese	MG/KG	751	100%	1600	0	8	8	617	220	751	342	462
Mercury	MG/KG	0.09	100%	0.18	0	8	8	0.06	0.08	0.07	0.09	0.02 J
Nickel	MG/KG	27	100%	30	0	8	8	25.7	17	25.6	27	26.3
Potassium	MG/KG	2150	100%		0	8	8	1580 J	1600 J	1570 J	2150 J	1330
Selenium	MG/KG	2.9	100%	3.9	0	8	8	2.9	1.9	1.9	1.7 J	0.79 J
Silver	MG/KG	0	0%	2	0	0	8	0.15 U	0.17 U	0.15 U	0.2 U	0.14 U
Sodium	MG/KG	0	0%		0	0	8	131 U	152 U	130 U	177 U	122 U
Thallium	MG/KG	0	0%		0	0	8	1.2 U	0.44 U	1.1 U	0.52 U	0.36 U
Vanadium	MG/KG	30.6	100%		0	8	8	26.4	23.7	26.8	30.6	17.3
Zinc	MG/KG	101	100%	109	0	8	8	84.3	68.8	96.4	101	57.2
Other Analyses												
Nitrate Nitrogen	MG/KG	8.1	38%		0	3	8	6.9 U	7.91 U	6.63 U	8.87 U	6.1 U
Percent Solids	%	82	100%		0	8	8	72.5	63.2	75.4	56.4	82

<sup>(1)</sup> Criteria based on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives, http://www.dec.state.ny.us/website/regs/subpart375\_6.html

<sup>(2)</sup> A bolded and outlined cell indicates a concentration that exceeded the criteria.

U = compound was not detected

J = the reported value is an estimated concentration

UJ = the compound was not detected; the associated reporting limit is approximate

SITE LOCATION LOCATION ID								EOD3 EOD3-H19	EOD3 EOD3-I18	EOD3 EOD3-I18	EOD3 EOD3-119
MATRIX								SOIL	SOIL	SOIL	SOIL
SAMPLE ID								002R011018	002R011021	002R011020	002R011019
TOP OF SAMPLE								0	0	0	0
BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2
SAMPLE DATE								12/12/2006	12/12/2006	12/12/2006	12/12/2006
QC CODE								SA	DU	SA	SA
STUDY ID			Frequency	NYSDEC	Number	Number	Number	RA	RA	RA	RA
		Maximum	of	Unrestricted	of	of Times	of Samples				
Parameter	Units	Concentration	Detection	Use Value (1)	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds											
1,1,1-Trichloroethane	UG/KG	0	0%	680	0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%		0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
1,1,2-Trichloroethane	UG/KG	0	0%		0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
1,1-Dichloroethane	UG/KG	0	0%	270	0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
1,1-Dichloroethene	UG/KG	0	0%	330	0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
1,2,4-Trichlorobenzene	UG/KG	0	0%		0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
1,2-Dibromoethane	UG/KG	0	0%		0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
1,2-Dichlorobenzene	UG/KG	0	0%	1100	0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
1,2-Dichloroethane	UG/KG	0	0%	20	0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
1,2-Dichloropropane	UG/KG	0	0%		0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
1,3-Dichlorobenzene	UG/KG	0	0%	2400	0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
1,4-Dichlorobenzene	UG/KG	0	0%	1800	0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
Acetone	UG/KG	260	100%	50	6	8	8	260	91 J	25 J	120
Benzene	UG/KG	0.49	13%	60	0	1	8	6.7 U	7.5 U	7.3 U	7.1 U
Bromodichloromethane	UG/KG	0	0%		0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
Bromoform	UG/KG	0	0%		0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
Carbon disulfide	UG/KG	0.79	13%		0	I	8	13 U	15 U	15 U	14 U
Carbon tetrachloride	UG/KG	0	0%	760	0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
Chlorohenzene	UG/KG	0	0%	1100	0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
Chlorodibromomethane	UG/KG	0	0%		0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
Chloroethane	UG/KG	0	0%		0	0	8	13 U	15 U	15 U	14 U
Chloroform	UG/KG	0	00.9	370	0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
C1s-1,2-D1chloroethene	UG/KG	0	0%	250	0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
C1s-1,3-Dichloropropene	UG/KG	0	0%		0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
Cyclohexane	UG/KG	1.2	13%		0	1	8	6.7 U	7.5 U	7.3 U	7.1 U
Dichlorodifluoromethane	UG/KG	0	0%		0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
Ethyl benzene	UG/KG	0	0%	1000	0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
Isopropylbenzene	UG/KG	0	0%		0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
Meta/Para Xylene	UG/KG	0	0%		0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
Methyl Acetate	UG/KG	0	0%		0	0	8	13 UJ	15 UJ	15 U	14 UJ
Methyl Tertbutyl Ether	UG/KG	0	0%	930	0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
Methyl bromide	UG/KG	0	0%		0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
Methyl butyl ketone	UG/KG	0	0%		0	0	8	13 U	15 U	15 U	14 U
Methyl chloride	UG/KG	0	0%		0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
Methyl cyclohexane	UG/KG	1.3	13%		0	1	8	6.7 U	7.5 U	7.3 U	7.1 U
Methyl ethyl ketone	UG/KG	23	88%	120	0	7	8	23	8.9 J	15 U	11 J
Methyl isobutyl ketone	UG/KG	0	0%		0	0	8	13 U	15 U	15 U	14 U
Methylene chloride	UG/KG	2.5	100%	50	0	8	8	1.8 J	1.5 5	0.81 J	1.4 J
Ortho Xylene	UG/KG	0	0%		0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
Styrene	UG/KG	0	0%		0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
Tetrachloroethene	UG/KG	0	0%	1300	0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
Toluene	UG/KG	0.55	25%	700	0	2	8	6.7 U	7.5 U	7.3 U	7.1 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	190	0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
Trans-1,3-Dichloropropene	UG/KG	0	0%		0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
Trichloroethene	UG/KG	0	0%	470	0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
Trichlorofluoromethane	UG/KG	0	0%		0	0	8	6.7 U	7.5 U	7.3 U	7.1 U
Vinyl chloride	UG/KG	0	0%	20	0	0	8	6.7 U	7.5 U	7.3 U	7.1 U

SITE LOCATION								EOD3	EOD3	EOD3	EOD3 EOD3-I19
LOCATION ID								EOD3-H19 SOIL	EOD3-I18	EOD3-118	SOIL
MATRIX SAMPLE ID								002R011018	SOIL 002R011021	SOIL 002R011020	002R011019
TOP OF SAMPLE								002R011018	002R011021	002R011020 0	002R011019
BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2
SAMPLE DATE								12/12/2006	12/12/2006	12/12/2006	12/12/2006
OC CODE								SA	DU	SA	SA
STUDY ID			Frequency	NYSDEC	Number	Number	Number	RA	RA	RA	RA
STODT ID		Maximum	of	Unrestricted	of	of Times	of Samples	NA.	KA	NA.	KA
Parameter	Units	Concentration	Detection	Use Value (1)	Exceedances	Detected	Analyzed	Value (O)	Value (O)	Value (O)	Value (O)
Semivolatile Organic Compounds	Cuito	Concentiation	Detection	Dac value (x)	Excediances	Detected	Analyzeu	value (Q)	Value (Q)	Value (Q)	Value (Q)
1,1'-Biphenyl	UG/KG	0	0%		0	0	8	450 U	450 U	460 U	470 U
2,4,5-Trichlorophenol	UG/KG	0	0%		0	0	8	450 U	450 U	460 U	470 U
2,4,6-Trichlorophenol	UG/KG	0	0%		0	0	8	450 U	450 U	460 U	470 U
2,4-Dichlorophenol	UG/KG	0	0%		0	o	8	450 U	450 U	460 U	470 U
2,4-Dimethylphenol	UG/KG	0	0%		0	0	8	450 U	450 U	460 U	470 U
2,4-Dinitrophenol	UG/KG	0	0%		0	0	8	2300 U	2300 U	2400 U	2400 U
2,4-Dinitrotoluene	UG/KG	0	0%		0	0	8	450 U	450 U	460 U	470 U
2,6-Dinitrotoluene	UG/KG	0	0%		0	0	8	450 U	450 U	460 U	470 U
2-Chloronaphthalene	UG/KG	0	0%		0	0	8	450 U	450 U	460 U	470 U
2-Chlorophenol	UG/KG	0	0%		0	0	8	450 U	450 U	460 U	470 U
2-Methylnaphthalene	UG/KG	0	0%		0	0	8	450 U	450 U	460 U	470 U
2-Methylphenol	UG/KG	0	0%	330	0	0	8	450 U	450 U	460 U	470 U
2-Nitroaniline	UG/KG	0	0%	330	0	0	8	2300 U	2300 U	2400 U	2400 U
2-Nitrophenol	UG/KG	0	0%		0	0	8	450 U	450 U	460 U	470 U
3,3'-Dichlorobenzidine	UG/KG	0	0%		0	0	8	450 U	450 U	460 U	470 U
3-Nitroaniline	UG/KG	0	0%		0	0	8	2300 U	2300 U	2400 U	2400 U
	UG/KG	0	0%		0	0	8	2300 U	2300 U	2400 U	2400 U
4,6-Dinitro-2-methylphenol	UG/KG	0	0%		0	0	8	450 U	450 U	460 U	470 U
4-Bromophenyl phenyl ether	UG/KG	0	0%		0	0	8		450 U	460 U	470 U
4-Chloro-3-methylphenol		0	0%		0	0	8	450 U			470 U
4-Chloroaniline	UG/KG	0			0		8	450 U	450 U	460 U 460 U	470 U
4-Chlorophenyl phenyl ether	UG/KG	0	0% 0%	220	0	0	8	450 U	450 U	460 U	470 U
4-Methylphenol 4-Nitroaniline	UG/KG UG/KG	0	0%	330	0	0	8	450 U	450 U		
	UG/KG	0	0%		0	0	8	2300 UJ 2300 U	2300 UJ 2300 U	2400 U 2400 U	2400 UJ 2400 U
4-Nitrophenol		0	0%	20000	0	0	8				
Acenaphthene	UG/KG UG/KG	0	0%	20000 100000	0	0	8	450 U	450 U	460 U	470 U 470 U
Acenaphthylene		0	0%	100000	0	0	8	450 U 450 U	450 U 450 U	460 U 460 U	470 U
Acetophenone Anthracene	UG/KG UG/KG	0	0%	100000	0	0	8	450 U	450 U	460 U	470 U
Attrazine	UG/KG	0	0%	100000	0	0	8	450 U	450 U	460 U	470 U
Benzaldehyde	UG/KG	0	0%		0	0	8	450 UJ	450 UJ	460 U	470 UJ
	UG/KG	0	0%	1000	0	0	8	450 U	450 U	460 U	470 U
Benzo(a)anthracene Benzo(a)pyrene	UG/KG	0	0%	1000	0	0	8	450 U	450 U	460 U	470 U
Benzo(b)fluoranthene	UG/KG	0	0%	1000	0	0	8	450 U	450 U	460 U	470 U
	UG/KG	0	0%	10000	0	0	8	450 U	450 U	460 U	470 U
Benzo(ghi)perylene Benzo(k)fluoranthene	UG/KG	0	0%	800	0	0	8	450 U	450 U	460 U	470 U
	UG/KG	0	0%	800	0	0	8	450 U	450 U	460 U	470 U
Bis(2-Chloroethoxy)methane		0	0%		0	0	8				
Bis(2-Chloroethyl)ether	UG/KG UG/KG	0	0%		0	0	8	450 U	450 U 450 U	460 U 460 U	470 U 470 U
Bis(2-Chloroisopropyl)ether	UG/KG	0	0%		0	0	8	450 U			470 U
Bis(2-Ethylhexyl)phthalate		0			•	•	-	450 U	450 U	460 U	
Butylbenzylphthalate	UG/KG UG/KG	0	0% 0%		0	0	8	450 U	450 U	460 U	470 U
Caprolactam Carbazole		0	0%		0	0	8	450 UJ	450 UJ	460 U	470 UJ
	UG/KG	-		1000	•	0		450 U	450 U	460 U	470 U
Chrysene	UG/KG	0	0%	1000	0	0	8	450 U	450 U	460 U	470 U
Di-n-butylphthalate	UG/KG				0	•	-	450 U	450 U	460 U	470 U
Di-n-octylphthalate	UG/KG	0	0%	220	•	0	8	450 U	450 U	460 U	470 U
Dibenz(a,h)anthracene	UG/KG	0	0%	330	0	0	8	450 U	450 U	460 U	470 U
Dibenzofuran	UG/KG		0%	7000		0		450 U	450 U	460 U	470 U
Diethyl phthalate	UG/KG	0	0%		0	0	8	450 U	450 U	460 U	470 U
Dimethylphthalate	UG/KG	U	0%		U	U	8	450 U	450 U	460 U	470 U

EOD3

4.5 U

4511

4.5 U

2.3 U

2.3 U

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4.6 U

2.4 U

2.4 U

2.4 U

2.4 U

2.4 U

EOD3

EOD3

EOD3

SITE LOCATION LOCATION ID EOD3-H19 EOD3-118 EOD3-I18 EOD3-119 MATRIX SOIL SOIL SOIL SOIL SAMPLE ID 002R011018 002R011021 002R011020 002R011019 TOP OF SAMPLE 0 0 0 0 BOTTOM OF SAMPLE 0.2 0.2 0.2 0.2 12/12/2006 SAMPLE DATE 12/12/2006 12/12/2006 12/12/2006 QC CODE DU SA SA SA STUDY ID Frequency NYSDEC Number RA RA RA Number Number RA Maximum Unrestricted of Times of Samples Use Value (1) Parameter Units Concentration Detection Exceedances Detected Analyzed Value (Q) Value (Q) Value (Q) Value (Q) Fluoranthene UG/KG 0% 100000 450 U 450 U 460 U 470 U Fluorene UG/KG 0 0% 30000 0 450 U 450 U 460 U 470 U 450 U 470 U Hexachlorobenzene UG/KG 0 330 450 U 0% 0 0 460 U Hexachlorobutadiene UG/KG 0 0% 450 U 450 U 460 U 470 U 0 Hexachlorocyclopentadiene UG/KG 0 0% 0 450 U 450 U 460 U 470 U Hexachloroethane UG/KG 0% 450 U 470 U 0 0 0 450 U 460 U Indeno(1,2,3-cd)pyrene UG:'KG 0 0% 500 0 450 U 450 U 460 U 470 U 0 0 Isophorone UG/KG 0% 0 0 450 U 450 U 460 U 470 U N-Nitrosodiphenylamine UG/KG 0 0% 0 0 450 U 450 U 470 U 460 U N-Nitrosodipropylamine UG/KG 0 0% 0 450 U 450 U 460 U 470 U 0 UG/KG Naphthalene 0 0% 12000 0 0 450 U 450 U 460 U 470 U 450 U Nitrobenzene UG/KG Ω 0% 450 U 460 U 470 U Ω 0 Pentachlorophenol UG/KG 0% 800 2300 U 2300 U 2400 U 2400 U 0 0 0 Phenanthrene UG/KG 0 0% 100000 0 0 450 U 450 U 460 U 470 U 470 U Phenol UG/KG 0 0% Λ 450 U 330 Ω 450 U 460 U Pyrene UG/KG 0 0% 100000 0 0 450 U 450 U 460 U 470 U Explosives 1.3.5-Trinitrobenzene UG/KG Λ 0% Ω 0 2000 U 2000 U 2000 U 2000 U 1,3-Dinitrobenzene UG/KG 0 0% 0 0 2000 U 2000 U 2000 U 2000 U 2000 U 2,4,6-Trinitrotoluene UG/KG 0 0% 0 0 2000 U 2000 U 2000 U 2.4-Dinttrotoluene UG/KG 0 0 2000 U 2000 U 2000 U 0% 0 2000 U 2,6-Dinitrotoluene UG/KG 0 0% 0 0 1000 U 1000 U 1000 U 1000 U 2000 U 2000 U 2000 U 2-Nitrotoluene UG/KG 0 0% 0 0 2000 U 2-amino-4.6-Dinitrotoluene UG/KG 0% 2000 U 2000 U 2000 U 2000 U 0 0 0 3-Nitrotoluene UG/KG 0 0% ه 2000 U 2000 U 2000 U 2000 U 4-Nitrotoluene UG/KG 0 0% 0 0 2000 U 2000 U 2000 U 2000 U 4-anuno-2,6-Dinitrotoluene UG/KG 0 0% 0 2000 U 2000 U 2000 U 2000 U 0 нмх UG/KG 0 0% 0 2000 U 2000 U 2000 U 2000 U 0 Nitrobenzene UG/KG 0 0% 0 500 U 500 U 500 U 500 U UG/KG 0% 2000 U 2000 U 2000 U 2000 U Nitroglycerine 0 0 UG/KG 0 0% 2000 U 2000 U 2000 U 2000 U Pentaerythritol Tetranitrate 2000 U 2000 U RDX UG/KG 0 0% 0 2000 U 2000 U 2000 U 2000 U UG/KG 0 0% 0 0 2000 U 2000 U Tetryl **PCBs** 47 U 45 U 45 U 46 U Aroclor-1016 UG/KG 0 0% 0 0 95 U UG/KG 0% 0 92 U 92 U 94 U Aroclor-1221 0 0 Aroclor-1232 UG/KG 0 0% 45 U 45 U 46 U 47 U 45 U 46 U 47 11 Aroclor-1242 UG/KG 0 0% 0 0 45 U 47 U 0 0 45 U 45 U 46 U Aroclor-1248 UG/KG 0% 0 Aroclor-1254 UG/KG 0 0% 0 45 U 45 U 46 U 47 U 47 U 45 U 45 U Aroclor-1260 UG/KG 0 0%0 Ω 46 U Pesticides

0

0

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0

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0

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0

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0

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4.7 U

4.7 U

4.7 U

2.4 U

2.4 U

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2.4 U

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0%

0%

0%

0%

0%

3.3

3.3

3.3

20

94

36

40

UG/KG

UG/KG

UG/KG

UG/KG

UG/KG

UG/KG

UG/KG

UG/KG

4,4'-DDD

4,4'-DDE

4.4'-DDT

Alpha-BHC

Beta-BHC

Delta-BHC

Alpha-Chlordane

Aldrin

TABLE 1 SEAD-002-R-01 (EOD-3) SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

SITE LOCATION LOCATION ID MATRIX SAMPLE ID								EOD3 EOD3-H19 SOIL 002R011018	EOD3 EOD3-118 SOIL 002R011021	EOD3 EOD3-118 SOIL 002R011020	EOD3 EOD3-I19 SOIL 002R011019
TOP OF SAMPLE								0	0	0	0
BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2
SAMPLE DATE								12/12/2006	12/12/2006	12/12/2006	12/12/2006
OC CODE								SA	DU	SA	SA
STUDY ID			Frequency	NYSDEC	Number	Number	Number	RA	RA	RA	RA
		Maximum	of	Unrestricted	of	of Times	of Samples				
Parameter	Units	Concentration	Detection	Use Value (1)	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Dieldrin	UG/KG	0	0%	5	0	0	8	4.5 U	4.5 U	4.6 U	4.7 U
Endosulfan I	UG/KG	0	0%	2400	0	0	8	2.3 U	2.3 U	2.4 U	2.4 U
Endosulfan II	UG/KG	0	0%	2400	0	0	8	4.5 U	4.5 U	4.6 U	4.7 U
Endosulfan sulfate	UG/KG	0	0%	2400	0	0	8	4.5 U	4.5 U	4.6 U	4.7 U
Endrin	UG/KG	0	0%	14	0	0	8	4.5 U	4.5 U	4.6 U	4.7 U
Endrin aldehyde	UG/KG	0	0%		0	0	8	4.5 U	4.5 U	4.6 U	4.7 U
Endrin ketone	UG/KG	0	0%		0	0	8	4.5 U	4.5 U	4.6 U	4.7 U
Gamma-BHC/Lindane	UG/KG	0	0%	100	0	0	8	2.3 U	2.3 U	2.4 U	2.4 U
Gamma-Chlordane	UG/KG	0	0%		0	0	8	2.3 U	2.3 U	2.4 U	2.4 U
Heptachlor	UG/KG	0	0%	42	0	0	8	2.3 U	2.3 U	2.4 U	2.4 U
Heptachlor epoxide	UG/KG	0	0%		0	0	8	2.3 U	2.3 U	2.4 U	2.4 U
Methoxychlor	UG/KG	0	0%		0	0	8	23 U	23 U	24 U	24 U
Toxaphene	UG/KG	0	0%		0	0	8	45 U	45 U	46 U	47 U
Metals											
Aluminum	MG/KG	16600	100%		0	8	8	14700	13900	15800	15600
Antimony	MG/KG	0	0%		0	0	8	0.48 UJ	0.47 UJ	0.47 UJ	0.49 UJ
Arsenic	MG/KG	5.1	100%	13	0	8	8	4.1	3	3.6	4.4
Barium	MG/KG	163	100%	350	0	8	8	121	88.4	100	99.1
Beryllium	MG/KG	0.95	100%	7.2	0	8	8	0.77	0.66 J	0.75	0.74
Cadmium	MG/KG	0.2	75%	2.5	0	6	8	0.17 J	0.05 U	0.05 U	0.1 J
Calcium	MG/KG	105000	100%		0	8	8	5120	2630	2740	4310
Chromium	MG/KG	24	100%		0	8	8	21.5	18.6	21.1	21.3
Cobalt	MG/KG	10.6	100%		0	8	8	9.5	6.5 J	8.1	9.9
Copper	MG/KG	28.7	100%	50	0	8	8	22.1	14.5	15.9	19.1
Iron	MG/KG	23300	100%		0	8	8	20900	19300	22100	22100
Lead	MG/KG	25.3	100%	63	0	8	8	24.3	18	21.1	21.8
Magnesium	MG/KG	14000	100%		0	8	8	3900	3140	3500	4130
Manganese	MG/KG	751	100%	1600	0	8	8	579	400	561	572
Mercury	MG/KG	0.09	100%	0.18	0	8	8	0.08	0.06	0.06	0.07
Nickel	MG/KG	27	100%	30	0	8	8	25.2	16.7	18.9	22.9
Potassium	MG/KG	2150	100%		0	8	8	2090	1410	1390	1590
Selenium	MG/KG	2.9	100%	3.9	0	8	8	1.7	1.5	1.7	2
Silver	MG/KG	0	0%	2	0	0	8	0.16 U	0.15 U	0.15 U	0.16 U
Sodium	MG/KG	0	0%	-	0	0	8	137 U	133 U	135 U	42.9 U
Thallium	MG/KG	0	0%		0	0	8	1.2 U	0.39 U	1.2 U	1.2 U
Vanadium	MG/KG	30.6	100%		0	8	8	28	26.5	30.4	28.6
Zinc	MG/KG	101	100%	109	0	8	8	85.5	63	68.4	81.5
Other Analyses	MOINO	101	100/0	107	V	o o	· ·	03.5	00		0.10
Nitrate Nitrogen	MG/KG	8.1	38%		0	3	8	8.1	6.87 U	7	7.11
Percent Solids	%	82	100%		0	8	8	72.8	72.8	71.4	70.3
OULL DOMAS	/ 0	02	100,0		•	•					

<sup>(</sup>I) Criteria based on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives, http://www.dec.state.ny.us/website/regs/subpart375\_6.html
(2) A bolded and outlined cell indicates a concentration that exceeded the criteria.

U = compound was not detected

J = the reported value is an estimated concentration

UJ = the compound was not detected; the associated reporting limit is approximate

### OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN IN SEAD-002-R-01 (EOD-3) SOIL SENECA ARMY DEPOT ACTIVITY

Scenario Time frame: Curent/Future
Medium: Soil
Exposure Medium: Soil
Exposure Point: SEAD 002-R-01 EOD 3

CAS Number	Chemical	Minimum Detected Concentration <sup>1</sup> (mg/kg)	Q	Maximum Detected Concentration <sup>1</sup> (mg/kg)	Q	Location of Maximum Concentration		que		Rang Repor Limi	ting	Concentration Used for Screening	Background Value <sup>3</sup> (mg/kg)	Screening Value <sup>4</sup> (mg/kg)	Potential ARAR/TBC Source	ARAR / TBC Value <sup>5</sup> (mg/kg)	COPC Flag	Rationale for Contaminant Deletion or Selection <sup>6</sup>
VOC			_					ТТ		1111111		(111)						
67-64-1	Acetone	0.024		0.26		EOD3-H19	9	/	9	0	- 0	0.26		6.100	NYSDEC Subpart 375-6	0.05	NO	BSL
71-43-2	Benzene	0.00049	J	0.00049	J	EOD3-H18	1	1	9	0.0067	- 0.01	0.00049		1.1	NYSDEC Subpart 375-6	0.06	NO	BSL
75-15-0	Carbon disulfide	0.00079	J	0.00079	J	EOD3-H18	1	1	9	0.013	- 0.02	0.00079		67			NO	BSL
110-82-7	Cyclohexane	0.0012	J	0.0012	J	EOD3-H18	1	1	9	0.0067	- 0.01	0.0012		720			NO	BSL
108-87-2	Methyl cyclohexane	0.0013	J	0.0013	J	EOD3-H18	1	1	9	0.0067	- 0.01	0.0013						NSV
78-93-3	Methyl ethyl ketone	0.0051	3	0.023		EOD3-H19	7	1	9	0.01	- 0.02	0.023		2,800	NYSDEC Subpart 375-6	0.12	NO	BSL
75-09-2	Methylene chloride	0.00081	J	0.0025	1	EOD3-F19	9	1	9	0	- 0	0.0025		11	NYSDEC Subpart 375-6	0.05	NO	BSL
108-88-3	Toluene	0.00048	J	0.00055	J	EOD3-H18	2	1	9	0.0067	- 0.01	0.00055		500	NYSDEC Subpart 375-6	0.7	NO	BSL
Metals								T										
7429-90-5	Aluminum	8,950		16,600		EOD3-G19	9	1	9	0	- 0	16,600	20,500	7,700			YES	ASL
7440-38-2	Arsenic	3		5.1		EOD3-G18	9	1	9	0	- 0	5.1	21.5	0.39	NYSDEC Subpart 375-6	13	YES	ASL
7440-39-3	Barium	79.6		163		EOD3-G19	9	1	9	0	- 0	163	159	1,500	NYSDEC Subpart 375-6	350	NO	BSL
7440-41-7	Beryllium	0.49	J	0.95		EOD3-G19	9	1	9	0	- 0	0.95	1.4	16	NYSDEC Subpart 375-6	7.2	NO	BSL
7440-43-9	Cadmium	0.09	J	0.2	J	EOD3-G19	6	1	9	0.04	- 0.05	0.2	2.9	7	NYSDEC Subpart 375-6	2.5	NO	BSL
7440-70-2	Calcium	2,630		105,000		EOD3-H18	9	1/	9	0	- 0	105,000	293,000					NUT
7440-47-3	Chromium	15		24		EOD3-G19	9	1	9	0	- 0	24	32.7	280			NO	BSL
7440-48-4	Cobalt	5.3		10.6		EOD3-G18	9	1	9	0	- 0	10.6	29.1	2.3			YES	ASL
7440-50-8	Copper	14.5		28.7		EOD3-G19	9	1	9	0	- 0	28.7	62.8	310	NYSDEC Subpart 375-6	50	NO	BSL
7439-89-6	Iron	17,100		23,300		EOD3-G19	9	/	9	0	- 0	23,300	381,600	5,500			YES	ASL
7439-92-1	Lead	10.9		25.3		EOD3-G19	9	1	9	0	- 0	25.3	266	40	NYSDEC Subpart 375-6	63	NO	BSL
7439-95-4	Magnesium	3,140		14,000		EOD3-H18	9	1	9	0	- 0	14,000	29,100					NUT
7439-96-5	Manganese	220		751		EOD3-G18	9	1	9	0	- 0	751	2,380	180	NYSDEC Subpart 375-6	1,600	YES	ASL
7439-97-6	Mercury	0.02	J	0.09		EOD3-G19	9	1	9	0	- 0	0.09	0.13	0.43	NYSDEC Subpart 375-6	0.18	NO	BSL
7440-02-0	Nickel	16.7		27		EOD3-G19	9	1	9	0	- 0	27	62.3	150	NYSDEC Subpart 375-6	30	NO	BSL
7440-09-7	Potassium	1330		2150	J	EOD3-G19	9	1	9	0	- 0	2,150	3,160					NUT
7782-49-2	Selenium	0.79	J	2.9		EOD3-F18	9	1	9	0	- 0	2.9	1.7	39	NYSDEC Subpart 375-6	3.9	NO	BSL
7440-62-2	Vanadium	17.3		30.6		EOD3-G19	9	1	9	0	- 0	30.6	32.7	55			NO	BSL
7440-66-6	Zinc	57.2		101		EOD3-G19	9	1	9	0	- 0	101	126	2300	NYSDEC Subpart 375-6	109	NO	BSL
Other Analytes			L.															
14797-55-8	Nitrate Nitrogen	7		8.1		EOD3-H19	3	1	9	6.1	- 8.87	8.1		13000			NO	BSL

#### Notes

- 1. Field duplicate pairs were averaged as a discrete sample. Laboratory duplicates were not included in the assessment. Range of reporting limits were presented for nondetects only.
- 2. The maximum detected concentration was used for screening.
- 3. Background value is the maximum Seneca background concentration.
- 4. EPA Regional Screening Levels for residential soil. On-line resources available at http://www.epa.gov/region09/superfund/prg/index.html. Last updated April 2009.
- Region 9 PRGs were derived based on Direct contact exposure (ingestion and dermal contact) and a target Cancer Risk of 1E-6 or a Target Hazard Quotient of 0.1.

Screening values for calcium, magnesium, potassium, and sodium were calculated based on an assumption of 200 mg/day soil ingestion and recommended dietary allowances and adequate intakes for 1-3 yr children

(200 mg/day soil ingestion and recommended dietary allowances and adequate intakes for 1-3 yr children

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(500 mg/day and 80 mg/day for calcium and magnesium) and minimum requirements for 1 yr children (225 mg/day and 1000 mg/day for sodium and potassium) from Marilyn Wright (2001) Dietary Reference Intakes. PRG for total chromium (1:6 ratio Cr VI: Cr III) was used as screening value for chromium.

PRG for nickel (soluble salts) was used as screening value for nickel.

5. Potential ARAR/TBC values are from NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives, http://www.dec.state.ny.us/website/regs/subpart375\_6.html

6. Rationale codes Selection Reason: Above Screening Levels (ASL) No Screening Value (NSV)

Chemicals in the Same Group were retained as COPC (CSG)

Deletion Reason: Essential Nutrient (NUT)
Below Screening Level (BSL)

Definitions: COPC = Chemical of Potential Concern

ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered

Q = Qualifier
J = Estimated Value

## TABLE 3A SOIL EXPOSURE POINT CONCENTRATION SUMMARY FOR SEAD-002-R-01 (EOD-3) SENECA ARMY DEPOT ACTIVITY

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Soil
Exposure Point:	SEAD 002-R-01 EOD 3

CAS#	Chemical	Units	Arithmetic	EPA ProUCL	Maximum	Q	EPC	Reasonable Maxim	num Exposure (2)	
	of		Mean	Student-t 95th	Detected		Units	EPA ProUCL	Medium	Medium
	Potential		(1)	UCL Value	Concentration			Recommended	EPC	EPC
	Concern			(1, 2)	(1)			UCL Value	Statistic	Rationale
108-87-2	Methyl cyclohexane	mg/kg	1.3E-03	- (3)	0.0013	J	mg/kg	1.3E-03	-	-
7429-90-5	Aluminum	mg/kg	14,194	15,559	16,600		mg/kg	15,559	95% Student's-t UCL	Normal
7440-38-2	Arsenic	mg/kg	3.90	4.27	5.1		mg/kg	4.27	95% Student's-t UCL	Normal
7440-48-4	Cobalt	mg/kg	8.48	9.52	10.6		mg/kg	9.52	95% Student's-t UCL	Normal
7439-89-6	Iron	mg/kg	20,722	22,138	23,300		mg/kg	22,138	95% Student's-t UCL	Normal
7439-96-5	Manganese	mg/kg	500.40	600.10	751		mg/kg	600.10	95% Student's-t UCL	Normal

#### Notes:

- 1. Field duplicates were averaged and regarded as one sample entry. Laboratory duplicates were not included in the assessment. Nondetectes were assumed to be half reporting limits.
- 2. The EPCs were calculated using the ProUCL (Version 3.00.02) and the EPCs were selected in accordance with the ProUCL Version 3.0 User Guide (USEPA, 2004) and the Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites (USEPA, 2002).
  - Q qualifier
  - J = Estimated Value
- 3. Insufficient number of detects in the dataset to perform 95th UCL analysis in ProUCL. This typical means there was a single detect in the dataset for this compound.

#### TABLE 3B

## AMBIENT AIR EXPOSURE POINT CONCENTRATIONS FOR PARK WORKERS, VISITORS, & RESIDENTS AT SEAD-002-R-01 (EOD-3) SENECA ARMY DEPOT ACTIVITY

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Air
Exposure Point:	SEAD-002-R-01 (EOD Area 3)

Equation for Air EPC from Surface Soil (mg/m³) = CSsurf x PM10 x CF

Variables:

CSsurf = Chemical Concentration in Surface Soil, from EPC data (mg/kg)

PM10 = Average Measured PM10 Concentration = 34.58 ug/m<sup>3</sup>

CF = Conversion Factor = 1E-9 kg/ug

	Reasonable N	Maximum Exposure
Amalata	EPC Data for	Calculated Air EPC
Analyte	Surface Soil	Surface Soil
	(mg/kg)	(mg/m³)
Methyl cyclohexane	1.3E-03	4.5E-11
Aluminum	1.6E+04	5.4E-04
Arsenic	4.3E+00	1.5E-07
Cobalt	9.5E+00	3.3E-07
Iron	2.2E+04	7.7E-04
Manganese	6.0E+02	2.1E-05

#### TABLE 3C

#### AMBIENT AIR EXPOSURE POINT CONCENTRATIONS FOR CONSTRUCTION WORKER AT SEAD-002-R-01 (EOD-3) SENECA ARMY DEPOT ACTIVITY

Scenario Timeframe: Current/Future

Medium: Soil Exposure Medium: Air

Exposure Point: SEAD-002-R-01 (EOD Area 3)

Equation for Air EPC from Total Soils  $(mg/m^3)$  = CStot x PM10 x CF

Variables:

CStot = Chemical Concentration in Total Soils, from EPC data (mg/kg)

PM10 = PM10 Concentration Calculated for Construction Worker= 299 ug/m<sup>3</sup>

CF = Conversion Factor = 1E-9 kg/ug

	Reasonable Ma	ximum Exposure
Analyte	EPC Data for Surface and Subsurface Soil	Calculated Air EPC Surface and Subsurface Soil
	(mg/kg)	(mg/m³)
Methyl cyclohexane	1.3E-03	4.5E-11
Aluminum	1.6E+04	5.4E-04
Arsenic	4.3E+00	1.5E-07
Cobalt	9.5E+00	3.3E-07
Iron	2.2E+04	7.7E-04
Manganese	6.0E+02	2.1E-05

### TABLE 4 CALCULATION OF INTAKE AND RISK FROM THE INGESTION OF SOIL AT SEAD-002-R-01 (EOD-3) REASONABLE MAXIMUM EXPOSURE (RME) SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) = EPC x IR x CF x F1 x EF x ED x B

BW x AT

Variables (Assumptions for Each Receptor are Listed at the Bottom):

EPC = Exposure Point Concentration in Soil, mg/kg

EF = Exposure Frequency

IR = Ingestion Rate

ED = Exposure Duration

CF = Conversion Factor

B = Bioavailability

BW = Bodyweight

AT = Averaging Time

FI = Fraction Ingested

	Oral	Carc. Slope		EPC	Marine Street	Park V	Vorker			Constructi	on Worker		Re	creational	Child Visit	or
Analyte	RfD	Oral	Bioavailability	Surface Soil	Inta (mg/k		Hazard Quotient	Cancer Risk	Inta (mg/k	ake g-day)	Hazard Quotient	Cancer Risk	Inta (mg/kg		Hazard Quotient	Cancer
	(mg/kg-day)	(mg/kg-day)-l	(unitless)	(mg/kg)	(Nc)	(Car)	Quotient	*****	(Nc)	(Car)	Quotient		(Nc)	(Car)	<b>C</b>	1
Methyl cyclohexane	N/A	N/A	1	1.3E-03												
Aluminum	1.00E+00	N/A	1	1.6E+04	1.07E-02		1 E-02		5.02E-02		5E-02		7.96E-03		8E-03	i
Arsenic	3.00E-04	1.5E+00	1	4.3E+00	2.92E-06	1.04E-06	1E-02	2E-06	1.38E-05	1.97E-07	5E-02	3E-07	2.18E-06	1.56E-07	7E-03	2E-07
Cobalt	3.00E-04	N/A	1	9.5E+00	6.52E-06		2E-02		3.07E-05		1E-01		4.87E-06		2E-02	i
ron	3.00E-01	N/A	1	2.2E+04	1.52E-02		5E-02		7.15E-02		2E-01		1.13E-02		4E-02	1
Manganese	2.40E-02	N/A	1	6.0E+02	4.11E-04		2E-02		1.94E-03		8E-02		3.07E-04		1E-02	
otal Hazard Quotient and Cancer Risk:							1E-01	2E-06			5E-01	3E-07			8E-02	2E-07
						Assumptions fo	or Park Worker		Ass	umptions for C	onstruction Wo	rker	Assun	ptions for Reci	reational Child	Visitor
					CF =	1E-06	kg/mg		CF =	1E-06	kg/mg		CF =	1E-06	kg/mg	
					EPC'=	EPC Sur	face Only		EPC=	EPC S	Surface and Sub	surface	EPC=	EPC Sur	face Only	
					BW =	70	kg		BW =	70	kg		BW =	15	kg	
					1R =	100	mg/day		IR =	330	mg/day		1R =	200	mg/day	
					FI =	1	unitless		F1 =	1	unitless		F1 =	1	unitless	
					EF =	175	days/year		EF =	250	days/year		EF =	14	days/year	
					ED =	25	years		ED =	1	years		ED =	5	years	
Note: Cells in this table w	: Cells in this table were intentionally left blank due to a lack of toxicity data.				A'l' (Nc) =	9,125	days		AT (Nc) =	365	days		AT (Nc) =	1,825	days	
NA= Information not avail	able.				AT (Car) =	25,550	davs		AT (Car) =	25,550	days		AT (Car) =	25,550	days	

#### CALCULATION OF INTAKE AND RISK FROM THE INGESTION OF SOIL AT SEAD-002-R-01 (EOD-3) REASONABLE MAXIMUM EXPOSURE (RME)

SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) =

EPC x IR x CF x FI x EF x ED x B

BWxAT

Variables (Assumptions for Each Receptor are Listed at the Bottom):

EPC = Exposure Point Concentration in Soil, mg/kg IR = Ingestion Rate

EF = Exposure Frequency ED = Exposure Duration

CF = Conversion Factor

B = Bioavailability BW = Bodyweight

FI = Fraction Ingested

AT = Averaging Time

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Oral	Carc. Slope		EPC	EPC Resident (Adult) Residen								Resident
Analyte	RfD	Oral	Bioavailability	Surface Soil		Intake (mg/kg-day)		Cancer Risk	Intake (mg/kg-day)		Hazard Quotient	Cancer Risk	Total Lifetime
	(mg/kg-day)	(mg/kg-day)-1	(unitless)	(mg/kg)	(Nc)	(Car)			(Nc)	(Car)			Cancer Risk
Methyl cyclohexane	N/A	N/A	1	1.3E-03									
Aluminum	1.00E+00	N/A	1	1.6E+04	2.13E-02		2E-02		1.99E-01		2E-01		
Arsenic	3.00E-04	1.5E+00	1	4.3E+00	5.85E-06	2.01E-06	2E-02	3E-06	5.46E-05	4.68E-06	2E-01	7E-06	1E-05
Cobalt	3.00E-04	N/A	1	9.5E+00	1.30E-05		4E-02		1.22E-04		4E-01		
ron	3.00E-01	N/A	1	2.2E+04	3.03E-02		1E-01		2.83E-01		9E-01		
Manganese	2.40E-02	N/A	1	6.0E+02	8.22E-04		3E-02		7.67E-03		3E-01		
Total Hazard Quotie	ent and Cancer	Risk:					2E-01	3E-06			2E+00	7E-06	1E-05

Assumptions for Resident (Adult) Assumptions for Resident (Child) CF = 1E-06 kg/mg CF = 1E-06 kg/mg EPC= EPC= EPC Surface Only EPC Surface Only BW= BW= 70 kg 15 kg IR = 100 mg/day IR = 200 mg/day FI= 1 unitless F1 = 1 unitless EF = 350 days/year EF = 350 days/year ED = ED = 24 years 6 years AT (Nc) = 8,760 days AT (Nc) = 2,190 days AT (Car) = 25,550 days AT (Car) = 25,550 days

Note: Cells in this table were intentionally left blank due to a lack of toxicity data. NA= Information not available.

### TABLE 5 CALCULATION OF ABSORBED DOSE AND RISK FROM DERMAL CONTACT TO SOIL REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-002-R-01 (EOD-3) SOIL SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) =  $\frac{EPC \times CF \times SA \times AF \times ABS \times EV \times EF \times ED}{B \times W \times AT}$ Variables (Assumptions for Each Receptor are Listed at the Bottom): EPC = Chemical Concentration in Soil, mg/kg EV = Event Frequency CF = Conversion Factor EF = Exposure Frequency

AF = Adherence Factor

ED = Exposure Predictsy

AF = Adherence Factor

BW = Bodyweight

ABS = Absorption Factor AT = Averaging Time

	Dermal	Carc. Slope	Absorption	EPC	EPC from		Park V	Vorker			Constructi	on Worker		Re	ecreational	Child Visit	or
Analyte	RM	Dermal	Fraction*	Surface Soil	Total Soils	Absorb	ed Dose	Hazard	Cancer	Absorb	ed Dose	Hazard	Cancer	Absorb	ed Dose	Hazard	Cancer
						(mg/k	g-day)	Quotient	Risk	(mg/k	g-day)	Quotient	Risk	(mg/k	g-day)	Quotient	Risk
	(mg/kg-day)	(mg/kg-day)-1	(unitless)	(mg/kg)	(mg/kg)	(Nc)	(Car)			(Nc)	(Car)			(Nc)	(Car)		
Aethyl cyclohexane	N/A	N/A	1.0E-02	1.3E-03	1.3E-03												
Aluminum	1.00E+00	N/A	1E-03	1.6E+04	1.6E+04	7.03E-05		7E-05		1.51E-04		2E-04		2.23E-05		2.23E-05	i
Arsenic	3.00E-04	1.5E+00	3E-02	4.3E+00	4.3E+00	5.79E-07	2.07E-07	2E-03	3E-07	1.24E-06	1.77E-08	4E-03	3E-08	1.83E-07	1.31E-08	6.11E-04	1.96E-08
Cobalt	3.00E-04	N/A	1E-03	9.5E+00	9.5E+00	4.30E-08	i	1E-04		9.22E-08	!	3E-04		1.36E-08		4.54E-05	1
Iron	3.00E-01	N/A	1E-03	2.2E+04	2.2E+04	1.00E-04		3E-04		2.14E-04		7E-04		3.17E-05		1.06E-04	l
Manganese	9.60E-04	N/A	1E-03	6.0E+02	6.0E+02	2.71E-06		3E-03		5.81E-06		6E-03		8.59E-07		8.95E-04	í
Total Hazard Quotier	it and Cancer R	isk:						5E-03	3E-07			1E-02	3E-08			2E-03	2E-08
							Assumptions for	or Park Worker		Ass	umptions for Co	onstruction Wes	rker	Assum	ptions for Recr	eational Child	Visitor
						CF	1E-06	kg/mg		CF -	1E-06	kg/mg		CF -	1E-06	kg/mg	
						CS -	EPC Sur	face Only		EPC -	EPC Surface an	d Subsurface		EPC	EPC Sur	face Only	
						BW-	70	kg		BW -	70	kg		BW -	15		
						SA -	3,300	cm <sup>2</sup>		SA -	3,300	cm <sup>2</sup>		SA -	2,800	cm <sup>2</sup>	
						AF -	0.2	mg/cm²-event		AF -	0.3	mg/cm²-event		AF -	0.2	mg/cm2-event	
						EV-	1	event/day		EV -	1	event/day		EV -	1	event/day	
						EF	175	days/ycai		EF -	250	days/year		Et -	14	days/year	
						ED-	25	years		ED -	1	years		ED -	5	years	
						AT (Ne) -	9,125	days		AT (Nc) -	365	days		AT (Nc) -	1,825	days	
						AT (Car) -	25,550	days		AT (Car) -	25,550	days		AT (Car) -	25,550	days	

### CALCULATION OF ABSORBED DOSE AND RISK FROM DERMAL CONTACT TO SOIL REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-002-R-01 (EOD-3) SOIL SENECA ARMY DEPOT ACTIVITY

EPC x CF x SA x AF x ABS x EV x EF x ED

Variables (Assumptions for Each Receptor are Listed at the Bottom):

EPC = Chemical Concentration in Soil, mg/kg CF = Conversion Factor

SA = Surface Area Contact AF = Adherence Factor

ABS = Absorption Factor

Equation for Intake (mg/kg-day) =

B Wx AT

EV = Event Frequency

EF = Exposure Frequency ED = Exposure Duration

BW = Bodyweight AT = Averaging Time

	Dermal	Carc. Slope	Absorption	rption EPC EPC from Resident (Adult)						Residen	t (Child)		Resident	
Analyte	RM Dermal		Fraction*	Surface Soil	Total Soils	Absorbed Dose (mg/kg-day)		Hazard Quotient	Cancer Risk	Absorbed Dose (mg/kg-day)		Hazard Quotient	Cancer Risk	Total Lifetime
	(mg/kg-day)	(mg/kg-day)-1	(unitless)	(mg/kg)	(mg/kg)	(Nc)	(Car)			(Nc)	(Car)			Cancer Risk
Methyl cyclohexane	N/A	N/A	1.0E-02	1.3E-03	1.3E-03									
Aluminum	1.00E+00	N/A	1E-03	1.6E+04	1.6E+04	8.50E-05		9E-05		5.57E-04		5.57E-04		
Arsenic	3.00E-04	1.5E+00	3E-02	4.3E+00	4.3E+00	7.00E-07	2.40E-07	2E-03	4E-07	4.58E-06	3.93E-07	1.53E-02	5.89E-07	9E-07
Cobalt	3.00E-04	N/A	1E-03	9.5E+00	9.5E+00	5.20E-08		2E-04		3.41E-07		1.14E-03		
ron	3.00E-01	N/A	1E-03	2.2E+04	2.2E+04	1.21E-04		4E-04		7.93E-04		2.64E-03		
Manganese	9.60E-04	N/A	1E-03	6.0E+02	6.0E+02	3.28E-06		3E-03		2.15E-05		2.24E-02		
Total Hazard Ouotie	tal Hazard Quotient and Cancer Risk:							6E-03	4E-07			4E-02	6E-07	9E-07

	Assumptions for Resident (Adult)		Assumptions for Resident (Child)				
CF-	1E-06 kg/mg	CF =	1E-06 kg/mg				
EPC =	EPC Surface Only	EPC -	EPC Surface Only				
BW-	70 kg	BW =	15 kg				
SA =	5,700 cm <sup>2</sup>	SA -	2,800 cm <sup>2</sup>				
AF -	0.07 mg/cm <sup>2</sup> -event	AF -	0.2 mg/cm <sup>2</sup> -event				
EV-	l event/day	EV -	1 event/day				
EF =	350 days/year	EF-	350 days/year				
ED-	24 years	ED-	6 years				
AT (Nc) -	8,760 days	AT (Nc) -	2,190 days				
AT (Car) =	25,550 days	AT (Car) =	25,550 days				

## TABLE 6 CALCULATION OF INTAKE AND RISK FROM INHALATION OF DUST IN AMBIENT AIR REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-002-R-01 (EOD-3) SOIL SENECA ARMY DEPOT ACTIVITY

	Inhalation	Carc. Slope	Air EPC from	Air EPC from		Park V	Vorker			Constructi	on Worker		Re	creational	Child Visit	or
Analyte	RfD	Inhalation	Surface Soil	Total Soils	Int	ake	Hazard	Cancer	Int	ake	Hazard	Cancer	Inta	ike	Hazard	Cancer
					(mg/k	g-day)	Quotient	Risk	(mg/k	g-day)	Quotient	Risk	(mg/kg	g-day)	Quotient	Risk
	(mg/kg-day)	(mg/kg-day)-l	(mg/m3)	(mg/m3)	(Nc)	(Car)			(Nc)	(Car)			(Nc)	(Car)		
Methyl cyclohexane	8.57E-01	N/A	4.5E-11	4.5E-11	2.46E-12		3E-12		4.58E-12		5E-12		1.00E-12		1E-12	
Aluminum	1.43E-03	N/A	5.4E-04	5.4E-04	2.95E-05		2E-02		5.48E-05		4E-02		1.20E-05		8E-03	
Arsenic	N/A	1.51E+01	1.5E-07	1.5E-07		2.89E-09		4E-08		2.15E-10		3E-09	! !	2.35E-10		4E-09
Cobalt	1.71E-06	3.15E+01	3.3E-07	3.3E-07	1.80E-08	6.44E-09	1E-02	2E-07	3.35E-08	4.79E-10	2E-02	2E-08	7.32E-09	5.23E-10	4E-03	2E-08
Iron	N/A	N/A	7.7E-04	7.7E-04									1 1			
Manganese	1.43E-05	N/A	2.1E-05	2.1E-05	1.14E-06		8E-02		2.11E-06		1E-01		4.62E-07		3E-02	
Total Hazard Quotient	and Cancer F	Risk:					1E-01	2E-07			2E-01	2E-08			4E-02	2E-08
					As	sumptions fo	or Park Wor	ker	Assum	ptions for Co	onstruction V	Worker	Assumpti	ions for Recr	eational Chi	ld Visitor
					CA =	EI	PC Surface O	nly	CA =	EPC Su	rface and Sub	-Surface	CA =	EI	C Surface O	nly
					BW =	70	kg	-	BW =	70	kg		BW =	15	kg	
					IR =	8	m3/day		IR =	10.4	m3/day		IR =	8.7	m3/day	
					EF =	175	days/year		EF = 250 days/year			EF = 14 days/year				
					ED =	25	years		ED =	1	year		ED =	5	years	
Note: Cells in this table wer	e intentionally les	ft blank due to a l	lack of toxicity data.		AT (Nc) =	9,125	days		AT (Nc) =	365	days		AT (Nc) =	1,825	days	
					AT (Car) =	25,550	days		AT (Car) =	25,550	days		AT (Car) =	25,550	days	

### CALCULATION OF INTAKE AND RISK FROM INHALATION OF DUST IN AMBIENT AIR REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-002-R-01 (EOD-3) SOIL SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) =	CA x IR x EF x ED
	BWxAT
Variables (Assumptions for Each Receptor a	re Listed at the Bottom):
CA = Chemical Concentration in Air from S	tockpile Soil, mg/m <sup>3</sup> ED = Exposure Duration, year
IR = Inhalation Rate, m <sup>3</sup> /day	BW = Bodyweight, kg
EF = Exposure Frequency, day/year	AT = Averaging Time, day

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Inhalation	Carc. Slope Inhalation	Air EPC	Resident Adult				Resident Child				Resident
Analyte	RfD			Intake (mg/kg-day)		Hazard Quotient	Contribution to Lifetime	Intake (mg/kg-day)		Hazard Quotient	Contribution to Lifetime	Total Lifetime
	(mg/kg-day)	(mg/kg-day) <sup>-1</sup>	$(mg/m^3)$	(Nc)	(Car)		Cancer Risk	(Nc)	(Car)		Cancer Risk	Cancer Risk
Methyl cyclohexane	8.57E-01	N/A	4.5E-11	1.23E-11		1E-11		2.50E-11		3E-11		
Aluminum	1.43E-03	N/A	5.4E-04	1.47E-04		1E-01		2.99E-04		2E-01		
Arsenic	N/A	1.51E+01	1.5E-07		1.39E-08		2E-07		7.04E-09	1	1E-07	3E-07
Cobalt	1.71E-06	3.15E+01	3.3E-07	9.02E-08	3.09E-08	5E-02	1E-06	1.83E-07	1.57E-08	1E-01	5E-07	1E-06
Iron	N/A	N/A	7.7E-04									
Manganese	1.43E-05	N/A	2.1E-05	5.69E-06		4E-01		1.15E-05		8E-01		
Total Hazard Quo	tient and Ca	ncer Risk:				6E-01	1E-06			1E+00	6E-07	2E-06

A	Assumptions for Resident Adult		Assumptions for Resident Child				
CA =	EPC Surface Only	CA =	EPC Surface Only				
BW =	70 kg	BW =	15 kg				
IR =	20 m3/day	IR =	8.7 m3/day				
EF =	350 days/year	EF =	350 days/year				
ED =	24 years	ED=	6 years				
AT (Nc) =	8,760 days	AT(Nc) =	2,190 days				
AT (Car) =	25,550 days	AT (Car) =	25,550 days				

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

N/A= Information not available.

## TABLE 7 CALCULATION OF TOTAL NONCARCINOGENIC AND CARCINOGENIC RISKS - SEAD-002-R-01 (EOD-3) REASONABLE MAXIMUM EXPOSURE (RME) SENECA ARMY DEPOT ACTIVITY

			ASONABLE MAX		RE (RME)	
RECEPTOR	EXPOSURE ROUTE	1	NDEX	RISK		
- KEEL TOK		Hazard Index	Percent	Cancer Risk	Percent	
PARK WORKER	Inhalation of Dust in Ambient Air	1E-01	49%	2E-07	12%	
	Ingestion of Soil	1E-01	49%	2E-06	74%	
	Dermal Contact to Soil	5E-03	2%	3E-07	15%	
	TOTAL RECEPTOR RISK (Nc & Car)	<u>2E-01</u>	100%	2E-06	100%	
CONSTRUCTION WORKER	Inhalation of Dust in Ambient Air	2E-01	28%	2E-08	5%	
	Ingestion of Soil	5E-01	70%	3E-07	87%	
	Dermal Contact to Soil	1E-02	2%	3E-08	8%	
	TOTAL RECEPTOR RISK (Nc & Car)	7E-01	100%	<u>3E-07</u>	100%	
RECREATIONAL CHILD VISITOR	Inhalation of Dust in Ambient Air	4E-02	35%	2E-08	7%	
	Ingestion of Soil	8E-02	64%	2E-07	86%	
	Dermal Contact to Soil	2E-03	1%	2E-08	7%	
	TOTAL RECEPTOR RISK (Nc & Car)	<u>1E-01</u>	100%	<u>3E-07</u>	100%	
RESIDENT (ADULT)	Inhalation of Dust in Ambient Air	6E-01	71%	1E-06	26%	
	Ingestion of Soil	2E-01	28%	3E-06	66%	
	Dermal Contact to Soil	6E-03	1%	4E-07	8%	
	TOTAL RECEPTOR RISK (Nc & Car)	8E-01	100%	5E-06	100%	
RESIDENT (CHILD)	Inhalation of Dust in Ambient Air	1E+00	35%	6E-07	7%	
	Ingestion of Soil	2E+00	64%	7E-06	86%	
	Dermal Contact to Soil	4E-02	1%	6E-07	7%	
	TOTAL RECEPTOR RISK (Nc & Car)	<u>3E+00</u>	100%	8E-06	100%	
RESIDENT (TOTAL)	Inhalation of Dust in Ambient Air			2E-06	14%	
	Ingestion of Soil			1E-05	79%	
	Dermal Contact to Soil			9E-07	7%	
}	TOTAL RECEPTOR CANCER RISK	<del>                                     </del>	-	1E-05	100%	

NA - Not Applicable

### Attachment E SEAD-007-R-01 – Grenade Range

GR GR GR GR GR SITE LOCATION GR-A2-B GR-A3 GR-A4-A GR-A4-B GR-A1 GR-A2-A LOCATION ID MATRIX SOIL SOH. DOS SOIL SOIL SOIL 007R011005 007R011006 007R011001 007R011002 007R011003 007R011004 SAMPLE ID TOP OF SAMPLE BOTTOM OF SAMPLE 0.2 0.2 0.2 0.2 0.2 0.2 12.12.06 12.12/06 12.12.06 12 12/06 12/12/06 12/12/06 SAMPLE DATE SA SA OC CODE SA SA SA SA RA RA STUDY ID Frequency NYSDEC Number Number Number RA RA RA RA Maximum Unresticted of of Times of Samples Value (Q) Units Concentration Detection Use Value (1) Exceedances Detected Analyzed (2) Value (Q) Value (Q) Value (Q) Value (Q) Value (Q) Parameter Volatile Organic Compounds UG/KG 0.0 680 6.6 U 9.5 [1 6.7 U 9711 1.1.1-Trichloroethane 7.3 U 6.7 U 9.7 U 6.6 U 8 U 9.5 U 1.1.2.2-Tetrachloroethane UG/KG 0 00,0 41 9.5 U 7.3 U 6.7 Li 9.7 C 6.6 U 8 U 1,1,2-Trichloro-1,2,2-Trifluoroethane UG/KG n 000 41 7.3 U 6.7 U 97 [1 1,1,2-Trichloroethane UG/KG Oa o 41 6.6 U 8 U 9.5 U 97 U 1,1-Dichloroethane UG-KG 00.0 270 31 66 [] 8 II 95 11 7.3 U 6.7 U 9.7.11 7311 6.7 U 1,1-Dichloroethene  $UG_\ell KG$ 0% 330 41 6.6 U 8 U 9.5 U 1,2,4-Trichlorobenzene UG/KG 000 41 6.6 U 8 U 9.5 U 7.3 U 6.7 U 9.7 U UG/KG 0.0 41 6.6 U 8 U 9.5 U 7.3 L1 6.7 U 9711 1.2-Dibromo-3-chioropropage 7.3 U 6.7 Li 97 LI 00.6 41 6.6 U 8 U 9.5 U 1.2-Dibiomoethane UG/KG 6.7 U 9.7 U 7.3 U 1100 41 6.6 U 8 U 9.5 U 1.2-Dichlorohenzene UG KG 00% 8 U 9.5 U 7.3 U 6.7 U 9.7 U 1,2.Dichloroethane UG:KG 0% 20 41 6.6 U 1.2 Dichloropropane UG-KG 0° ه 41 66.11 8 U 9.5 U 7.3 U 6.7 U 97 U 00,0 2400 41 6.6 U 8 U 9.5 U 7.3 U 67 11 97 [] 1,3-Dichlorobenzene UG KG UG/KG 000 1800 6.6 U 8 U 9.5 U 7.3 U 6.7 U 9.7 LI 1.4-Dichlorobenzene 55 290 98% 50 31 41 16 J 14 J 12 J 61 50 Acctone UG-KG 6.7 LT 60 41 6.6 U 9.5 U Benzene UG/KG 00 n 9.7 U 41 6.6 U 8 U 9.5 U 7.3 U 6.7 U Bromodichloromethane UG/KG 00.0 8 U 9.5 U 7.3 U 6.7 U 97[1 Bromoform UG/KG a 00.0 41 6.6 U 19 U Carbon disulfide UG/KG 0,0 41 13 U 16 U 19 U 15 U 13 U 97 ( 0°° 760 41 6.6 U 8 U 9.5 U 7 3 U 6.7 U Carbon tetrachloride UG/KG 41 6.6 U 8 U 9.5 U 7.3 U 6.7 U 9711 UG KG 0% 1100 Chlorobenzene 00.0 41 6.6 U 8 U 9.5 U 7.3 U 6.7 U 9.7 11 Chlorodibromomethane UG-KG 41 13 U 16 U 19 U 15 U 13 U 19 [1 Chloroethane UG KG 00.,, 9.7 U 370 41 8 U 9.5 U 0% 6.6 U Chloroform UG/KG 6.7 U 97 LI 6.6 U ĸU 9.5 U 7,3 U Cis-1,2-Dichloroethene UG KG 0 00.0 250 41 6.7 U 97 U 8 U 9.5 U 7.3 U Cis-1,3-Dichloropropene UG/KG 000 41 6.6 U 6.7 U 97 ( 7.3 U UG/KG 1.5 20.0 41 6.6 U 8 U 1.5 J Cyclohexane ()°° 41 6.6 U 8 II 9.5 U 7 3 11 6.7 U 97 U Dichlorodifluoromethane UG/KG 41 6.6 U 8 U 9.5 U 73.11 67 U 9.7 D Ethyl benzene UG/KG  $0^{o_{r_0}}$ 1000 0% 41 8 U 9.5 U 7.3 U 6.7 U 9711 Isopt opylbenzene UG.KG 41 6.6 U 8 U 9.5 U 7.3 U 6.7 U 9.7 Li Meta Para Xylene UG/KG n 00.5 15 U 13 U 19 U 70, 41 13 U 16 U 19 U Methyl Acetate UG/KG 11 6.7 U 97 U 8 U 9.5 U 7.3 [1 6.6 U Methyl Tertbutyl Ether UG/KG 0 00% 930 41 9.5 U 7.3 U 6.7 U 9.7 (1 8 U UG/KG 0% 41 6.6 U Methyl bromide 2% 41 13 11 16 U 19 U 15 U 13 U 19 U Methyl butyl ketone UG/KG 8.1 97 U 0% 41 6.6 U 8 II 9.5.11 7.3 U 6.7 U Methyl chloride UG/KG 0 41 6.6 U 8 U 9.5 U 7.3 U 6.7 [] 9711 0% Methyl cyclohexane UG/KG 120 41 13 U 16 U ]9 [1 11 J 3.4 J 4.4 J 63 90% Methyl ethyl ketone UG KG 13 U 16 U 19 U 15 U 13 U 19 U Methyl isobutyl ketone UG/KG 0 00,0 41 1.7 1 1.4 J 19 J 50 41 1.5 J 1.6 J 1.4 J 30 Methylene chloride UG, KG 4.6 73% 9.5 U 7.3 U 9.7 (1 6.6 U 8 U Ortho Xylene UG:KG 0 0% 41 6.7 U 9.7 U 0% 41 6.6 U 8 U 9.5 U 7.3 U Styrene UG/KG 97 U 7.3 U 6.7 U 100.0 1300 41 6.6 U R II 9.5 U Tetrachloroethene UG/KG 2.4 41 6.6 U 8 U 9.5 U 73 [] 6.7 U 9.7 11 8.7 27% 700 UG/KG Toluene 00.0 190 41 6.6 U 8 U 9.5 U 7.3 U 6.7 II 9711 UG/KG 0 Trans-1,2-Dichloroethene 41 6.6 U 8 U 9.5 U 7.3 U 6.7 U 9.7 U Trans-1,3-Dichloropropene UG/KG n 00'0 8 U 9.5 U 7.3 U 6.7 U 9.7.11 470 41 6.6 U Trichloroethene UG/KG 0 0% 8 U 9.5 U 7.3 U 6.7 U 97 (1 6.6 U Trichlorofluoroinethane UG/KG 0 0.0 41 9.7 (F 8 U 9.5 U 7.3 U 67 U Vinyl chloride UG·KG 00.0 20 41 6.6 U Semivolatile Organic Compounds 480 U 500 U 470 U 430 U 510 U 000 41 450 U UG.KG 1.1'-Biphenyl 510 U 0° a 41 450 U 480 U 500.11 470 II 430 U UG/KG 0 2.4.5-Trichlorophenol 450 U 480 U 500 U 470 U 430 11 510 11 2.4.6-Trichlorophenol UG.KG 00% 41 450 U 480 U 500 U 470 U 430 U 510 U 2,4-Dichlorophenol UG/KG 0 00% 450 U 480 U 500 U 470 U 430 U 510 U 2,4-Dunethylphenol UG KG 0,0 41 2200 U 2600 U 2300 U 2500 U 2600 U 2400 U 2.4-Dinitrophenol UG/KG 0.0 41 510 U 500 U 470 LI 430 U 480 U 2,4-Dinitiotoluene UG:KG 430 20.0 41 450 U 470 U 430 U 510 U ()°,'a 41 450 U 480 U 500 U UG-KG 2.6-Dinitrotoluene 470 U 430 U 510 U 000 41 450 U 480 U 500 U 2-C'hloronaphthalene UG'KG 450 U 480 U 500 U 470 U 430 U 510 U

0.0

UG·KG

2-C'hlorophenol

SITE LOCATION GR GR GR GR GR GR LOCATION ID GR-A1 GR-A2-A GR-A2-B GR-A3 GR-A4-A GR-A4-B MATRIX SOIL SOIL SOIL SOIL. SOIL SOIL SAMPLE ID 007R011001 007R011002 007R011003 007R011004 007R011005 007R011006 TOP OF SAMPLE BOTTOM OF SAMPLE 0.2 0.2 0.2 0.2 0.2 0.2 SAMPLE DATE 12/12/06 12/12/06 12/12/06 12/12/06 12/12/06 12/12/06 OC CODE SA SA SA SA SA SA NYSDEC STUDY ID Frequency Number Number Number RA RA RA RA RA RA Maximun of Unresticted of of Times of Samples Concentration Use Value (1) Detected Value (Q) Value (Q) Value (Q) Parameter Units Detection Exceedances Analyzed (2) Value (Q) Value (Q) Value (Q) 2-Methylnaphthalene UG/KG 450 U 480 U 500 U 430 U 0% 470 U 510 U 2-Methylphenol UG/KG 0% 330 41 450 U 480 U 500 U 470 U 430 II 510 U UG/KG 2300 U 2400 U 2-Nitroaniline 0% 2500 U 2600 U 2200 U 2600 U 41 HG/KG 2.Nitrophenol 0% 41 450 II 480 U 500 TI 470 II 430 II 510 II n 3.3'-Dichlorobenzidine UG/KG 0% 0 41 450 U 480 U 500 U 470 U 430 U 510 U 3-Nitroaniline UG/KG 0% 0 n 41 2300 II 2500 TJ 2600 II 2400 II 2200 II 2600 II 4,6-Dinitro-2-methylphenol UG/KG 0% 41 2300 U 2500 U 2600 U 2400 U 2200 U 2600 U 0 0% 41 450 U 480 U 470 U 510 U 4-Bromophenyl phenyl ether UG/KG 500 U 430 U 0% 4-Chloro-3-methylphenol UG/KG n 41 450 U 480 U 500 U 470 U 430 U 510 U 4-Chloroaniline UG/KG 450 U 480 U 510 U 0% 41 500 U 470 U 430 U 4-Chlorophenyl phenyl ether UG/KG 41 450 II 0% Ó 0 480 U 500 TT 470 U 430 IJ 510 U 4-Methylphenol UG/KG 330 450 II 500 TI 0% Ω 41 480 TT 470 U 430 II 510 U 4-Nitronniline UG/KG 0% 41 2300 UJ 2500 UJ 2600 TH 2400 UJ 2200 III 2600 UJ 4-Nitrophenol UG/KG 0% 41 2300 U 2500 U 2600 U 2400 U 2200 U 2600 U Acenaphthene UG/KG 0% 20000 41 450 U 470 U 510 U 480 U 500 U 430 U 0% Acenaphthylene UG/KG 100000 41 450 U 480 U 500 U 470 U 430 U 510 U UG/KG 450 U 480 U 470 U 430 U 510 U Acetophenone 0% 41 500 U 100000 Anthracene UG/KG 0% 0 0 41 450 II 480 U 500 II 470 U 430 U 510 IJ Atrazine UG/KG 0 0% 41 450 TI 480 U 500 U 470 U 430 U 510 U Benzaldehyde UG/KG 420 2% 0 41 450 U 480 II 500 U 470 U 430 U 510 U Benzo(a)anthracene UG/KG 0% 1000 41 450 U 480 U 500 U 470 U 430 U 510 U 470 U Benzo(a)pyrene UG/KG 0% 1000 41 450 U 480 U 500 U 430 U 510 U Benzo(b)fluoranthene UG/KG 0% 1000 0 0 41 450 U 480 U 500 U 470 U 430 U 510 U Benzo(ghi)pervlene UG/KG 0% 100000 450 U 480 U 500 U 470 U 430 U 510 U 0 41 Benzo(k)fluoranthene UG/KG 0% 41 430 U 510 U 800 D 0 450 II 480 II 500 II 470 IJ Bis(2-Chloroethoxy)methane UG/KG 0% 0 41 450 U 480 U 500 U 470 U 430 U 510 U Bis(2-Chloroethyl)ether UG/KG 0% 41 450 U 480 U 500 U 470 U 430 U 510 U Bis(2-Chloroisopropyl)ether UG/KG 0% 41 450 U 480 U 500 U 470 U 430 U 510 U Bis(2-Ethylhexyl)phthalate UG/KG 0% 450 U 480 U 500 U 470 U 430 U 510 U Butylbenzylphthalate UG/KG 0% 0 41 450 U 480 U 500 U 470 U 430 U 510 U Caprolactam UG/KG 0% 450 U 480 U 500 U 470 U 430 U 510 U 41 Carbazole UG/KG 0% 450 U 480 U 470 U 430 U 510 U 0 41 500 U Chrysene UG/KG 0% 1000 0 41 450 II 480 II 500 U 470 U 430 U 510 U Di-n-butylphthalate UG/KG 0% 0 41 450 U 480 U 500 IJ 470 U 430 U 510 U Di-n-octylphthalate UG/KG 0% 41 450 U 480 U 500 U 470 U 430 U 510 U Dibenz(a,h)anthracene UG/KG 0% 330 41 450 U 480 U 500 U 470 U 430 U 510 U Dibenzofuran UG/KG 0% 7000 41 450 U 480 U 500 U 470 U 430 U 510 U Diethyl phthalate UG/KG 0% 41 450 U 480 U 500 IJ 470 U 430 II 510 U Dimethylphthalate UG/KG 0% 450 U 480 U 470 U 41 500 U 430 U 510 U 0 Fluoranthene UG/KG 0% 100000 41 450 U 480 U 500 TI 470 U 430 U 510 U Fluorene UG/KG 0% 30000 41 450 U 480 U 500 U 470 U 430 U 510 U Hexachlorobenzene UG/KG 0% 330 41 450 U 480 U 500 U 470 U 430 U 510 U Hexachlorobutadiene UG/KG 0% 41 450 U 480 U 500 U 470 U 430 U 510 U Hexachlorocyclopentadiene UG/KG 0% 41 450 U 480 U 500 U 470 U 430 U 510 U Hexachloroethane UG/KG 450 U 480 U 470 U 510 U 0% 41 500 IJ 430 IJ Indeno(1,2,3-cd)pyrene UG/KG 0% 500 41 450 II 480 II 470 II 500 II 430 II 510 II Isophorone UG/KG 0% 41 450 U 480 U 500 U 470 U 430 U 510 IJ N-Nitrosodiphenylamine UG/KG 0% 41 450 II 480 TI 500 U 470 U 430 U 510 U N-Nitrosodipropylamine UG/KG 0% 41 450 U 480 U 500 U 470 U 430 U 510 U Naphthalene UG/KG 0% 12000 41 450 U 480 U 500 U 470 U 430 U 510 U UG/KG 0% Nitrobenzene 41 450 U 480 U 500 U 470 U 430 U 510 U Pentachlorophenol UG/KG 0% 800 2300 U 2500 U 2600 U 2400 U 2200 U 2600 U 41 Phenanthrene UG/KG 0% 100000 41 450 IJ 480 U 500 IJ 470 U 430 IJ 510 U 0 Phenol LIG/KG 0% 330 41 450 II 480 II 500 TI 470 U 430 II 510 U Pyrene UG/KG 0% 100000 41 450 U 480 IJ 500 U 470 U 430 II 510 U Explosives 1,3,5-Trinitrobenzene UG/KG 0% 0 41 2000 U 2000 U 2000 U 2000 U 2000 U 2000 U 1,3-Dinitrobenzene 2000 U 2000 U 2000 U 2000 U 2000 U UG/KG 0% 41 2000 U 2,4,6-Trinitrotoluene UG/KG 0% 2000 U 2000 U 2000 U 2000 U 2000 U 2000 U 41 2.4-Dinitrotoluene UG/KG 0% 41 2000 U 2000 U 2000 U 2000 IJ 2000 U 0 2000 U 2.6-Dinitrotoluene UG/KG 0% 41 1000 U 1000 U 1000 U 1000 U 1000 U 1000 U

SITE LOCATION LOCATION ID MATRIX SAMPLE ID TOP OF SAMPLE BOTTOM OF SAMPLE SAMPLE DATE QC CODE

GR GR GR GR GR GR GR-A1 GR-A2-A GR-A2-B GR-A4-A GR-A4-B GR-A3 SOIL SOIL SOIL SOIL SOIL SOIL 007R011001 007R011003 007R011004 007R011005 007R011006 007R011002 0.2 0.2 0.2 0.2 0.2 0.2 12 12:06 12 12/06 12/12:06 12 12:06 12 12 06 12.12.06 SA SA SA SA SA SA

OC. CODE								SA	SA	SA	SA	SA	SA
STUDY ID			Frequency	NYSDEC	Number	Number	Number	RA	RA	RA	RA	RA	RA
		Maximum	of	Unresticted	of	of Times	of Samples						
Parameter	Units	Concentration	Detection	Use Value (1)	Exceedances	Detected	Analyzed (2)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
2-Nitrotoluene	UG/KG		O° i	Use value (1)									
		0			0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
2-amino-4,6-Dinitrotoluene	UG/KG	0	04.0		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
3-Nitrotoluene	UG KG	0	0%		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
4-Nitrotoluene	UG/KG	0	00,0		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
4-amino-2.6-Diniti otoluene	UG/KG	0	0%		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
HMX	UG KG	0	On'o		0	0	41	2000 ∪	2000 U	2000 U	2000 U	2000 U	2000 U
Nitrobenzene	UG KG	0	Ou'a		0	0	41	500 U	500 U	500 U	500 U	500 U	500 U
Nitroglycerine	UG/KG	0	000		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Pentaerythritol Tetranitrate	UG KG	0	00.0		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
RDX	UG KG	0	000		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 (1
Tetryl	UG/KG	0	0°%		0	0	41	2000 U					
	UG/KG	U	0.0		U	U	41	2000 ()	2000 U	2000 U	2000 U	2000 U	2000 U
PCBs													
Aroclor-1016	UG/KG	0	(loi o		0	0	41	45 U	48 U	50 U	47 U	43 U	51 U
Araclor-1221	UG/KG	0	0".0		0	0	41	92 U	97 U	100 U	96 U	87 U	100 U
Atoclor-1232	UG/KG	0	0° v		0	n	41	45 U	48 U	50 U	47 U	43 U	51 U
Aroclor-1242	UG-KG	0	Ou/u		0	0		45 U	48 U	50 U	47 U	43 U	51 U
						-	41						
Arocloi-1248	UG, KG	0	0%		0	0	41	45 U	48 U	50 U	47 U	43 U	51 U
Atoclor-1254	UG.KG	0	0%		0	0	41	45 U	48 U	50 U	47 U	43 U	51 U
Aroclot-1260	UG. KG	0	0°°		0	0	41	45 U	48 U	50 L1	47 U	43 U	51 U
Pesticides													
4,4'-DDD	UG KG	0	0.0	3.3	0	0	41	4.5 U	4.8 U	5 U	4.7 U	4.3 U	5.1 U
4,4'-DDE	UG: KG	0	Ο <sup>ω,</sup> υ	3.3	0	0	41	4.5 U	4.8 U	5 U	4.7 U	4.3 11	5 I U
4,4'-DDT	UG/KG	0	00,0	3.3	0	0	41	4.5 U	4.8 U	5 U	4.7 U	4.3 U	5.1 U
Aldrin	UG-KG	0	0%i	5	0	0	41	2.3 U	2.5 U	2.6 U	2.4 U	2.2 U	2.6 U
Alpha-BHC	UG/KG	0	09.0	20	0	0	41	2.3 U	2.5 U	2.6 U	2.4 U	2.2 U	2 6 U
		0	00.0	94	0	0		2.3 U				2.2 U	2 6 U
Alpha-Chlordane	UG/KG						41		2.5 U	2.6 U	2.4 U		
Beta-BH('	UG·KG	0	000	36	0	0	41	2.3 U	2.5 U	2.6 U	2.4 U	2.2 U	2 6 U
Delta-BHC	UGrKG	0	O° 6	40	0	0	41	2.3 U	2.5 U	2.6 U	2.4 U	2.2 (1	2 6 U
Dieldrin	UG/KG	0	0%	5	0	0	41	4.5 U	4.8 U	5 U	4.7 U	4.3 U	5 1 11
Endosulfan l	UG KG	0	0%	2400	0	0	41	2.3 U	2.5 U	2.6 U	2.4 U	2.2 U	2 6 U
Endosulfan II	UG/KG	0	0".0	2400	0	n	41	4.5 U		5 U	4.7 U	4.3 U	5 1 11
					-				4.8 U				
Endosulfan sulfate	UG-KG	0	On: a	2400	0	0	41	4.5 U	4.8 U	5 U	4.7 U	4.3 U	51 U
Endrin	UG/KG	()	0%	14	0	0	41	4.5 U	4.8 U	5 U	4.7 U	4.3 U	5 I U
Endrin aldehyde	UG-KG	0	00%		0	0	41	4.5 U	4.8 U	5 U	4.7 U	4.3 U	5.1 U
Endrin ketone	UG. KG	0	0° a		0	0	41	4.5 U	4.8 U	5 ()	4.7 U	4.3 U	5 1 U
Gamma-BHC/Lindane	UG/KG	n	0%	100	0	0	41	2.3 U	2.5 U	2.6 U	2.4 U	2.2 U	2 6 U
				100									
Gamma-Chlordane	UG/KG	0	000		0	0	41	2.3 U	2.5 U	2.6 U	2.4 U	2.2 U	2.6 U
Heptachlor	UG/KG	0	0.0	42	0	0	41	2.3 U	2.5 U	2.6 U	2.4 U	2.2 U	2.6 U
Heptachlor epoxide	UG/KG	0	00,0		0	0	41	2.3 U	2.5 U	2.6 U	2.4 U	2.2 U	2.6 U
Methoxychlor	UG-KG	0	Ou,°		0	0	41	23 LT	25 U	26 U	24 U	22 U	26 11
	UG KG	0	Oa's		0	0	41	45 U	48 U	50 U	47 U	43 U	51 U
Toxaphene	UG KG	U	0.0		0	0	41	45 U	48 U	30 C	47 0	43 U	31 0
Metals													
Alumuum	MG·KG	19600	100° u		0	41	41	14500	16100	18100	15600	13400	17200
Antimony	MG/KG	0	0.00		0	0	41	0.48 UJ	0.5 UJ	0.54 UJ	0 49 UJ	0.44 UJ	0.53 UJ
Aisenic	MG/KG	9.3	100%	13	0	41	41	3.4	3.8	4.4	3.2	9.3	3.3
Barium	MG-KG	180	100%	350	0	41	41	112	119	164	103	84.8	148
Beryllium	MG/KG	1.1	980.0	7.2	0	40	41	0.02 U	0.85	0.88	0.68 J	0.57 J	0.97
Cadmium	MG:KG	0.25	59%	2.5	0	24	41	0.08 J	0.09 J	0.11 J	0.09 J	0.04 U	0 14 J
Calcium	MG·KG	11100	1000°		0	41	41	3510	3630	2700	2770	2250	3830
Chromium	MG-KG	27.7	100° o		0	41	41	22	24.9	27.7	21	17.8	24.2
Cobalt	MG·KG	23.5	100%		0	41	41	9.4	9.1	23.5	8.2	11.6	8.1
С'оррег	.MG KG	22.2	100° p	50	0	41	41	17	19.5	15.7	13.8	15.1	16.6
hon	MG/KG	32300	100%		0	41	41	22100	24600	32300	23000	21600	24800
Lead	MG/KG	38.5	100%	63	0	41	41	24,9	24.2	28.2	20,2	21.7	20.7
				33	0	41	41	3600	3970	3980	3510	3110	4130
Magnesium	MG KG	5230	100%		U								
	MG/KG	1880	10000	1600	ı	41	41	641	603	1880	356	312	582
Manganese		0.08	10000	0.18	0	41	41	0.06	0.06	0.06	0.05	0.05	0.08
Mercury	MG-KG	0.06											
Mercury				30	2	41	41	23.6	25	27.3	18.7	22	23
Mercury Nickel	MG/KG	31.1	100° a	30	_								
Mercury Nickel Potassium	MG-KG MG-KG	31.1 2370	100% 100%		0	41	41	1590	1920	2060	1400	1160	1880
Mercury Nickel	MG/KG	31.1	100° a	30 3.9 2	_								

TABLE 1 SEAD-007-R-001 (Grenade Range) SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

SITE LOCATION								GR	GR	GR	GR	GR	GR
LOCATION ID								GR-A1	GR-A2-A	GR-A2-B	GR-A3	GR-A4-A	GR-A4-B
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								007R011001	007R011002	007R011003	007R011004	007R011005	007R011006
TOP OF SAMPLE								0	0	0	0	0	0
BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0,2	0.2
SAMPLE DATE								12/12/06	12/12/06	12/12/06	12/12/06	12/12/06	12/12/06
OC CODE								SA	SA	SA	SA	SA	SA
STUDY ID			Frequency	NYSDEC	Number	Number	Number	RA	RA	RA	RA	RA	RA
3100110		Maximum	of	Unresticted	of	of Times	of Samples	KA.	NA.	M	NA.	KA.	NA.
	**												***
Parameter	Units	Concentration	Detection	Use Value (1)	Exceedances	Detected	Analyzed (2)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Sodium	MG/KG	54.7	63%		0	26	41	136 U	141 U	153 U	140 U	126 U	151 U
Thallium	MG/KG	0	0%		0	0	41	1.2 U	1,2 U	4.5 U	0.41 U	0.37 U	0.88 U
Vanadium	MG/KG	33.5	100%		0	41	41	26.9	31.1	33.5	29.4	25.3	30.7
Zinc	MG/KG	110	100%	109	1	41	41	74.3	88.7	105	72.8	64.7	80.6
Other Analyses													
Nitrate Nitrogen	MG/KG	9.52	59%		0	24	41	6.87 U	8.27	8.09	7.13 U	6.53 U	7.79 U
D		70 a					4.5				70.1		***
Percent Solids	%	79.3	100%		U	41	41	72.8	68.9	65.5	70.1	76.6	64.2

#### Notes:

- (1) Criteria based on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives,
  http://www.dec.state.ny.us/website/regu/subpart375\_6.html
  (2) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table.
- (3) A bolded and outlined cell indicates a concentration that exceeded the criteria.
- U = compound was not detected
- J = the reported value is an estimated concentration
- $\label{eq:UJ} \textbf{UJ} = \text{the compound was not detected; the associated reporting limit is approximate } R = \text{the analytical result was rejected during data validation.}$

SITE LOCATION LOCATION ID MATRIX SAMPLE ID TOP OF SAMPLE BOTTOM OF SAMPLE SAMPLE DATE QC C'ODE

GR GR GR GR GR GR GR-B3-A GR-B3-B GR-B1 GR-B2-A GR-B2-B GR-B4-A SOIL SOIL SOIL SOIL SOIL SOIL 007R011013 007R011011 007R011012 007R011009 007R011010 007R011007 0.2 0.2 0.2 0.2 0.2 0.2

SAMPLE DATE								12/12/06	12 12.06	12.12.06	12/12/06	12 12 06	12/12/06
OC. CODE								SA	SA	SA	SA	SA	SA
STUDY ID			Frequency	NYSDEC	Number	Number	Number	RA	RA	RA	RA	RA	RA
		Maximum	of	Unresticted	of	of Times	of Samples						
Parameter	Units	Concentration	Detection	Use Value (1)	Exceedances	Detected	Analyzed (2)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/KG UG/KG	0	0%	680	0	0	41	7.7 U	7 U	7.9 U	7.3 U	7.2 U	14 UJ
1,1,2,2-Tetrachloroethane	UG KG	0	0% 0%		0	0	41	7.7 U	7 U	7.9 (1	7.3 U	7.2 U	14 UI
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	00.0			0	41	7.7 U	7 U	7.9 U	7.3 U	7.2 U	14 UJ
1,1,2-Trichloroethane 1,1-Dichloroethane	UG/KG	0	0%	270	0	0	41 41	7.7 U 7.7 U	7 U 7 U	7.9 U 7.9 U	7.3 U 7.3 U	7.2 U	14 UJ
1,1-Dichloroethene	UG KG	0	0%	330	0	0	41	7.7 U	7 U	7.9 U	7.3 U	7.2 U	14 UU 14 UU
1,2,4-Trichlorobenzene	UG KG	0	0%	330	0	0	41	7.7 U	7 U	7.9 U	7.3 U	7.2 U 7.2 U	14 UJ
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		0	0	41	7.7 U	7 U	7.9 U	7.3 U	7.2 U	14 UJ
1,2-Dibromoethane	UG-KG	0	0%		0	0	41	7.7 U	7 U	7.9 U	7.3 U	7.2 U	14 (U
1,2-Dichlorobenzene	UG KG	0	0%	1100	0	0	41	7.7 U	7 U	7.9 U	7.3 U	7.2 U	14 UJ
1,2-Dichloroethane	UG. KG	0	0%	20	0	0	41	7.7 U	7 U	7.9 U	7.3 U	7.2 U	14 (1)
1,2-Dichloropropane	UG-KG	0	0%	=-	0	0	41	7.7 U	7 U	79 U	7.3 U	7.2 U	14 (0
1.3-Dichlorobenzene	UG KG	0	O <sup>ci</sup> p	2400	0	0	41	7.7 U	7 U	7.9 U	7.3 U	7.2 U	14 10
1,4-Dichlorobenzene	UG KG	Ü	0.0	1800	0	0	41	7.7 U	7 U	7.9 U	7.3 U	7.2 U	14 U)
Acetone	UG. KG	290	980 u	50	31	40	41	110	42	54	48	52	71 J
Benzene	UG KG	0	000	60	0	0	41	7.7 U	7 U	7.9 U	7.3 U	7.2 U	14 1.11
Bromodichloromethane	UG KG	0	O° 0		0	0	41	7.7 U	7 U	7.9 U	7.3 U	7.2 U	14 UJ
Bromoform	UG KG	0	Oa.o		0	0	41	7.7 U	7 U	7.9 €	7.3 U	7.2 (1	14 UJ
Carbon disulfide	UG:KG	0	000		0	0	41	15 U	14 U	16 U	15 U	14 U	28 UJ
Carbon tetrachloride	UG KG	0	000	760	0	0	41	7.7 U	7 U	7.9 U	7.3 U	7.2 U	14 UJ
Chlorobenzene	UG.KG	0	00.0	1100	0	0	41	7.7 U	7 U	7.9 U	7.3 U	7.2 U	14 UJ
Chlot odibi omomethane	UG-KG	0	00.0		0	0	41	7.7 U	7 U	7.9 U	7.3 U	7.2 U	[4 [1]
Chloroethane	UG/KG	0	0%e		0	0	41	15 U	14 U	16 U	15 U	14 U	28 UJ
Chloroform	UG.KG	0	0°6	370	-0	0	41	7.7 U	7 U	7.9 U	7.3 U	7.2 U	14 UJ
Cis-1,2-Dichloroethene	UG/KG	0	On'0	250	0	0	41	7.7 U	7 U	7.9 U	7.3 U	7.2 U	14 UJ
Cis-1,3-Dichloropropene	UG KG	0	000		0	0	41	7.7 U	7 U	7.9 U	7,3 U	7.2 U	[4 (1)
Cyclohexane	UG-KG	1.5	20.0		0	1	41	7.7 U	7 U	7.9 U	7.3 U	7.2 U	14 (1)
Dichlorodifluoromethane	UG KG	0	On.a		0	0	41	7.7 U	7 U	7.9 U	7.3 U	7.2 U	14 (1)
Ethyl benzene	UG/KG	0	0.0	1000	0	0	41	7.7 U	7 U	7.9 U	7.3 U	7.2 U	14 UJ
lsopropylbenzene	UG KG	0	000		0	0	41	7.7 U	7 U	7.9 U	7.3 U	7.2 U	14 UJ
Meta/Para Xylene	UG/KG	0	0%		0	0	41	7.7 U	7 U	7.9 U	7.3 U	7.2 U	14 UJ
Methyl Acetate	UG. KG	11	20,	020	0	0	41	15 UJ	14 UJ	16 UJ	15 UJ	14 CO	28 UJ
Methyl Tertbutyl Ether	UG KG	0	00.0	930		0	41	7.7 U	7 U	7.9 U	7.3 U	7.2 U 7.2 U	14 UJ 14 UJ
Methyl bromide	UG-KG	0 8.1	00,0		0	Ü	41 41	7.7 U 15 U	7 U 14 U	7.9 U 16 U	7.3 U 15 U	7.2 U	28 UJ
Methyl butyl ketone Methyl chloride	UG/KG UG/KG	0.1	2º,		0	0	41	7.7 U	7 U	7.9 U	7.3 U	7.2 U	14 UJ
	UG-KG	0	0%		0	0	41	7.7 U	7 U	7.9 U	7.3 U	7.2 U	14 UJ
Methyl cyclohexane Methyl ethyl ketone	UG-KG	63	9000	120	0	37	41	9.8 J	5.6 J	6.7 J	3.5 1	5.8 J	541
Methyl isobutyl ketone	UG KG	0	0%	120	0	0	41	15 U	14 U	16 U	15 U	14 U	28 UJ
Methylene chloride	UG-KG	4.6	73%	50	0	30	41	1.4 J	1.2 J	1.8 J	1.6 J	1.8 J	461
Ortho Xylene	UG'KG	0	0%	50	0	0	41	7.7 U	7 U	7.9 U	7.3 U	7.2 U	14 U)
Styrene	UG KG	0	0%		0	0	41	7.7 U	7 U	7.9 (J	7.3 U	7.2 U	14 UJ
Tetrachloroethene	UG/KG	2.4	10° o	1300	0	4	41	7.7 U	7 U	7.9 U	7.3 U	7.2 U	14 UJ
Toluene	UG/KG	8.7	27%	700	0	11	41	7.7 U	7 U	7.9 U	7.3 U	7.2 U	14 (1)
Trans-1,2-Dichloruethene	UG/KG	0	0%	190	0	0	41	7.7 U	7 U	7.9 U	7.3 U	7.2 U	14 (0
Trans-1,3-Dichloropropene	UG KG	0	000		0	U	41	7.7 U	7 U	7.9 U	7.3 U	7.2 U	14 UJ
Trichloroethene	UG-KG	0	000	470	0	0	41	7.7 U	7 U	7.9 U	7.3 U	7.2 U	14 (0)
Trichlorofluoromethane	UG-KG	0	O° 0		0	0	41	7.7 U	7 U	7.9 U	7.3 LT	7.2 U	14 UJ
Vinyl chloride	UG-KG	0	0° o	20	0	0	41	7.7 U	7 U	7.9 U	7.3 U	7.2 U	14 (1)
Semivolatile Organic Compounds													
1.1'-Biphenyl	UG/KG	0	0° a		0	0	41	460 U	450 U	480 U	480 U	450 U	510 U
2,4,5-Trichlorophenol	UG KG	0	00,0		0	0	41	460 U	450 U	480 U	480 U	450 U	510 U
2,4,6-Trichloruphenol	UG-KG	0	() <sup>10</sup> , 0		0	0	41	460 U	450 LI	480 U	480 U	450 U	510 U
2,4-Dichlorophenol	UG. KG	0	Oº u		0	0	+1	460 U	450 U	480 U	480 U	450 U	510 U
2.4-Dimethylphenol	UG/KG	0	Oa/a		0	0	41	460 U	450 U	480 U	480 U	450 U	510 U
2,4-Diniti ophenol	UG/KG	0	00,0		0	0	41	2400 U	2300 U	2500 U	2500 U	2300 U	2600 U
2,4-Dinitrotoluene	UG-KG	430	20.0		0	1	41	460 U	450 U	480 U	480 U	450 U	510 U
2,6-Dinitiotoluene	UG KG	0	Ou o		0	0	41	460 U	450 U	480 U	480 U	450 U	510 U
2-C'hloronaphthalene	UG·KG	0	0%		0	0	41	460 U	450 U	480 U	480 U	450 U	510 U
2-Chlorophenol	UG/KG	0	00.0		0	0	41	460 U	450 U	480 U	480 U	450 U	510 U

SITE LOCATION GR GR GR GR LOCATION ID GR-B4-A GR-B1 GR-B2-A GR-B2-B GR-B3-A GR-B3-B MATRIX SOIL SOIL SOIL SOIL SOIL SOIL 007R011009 007R011007 SAMPLE ID 007R011010 007R011013 007R011011 007R011012 TOP OF SAMPLE BOTTOM OF SAMPLE 0.2 0.2 0.2 0.2 0.2 0.2 SAMPLE DATE 12/12/06 12/12/06 12/12/06 12/12/06 12/12/06 12/12/06 OC CODE SA SA SA SA SA SA STUDY ID Frequency NYSDEC Number Number Number RA RA RA RA RA RA Maximum Unresticted of of Times of Samples of <u>Parameter</u> Unita Concentration Detection Use Value (1) Exceedances Detected Analyzed (2) Value (Q) Value (Q) Value (Q) Value (Q) Value (Q) Value (Q) 2-Methylnaphthalene UG/KG 0% 41 460 U 450 U 480 U 480 U 450 U 510 U 2-Methylphenol UG/KG 0% 330 0 0 41 460 U 450 U 480 U 480 U 450 U 510 U 2-Nitroaniline UG/KG 0% 41 2400 U 2300 U 2500 U 2500 U 2300 U 2600 U 0% 41 2-Nitrophenol UG/KG 460 U 450 U 480 U 480 U 450 U 510 U 3,3'-Dichlorobenzidine UG/KG 0% 41 460 U 450 U 480 U 480 U 450 U 510 U UG/KG 0% 2400 U 3-Nitroaniline 41 2300 U 2500 U 2500 U 2300 U 2600 U 4,6-Dinitro-2-methylphenol UG/KG 0% 2400 U 2300 IJ 2500 U 2500 U 2600 U 41 2300 TI 4-Bromophenyl phenyl ether UG/KG 0% 41 460 U 450 U 480 U 480 U 450 U 510 U 4-Chloro-3-methylphenol UG/KG 0% 41 460 U 450 U 480 U 480 U 450 U 510 U 4-Chloroaniline UG/KG 0% 41 460 U 450 U 480 U 480 U 450 U 510 U 4-Chlorophenyl phenyl ether UG/KG 0% 41 460 U 450 U 480 U 480 U 450 U 510 U 4-Methylphenol UG/KG 0% 330 41 460 U 450 U 480 U 480 U 450 U 510 U 4-Nitroaniline UG/KG 0% 41 2400 UJ 2300 U 2500 U 2500 UJ 2300 UJ 2600 UJ 4-Nitrophenol UG/KG 0% 2400 U 2300 U 2500 U 2500 IJ 2300 U 2600 U 41 Acenaphthene UG/KG 0% 20000 41 460 U 450 U 480 U 480 U 450 U 510 U Acenaphthylene UG/KG 0% 100000 41 460 U 450 U 480 U 480 U 450 U 510 U UG/KG 0% 460 U 450 U 480 U 480 U Acetophenone 450 U 510 U Anthracene UG/KG 0% 100000 41 460 U 450 U 480 U 480 U 450 U 510 U UG/KG 0% 450 U 480 U Atrazine 41 460 U 480 U 450 U 510 U Benzaldehyde UG/KG 420 41 2% 460 III 450 II 480 TT 480 TT 450 II 510 U UG/KG 1000 Benzo(a)anthracene 0% 41 460 U 450 II 480 U 480 II 450 U 510 U Benzo(a)pyrene UG/KG 0% 1000 41 460 U 450 U 480 U 480 U 450 U 510 U Benzo(b)fluoranthene UG/KG 0% 1000 41 460 U 450 U 480 U 480 U 450 U 510 U 0% Benzo(ghi)perylene UG/KG 100000 41 460 U 450 U 480 U 480 U 450 U 510 U Benzo(k)fluoranthene UG/KG 0% 800 41 460 U 450 U 480 U 480 U 450 U 510 U Bis(2-Chloroethoxy)methane UG/KG 450 U 0% 41 460 U 450 U 480 U 480 U 510 U UG/KG 41 480 U Bis(2-Chioroethyl)ether 0% 460 II 450 U 480 TT 450 II 510 II UG/KG Bis(2-Chloroisopropyl)ether 0% 41 460 U 450 U 480 U 480 U 450 U 510 U Bis(2-Ethylhexyl)phthalate UG/KG 0% 41 460 II 450 U 480 TI 480 II 450 II 510 U Butylbenzylphthalate UG/KG 0% 41 460 U 450 U 480 U 480 U 450 U 510 U Caprolactam UG/KG 0% 460 UJ 450 U 480 U 480 U 450 U 510 U Carbazole UG/KG 0% 41 460 U 450 U 480 U 480 U 450 U 510 U Chrysene UG/KG 1000 460 U 450 U 0% 41 450 U 480 U 480 U 510 U UG/KG Di-n-butylphthalate 0 0% 41 460 U 450 U 480 II 480 II 450 II 510 U Di-u-octylphthalate UG/KG 0% 41 460 U 450 U 480 TT 480 II 450 TT 510 U Dibenz(a,h)anthracene UG/KG 0% 330 41 460 U 450 U 480 U 480 U 450 U 510 U Dibenzofuran UG/KG 0% 7000 41 460 U 450 U 480 U 480 U 450 U 510 U Diethyl phthalate 0% 460 U 450 U 480 U 480 U 450 U 510 U UG/KG 41 Dimethylphthalate UG/KG 0% 41 460 U 450 U 480 U 480 U 450 U 510 U UG/KG 100000 460 U 450 U 480 U 480 U 450 U 510 U Fluoranthene 0% 41 UG/KG 0% 30000 41 460 U 450 U 480 U 480 U 450 U 510 U Fluorene Hexachlorobenzene UG/KG 0% 330 41 460 II 450 II 480 U 480 II 450 U 510 U Hexachlorobutadiene UG/KG 0% 41 460 U 450 U 480 U 480 U 450 IJ 510 U Hexachlorocyclopentadiene UG/KG 0% 41 460 U 450 U 480 U 480 U 450 U 510 U Hexachloroethane UG/KG 0% 460 U 450 U 480 U 480 U 450 U 510 U Indeno(1,2,3-cd)pyrene UG/KG 0% 500 41 460 U 450 U 480 U 480 U 450 U 510 U Isophorone UG/KG 0% 41 460 U 450 U 480 U 480 U 450 U 510 U N-Nitrosodiphenylamine UG/KG 0% 41 460 U 450 U 480 U 480 U 450 U 510 U N-Nitrosodipropylamine UG/KG 510 II 0% 41 460 II 450 IJ 480 U 480 TT 450 II Nanhthalene UG/KG 0% 12000 41 460 U 450 U 480 U 480 U 450 U 510 U Nitrobenzene UG/KG 0 0% 41 460 U 450 U 480 U 480 U 450 U 510 U Pentachlorophenol UG/KG 0% 800 41 2400 U 2300 U 2500 U 2500 U 2300 U 2600 U Phenanthrene UG/KG 0% 100000 41 460 U 450 U 480 U 480 U 450 U 510 U Phenol UG/KG 0% 330 41 460 U 450 U 480 U 480 U 450 U 510 U UG/KG 0 0% 100000 41 460 U 450 U 480 U 480 U 450 U 510 U Pyrene Explosives UG/KG 0 0% 41 2000 U 2000 U 2000 U 1.3.5-Trinitrobenzene n 2000 U 2000 U 2000 U 1.3-Dinitrobenzene UG/KG 0 0% 41 2000 U 2000 U 2000 U 2000 U 2000 U 2000 II 2,4,6-Trinitrotoluene UG/KG 0% 41 2000 U 2000 U 2000 U 2000 U 2000 U 2000 U 2,4-Dinitrotoluene UG/KG 0 0% 41 2000 U 2000 U 2000 U 2000 U 2000 U 2000 U 2,6-Dinitrotoluene UG/KG 1000 U 0% 41 1000 U 1000 U 1000 U 1000 U 1000 U

SITE LOCATION LOCATION ID MATRIX SAMPLE ID TOP OF SAMPLE BOTTOM OF SAMPLE SAMPLE DATE OC CODE

GR GR GR GR-B1 GR-B2-A GR-B2-B GR-B3-A GR-B4-A GR-B3-B SOIL SOIL SOIL SOIL SOIL SOIL 007R011013 007R011011 007R011012 007R011009 007R011010 007R011007 0.2 0.2 0.2 0.2

SAMPLE DATE								12/12/06	12/12/06	12/12/06	12/12.06	12-12/06	12 12/06
QC CODE								SA	SA	SA	SA	SA	SA
STUDY ID			Frequency	NYSDEC	Number	Number	Number	RA	RA	RA	RA	RA	RA
		Maximum	of	Unresticted	of	of Times	of Samples						
Parameter	Units	Concentration	Detection	Use Value (1)	Exceedances	Detected	Analyzed (2)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
2-Nitrotoluene	UG/KG	0	Ou-0		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
2-amino-4,6-Dinitrotoluene	UG, KG	0	0.0		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
3-Nitrotoluene	UG:KG	0	00.0		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 UF	2000 U
4-Nitrotoluene	UG-KG	0	0%		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
4-amino-2,6-Dinitrotoluene	UG KG	0	0%		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
HMX	UG, KG	0	0%0		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Nitrobenzene	UG, KG	0	0.0		0	0	41	500 U	500 U	500 U	500 U	500 U	500 U
Nitroglycerine	UG-KG	0	04.0		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Pentaerythritol Tetranitrate	UG-KG	0	0 <sup>6</sup> .0		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
RDX	UG KG	0	0° a		0	0	41	2000 U	2000 U	2000 €	2000 U	2000 U	2000 U
Tetryl	UG/KG	0	0.0		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 (1
PCBs													
Aroclor-1016	UG.KG	0	00.0		0	0	41	46 U	45 U	48 U	48 U	45 U	51 U
Aroclor-1221	UG:KG	0	O <sub>0</sub> .		0	0	41	94 U	92 (1	1J 80	98 U	91 U	100 €
Aroclor-1232	UG/KG	0	0.0		0	0	41	46 U	45 U	48 U	48 U	45 U	51 U
Aroclor-1242	UG. KG	0	0%		0	0	4 l	46 U	45 U	48 U	48 U	45 U	51 U
Aroclor-1248	UG/KG	0	Ou,0		0	0	41	46 U	45 U	48 U	48 U	45 U	51 U
Aroclor-1254	UG KG	0	0,0		0	0	41	46 U	45 U	48 U	48 U	45 U	51 U
Aroclar-1260	UG, KG	0	0%0		9	0	41	46 U	45 U	48 U	48 U	45 U	51 U
Pesticides													
4,4'-DDD	UG/KG	0	On'®	3.3	0	0	41	4.6 U	4.5 U	4.8 U	4.8 U	4.5 U	5111
4,4'-DDE	UG KG	0	0°6	3.3	0	0	41	4.6 U	4.5 U	4.8 U	4.8 U	4.5 U	5.1 U
4.4'-DDT	UG:KG	0	0.0	3.3	0	0	41	4.6 U	4.5 U	4.8 U	4.8 U	4.5 [1	5.1 U
Aldrin	UG/KG	0	() <sup>o</sup> ·o	5	0	0	41	2,4 U	2.3 U	2.5 U	2.5 U	2.3 U	2.6 U
Alpha-BHC	UG/KG	0	00.0	20	0	0	41	2.4 U	2.3 U	2.5 U	2.5 U	2.3 U	2.6 U
Alpha-C'hlordane	UG. KG	0	0%	94	0	0	41	2.4 U	2.3 U	2.5 U	2.5 U	2.3 U	2.6 U
Beta-BHC	UG/KG	Ü	0,0	36	0	0	41	2.4 U	2.3 U	2.5 U	2.5 U	2 3 U	2.6 U
Delta-BHC	UG/KG	0	0%	40	0	0	41	2.4 U	2.3 U	2.5 U	2.5 U	2.3 U	2.6 U
Dieldrin	UG-KG	0	00.0	5	0	0	41	4.6 U	4.5 U	4.8 U	4.8 U	4.5 U	5.1 U
Endosulfan I	UG/KG	0	00,0	2400	0	0	41	2.4 U	2.3 U	2.5 U	2.5 U	2.3 U	26 U
Endosulfan II	UG/KG	0	0%	2400	0	0	41	4.6 U	4.5 U	4.8 U	4.8 U	4.5 U	5.1 U
Endosulfan sulfate	UG/KG	0	00.0	2400	0	0	41	4.6 U	4 5 U	4.8 U	4.8 U	4.5 U	5.1 U
Endrin	UG/KG	0	0.5	14	0	0	41	4.6 U	4.5 U	4.8 U	4.8 U	4.5 U	5.1 U
Endrin aldehyde	UG/KG	0	00.0		0	0	41	4.6 U	4.5 U	4.8 U	4.8 U	4.5 U	5   1
Endrin ketone	UG/KG	0	000		0	0	41	4.6 U	4.5 U	4.8 U	4.8 U	4.5 U	5.1 U
Gamma-BHC/Lindane	UG/KG	0	00,0	100	0	0	41	2.4 U	2.3 U	2.5 U	2.5 U	2.3 U	2.6 U
Gamma-Chlordane	UG-KG	0	0.0		0	0	41	2.4 U	2.3 U	2.5 U	2.5 U	2.3 U	2.6 U
Heptachlor	UG/KG	0	0° °	42	0	0	41	2.4 U	2.3 U	2 5 U	2.5 U	2.3 U	2.6 U
Heptachlor epoxide	UG/KG	0	0%		0	0	41	2.4 U	2.3 U	2.5 U	2.5 U	2.3 U	2.6 U
Methoxychlor	UG/KG	0	Ou. a		0	0	41	24 U	23 U	25 U	25 U	23 U	26 U
Toxaphene	UG/KG	0	00.0		0	0	41	46 U	45 U	48 U	48 U	45 U	51 U
Metals										4			
Aluminum	MG/KG	19600	100%		0	41	41	15800	15900	16600	14900	14400	19600
Antimony	MG/KG	0	000		0	o o	41	0.49 UJ	0.48 UJ	0.49 UJ	0.52 UJ	0.46 UJ	0.52 UJ
Atsenic	MG/KG	9.3	0°001	13	0	41	41	2.6	4.6	3.5	2.8	3.3	3.4
Bartum	MG <sup>2</sup> KG	180	100%	350	0	41	41	117	94.4	109	106	98.9	152
Beryllium	MG/KG	1.1	980.0	7.2	0	40	41	0.71	0.74	0.81	0.67 J	0.7	0.91
Cadmum	MG KG	0.25	59%	2.5	0	24	41	0.07 J	0.05 U	0.1 J	0.05 U	0.07 J	0 18 J
Calcium	MG/KG	11100	100°.		0	41	41	2920	2000	2790	3350	2940	4370
Chromum	MG/KG	27.7	100°,		0	41	41	21.7	21.9	23.5	20	20.2	23.7
Cobalt	MG/KG	23.5	100%		0	41	41	9.1	11.3	10.2	6.8 J	7.8	6.8 J
Соррег	MG KG	22.2	100%	50	0	41	41	15	14.4	15	16.1	14.2	16
Iron	MG KG	32300	100%	50	0	41	41	20300	26800	22200	20600	21100	21100
Lead	MG/KG	38.5	100 %	63	0	41	41	20,6	25.2	20.9		21100	
Magnesium	MG/KG	5230	100%	0.5	0	41	41		3480	3670	18.8		20.6
		1880	0001	1600	ı			3520			3400	3580	4160
Manganese	MG/KG			1600		41	41	546	647	610	255	387	277
Mercury Nickel	MG-KG	0.08	100° <sub>e</sub>	0.18	0	41	41	0.05	0.04	0.05	0.05	0.05	0.08
	MG-KG	31.1	10000	30	2	41	41	20.3	18.7	22.9	17.5	18.7	20 2
Potassium	MG KG	2370	1000,0		U	41	41	1740	1660	2010	1980	1800	2070
Selenium	MG KG	4.4	100° o	3.9	2	41	41	1.7	2.5	1.9	1.7	1.5	1 4 J
Silver	MG·KG	0	0.0	2	0	0	41	0.16 U	0.16 U	0.16 U	0.17 U	0.15 U	017 U

SITE LOCATION								GR	GR	GR	GR	GR	GR
LOCATION ID								GR-B1	GR-B2-A	GR-B2-B	GR-B3-A	GR-B3-B	GR-B4-A
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								007R011013	007R011011	007R011012	007R011009	007R011010	007R011007
TOP OF SAMPLE								0	0	0	0	0	0
BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								12/12/06	12/12/06	12/12/06	12/12/06	12/12/06	12/12/06
QC CODE								SA	SA	SA	SA	SA	SA
STUDY ID			Frequency	NYSDEC	Number	Number	Number	RA	RA	RA	RA	RA	RA
		Maximum	of	Unresticted	of	of Times	of Samples						
Parameter	Units	Concentration	Detection	Use Value (1)	Exceedances	Detected	Analyzed (2)	Value (O)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Sodium	MG/KG	54.7	63%		0	26	41	139 U	135 U	139 U	147 U	129 U	147 U
Thallium	MG/KG	0	0%		0	0	41	1.2 U	1.2 U	1.2 U	0.43 U	0.38 U	0.43 U
Vanadium													
vanagium	MG/KG	33.5	100%		0	41	41	29.1	32.3	31.6	28.1	27.5	32.7
Zinc	MG/KG MG/KG	33.5 110	100% 100%	109	0	41 41	41 41	29.1 82.3	32.3 74.2	31.6 95.2	28.1 65.8	27.5 76.1	32.7 95.7
				109	0 1								
Zinc				109	0 1 0								
Zinc Other Analyses	MG/KG	110	100%	109	0 1 0	41	41	82.3	74.2	95.2	65.8	76.1	95.7

#### Notes:

- (1) Criteria based on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives,
- http://www.dcc.state.ny.us/website/rega/subpart375\_6.html

  (2) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table.

  (3) A holded and outlined cell indicates a concentration that exceeded the criteria.

- $\label{eq:U} U = compound \ was not detected$  J = the reported value is an estimated concentration  $UI = the compound \ was not detected; the associated reporting limit is approximate R = the analytical result was rejected during data validation.$

GR

GR-C2-A

007R011015

SOIL

GR-C2-B

007R011016

SOIL

GR-C1

007R011014

SOIL

GR-B4-B

007R011008

SOIL

SITE LOCATION LOCATION ID MATRIX SAMPLE ID TOP OF SAMPLE

TOP OF SAMPLE								0	0	0	0	0	0
BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2	0.2
SAMPLE DATÉ QC CODE								12 12/06	12.12.06	12.12:06	12 12.06	12.12-06	12 12.06
STUDY ID			***	111/0550				SA	SA	SA	SA	SA	SA
310D1 ID			Frequency	NYSDEC	Number	Number	Number	RA	RA	RA	RA	RA	R.A.
Parameter	T114	Maximum	of	Unresticted	of	of Times	of Samples						
	Units	Concentration	Detection	Use Value (1)	Exceedances	Detected	Analyzed (2)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds	110.160												
1,1,1-Trichtoroethane	UG/KG	0	00.0	680	0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	9.3 U
1.1,2.2-Tetrachloroethane	UG KG	0	00,0		0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	9,3 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	9.3 U
1,1,2-Trichloroethane	UG KG	0	00.0		0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	93 U
1,1-Dichloroethane	UG KG	0	00.0	270	0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	9.3 U
1.1-Dichloroethene	UG KG	0	00.0	330	0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	9.3 U
1,2,4-Trichlorobenzene	UG/KG	0	0°6		0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	9.3 U
1,2-Dibromo-3 chloropropane	UG/KG	0	0%		0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	9.3 U
1,2-Dibi omoethane	UG KG	0	00.0		0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	9.3 U
1,2-Dichlorobenzene	UG/KG	0	() <sub>0</sub> , o	1100	0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 LI	93 U
1,2-Dichloroethane	UG. KG	0	0°6	20	0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	9.3 LT
1,2-Dichloropropane	UG-KG	0	000		0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	93 U
1,3-Dichlorobenzene	UG/KG	0	Ou. o	2400	0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	93 [1
1,4-Dichlorobenzene	UG, KG	0	0°,0	1800	0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	9.3 U
Acctone	UG/KG	290	980.	50	31	40	41	36	100	98	50	29.6 LI	130
Benzene	UG KG	0	0° a	60	0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	9.3 LI
Bromodichloromethane	UG:KG	0	0°0		0	0	41	5.9 U	7.9 U	6.8 U	67 U	7.4 U	9.3 LI
Bromoform	UG·KG	0	Ou °		0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	9.3 U
Carbon disulfide	UG KG	0	0.0		0	0	41	12 U	16 U	14 U	13 U	15 U	19 U
Carbon tetrachloride	UG/KG	0	0%	760	0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	93 [1
Chlorobenzene	UG KG	0	C° 9	1100	0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	93 U
Chlorodibromomethane	UG:KG	0	D°-0		0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	9.3 U
Chloroethane	UG <sup>2</sup> KG	0	0.0		0	0	41	12 U	16 U	14 U	13 U	15 U	19 U
Chloroform	UG-KG	0	0° a	370	0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	9.3 U
Cis-1,2-Dichloroethene	UG/KG	G	0°.0	250	0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	9.3 U
Cis-1,3-Dichloropi opene	UG KG	0	0°6		0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	9.3 U
Cyclohexane	UG KG	1.5	2%		0	1	41	5.9 U	7.9 U	6,8 U	6.7 U	7.4 U	9.3 LT
Dichlorodifluoiomethane	UG KG	0	0° 5		0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	9.3 U
Ethyl benzene	UG/KG	0	0°0	1000	0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	9.3 (1
Isopt opylbenzene	UG/KG	0	O <sub>0</sub> / <sub>0</sub>		0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	9.3 U
Meta Para Xylene	UG-KG	0	0%		0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	9.3 U
Methyl Acetate	UG/KG	11	2%		0	1	41	12 U	16 UJ	14 UJ	13 UJ	15 UJ	[9 UJ
Methyl Tertbutyl Ether	UG KG	0	04.0	930	0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7 4 U	9.3 LT
Methyl bromide	UG KG	0	0°0		0	0	4 l	5.9 U	7,9 U	6.8 U	6.7 U	7.4 U	93 U
Methyl butyl ketone	UG/KG	8.1	2°-a		0	1	41	12 U	16 U	14 U	13 U	15 U	19 Lr
Methyl chloride	UG/KG	0	0° o		0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	9.3 U
Methyl cyclohexane	UG/KG	0	O° a		0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	9 3 L1
Methyl ethyl ketone	UG-KG	63	9000	120	0	37	41	2.1 J	19	7.9 J	6.6 J	4.2 3	9.4 J
Methyl isobutyl ketone	UG KG	0	00,0		0	0	41	12 U	16 U	14 U	13 U	15 U	19 U
Methylene chloride	UG-KG	4.6	73%	50	0	30	41	1.2 J	1.7 J	1.5 J	1,3 J	14 J	2.1 J
Ortho Xylene	UG:KG	0	0° o		0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	9.3 U
Styrene	UG/KG	0	00,0		0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	9.3 (1
Tetrachloroethene	UG, KG	2.4	100.0	1300	0	4	41	5.9 U	7.9 U	6.8 U	6.7 U	7,4 U	9.3 U
Toluene	UG/KG	8.7	27°-a	700	0	11	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	9.3 U
Trans-1,2-Dichloroethene	UG KG	0	() <sub>d</sub> o	190	0	0	41	5.9 U	7.9 U	6.8 U	6.7 ₹/	7 4 U	93 [1
Trans-1,3-Dichloropropene	UG/KG	0	00.0		0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	9.3 U
Trichloroethene	UG KG	0	Oa :	470	0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	9.3 U
Trichlorofluoiomethane	UG, KG	0	0%		0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	9.3 [1
Vinyl chloride	UG. KG	0	0° °	20	0	0	41	5.9 U	7.9 U	6.8 U	6.7 U	7.4 U	93 (1
Semivolatile Organic Compounds		_											
1.1'-Biphenyl	UG·KG	0	0.0		0	0	41	420 U	480 U	450 U	420 U	480 U	470 U
2,4,5-Trichlorophenol	UG:KG	0	000		0	0	41	420 U	480 U	450 U	420 U	480 U	470 U
2,4,6-Trichlorophenol	UG/KG	0	On.º		0	0	41	420 U	480 U	450 U	420 U	480 U	470 U
2,4-Dichlorophenol	UG-KG	0	O <sub>o</sub> 'o		0	0	41	420 U	480 U	450 (I	420 U	480 U	470 U
2,4-Dimethylphenol	UG-KG	0	0° 0		0	0	41	420 U	480 U	450 U	420 U	480 U	470 U
2,4-Dmitrophenol	UG.KG	0	0%		0	0	41	2200 U	2500 U	2300 U	2100 UJ	2500 UJ	2400 UJ
2,4-Dinitiotoluene	UG-KG	430	2%		0	1	41	420 U	480 U	450 U	420 U	480 U	470 U
2,6-Duntrotoluene	UG KG	0	00.0		0	0	41	420 U	480 U	450 U	420 U	480 U	470 U
2-Chloronaphthalene	UG-KG	0	0° o		0	0	41	420 U	480 U	450 U	420 U	480 U	470 L1
2-Chlorophenol	UG/KG	0	0,0		0	0	41	420 U	480 U	450 U	420 U	480 U	470 U

GR

GR-C3-A

007R011017

SOIL

GR

SOIL

GR C3-B

007R011018

SITE LOCATION GR GR GR GR GR LOCATION ID GR-B4-B GR-C1 GR-C2-A GR-C2-B GR-C3-A GR-C3-B MATRIX SOIL SOIL SOIL SOIL SOIL SOIL SAMPLE ID 007R011008 007R011014 007R011015 007R011017 007R011016 007R011018 TOP OF SAMPLE BOTTOM OF SAMPLE 0.2 0.2 0.2 0.2 0.2 0.2 SAMPLE DATE 12/12/06 12/12/06 12/12/06 12/12/06 12/12/06 12/12/06 OC CODE SA SA SA SA SA SA STUDY ID NYSDEC Number RA RA Frequency Number Number RA RA RA RA Maximum of Unresticted of of Times of Samples Parameter Units Concentratio Detectio Use Value (1) Exceedances Detected Analyzed (2) Value (Q) Value (Q) Value (Q) Value (Q) Value (Q) Value (Q) 2-Methylnaphthalene UG/KG 420 U 0% 0 41 480 U 450 U 420 U 480 U 470 U 2-Methylphenol UG/KG 330 0% n 41 420 U 480 U 450 U 420 U 480 U 470 U 2-Nitroaniline UG/KG 0% 0 41 2200 U 2500 U 2300 U 2100 U 2500 U 2400 U 2-Nitrophenol 420 U UG/K.G 0% 41 480 U 450 U 420 U 480 U 470 U 3,3'-Dichlorobenzidine UG/KG 0% 41 420 U 480 U 450 U 420 U 480 U 470 U 3-Nitronniline UG/KG 0% 41 2200 U 2500 U 2300 U 2100 U 2500 II 2400 II 4,6-Dinitro-2-methylphenol UG/KG 0% 41 2200 U 2500 U 0 0 2300 U 2100 U 2500 U 2400 U 4-Bromophenyl phenyl ether UG/KG 0% 420 U 41 480 U 450 II 420 II 480 II 470 11 4-Chloro-3-methylphenol UG/KG 0% 0 41 420 U 480 U 450 U 420 U 480 U 470 U 4-Chloroaniline UG/KG 0% 41 420 U 480 U 450 U 420 U 480 U 470 U 4-Chlorophenyl phenyl ether UG/KG 0% 41 420 U 480 U 450 U 420 U 480 U 470 U 420 U 4-Methylphenol UG/KG 0% 330 41 480 U 450 U 420 U 480 U 470 U 4-Nitroaniline UG/KG 0% 41 2200 UJ 2500 UJ 2300 UJ 2100 U 2500 U 2400 U 4-Nitrophenol UG/KG 0% 41 2200 U 2500 U 0 0 2300 11 2100 11 2500 TT 2400 II Acenaphthene UG/KG 0% 20000 420 U 41 480 U 450 U 420 U 480 U 470 II Acenaphthylene UG/KG 0% 100000 0 41 420 TT 480 TT 450 TI 420 U 480 U 470 U Acetophenone UG/KG 0% n 41 420 U 480 U 450 U 420 U 480 U 470 U Anthracene UG/KG 0% 100000 41 420 U 480 U 450 U 420 U 480 U 470 U Atrazine UG/KG 0% 41 420 U 480 U 450 U 420 U 480 U 470 U Benzaldehyde UG/KG 420 2% 41 420 U 480 UJ 450 UJ 420 U 480 U 470 IJ Benzo(a)anthracene UG/KG 0% 1000 41 0 420 U 480 U 450 II 420 TI 480 TI 470 II Benzo(a)pyrene UG/KG 0% 1000 420 II 480 TI 0 41 450 TI 420 U 480 U 470 U Benzo(b)fluoranthene UG/KG 0% 1000 0 41 420 II 480 II 450 U 420 U 480 U 470 U Benzo(ghi)perylene UG/KG 0% 100000 0 41 420 U 480 U 450 U 420 U 480 U 470 U Benzo(k)fluoranthene UG/KG 0% 800 41 420 U 480 U 450 U 420 U 470 U 480 U Bis(2-Chloroethoxy)methane UG/KG 0% 41 420 U 480 U 450 U 420 U 480 U 470 U Bis(2-Chloroethyl)ether UG/KG 0% 41 420 U 480 U 450 U 420 U 480 U 470 U Bis(2-Chloroisopropyl)ether UG/KG 0% 41 420 U 480 U 450 II 420 II 480 II 470 II Bis(2-Ethylhexyl)phthalate UG/KG 0% 420 II 480 II 450 II 480 U 41 420 U 470 U Butylbenzylphthalate UG/KG 0% 0 41 420 U 480 II 450 U 420 U 480 II 470 U Caprolactam UG/KG 0% 41 420 U 480 III 450 UJ 420 U 480 U 470 U Carbazole UG/KG 0% 41 420 U 480 U 450 U 420 U 480 U 470 U Chrysene UG/KG 0% 1000 41 420 U 480 U 450 U 420 U 480 U 470 U Di-n-butylphthalate UG/KG 0% 41 420 U 480 U 450 U 420 U 480 U 470 U Di-n-octylphthalate UG/KG 0% 41 420 U 480 U 450 U 420 U 480 U 470 U Dibenz(u,h)anthracene UG/KG 0% 330 420 U 41 480 U 450 II 420 II 480 U 470 U Dibenzofuran UG/KG 0% 7000 41 0 420 II 480 U 450 U 420 U 480 U 470 U Diethyl phthalate UG/KG 0% 41 420 U 480 U 450 U 420 U 480 U 470 U Dimethylphthalate UG/KG 0% 41 420 U 480 U 450 U 420 U 480 U 470 U Fluoranthene LIG/KG 0% 100000 0 41 420 U 480 U 450 U 420 U 480 U 470 U Fluorene UG/KG 0% 30000 41 420 U 480 U 450 U 420 U 480 U 470 U Hexachlorobenzene UG/KG 0% 330 41 420 U 480 U 450 U 420 U 480 U 470 U Hexachlorobutadiene UG/KG 0% 420 U 480 U 450 U 41 420 U 480 U 470 II Hexachlorocyclopentadiene UG/KG 0% 0 0 41 420 II 480 TT 450 II 420 U 480 U 470 U Hexachloroethane UG/KG 0% 0 41 420 U 480 U 450 U 420 U 480 U 470 U Indeno(1,2,3-cd)pyrene UG/KG 0% 500 41 420 U 480 U 450 U 420 U 480 U 470 U Isoph orone UG/KG 0% 41 420 U 480 U 450 U 420 U 480 U 470 U N-Nitrosodiphenylamine UG/KG 0% 420 U 480 U 450 U 420 U 480 U 470 U N-Nitrosodipropylamine UG/KG 0% 41 420 U 480 U 450 U 420 U 480 U 470 U Naphthalene UG/KG 0% 12000 41 420 U 480 U 450 U 420 U 470 U 480 U Nitrobenzene UG/KG 0% 0 41 420 U 480 LI 450 II 420 U 480 U 470 U Pentachlorophenol UG/KG 800 0% 0 0 41 2200 11 2500 U 2300 U 2100 U 2500 U 2400 U Phenanthrene UG/KG 0% 100000 0 41 420 U 480 U 450 U 420 U 480 U 470 U Phenol HG/KG 0% 330 41 420 U 480 U 450 U 420 U 480 U 470 U Pyrene UG/KG 0% 100000 41 420 U 450 U 420 U 480 U 470 U Explosives 1,3,5-Trinitrobenzene UG/KG 0% 41 2000 U 2000 U 2000 U 2000 U 2000 U 2000 U 1,3-Dinitrobenzene UG/KG 0% 41 2000 U 2000 U 2000 U 2000 11 2000 TI 2000 TI 2,4,6-Trinitrotoluene UG/KG 0% 0 41 2000 II 2000 U 2000 U 2000 U 2000 U 2000 U 2.4-Dinitrotoluene UG/KG 0% 41 2000 U 2000 U 2000 U 2000 U 2000 U 2000 U 2.6-Dinitrotoluene UG/KG 0% 41 1000 U 1000 U 1000 U 1000 U 1000 U 1000 U

SITE LOCATION LOCATION ID MATRIX SAMPLE ID TOP OF SAMPLE BOTTOM OF SAMPLE SAMPLE DATE QC CODE

GR GR GR GŘ GR GR-B4-B GR-C1 GR-C2-A GR-C2-B GR-C3-A GR-C3-B SOIL SOIL SOIL SOIL SOIL SOIL 007R011008 007R011015 007R011016 007R011018 007R011014 007R011017 0.2 0.2 0.2 0.2 0.2 12/12/06 12.12.06 12.12/06 12.12.06 12-12-06 12:12 06

STUDY ID   Frequency   Ny SDEC   Number   Number   Number   Of Samples   Of Samples   Number   Of Samples   Number   Of Samples   Number   Of Samples	SAMPLE DATE								12/12/06	12.12.06	12.12/06	12.12.06	12/12/06	12:12:06
Part	OC, CODE			P	MACOREC		., .							
Permeter   Serie	STODY ID		Maximum						RA	KA	RA	RA	RA	RA
Sementaries	Parameter	Units				**			Value (O)	Value (O)	Value (O)	Value (O)	Value (O)	Value (O)
Sames-14-Demonshare   Vick KG   0	2-Nitrotoluene													
Sheedening   CLCKE   0	2-amino-4,6-Dinstrotoluene	UG:KG	0	0%		0	0		2000 U	2000 U	2000 U		2000 U	
4 Americans (			0											
SMN   Current	4-Nitrotoluene	UG/KG	0	0°,a		0	0	41	2000 U	2000 U	2000 U		2000 U	
SMAN   CKKK   0	4-ammo-2,6-Dinitrotoluene	UG KG	0	00,0		0	0	41						
None-plane   Clark Cla	HMX	UG.KG	0	0%		0	0	41	2000 U		2000 U	2000 U	2000 U	2000 U
Pencary Pender   March   Mar	Nitrobenzene	UG/KG	0	0°.0		0	0	41	500 U	500 U	500 U	500 U	500 U	500 U
No.   Control	Nitroglycerine	UG-KG	0	0%		0	0	41	2000 €	2000 U	2000 U	2000 U	2000 U	2000 U
Tary 1. We William 1. We Willi	Pentaerythritol Tetranitrate		0			0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Network Networ	RDX							41				2000 U	2000 U	2000 U
Auchard 106		UG. KG	0	00,0		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Amberd-221														
Alsolar 132						0		41						
Aucher 1232						-								
Auchor-1285						-								
Aucher 1254   KG KG   O   O'   O   O   O   O   O   O   O			-			4.5								
Aceden 250														
No.   No.						-								
4.4-DDD		UG KG	0	00.0		0	0	41	42 U	48 U	45 U	42 U	48 U	47 U
4.7-DDE		****		-										
A-P.DDT														
Albra														
Alpha-BRC						-								
Alpha Choleshee   CUKG   0														
Bebs BRC														
Delts BHC						-								
Deldoin			-			_	0							
EmboundEn   UCKG   O   O's   2400   O   O   41   22 U   2.5 U   2.3 U   2.1 U   2.5 U   2.4 U   AN U   4.7 U   EmboundEn markine   UCKG   O   O's   2400   O   O   O   O   O   O   O   O   O														
Endowleff In   UGKG   O   O"   2400   O   O   41   42 U   4.8 U   4.5 U   4.2 U   4.8 U   4.7 U   4.7 U   Endrum   UGKG   O   O"   O"   O   O   O   O   O   O														
Endown Selfrick   UGKG   O   O%   2400   O   O   41   42 U   48 U   45 U   42 U   48 U   47 U   48 U   47 U   Endom selfrick   UGKG   O   O%   O   O   O   O   O   O   O														
Endrin   Ufi GG   O   O   O   O   O   O   O   O   O						-								
Endrins Actions														
Endrin Kenore UG KG 0 0 0° 0 0 41 42 U 48 U 45 U 42 U 48 U 45 U 42 U 48 U 47 U 48 U 47 U 48 U 48 U 47 U 48 U 48					1.4									
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$			-											
CammacNordance			-		100		0							
Heptachlor			0			0	0							
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $			0		42	0	0							
Methocychio   UG-KG   O   O   O   O   O   O   O   O   O			0			0	0	41	2.2 U		2.3 U	2.1 U	2.5 U	2.4 U
Tokaphene		UG, KG	0	О°-ь		0	0	41	22 U	25 U	23 U	21 U	25 U	24 U
Alummum MG.KG 19600 100°s 0 41 41 15100 16300 13700 15500 15500 14700 Alummum MG.KG 0 0 0°s 0 0 0 41 0.44 U 0.5 U 0.5 U 0.46 U 0.43 U 0.52 U 0.49 U Assence MG.KG 9.3 100°s 13 0 41 41 33 4 3.5 3.6 5 4.4  Bartum MG.KG 180 100°s 350 0 41 41 41 87.6 122 74.6 124 111 9.5  Bartum MG.KG 1.1 98°s 7.2 0 40 41 41 0.68 0.87 0.62 J 0.79 0.75 0.77  Culmium MG.KG 0.25 59°s 2.5 0 40 24 41 0.68 0.87 0.62 J 0.79 0.75 0.77  Culmium MG.KG 0.25 59°s 2.5 0 41 41 41 3310 11100 1640 3370 J 0.05 U 0.08 J 0.05 U Culcium MG.KG 11100 100°s 1 0 41 41 41 3310 11100 1640 3370 J 0.2430 J 3110  Culcium MG.KG 2.7.7 100°s 1 0 41 41 41 9 0.04 J 0.12 J 0.05 U 0.08 J 0.05 U 0.05 U Culcium MG.KG 2.3.5 100°s 1 0 41 41 41 9 11.5 10.4 8.9 7.9 10  Cupper MG.KG 33.5 100°s 5 0 41 41 41 9 9 11.5 10.4 8.9 7.9 10  Cupper MG.KG 32.0 100°s 5 0 41 41 41 9 9 11.5 10.4 8.9 7.9 10  Cupper MG.KG 38.5 100°s 6 0 41 41 41 19.7 2.2 2.2 10.4 8.9 7.9 10  Cupper MG.KG 38.5 100°s 6 0 41 41 41 19.7 2.9 2.9 21.3 17.3 17.7 18.7  Hon MG.KG 38.5 100°s 6 0 41 41 41 19.7 2.9 2.9 21.3 17.3 16.7 26.7  Magnesum MG.KG 5230 100°s 0 41 41 41 19.7 2.9 2.9 21.3 17.3 16.7 26.7  Magnesum MG.KG 38.5 100°s 6 0 41 41 41 19.7 2.9 2.9 21.3 17.3 16.7 26.7  Magnesum MG.KG 8.0 0.08 100°s 10.08 10		UG-KG	0	0° °		0	0	41	42 U	48 U	45 U	42 U	48 U	47 U
Antimony MG KG 0 0 0% 0 0 0 41 0.44 UJ 0.5 UJ 0.46 UJ 0.43 UJ 0.52 UJ 0.49 UJ Arsenic MG KG 9.3 100% 13 0 41 41 13 3 4 3.5 3.6 5 4.4 11 19.3 14 15 3 4 3.5 3.6 5 4.4 11 19.3 Beryllium MG KG 180 100% 350 0 41 41 41 87.6 122 74.6 124 111 95.3 Beryllium MG KG 1.1 98% 7.2 0 40 40 41 0.68 0.87 0.62 J 0.79 0.75 0.77 Cadmium MG KG 0.25 59% 2.5 0 24 41 0.04 J 0.12 J 0.05 U 0.08 J 0.05 U 0.05 U 0.08 U 0.05 U 0.06 U 0.06 U 0.06 U 0.06 U 0.05 U 0.06 U 0.05 U 0.06 U 0.05 U 0.06 U 0.05 U 0.06 U 0.05 U 0.06 U 0.05 U 0.06 U	Metals													
Arsence MG/KG 9.3 100% 13 00 41 41 41 3 4 3.5 3.6 5 4.4 Bartum MG/KG 110 100% 350 0 41 41 41 87.6 122 74.6 124 111 95.3 Early Humin MG/KG 1.1 98% 7.2 0 40 40 41 0.68 0.87 0.62 J 0.79 0.75 0.77 Cadmum MG/KG 0.25 59% 2.5 0 24 41 0.04 J 0.12 J 0.05 U 0.08 J 0.05 U	Alummum	MG/KG	19600	100° a		0	41	41	15100	16300	13700			
Barium   MG KG   180   100%   350   0   41   41   87.6   122   74.6   124   111   95.3	Antimony	MG KG	O	0%		0		41	0.44 UJ	0.5 UJ				
Beryllium   MG KG   1.1   98%   7.2   0   40   41   0.68   0.87   0.62 J   0.79   0.75   0.77   0.	Aisenie	MG·KG	9.3			0		41	3	4			-	
Cadmum         MG KG         0.25         59%         2.5         0         24         41         0.04 J         0.12 J         0.05 U         0.08 J         0.08 U         0.05 U           Calcium         MG KG         11100         100%         0         41         41         3310         11100         1640         3370 J         2430 J         2120 J           Chromium         MG KG         27.7         100%         0         41         41         21.1         25         20.6         21.1         21.2         22.1           Cobalt         MG KG         23.5         100%         0         41         41         9         11.5         10.4         8.9         7.9         10           Cupper         MG KG         22.2         100%         50         0         41         41         18.2         22.2         19.1         17.3         17         18.7           Ine         MG KG         38.5         100%         63         0         41         41         19.7         22.9         21.3         17.3         16.7         26.7           Magnesum         MG KG         38.5         100%         160         41         41	Battum	MG/KG	180	100°-0		0		41						
Calcium         MG/KG         11100         100%         0         41         41         3310         11100         1640         3370 J         2430 J         3210 J           Chomunun         MG/KG         27.7         100%         0         41         41         21.1         25         20.6         21.1         21.2         22.1           Cobalt         MG/KG         23.5         100%         0         41         41         9         11.5         10.4         8.9         7.9         10           Cupper         MG/KG         22.2         100%         50         0         41         41         18.2         22.2         19.1         17.3         17         18.7           Ion         MG/KG         32300         100%         63         0         41         41         19.7         22.9         21.3         17.3         16.7         26.7           Magnesum         MG/KG         3230         100%         0         41         41         3980         5230         3490         3670         3710         413           Marcury         MG/KG         18.0         100%         41         41         41         29.9         665<	Beryllium					-								
Chromium         MG KG         27.7         100%         0         41         41         21.1         25         20.6         21.1         21.2         22.1           Cobalt         MG KG         23.5         100%         0         41         41         9         11.5         10.4         8.9         7.9         10           Cupper         MG KG         22.2         100%         50         0         41         41         18.2         22.2         19.1         17.3         17         187           Iron         MG KG         32300         100%         0         41         41         21900         24400         22100         20800         23200         2310					2.5									
Cobalt         MGKG         23.5         100%         0         41         41         9         11.5         10.4         8.9         7.9         10           Cupper         MG KG         22.2         100%         50         0         41         41         18.2         22.2         19.1         17.3         17.3         18.7         18.7           Ine         MG KG         3230         100%         63         0         41         41         21900         2440         22100         20800         2300         23010           Lead         MG KG         38.5         100%         63         0         41         41         19.7         22.9         21.3         17.3         16.7         26.7           Magnessum         MG KG         5230         100%         63         0         41         41         19.7         22.9         21.3         17.3         16.7         26.7           Magnessum         MG KG         5230         100%         1600         1         41         41         289         653         381         64.2         23.3         23.3         36.1         43.0         43.0         43.0         43.0         43.0 <td></td> <td></td> <td></td> <td></td> <td></td> <td>_</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						_								
Copper         MG KG         22.2         100%         50         0         41         41         18.2         22.2         19.1         17.3         17         18.7           Ion         MG KG         32300         100%         0         41         41         21900         24400         22100         20800         23200         23100         2311         2310         2311         2310         2311         2310         2311         2311         2311         2311						-								
Iron         MG.KG         32300         100%         0         41         41         21900         24400         22100         20800         23200         23100           Lead         MG.KG         38.5         100%         63         0         41         41         19.7         22.9         21.3         17.3         16.7         26.7           Magnesium         MG.KG         5230         100%         0         41         41         3980         5230         3490         3670         3710         4130           Manganese         MG.KG         1880         100%         1600         1         41         41         289         665         381         642         253         361           Mcreury         MG.KG         31.1         100%         30         2         41         41         0.04         0.06         0.05         0.05         0.06         0.05         0.05         0.06         0.05         0.05         0.05         0.06         0.05         0.05         0.05         0.05         0.06         0.05         0.05         0.05         0.05         0.05         0.05         0.05         0.05         0.05         0.05         0.05									,					
Lead         MG/KG         38.5         100%         63         0         41         41         19.7         22.9         21.3         17.3         16.7         26.7           Magnessum         MG/KG         5230         100%         0         41         41         3980         5230         3490         3670         3710         4130         4130         4130         4130         5230         3490         3670         3710         4130					50									
Magnesium         MG KG         5230         100%         0         41         41         3980         5230         3490         3670         3710         4130           Manganese         MG KG         1880         100%         1600         1         41         41         289         665         381         642         J         253         J         361           Mercury         MG KG         0.08         100%         0.18         0         41         41         0.04         0.06         0.05         0.05         0.06         0.05           Nickel         MG KG         31.1         100%         30         2         41         41         23.6         29.5         23.2         20.2         19.7         25           Potassium         MG/KG         2370         100%         0         41         41         1560         2120         1480         1550         1840         159           Stelentum         MG/KG         4.4         100%         3.9         2         41         41         1.8         1.9         3.8         3.8         4.1         3.9						-								
Manganese         MG/kG         1880         100%         1600         1         41         41         289         665         381         642 J         253 J         361 J           Mercury         MG/kG         0.08         100%         0.18         0         41         41         0.04         0.06         0.05         0.05         0.06         0.05           Nickel         MG/kG         31.1         100%         30         2         41         41         23.6         29.5         23.2         20.2         19.7         25           Potassium         MG/kG         2370         100%         0         41         41         1560         2120         1480         1550         1840         1590           Selenium         MG/kG         4.4         100%         3.9         2         41         41         1.8         1.9         3.8         3.8         4.1         3.9					63									
Mercury         MG KG         0.08         100%         0.18         0         41         41         0.04         0.06         0.05         0.05         0.06         0.05           Nickel         MG KG         31.1         100%         30         2         41         41         23.6         29.5         23.2         20.2         19.7         25           Potassium         MG KG         2370         100%         3.9         2         41         41         1560         2120         1480         1550         1840         159           Selenium         MG KG         4.4         100%         3.9         2         41         41         1.8         1.9         3.8         3.8         4.1         3.9					1400	U								
Nicket         MG KG         31.1         100%         30         2         41         41         23.6         29.5         23.2         20.2         19.7         2.5           Potassium         MG KG         2370         100%         0         41         41         1500         2120         1480         1550         1840         1590           Selemum         MG/KG         4.4         100%         3.9         2         41         41         1.8         1.9         3.8         3.8         4.1         3.9						1								
Potassium MG/KG 2370 100% 0 41 41 1560 2120 1480 1550 1840 1590 Selemum MG/KG 4.4 100% 3.9 2 41 41 1.8 1.9 3.8 3.8 4.1 3.9														
Selemum MG/KG 4.4 100% 3.9 2 41 41 1.8 1.9 3.8 3.8 4.1 3.9					30	-								
					2.0									
Sings Merco 0 0"6 2 0 0 41 0.14 0 0.16 0 0.15 0 0.14 0 0.17 0 0.16 0														
	Silvei	MG KG	0	0	2	0	0	41	0.14 U	U.16 U	U.15 U	0.14 U	0.17 U	0.10.0

TABLE 1 SEAD-007-R-001 (Grenade Range) SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

SITE LOCATION								GR	GR	GR	GR	GR	GR
LOCATION ID								GR-B4-B	GR-C1	GR-C2-A	GR-C2-B	GR-C3-A	GR-C3-B
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								007R011008	007R011014	007R011015	007R011016	007R011017	007R011018
TOP OF SAMPLE								0	0	0	0	0	0
BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								12/12/06	12/12/06	12/12/06	12/12/06	12/12/06	12/12/06
QC CODE								SA	SA	SA	SA	SA	SA
STUDY ID			Frequency	NYSDEC	Number	Number	Number	RA	RA	RA	RA	RA	RA
0102110		Maximum	of	Unresticted	of	of Times	of Samples						
Parameter	Units	Concentration	Detection	Use Value (1)	Exceedances	Detected	Analyzed (2)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Sodium	MG/KG	54.7	63%		0	26	41	125 U	141 U	132 U	50.9 J	47.3 J	42.2 J
Thallium	MG/KG	0	0%		0	0	41	0.36 U	1.2 U	0.38 U	1.1 U	0.43 U	0.81 U
Vanadium	MG/KG	33.5	100%		0	41	41	27.3	29.1	25	28.6	29.1	27.5
Zinc	MG/KG	110	100%	109	1	41	41	72	94.2	70	69.6	71	86.3
Other Analyses													
Nitrate Nitrogen	MG/KG	9.52	59%		0	24	41	6.44 U	7.41	8.21	9.08	7.32 U	7.1 U
Percent Solids	%	79.3	100%		0	41	41	77.7	68.8	73.1	79.3	68.3	70.4

- (1) Criteria based on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives,
- http://www.dec.state.ny.us/website/rega/subpart375\_6.html

  (2) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table.
- (3) A bolded and outlined cell indicates a concentration that exceeded the criteria.
- U = compound was not detected
- O = compound was not detected:
  J = the reported value is an estimated concentration
  UJ = the compound was not detected; the associated reporting limit is approximate
  R = the analytical result was rejected during data validation.

SITE LOCATION GR GR GR GR GR GR LOCATION ID GR-DI GR-D2-A GR-D2-B GR-D3-A GR-D3-A GR-D3-B MATRIX SOIL SOIL SOIL SOIL SOIL SOIL SAMPLE ID 007R011026 007R011024 007R011025 007R011021 007R011022 007R011023 TOP OF SAMPLE BOTTOM OF SAMPLE 0.2 0.2 0.2 0.2 0.2 0.2 SAMPLE DATE 12:13:06 12/13/06 12 13 06 12 12 06 12.13.06 12 13 06 QC CODE SA DU SA SA STUDY ID Frequency NYSDEC Number Number Number RA RA RA RA RA RA Maximum Unresticted of of Times of Samples Concentration Parameter Units Detection Use Value (1) Exceedances Detected Analyzed (2) Value (Q) Value (Q) Value (Q) Value (Q) Value (Q) Value (Q) Volatile Organic Compounds 1,1,1-Trichloroethane UG KG 0.0 680 0 7.4 U 41 10 U 63 U 7.7 LI 8.5 U 77 U 1,1,2,2-Tetrachloroethane UG/KG 0 (Jo. o 41 7.4 U 10 U 6.3 U 7.7 U 8.5 U 7.7 U 1,1,2-Trichloro-1,2,2-Trifluoroethane UG'KG 0 0% 0 41 7.4 U 10 U 6.3 U 7.7 U 8.5 U 7.7 U 1,1,2-Trichloroethane UG-KG n 0% 41 7.4 U 10 U 6.3 U 7.7 U 7.7 U 8.5 U 1.1-Dichloroethane UG.KG n 0% 270 41 7.4 U 10 U 6.3 U 7.7 U 77 U 8.5 U L.L.Dichloroethene UG/KG 0 0° 5 330 41 7.4 U 10 U 7.7 U 6.3 U 8.5 U 77 [] 1,2,4-Trichlorobenzene UG-KG 0% 7.4 U 7.7 U 10 U 6.3 U 8.5 11 77 11 1,2-Dibromo-3-chloropropane UG-KG 0% 41 7.4 U 10.11 7.7 U 6.3 U 8.5 U 7.7 U 1,2-Dibromoethane UG KG 000 41 7.4 U 10.11 6.3 U 7.7 U 8.5 U 7.7 U 1,2-Dichlorobenzene UG·KG 0 0% 1100 41 74 11 10 U 6.3 U 7.7 U 7.7 U 1.2-Dichloroethane UG-KG 0% 0 20 41 7.4 U 10 U 6.3 U 7.7 U 8.5 U 7.7 U 1,2-Dichlotopropane UG-KG 0 00.0 41 7.4 U 10 U 6.3 U 7.7 U 8.5 U 77 U 1.3-Dichlorobenzene UG/KG Ω 00/6 2400 7.4 U 10 U 6.3 U 7.7 U 8.5 U 7.7 LI 1.4-Dichlorobenzene UG/KG 0ª.a 1800 7.7 U 10 U 77[] 8.5 U Acctone UG/KG 290 98% 50 40 41 65 280 60 59 150 51 Benzene UG KG 0% 60 41 7.4 U 10.1 6.3 U 8.5 U Bromodichloromethane UG-KG 0 00.0 41 7.4 U 10 U 6.3 U 7.7 U 8.5 U 7.7 U Bromoform UG-KG 0° is 41 74 [] 10 U 6.3 U 7.7 U 8.5 U 77 L Carbon disulfide UG'KG 000 41 15 U 20 U 13 U 15 U 17 U 15 U Carbon tetrachloride UG/KG Ω 0% 760 41 7.4 U 10 U 6.3 U 7.7 U 8.5 U 7.7 LI Chlorobenzene UG KG 0.0 1100 7.7 U 7.4 U 10 U 77 U 6.3 U 8.5 U Chlorodibromomethane UG'KG 0 00,0 41 7.4 U 10 U 7.7 U 6.3 U 8.5 11 77 [] Chloroethane UG/KG 0.0 41 15 U 20 U 13.11 15 U 17 H 15 U Chloroform UG KG 0 0% 370 41 7 1 11 10.11 6.3 U 7.7 U 8.5 U 7.7 U Cis-1,2-Dichloroethene UG KG 0 000 250 41 7.4 U LO U 6.3 U 7.7 U 8.5 U 77 U Cts-1,3-Dichloropropene UG-KG 0% 0 41 7.4 U 10 U 6.3 U 7.7 U 8.5 U 77 LI Cyclohexane UG/KG 1.5 20.0 41 7.4 U 10 U 6.3 U 7.7 U 8.5 U 77 U Dichlorodifluotomethane UG KG Og. 10 U 6.3 U 7.7 U 7.7 U 8.5 U Ethyl benzene UG/KG 0 09.0 1000 7.4 U 10 U 6.3 U 7.7 U 8.5 U 77 U Isopi opylbenzene UG KG 0% 7.4 U 7.7 U 10 U 7.7 U 6.3 U 8.5 U Meta/Para Xylene UG/KG 0 00,0 7.7 U 41 7.4 11 10.11 6.3 U 8.5 U 77 U Methyl Acetate UG:KG 11 200 15 17 41 20 11 13 U 15 UJ 17 U 15 U Methyl Tertbutyl Ether UG:KG 000 930 0 0 41 7.4 U 10 U 6.3 U 7.7 U 85 U 7.7 U Methyl bromide UG:KG 0 00/0 41 7.4 U 10 U 6.3 U 7.7 U 8.5 U 7.7 U Methyl butyl ketone UG/KG 8.1 2% 41 15 U 20 U 13 U 15 U 17 U 15 U Methyl chloride UG:KG 0 0% 41 7.4 U 10 U 6.3 U 8.5 U 7.7 U Methyl cyclohexane UG. KG 0°6 41 7.4 U 10 U 7.7 U 6.3 U 8.5 U 7.7 U Methyl ethyl ketone UG. KG 63 90% 120 37 41 5.5 J 25 4.8 J 5.9 [ 1.8 4.8 IMethyl isobutyl ketone UG'KG 000 0 41 15 U 20.41 13 11 15 U 17 U 15 U Methylene chloride UG KG 4.6 50 73% 30 11 1.3 J 10 U 1.2 J 1.5 J 1.8 J 1.3 J Ortho Xylene UG/KG 0 000 41 7 4 11 10 U 6.3 U 7.7 U 8.5 U 7.7 Li Styrene UG/KG Ω 00.0 11 7.4 U 10 U 6.3 U 7.7 U 7.7 U Tetrachle: oethene UG/KG 2.4 100.0 1300 41 7.4 U 10 LI 7.7 U 6.3 U 8.5 U Toluene UG'KG 8.7 27% 700 7.7 U 11 0.91 J 6.3 U 8.5 U 77 U Trans-1,2-Dichloroethene UG/KG 000 190 4! 7.4 U 10 U 7.7 U 7.7 U 6.3 U 8.5 13 Trans-1,3-Dichlotopropene UG:KG 0% 7.7 U 41 7.4 U 10 U 6.3 U 8.5 U 7.7 11 Trichloroethene UG/KG 0 0° a 470 7.7 U 0 41 7.4 U 10.11 63 U 8.5 U 77 U Trichlorofluoi omethane UG/KG 0 0% 7.7 U 11 7.4 U 10 U 6.3 U 8.5 U 77 U 20 Vinyl chloride UG. KG 0 000 41 7.4 U 10 U 6.3 U 7.7 U 8.5 U 77 U Semivolatile Organic Compounds 1.1'-Biphenyl UG/KG 0 00 0 41 470 U 480 U 500 U 460 Li 2,4,5-Trichtorophenol UG/KG 00.0 41 470 U 480 U 430 U 490 U 500 U 460 U 2,4,6-Trichlorophenol UG KG 470 U 480 U 430 U 41 490 U 500 U 460 U 2.4-Dichlotophenol UG/KG 0 ()<sub>a</sub>,° 470 U 0 41 480 U 430 U 490 U 500 U 460 [1 2,4-Dimethylphenol UG KG 0 00.0 41 470 LI 480 U 430 II 490 [] 500 LI 11 004 2.4-Dinitrophenol UG/KG п 0% n 11 2400 UJ 2500 U 2200 UJ 2500 UJ 2600 U 2400 UJ 2.4-Dinitiotoluene UG/KG 430 20% 41 470 U 480 U 430 U 490 U 500 U 460 U 2.6-Dinitrotoluene UG KG n 00 0 41 470 U 480 U 430 Li 490 U 500 U 460 U

41

41

470 U

470 U

480 U

480 U

430 U

430 U

490 U

490 U

500 U

500 U

00.0

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UG/KG

UG/KG

2-C'hloronanhthalene

2-Chlorophenol

460 U

460 U

GR

GR

GR

GR

GR

GR

LOCATION ID GR-D1 GR-D2-A GR-D2-B GR-D3-A GR-D3-A GR-D3-B MATRIX SOIL SOIL SOIL SOIL SOIL. SOIL 007R011021 007R011022 SAMPLE ID 007R011026 007R011024 007R011025 007R011023 TOP OF SAMPLE BOTTOM OF SAMPLE 0.2 0.2 0.2 0.2 0.2 0.2 12/13/06 SAMPLE DATE 12/13/06 12/13/06 12/12/06 12/13/06 12/13/06 QC CODE SA SA SA DU SA SA STUDY ID Frequency NYSDEC Number Number Number RA RA RA RA RA RA of Times Maximum nf Unresticted of of Samples Parameter Units Concentration Use Value (1) Exceedance Detected Analyzed (2) Value (Q) Value (Q) Value (Q) Value (Q) Value (Q) Value (Q) Detectio 2-Methylnaphthalene UG/KG 0% 470 U 480 U 430 U 490 U 500 U 460 U 2-Methylphenol UG/KG 0% 330 41 470 U 480 U 430 U 490 U 500 U 460 U 2-Nitroaniline UG/KG 0% 2400 U 2500 U 2200 U 2500 U 2600 U 2400 U 41 2-Nitrophenol UG/KG 0% 41 470 U 480 U 430 U 490 II 460 U 0 500 LI 3.3'-Dichlorobenzidine UG/KG 470 U 480 U 430 U 490 U 500 U 460 U 0 0% 41 3-Nitrogniline UG/KG 0 0% 0 0 41 2400 U 2500 U 2200 U 2500 U 2600 U 2400 U 4,6-Dinitro-2-methylphenol UG/KG 0% 0 41 2400 U 2500 U 2200 U 2500 U 2600 U 2400 U 4-Bromophenyl phenyl ether UG/KG 0% 41 470 U 480 U 430 U 490 U 500 U 460 II 4-Chloro-3-methylphenol UG/KG 0% 41 470 U 480 U 430 U 490 U 500 U 460 U 4-Chloroaniline UG/KG 0% 41 470 U 480 U 430 U 490 U 500 U 460 U 4-Chlorophenyl phenyl ether UG/KG 0% 41 470 U 430 U 490 U 460 U 480 U 500 U 4-Methylphenol HG/KG 330 41 470 II 480 II 430 II 490 11 500 II 460 II 0% UG/KG 4-Nitroaniline 0% 0 41 2400 U 2500 U 2200 U 2500 U 2600 U 2400 U 4-Nitrophenol UG/KG 0 0% 41 2400 U 2500 U 2200 U 2500 U 2600 U 2400 U Acenaphthene UG/KG 0% 20000 41 470 U 480 U 430 U 490 U 500 U 460 U UG/KG 0% 41 470 U 480 U 430 U 460 U Acenaphthylene 100000 490 U 500 U UG/KG 0% 41 470 U 480 U 430 U 490 U 500 U 460 U Acetophenone 0% 100000 UG/KG 41 470 U 480 U 430 U 490 U 500 U 460 U Anthracene 0 Atrazine UG/KG 0 0% 41 470 II 480 II 430 II 490 II 500 II 460 II Benzaldehyde UG/KG 420 2% 41 470 U 480 UJ 430 U 490 U 500 U 460 II Benzo(a)anthracene UG/KG 0 0% 1000 0 41 470 U 480 U 430 U 490 U 500 U 460 U UG/KG 0% 41 470 U 480 U 430 U 490 U 500 U 460 U Benzo(a)pyrene 1000 UG/KG 0% 470 U 480 U Benzo(b)fluoranthene 1000 41 430 U 490 U 500 U 460 U Benzo(ghi)perylene UG/KG 0% 100000 470 U 480 U 430 U 490 U 460 U 41 500 U UG/KG 0% Benzo(k)fluoranthene 800 41 470 U 480 U 430 U 490 U 500 U 460 U Bis(2-Chloroethoxy)methane UG/KG 0% 41 470 II 480 II 430 II 490 U 500 U 460 II Bis(2-Chloroethyl)ether UG/KG 0% 41 470 U 480 U 430 U 490 U 500 U 460 U Bis(2-Chloroisopropyl)ether UG/KG 0% 0 41 470 U 480 II 430 U 490 U 500 U 460 U Bis(2-Ethylhexyl)phthalate UG/KG 0% 41 470 U 480 U 430 U 490 U 500 U 460 U UG/KG 0% 470 U 480 U 430 U 490 U 500 U 460 U Butylbenzylphthalate 41 Caprolactam UG/KG 0% 41 470 U 480 U 430 U 490 U 500 U 460 U UG/KG 0% 470 U 430 U 490 U Carbazole 41 480 U 500 U 460 U 0 Chrysene UG/KG 0% 1000 0 41 470 II 480 U 430 U 490 U 500 U 460 U Di-n-butylphthalate UG/KG 0% 41 470 U 480 U 430 U 490 U 500 U 460 II Di-n-octylphthalate UG/KG 0% 41 470 U 480 U 430 U 490 U 500 U 460 U 0 Dibenz(a,h)anthracene UG/KG 0% 330 41 470 U 480 U 430 U 490 U 500 U 460 U UG/KG 0% 7000 41 470 U 480 U 430 U 490 U 500 U 460 U Diethyl phthalate UG/KG 0% 41 470 U 480 U 430 U 490 U 500 U 460 U Dimethylphthalate UG/KG 0% 41 470 U 480 U 430 U 490 U 460 U 0 500 U Fluoranthene UG/KG 0% 100000 0 41 470 U 480 U 430 U 490 U 500 U 460 U Fluorene UG/KG 0% 30000 n 41 470 U 480 U 430 U 490 U 500 U 460 U Hexachlorobenzene UG/KG 0% 330 41 470 U 480 U 430 U 490 U 500 U 460 II 0 Hexachlorobutadiene UG/KG 0% 41 470 U 480 U 430 U 490 U 500 U 460 U Hexachlorocyclopentadiene UG/KG 0% 41 470 U 480 U 430 U 490 U 500 U 460 U Hexachloroethane UG/KG 0% 470 U 480 U 430 U 490 U 500 U 460 U 41 Indeno(1.2.3-cd)pyrene UG/KG 0% 500 41 470 II 480 II 430 II 490 II 500 U 460 II 0 460 U Isophorone UG/KG 0% 41 470 U 480 U 430 U 490 U 500 U N-Nitrosodinhenvlamine UG/KG 0% 0 41 470 II 480 U 430 II 490 II 500 II 460 II N-Nitrosodipropylamine UG/KG 0% 41 470 U 480 U 430 U 490 U 500 U 460 U Naphthalene UG/KG 0% 12000 41 470 U 480 U 430 U 490 U 500 U 460 U Nitrobenzene UG/KG 0% 470 U 480 U 490 U 460 U 41 430 U 500 U Pentachlorophenol UG/KG 0% 800 41 2400 U 2500 U 2200 U 2500 U 2600 U 2400 U Phenanthrene UG/KG 0% 100000 470 U 480 U 430 U 490 U 500 U 460 U 41 0 UG/KG Phenol 0% 330 41 470 II 480 II 430 II 490 II 500 II 460 II Pyrene UG/KG 0% 100000 41 470 U 480 U 430 U 490 U 500 U 460 U Explosives 1,3,5-Trinitrobenzene UG/KG 0% 41 2000 U 2000 U 2000 U 2000 U 2000 U 2000 U 1,3-Dinitrobenzene UG/KG 0% 2000 U 2000 U 2000 U 2000 U 2000 U 2000 U 41 2,4,6-Trinitrotoluene UG/KG 0% 2000 U 2000 U 2000 U 2000 U 2000 U 2000 U 41 2,4-Dinitrotoluene UG/KG 0% 41 2000 U 2000 U 2000 U 2000 U 2000 U 2000 U 2.6-Dinitrotoluene UG/KG 0% 41 1000 II 1000 II 1000 U 1000 II 1000 U 1000 II

SITE LOCATION

GR GR SITE LOCATION LOCATION ID GR-D2-B GR-D3-A GR-D3-A GR-D3-B GR-D1 GR-D2-A SOIL SOIL SOIL SOIL SOIL MATRIX MATRIX
SAMPLE ID
TOP OF SAMPLE
BOTTOM OF SAMPLE
SAMPLE DATE
QC CODE 007R011026 007R011025 007R011021 007R011022 007R011023 007R011024 0.2 0.2 0.2 0.2 0.2 0.2 12 13 06 12.13/06 12/13/06 12-13-06 12/12/06 12:13 06 SA SA SA DU SA SA

STUDY ID			Frequency	NYSDEC	Number	Number	Number	RA.	RA	RA	RA	RA	RA
STUDY ID		Maximum	of	Unresticted	of	of Times	of Samples	IO.	NA.	N/N	1070	10.0	10.1
Parameter	Units	Concentration	Detection	Use Value (1)	Exceedances	Detected	Analyzed (2)	Value (O)	Value (Q)	Value (Q)	Value (O)	Value (Q)	Value (Q)
2-Nitrotoluene	UG/KG	0	0%	OSC VALUE (1)	0	0	41	2000 U         2000 U					
2-amino-4,6-Dinitrotoluene	UG/KG	0	0%		0	0	41	2000 U         2000 U					
3-Niti otoluene	UG/KG	0	000		0	0	41	2000 U         2000 U					
4-Nitrotoluene	UG/KG	0	Oue		0	0	41	2000 U         2000 11					
4-amino-2,6-Diniti otoluene	UG KG	0	Oa.o		0	0	41	2000 U         2000 U					
HMX	UG/KG	0	0%		0	0	41	2000 U         2000 U					
Nitrobenzene	UG/KG	0	0%		0	0	41	500 U          500 U					
Nitroglycerine	UG/KG	0	0%		0	0	41	2000 U         2000 U					
Pentaerythritol Tetranitrate	UG KG	0	0%		0	0	41	2000 U         2000 U					
RDX	UG/KG	0	0° o		0	0	41	2000 U         2000 U					
Tett yl	UG, KG	0	0° a		0	D	41	2000 U         2000 U					
PCBs													
Aroclor-1016	UG KG	0	0%		0	0	41	47 U	48 U	43 U	49 [1	50 U	46 []
Aroclor-1221	UG/KG	0	Ou a		0	0	41	95 U	98 U	87 U	99 U	100 U	94 U
Atoclor-1232	UG KG	0	0%		0	0	41	47 U	48 U	43 U	49 U	50 U	46 U
Aroclor-1242	UG KG	0	0%		0	0	41	47 U	48 U	43 U	49 U	50 U	46 U
Aroclor-1248	UG.KG	0	0%a		0	0	41	47 U	48 U	43 U	49 U	50 U	46 U
Aroclor-1254	UG-KG	0	$0_{o^{,o}}$		0	0	41	47 U	48 U	43 U	49 U	50 U	46 U
Aroclor-1260	UG/KG	0	00,0		0	0	41	47 U	48 U	43 U	49 U	50 U	46 U
Pesticides													
4,4'-DDD	UG-KG	0	000	3.3	0	0	41	4.7 U	4.8 U	4.3 U	4.9 U	5 U	4.6 U
4.4'-DDE	UG.KG	()	00,0	3.3	0	0	41	4.7 U	4.8 U	4.3 U	4.9 U	5 U	4.6 U
4.4'-DDT	UG.KG	0	0%	3.3	0	0	41	4.7 U	4.8 U	4.3 U	4.9 U	5 U	46 U
Aldrin	UG·KG	0	0.0	5	0	0	41	2.4 U	2.5 U	2.2 U	2.5 U	2.6 U	2.4 U
Alpha-BHC	UG·KG	0	00.0	20	0	0	41	2.4 U	2.5 U	2.2 U	2.5 U	2.6 U	2.4 U
Alpha-Chlordane	UG KG	0	0%	94	0	0	41	2.4 U	2.5 U	2.2 U	2.5 U	2.6 U	2.4 U
Beta-BHC	UG-KG	0	0,0	36	0	0	41	2.4 U	2.5 U	2.2 U	2.5 U	2.6 €	2.4 U
Delta-BHC	UG/KG	0	On/o	40	0	0	41	2.4 U	2.5 U	2.2 U	2.5 U	2.6 U	24 U
Dieldrin	UG-KG	0	000	5	0	0	41	4.7 U	4.8 U	4.3 U	4.9 U	5 U	4.6 U
Endosulfan l	UG/KG	0	$0_{\alpha'}$	2400	0	0	41	2.4 U	2.5 U	2.2 U	2.5 U	2.6 U 5 U	2.4 U
Endosulfan II	UG KG	0	0.00	2400	0	0	41	4.7 U	4.8 U	4.3 U	4.9 U 4.9 U	5 U	4.6 U
Endosulfan sulfate	UG-KG	0	000	2400	0	0	41	4.7 U	4.8 U	4.3 U	4.9 U	5 U	4.6 U
Endrin	UG/KG	0	000	14	0	0	41	4.7 U 4.7 U	4.8 U 4.8 U	4.3 U 4.3 U	4.9 U	5 U	4.6 U
Endrin aldehyde	UG KG	0	00.0		0	0	41	4.7 U	4.8 U	4.3 U	4.9 U	5 U	4.6 U
Endrin ketone	UG KG	0	00,0	100	0	0	41 41	4.7 U 2.4 U	4.8 U	2.2 U	2.5 U	2.6 U	2.4 U
Gamma-BHC-Lindane	UG:KG	0	0° 0	100	0	0	41	2.4 U	2.5 U	2.2 U	2.5 U	2.6 U	2.4 U
Gamina-Chlordane	UG. KG	0	00.0	42	0	0		2.4 U	2.5 U	2.2 U	2.5 U	2.6 U	2.4 U
Heptachlor	UG KG	0	0%	42	0	0	41 41	2.4 U	2.5 U	2.2 U	2.5 U	2.6 U	2.4 U
Heptachlor epoxide	UG·KG	0	0%		0	0	41	24 U	25 U	22 U	25 U	26 U	24 [[
Methoxychlor	UG <sup>2</sup> KG	0	0% 0%		0	0	41	47 U	48 U	43 U	49 U	50 U	46 U
Toxaphene	UG.KG	0	0%		U	u	41	47.0	40 0	45 (	47.0	50 0	
Metals	MG/KG	19600	100°,		0	41	41	14800	15400	14000	13100	17200	14600
Aluminum	MG/KG	0	0%		0	0	41	0.49 UJ	0.51 UJ	0.44 UJ	0.5 UJ	0.51 UJ	0.48 UJ
Antimony	MG/KG	9.3	100%	13	0	41	41	3.2	4.2	3.5	3.7	3.2	3.5
Arsenic	MG/KG	180	100%	350	0	41	41	84.6	93.2	77.1	104	[49	112
Barium Berylhum	MG/KG	1.1	98%	7.2	0	40	41	0.66 J	0.74 J	0.64 J	0.71	0.98 J	0 76 J
Cadmittin	MG'KG	0.25	59%	2.5	0	24	41	0.05 U	0.05 U	0.04 U	0.05 U	0.2 J	0.08 J
Calcium	MG KG	11100	100%	2.5	0	41	41	2450	3150	1480	2340 J	4520	3410
Chromun	MG-KG	27 7	100%		0	41	41	21.8	24	20.8	20.1	26.6	21.1
Cobalt	MG KG	23.5	100%		0	41	41	9.3	10.4	10.2	13	10.7	9.2
Copper	MG KG	22.2	100%	50	0	41	41	15.8	21.9	14.9	16.6	23.1	16.5
Iron	MG/KG	32300	100%		0	41	41	21600	24200	20300	21000	26800	21500
Lead	MG/KG	38.5	100°a	63	0	41	41	22.8	21.3	21	19.9	25.9	22.3
Magnesium	MG/KG	5230	100%		0	41	41	3890	4500	3540	3290	4820	3920
Manganese	MG KG	1880	1000.0	1600	1	41	41	398	359	480	693 1	532	339
Mercury	MG/KG	0.08	100° o	0.18	0	41	41	0.05	0.05	0.04	0.06	0.08	0.05
Nickel	MG/KG	31.1	100%	30	2	41	41	23.4	28.4	22.6	21	31.9	23.5
Potassium	MG/KG	2370	100%		0	41	41	1710	1740	1410	1160	2310	1740
Selenium	MG-KG	4.4	100° v	3.9	2	41	41	1.6 J	3.9	2 1	3.8	2.5 J	2.1 J
Silver	MG*KG	0	O° o	2	0	0	41	0.16 U	0.17 U	0.14 U	0.16 U	0.17 U	0.16 U

SITE LOCATION								GR	GR	GR	GR	GR	GR
LOCATION ID								GR-D1	GR-D2-A	GR-D2-B	GR-D3-A	GR-D3-A	GR-D3-B
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								007R011026	007R011024	007R011025	007R011021	007R011022	007R011023
TOP OF SAMPLE								0071071020	00/1011024	0	0	0	0071011025
BOTTOM OF SAMPLE								0.0	0.0	0.0	0	0.0	0
								0.2	0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								12/13/06	12/13/06	12/13/06	12/12/06	12/13/06	12/13/06
QC CODE								SA	SA	SA	DU	SA	SA
STUDY ID			Frequency	NYSDEC	Number	Number	Number	RA	RA	RA	RA	RA	RA
		Maximum	of	Unresticted	of	of Times	of Samples						
Parameter	Units	Concentration	Detection	Use Value (1)	Exceedances	Detected	Analyzed (2)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Sodium	MG/KG	54.7	63%		0	26	41	37.1 J	33.8 Ј	32.6 J	34.6 J	53.4 J	42.3 J
Thallium	MG/KG	0	0%		0	0	41	0.41 U	0.85 U	0.37 U	1.2 U	0.42 U	0.4 U
Vanadium	MG/KG	33.5	100%		0	41	41	26.2	27.2	24.6	23.9	29.5	26.4
Zinc	MG/KG	110	100%	109	1	41	41	77.4	87.6	69.4	63.9	102	77.1
Zinc Other Analyses				109	1	41	41	77.4	87.6	69.4	63.9	102	77.1
				109	0	41 24	41	77.4 7.08 U	87.6 8.2	69.4 7.42	63.9 7.36 U	102	77.1 7.04 U
Other Analyses	MG/KG	110	100%	109	1 0 0								

#### Notes:

- Notes:

  (1) Criteria based on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives, http://www.dec.state.ny.us/website/regs/subpart3/5\_6.html

  (2) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table.

  (3) A bolded and outlined cell indicates a concentration that exceeded the criteria.

- $U = compound \ was \ not detected$   $J = the reported \ value is an estimated concentration$   $UJ = the compound \ was \ not detected; the associated reporting limit is approximate <math display="block">R = the \ analytical \ result \ was \ rejected \ during \ data \ validation.$

GR

GR-D4-A

GR

GR-E1

GR-E2-A

GR-E2-B

GR-D4-B

SITE LOCATION LOCATION ID MATRIX

LOCATION ID								GR-D4-A	GR-D4-B	GR-E1	GR-E2-A	GR-E2-B	GR-E3
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								007R011019	007R011020	007R011027	007R011028	007R011029	007R011030
TOP OF SAMPLE								0	0	0	0	0	()
BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								12/12/06	12:12:06	12/13:06	12:13/06	12 13:06	12 13 06
QC CODE								SA	SA	SA	SA	SA	SA
STUDY ID			Frequency	NYSDEC	Number	Number	Number	RA	RA	RA	RA	RA	RA
		Maximum	of	Unresticted	of	of Times	of Samples						
Parameter	Units	Concentration	Detection	Use Value (1)	Exceedances	Detected	Analyzed (2)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG KG	0	0%	680	0	0	41	8 U	6.8 U	7.7 U	7.6 U	8.3 U	9 L1
1.1.2,2-Tetrachloroethane	UG. KG	0	On .		0	0	41	8 U	6.8 U	7.7 U	7.6 U	8.3 U	9 (1
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG′KG	0	0%		0	0	41	8 U	6.8 U	7.7 U	7.6 U	8.3 U	9 [1
1.1,2-Trichloroethane	UG KG	0	0%		0	0	41	8 U	6.8 U	7.7 U	7.6 U	8.3 U	9 LI
1,1-Dichloroethane	UG/KG	0	0%	270	0	0	41	8 U	6.8 U	7.7 U	7.6 U	8.3 LT	9 U
1,1-Dichloroethene	UG-KG	0	0.0	330	0	0	41	8 U	6.8 U	7.7 U	7.6 U	8.3 U	9 [1
1,2,4-Trichlorobenzene	UG/KG	0	0°,0		C	0	41	8 U	6.8 U	7.7 U	7.6 U	8.3 U	9 [1
1,2-Dibi omo-3-chloropi opane	UG/KG	0	On a		0	0	41	8 U	6.8 U	7.7 U	7.6 U	8.3 U	1) (
1.2-Dibromoethane	UG/KG	Ü	0° a		0	0	41	8 U	6.8 U	7.7 U	7.6 U	8.3 U	9 U
1,2-Dichtoi obenzene	UG: KG	0	0.0	0011	0	0	41	8 U	6.8 U	7.7 U	7.6 U	8.3 U	9 [1
1,2-Dichloroethane	UG/KG	0	0.0	20	0	0	41	8 U	6.8 U	7.7 U	7.6 U	8.3 U	13 0
1,2-Dichloropropane	UG KG	0	0%		0	0	41	в U	6.8 U	7.7 U	7.6 U	8.3 U	9 U
1,3-Dichlorobenzene	UG/KG	0	0° °	2400	0	0	41	8 U	6.8 U	7.7 U	7.6 U	8.3 U	9 U
1,4-Dichlotobenzene	UG/KG	0	C° o	1800	0	0	41	8 U	6.8 U	7.7 U	7.6 U	8.3 U	9 []
Acetone	UG.KG	290	980.0	50	31	40	41	200	64	100	200	46	72
Benzene	UG/KG	0	0° u	60	0	0	41	8 U	6.8 U	7.7 U	7.6 U	8.3 U	9 11
Bromodichloromethane	UG/KG	8	()° a		0	0	41	8 U	6.8 U	7.7 U	7.6 U	8.3 U	9 (1
Bromoform	UG KG	0	0°6		0	0	41	8 UJ	6.8 UJ	7.7 U	7.6 U	8.3 U	9 []
Carbon disulfide	UG KG	{}	0.0		0	0	41	16 U	14 U	15 U	15 U	17 U	18 U
Carbon tetrachloride	UG/KG	0	000	760	0	0	41	8 U	6.8 U	7.7 U	7.6 U	8.3 U	9 U
Chlorobenzene	UG KG	0	0° 5	1100	0	0	41	8 U	6.8 U	7.7 U	7.6 U	8.3 U	1) 9
Chlorodibromomethane	UG KG	0	0%		0	0	41	8 U	6.8 U	7.7 U	7.6 U	8.3 U	9 [1
Chloroethane	UG/KG	0	0°6		0	0	41	16 U	14 U	15 U	15 U	17 U	18 U
Chloroform	UG KG	0	0.0	370	0	0	41	8 U	6.8 U	7.7 U	7.6 U	8.3 U	9 [1
Cis-1,2-Dichloroethene	UG/KG	0	0%	250	0	0	41	8 U	6.8 U	7.7 U	7.6 U	8.3 U	9 (1
Cis-1,3-Dichloropropene	UG-KG	0	00.0	250	0	0	41	8 U	6.8 U	7.7 U	7.6 U	8.3 U	9 U
Cyclohexane	UG KG	1.5	2%		0	i	41	8 U	6.8 U	7.7 U	7.6 U	8.3 U	9 (1
Dichlorodifluoromethane	UG/KG	0	00.0		0	0	41	8 UJ	6.8 UJ	7.7 U	7.6 U	8.3 U	9 U
Ethyl benzene	UG KG	0	0°.	1000	0	0	41	8 U	6.8 U	7.7 U	7.6 U	8.3 U	9 [1
Isopropyibenzene	UG/KG	0	0%	1000	0	0	41	8 U	6.8 U	7.7 U	7.6 U	8.3 U	9 [1
Meta Para Xylene	UG/KG	0	0%		0	0	41	8 U	6.8 U	7.7 U	7.6 U	8.3 U	9 U
Methyl Acetate	UG/KG	11	200		n	1	41	16 U	14 U	7.7 U	7.6 U	8.3 U	18 U
Methyl Tertbutyl Ether	UG KG	0	00%	930	0	0	41	8 U	6.8 U	7.7 U	7.6 U	8.3 U	9 (1
Methyl bromide	UG/KG	0	0%	730	0	0	41	8 U	6.8 U	7.7 U	7.6 U	8.3 U	9 [1
Methyl butyl ketone	UG/KG	8.1	2%		0	1	41	16 U	14 U	15 U	7.6 U	17 U	18 U
Methyl chloride	UG'KG	0	0%		0	Ó	41	8 U	6.8 U	7.7 U	7.6 U	8.3 U	9 U
Methyl cyclohexane	UG'KG	0	00.0		0	0	41	8 U	6.8 U	7.7 U	7.6 U	8.3 U	9 [!
Methyl ethyl ketone	UG/KG	63	90%	120	0	37	41	14 J	11 J	6.5 J	14 J	4.3 J	
Methyl isobutyl ketone	UG/KG	0	00.0	120	0	0	41	16 U	14 U	15 U	15 U	4.5 J 17 U	18 U
Methylene chloride	UG KG	4.6	73%	50	0	30	41	1.3 J	1.3 J	13 0	1.3 J	1.2 J	18 U
Ortho Xylene	UG KG	0	000	30	0	0	41	8 U	6.8 U	7.7 U	7.6 U	8.3 U	1) (1
Styrene	UG/KG	0	0%		0	0	41	8 U	6.8 U	7.7 U	7.6 U	8.3 U	9 U
Tetrachloroethene	UG:KG	2.4	10%	1300	0	4		8 U					
Toluene	UG/KG	8.7	27%	700	0	11	41		6.8 U	2.4 J	7.6 U	8.3 U	9 [1
Trans-1,2-Dichloroethene	UG-KG	0	0%	190	0	0	41	3.8 J	6.8 U	0.74 J	2 J	8.3 U	9 [1
Trans-1,3-Dichloropropene	UG-KG	0	00.0	190	0	0	41	8 U 8 U	6.8 U	7.7 L1	7.6 U	8.3 U	9 11
		0		+70		0	41		6.8 U	7.7 U	7.6 U	8.3 U	9 (1
Trichloroethene	UG-KG		0%	470	0		41	8 U	6.8 U	7.7 U	7.6 U	8.3 U	9 []
Trichlorofluoromethane	UG-KG	0	0%	20	0	0	41	8 U	6.8 U	7.7 U	7.6 U	8.3 U	9 [1
Vinyl chloride	UG KG	0	00.0	20	0	0	41	8 U	6.8 U	7.7 U	7.6 U	8.3 U	9 [1
Semivolatile Organic Compounds													
1,1'-Bipheoyl	UG KG	0	0° 5		0	0	41	460 U	430 U	460 L!	480 U	490 U	490 LI
2,4,5-Trichlorophenol	UG:KG	0	0.0		0	0	41	460 U	430 U	460 U	480 U	490 U	490 [1
2,4,6-Trichlorophenol	UG/KG	0	O <sup>a</sup> <sup>D</sup>		0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
2,4-Dichlorophenol	UG-KG	0	000		0	0	41	460 U	430 U	460 U	480 U	490 U	490 ft
2,4-Dimethylphenol	UG/KG	0	00,0		0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
2,4-Dinitrophenol	UG-KG	0	$0^{\sigma_{,0}}$		0	0	41	2400 UJ	2200 UJ	2400 UJ	2500 [1]	2500 UJ	2500 UJ
2.4-Dinitrotoluene	UG KG	430	2%		0	1	41	460 U	430 U	460 U	480 U	490 U	490 (1
2,6-Dinitrotoluene	UG KG	0	$0_{\sigma^{\prime} 0}$		0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
2-Chloronaphthalene	UG <sub>'</sub> KG	0	0° °		0	0	41	460 U	430 U	460 U	480 U	490 U	490 €1
2-Chlorophenol	UG KG	0	O <sup>10</sup> a		0	0	41	460 U	430 U	460 U	480 U	490 U	490 U

GR

GR-E3

SITE LOCATION LOCATION ID MATRIX SAMPLE ID TOP OF SAMPLE BOTTOM OF SAMPLE SAMPLE DATE QC CODE

GR-D4-B GR GR-E2-B GR-E3 GR-D4-A GR-E1 GR-E2-A SOIL SOIL SOIL SOIL SOIL SOIL 007R011019 007R011020 007R011027 007R011029 007R011030 007R011028 0.2 0.2 0.2 0.2 0.2 12/12/06 12/12/06 12/13/06 12/13/06 12/13/06

SAMPLE DATE								12/12/06	12/12/06	12/13/06	12/13/06	12/13/06	12/13/06
QC CODE								SA	SA	SA	SA	SA	SA
STUDY ID			Frequency	NYSDEC	Number	Number	Number	RA	RA	RA	RA	ŔA	RA
Parameter	Units	Maximum	of	Unresticted	of	of Times	of Samples	**********	71.1		*** ***	***	
2-Methylnaphthelene	UG/KG	Concentration	Detection 0%	Use Value (1)	Exceedances	Detected 0	Analyzed (2)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
2-Methylphenol	UG/KG	0	0%	330	0	0	41	460 U 460 U	430 U	460 U	480 U	490 U	490 U
2-Nitrosniline	UG/KG	0	0%	330	0	0	41 41	2400 U	430 U 2200 U	460 U 2400 U	480 U	490 U	490 U
2-Nitrophenol	UG/KG	0	0%		0	0	41	460 U			2500 U	2500 U	2500 U
3,3'-Dichlorobenzidine	UG/KG	0	0%		0	0			430 U	460 U	480 U	490 U	490 U
3-Nitroaniline	UG/KG	0	0%		0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
4,6-Dinitro-2-methylphenol	UG/KG	0	0%				41	2400 U	2200 U	2400 U	2500 U	2500 U	2500 U
4-Bromophenyl phenyl ether	UG/KG	0	0%		0	0	41	2400 U	2200 U	2400 U	2500 U	2500 U	2500 U
4-Chloro-3-methylphenol	UG/KG	0	0%		0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
4-Chloroaniline	UG/KG	0	0%		0		41	460 U	430 U	460 U	480 U	490 U	490 U
	UG/KG	0			-	0	41	460 U	430 U	460 U	480 U	490 U	490 U
4-Chlorophenyl phenyl ether		-	0%	***	0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
4-Methylphenol	UG/KG	0	0%	330	0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
4-Nitroaniline	UG/KG	0	0%		0	0	41	2400 U	2200 U	2400 U	2500 U	2500 U	2500 U
4-Nitrophenol	UG/KG	0	0%		0	0	41	2400 U	2200 U	2400 U	2500 U	2500 U	2500 U
Acenaphthene	UG/KG	0	0%	20000	0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
Acenaphthylene	UG/KG	0	0%	100000	0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
Acetophenone	UG/KG	0	0%		0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
Anthracene	UG/KG	0	0%	100000	0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
Atrazine	UG/KG	0	0%		0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
Benzaldehyde	UG/KG	420	2%		0	1	41	460 U	430 U	460 U	480 U	490 U	490 U
Benzo(a)anthracene	UG/KG	0	0%	1000	0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
Benzo(a)pyrene	UG/KG	0	0%	1000	0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
Benzo(b)fluoranthene	UG/KG	0	0%	1000	0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
Benzo(ghi)perylene	UG/KG	0	0%	100000	0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
Benzo(k)fluoranthene	UG/KG	0	0%	800	0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
Bis(2-Chloroethoxy)methane	UG/KG	0	0%		0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
Bis(2-Chloroethyl)ether	UG/KG	0	0%		0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
Bis(2-Chloroisopropyl)ether	UG/KG	0	0%		0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
Bis(2-Ethylhexyl)phthalate	UG/KG	0	0%		0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
Butylbenzylphthalate	UG/KG	0	0%		0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
Caprolactam	UG/KG	0	0%		0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
Carbazole	UG/KG	0	0%		0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
Chrysene	UG/KG	0	0%	1000	0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
Di-n-butylphthalate	UG/KG	0	0%		0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
Di-n-octylphthalate	UG/KG	0	0%		0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
Dibenz(a,h)anthracene	UG/KG	0	0%	330	0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
Dibenzofuran	UG/KG	0	0%	7000	0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
Diethyl phthalate	UG/KG	0	0%	1000	0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
Dimethylphthalate	UG/KG	0	0%		0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
Fluoranthene	UG/KG	0	0%	100000	0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
Fluorene	UG/KG	0	0%	30000	0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
Hexachlorobenzene	UG/KG	0	0%	330	0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
Hexachlorobutadiene	UG/KG	0	0%	330	0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
Hexachlorocyclopentadiene	UG/KG	0	0%		0	0	41	460 U	430 U	460 U			
Hexachloroethane	UG/KG	0	0%		0	0	41	460 U		460 U	480 U	490 U	490 U
Indeno(1,2,3-cd)pyrene	UG/KG	0	0%	500	0	0			430 U		480 U	490 U	490 U
Isophorone	UG/KG	0	0%	300	0	0	41 41	460 U	430 U	460 U	480 U	490 U	490 U
N-Nitrosodiphenylamine	UG/KG	0	0%		0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
N-Nitrosodipropylamine	UG/KG	0	0%		•	•		460 U	430 U	460 U	480 U	490 U	490 U
Naphtbalene	UG/KG	0		10000	0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
			0%	12000	0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
Nitrobenzene	UG/KG	0	0%		0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
Pentachlorophenol	UG/KG	0	0%	800	0	0	41	2400 U	2200 U	2400 U	2500 U	2500 U	2500 U
Phonanthrone	UG/KG	0	0%	100000	0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
Phenol	UG/KG	0	0%	330	0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
Pyrene	UG/KG	0	0%	100000	0	0	41	460 U	430 U	460 U	480 U	490 U	490 U
Explosives													
1,3,5-Trinitrobenzene	UG/KG	0	0%		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
1,3-Dinitrobenzene	UG/KG	0	0%		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
2,4,6-Trinitrotoluene	UG/KG	0	0%		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
2,4-Dinitrotoluene	UG/KG	0	0%		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
2,6-Dinitrotoluene	UG/KG	0	0%		0	0	41	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U

SITE LOCATION LOCATION ID MATRIX SAMPLE ID GR GR GR GR GR GR GR-D4-A GR-D4-B GR-E1 GR-E2-A GR-E2-B GR-E3 SOIL SOIL SOIL SOIL SOIL SOIL 007R011019 007R011020 007R011027 007R011028 007R011029 007R011030 TOP OF SAMPLE BOTTOM OF SAMPLE 0.2 0.2 0.2 0.2 0.2 0.2 SAMPLE DATE 12/12/06 12.12.06 12:13 06 12.13.06 12/13/06 12 13 06 OC CODE SA SASA SA SA SA

STUDY ID			Frequency	NYSDEC	Number	Number	Number	RA	RA	RA	RA	RA	RA
		Maximum	of	Unresticted	of	of Times	of Samples						
Parameter	Units	Concentration	Detection	Use Value (1)	Exceedances	Detected	Analyzed (2)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
2-Nitrotoluene	UG/KG	0	00/4		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
2-amino-4,6-Dinitrotoluene	UG. KG	0	On.º		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
3-Nitrotoluene	UG·KG	0	0°, °		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 11
4-Nitrotoluene	UG/KG	0	O <sup>0</sup> o		0	0	41	2000 U	2000 U	2000 [7	2000 U	2000 U	2000 11
4-ammo-2,6-Dinitrotoluene	UG/KG	0	04.6		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
HMX	UG-KG	0	0%		0		41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Nitrobenzene	UG-KG UG-KG	0	0°,6		0	0	41	500 U	500 U	500 U	500 U	500 U	500 U
Nitroglycerine		0	0%			0	41	2000 U	2000 U	2000 [1	2000 U	2000 (	2000 U
Pentaerythritol Tetramitrate RDX	UG/KG UG KG	0	0%		0	0	41 41	2000 U 2000 U	2000 U	2000 U 2000 U	2000 U	2000 U	2000 U
Tetryl	UG KG	0	0%		0	0	41	2000 U	2000 U 2000 U		2000 U	2000 U	2000 U
PCBs	OU KG	0	0.70		U	U	41	2000 0	2000 0	2000 U	2000 U	2000 U	2000 U
Aroclet-1016	UG-KG	0	00%		0	0	41	46 U	43 U	46 U	48 U	49 U	49 U
Atoclor-1221	UG/KG	0	00,0		0	0	41	94 U	88 U	93 LT	98 U	100 U	99 U
Atoclor-1232	UG/KG	0	0%		0	0	41	46 U	43 U	46 U	48 U	49 U	49 U
A1 octor - 12 42	UG KG	0	0,0		0	0	41	46 U	43 U	46 U	48 U	49 U	49 [1
Aroclor-1248	UG'KG	0	00,0		0	0	41	46 U	43 U	46 U	48 U	49 U	49 U
Aroclor-1254	UG/KG	0	0° u		0	0	41	46 U	43 U	46 U	48 U	49 U	49 U
Aroclor-1260	UG KG	0	0%		0	0	41	46 U	43 U	46 U	48 U	49 U	49 [1
Pesticides	0.01111	•					,,		45 0		40.0	47 0	***
4,4'-DDD	UG KG	0	0%	3.3	0	0	41	4.6 U	4.3 U	4.6 U	4.8 U	4.9 U	49 ()
4,4'-DDE	UG KG	0	O <sup>u,</sup> a	3.3	0	0	41	4.6 U	4.3 U	4.6 U	4.8 U	4.9 U	4.9 U
4,4'-DDT	UG-KG	0	04.0	3.3	0	0	41	4.6 U	4.3 U	4.6 U	4.8 U	4.9 U	4.9 [1
Aldrin	UG/KG	0	0°6	5	0	0	41	2.4 U	2.2 U	2.4 U	2.5 U	2.5 U	2.5 U
Alpha-BHC	UG'KG	0	0,0	20	0	0	41	2.4 U	2.2 U	2.4 U	2.5 U	2.5 U	2.5 U
Alpha-Chlordane	UG KG	0	0% u	94	0	0	41	2.4 U	2.2 U	2,4 U	2.5 U	2.5 U	2.5 U
Beta-BHC	UG:KG	0	000	36	0	0	41	2.4 U	2.2 U	2.4 U	2.5 U	2.5 U	2.5 U
Delta-BHC	UG-KG	0	0%	40	0	0	41	2.4 U	2.2 U	2.4 U	2.5 U	2.5 U	2.5 U
Dieldrin	UG/KG	0	Ou, a	5	0	0	41	4.6 U	4.3 U	4.6 U	4.8 U	4.9 U	4.9 U
Endosulfan I	UG. KG	0	0.0	2400	0	0	41	2.4 U	2.2 U	2.4 U	2.5 U	2.5 U	2.5 U
Endosulfan II	UG KG	0	000	2400	0	0	41	4.6 U	4.3 U	4.6 U	4.8 U	4.9 U	4.9 U
Endosulfan sulfate	UG/KG	0	000	2400	0	0	41	4.6 U	4.3 U	4.6 [1	4.8 U	4.9 U	49 U
Endrin	UG/KG	0	00.0	14	0	0	41	4.6 U	4.3 U	4.6 U	4.8 U	4.9 U	4.9 U
Endrin aldehyde	UG/KG	0	Co.a		0	0	41	4.6 U	4.3 U	4.6 U	4.8 U	4.9 U	4.9 U
Endrin ketone	UG KG	0	0,0		0	0	41	4.6 U	4.3 U	4.6 U	4.8 U	4.9 U	19 fl
Gamma-BHC: Lindane	UG/KG	0	000	100	0	0	41	2.4 U	2.2 U	2.4 U	2.5 U	2.5 U	2 5 U
Gamma-Chlordane	UG KG	0	O.a		0	0	41	2.4 U	2.2 U	2.4 U	2.5 U	2.5 U	2.5 U
Heptachlor	UG-KG	0	000	42	0	0	41	2.4 U	2.2 U	2.4 U	2.5 U	2.5 U	2 5 U
Heptachloi epoxide	UG-KG	0	0%		0	0	41	2.4 U	2.2 U	2.4 U	2.5 U	2.5 U	2.5 U
Methoxychlor	UG KG	0	00,0		0	0	41	24 U	22 U	24 U	25 U	25 U	25 U
Toxaphene	UG KG	0	0,0,0		0	0	41	46 U	43 U	46 U	48 U	49 [1	49 U
Metals	160 800	10100	1000			41	43	10000	1.5700	11100	15500	15300	10400
Alumoun	MG KG	19600	100°° 0°°°		0	41 0	41	10500 0.47 UJ	15700 0.44 UJ	14400 0.48 UJ	15500 0.5 UJ	17300 0.52 UJ	0.51 UJ
Antimony	MG KG		100%	13	0	41	41 41		4.9	3,3	3.4	4.3	3.8
Atsenie Barium	MG.KG MG/KG	9.3 180	100%	350	0	41	41	2.7 61.9	119	116	92.8	148	155
Beryllum	MG/KG	1.1	98%	7.2	0	40	41	0.45 J	0.83	0.77 J	0.79 J	0.99 J	1.1 J
Cadmun	MG/KG	0.25	59%	2.5	0	24	41	0.05 U	0.04 U	0.12 J	0.13 J	0.25 J	0.22 J
Calcium	MG-KG	11100	100%	2.5	0	41	41	2130 J	2310 J	3360	2340	3250	4240
Chromiun	MG KG	27.7	100%		0	41	41	13.7	23.3	20.1	22.9	24.6	26.3
Cobalt	MG/KG	23.5	100°6		0	41	41	5.2 J	16.2	8.7	10.6	13.6	9.9
Copper	MG-KG	22.2	100%	50	0	41	41	11.6	18.7	16.9	21.9	19	20.5
Iron	MG-KG	32300	100%		0	41	41	13700	24200	20000	22800	26100	25100
Lead	MG/KG	38.5	100%	63	0	41	41	13.6	21.5	21,7	22.6	26	23.8
Magnesium	MG KG	5230	100%	-	0	41	41	2370	3760	3590	4280	4260	4440
Manganese	MG/KG	1880	100%	1600	i	41	41	230 J	980 1	471	412	1220	672
Mercury	MG/KG	0.08	100%	0.18	0	41	41	0.05 1	0.06	0.06	0.05	0.06	0.08
Nickel	MG KG	31.1	100° o	30	2	41	41	11.6	24.8	22.4	28.6	27.2	27 9
Potassium	MG-KG	2370	100%		0	4)	41	962	1380	1720	2260	2120	2370
Selenium	MG/KG	4.4	100%	3.9	2	41	41	2,7	4.4	1.9 J	1,9 J	2.5 J	2.5 J
Silvei	MG KG	0	0%	2	0	0	41	0.15 U	0.15 U	0.16 U	0.16 U	0.17 U	0.17 U
				_	-					-			

TABLE 1 SEAD-007-R-001 (Grenade Range) SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

SITE LOCATION								GR	GR	GR	GR	GR	GR
LOCATION ID								GR-D4-A	GR-D4-B	GR-E1	GR-E2-A	GR-E2-B	GR-E3
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								007R011019	007R011020	007R011027	007R011028	007R011029	007R011030
TOP OF SAMPLE								0	0	0	0	0	0
BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								12/12/06	12/12/06	12/13/06	12/13/06	12/13/06	12/13/06
OC CODE								SA	SA.	SA	SA	SA	SA
STUDY ID			Frequency	NYSDEC	Number	Number	Number	RA	RA	RA	RA	RA	RA
		Maximum	of	Unresticted	of	of Times	of Samples						
Parameter	Units	Concentration	Detection	Use Value (1)	Exceedances	Detected	Analyzed (2)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Sodium	MG/KG	54.7	63%		0	26	41	32,6 J	39.2 J	43.4 J	33 J	46.9 J	51.5 J
Thallium	MG/KG	0	0%		0	0	41	0.39 U	1.8 U	0.39 U	0.41 U	2.2 U	0.85 U
Vanadium	MG/KG	33.5	100%		0	41	41	20.5	28.4	26.1	27.2	32	32.9
Zinc	MG/KG	110	100%	109	1	41	41	51	72.4	76.6	90.6	82.1	110
Other Analyses													
Nitrate Nitrogen	MG/KG	9.52	59%		0	24	41	6.99 U	6.83	7.8	7.3 U	7.44 U	9.01
Percent Solids	%	79.3	100%		0	41	41	71.5	76.1	71.8	68.5	67.2	67.7

#### Notes:

- (1) Criteria based on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives, bttp://www.dec.state.ny.us/website/regs/subpart375\_6.html
  (2) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table.
  (3) A bolded and outlined cell indicates a concentration that exceeded the criteria.

- $\label{eq:U} U = compound \ was not detected \\ J = the reported value is an estimated concentration \\ UJ = the compound was not detected; the associated reporting limit is approximate \\ R = the analytical result was rejected during data validation.$

SITE LOCATION LOCATION ID MATRIX SAMPLE ID TOP OF SAMPLE BOTTOM OF SAMPLE SAMPLE DATE QC CODE

GR GR GR GR GR GR GR-E4 GR-F1 GR-F2 GR-F3 GR-F4 GR-G1 SOIL SOIL SOIL SOIL SOIL SOIL 007R011031 007R011035 007R011034 007R011033 007R011032 007R011036 0.2 0.2 0.2 0.2 0.2 0.2

SAMPLE DATE								12:13:06	12:13:06	12 13/06	12:13:06	12 13 06	12 13 06
QC CODE								SA	SA	SA	SA	SA	SA
STUDY ID			Frequency	NYSDEC	Number	Number	Number	RA	RA	RA	RA	RA	RA
		Maximum	of	Unresticted	of	of Times	of Samples						
Parameter	Units	Concentration	Detection	Use Value (1)	Exceedances	Detected	Analyzed (2)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG KG	0	0%	680	0	0	41	7.1 U	9.6 U	6.7 U	7.3 U	7.1 U	7 2 LI
1,1,2,2-Tetrachloroethane	UG/KG	0	0.0		0	0	41	7.1 U	9.6 U	6.7 U	7.3 U	7.1 U	7.2 U
1.1,2-Trichloro-1,2.2-Trifluoroethane	UG/KG	0	0°°a		0	0	41	7.1 U	9.6 U	6.7 U	7.3 U	7.1 U	72(1
1,1,2-Trichtoroethane	UG/KG	0	0%		0	0	41	7.1 U	9.6 U	6.7 U	7.3 U	7.1 U	7 2 LI
1,1-Dichloroethane	UG. KG	0	Op a	270	0	0	41	7.1 U	9.6 U	6.7 U	7.3 U	7.1 U	7.2 U
1.1-Dichloroethene	UG-KG	0	0, 0	330	0	0	41	7.1 U	9.6 U	6.7 U	7.3 U	7.1 U	7.2 U
1,2,4-Trichlorobenzene	UG-KG	0	00.0		0	0	41	7.1 U	9.6 U	6.7 U	7.3 U	7.1 U	7 2 U
1,2-Dibi omo-3-chlot opt opane	UG. KG	0	00.0		0	0	41	7.1 U	9.6 U	6.7 U	7.3 U	7.1 U	7 2 U
1,2-Dibromoethane	UG/KG	0	0º; a		0	0	41	7.1 U	9.6 U	6.7 U	7.3 U	7.1 U	7.2 U
1.2-Dichlorobenzene	UG KG	0	0.0	1100	0	0	41	7.1 U	9.6 U	6.7 U	7.3 U	7.1 U	7.2 U
1,2-Dichloroethane	UG/KG	0	0°6	20	0	0	41	7.1 U	9.6 U	6.7 U	7.3 U	7.1 U	72 U
1,2-Dichloropropane	UG. KG	0	O° 0		0	0	41	7.1 U	9.6 U	6.7 U	7.3 ₹!	7.1 U	7.2 U
1,3-Dichlorobenzene	UG KG	0	00.0	2400	0	0	41	7.1 U	9.6 U	6.7 U	7.3 U	7.1 LT	7 2 U
1,4-Dichlorobenzene	UG KG	0	0°-a	1800	0	0	41	7.1 U	9.6 U	6.7_U	7.3 U	7.1 U	7.2_U
Acetone	UG KG	290	98° o	50	31	40	41	140	240	130	76	210	110
Benzene	UG/KG	0	000	60	0	0	41	7.1 U	9.6 U	6.7 U	7.3 U	7.1 U	7.2 U
Bromodichłoromethane	UG KG	0	0°-a		0	0	41	7.1 U	9.6 U	6.7 U	7.3 U	7.1 U	7211
Bromoferm	UG-KG	0	0° 0		0	0	41	7.1 U	9.6 U	6.7 U	7.3 U	7.1 LT	7.2 U
Carbon disulfide	UG KG	0	0.0		0	0	41	14 U	19 U	13 U	15 U	14 U	14 U
Carbon tetrachloride	UG. KG	0	()°.a	760	0	0	41	7.1 U	9.6 U	6.7 U	7.3 U	7.1 U	7.2 U
Chlorobenzene	UG/KG	0	0° o	1100	0	0	41	7.1 U	9.6 U	6.7 U	7.3 U	7.1 U	7 2 U
Chlorodibromomethane	UG KG	0	0.0		0	0	41	7.1 U	9.6 U	6.7 U	7.3 U	7.1 U	7.2 U
Chloroethane	UG-KG	0	0° o		0	0	41	14 U	19 U	13 U	15 U	14 U	14 U
Chluroform	UG, KG	0	0° ü	370	0	0	41	7.1 U	9.6 U	6.7 U	7.3 U	7.1 U	7.2 U
Cis-1,2-Dichloroethene	UG KG	0	0° a	250	0	0	41	7.1 U	9.6 U	6.7 U	7.3 U	7.1 U	7.2 U
Cis-1,3-Dichloropropene	UG. KG	0	00.0		0	0	41	7.1 U	9.6 U	6.7 U	7.3 U	7.1 U	7 2 U
Cyclohexane	UG/KG	1.5	2%		0	1	41	7.1 U	9.6 U	6.7 U	7.3 U	7.1 U	7 2 U
Dichlorodifluoromethane	UG KG	0	00.0		0	0	41	7.1 U	9.6 U	6.7 U	7.3 U	7.1 U	7.2 U
Ethyl benzene	UG.KG	0	0°-°	1000	0	0	41	7.1 U	9.6 U	6.7 U	7.3 U	7.1 U	7.2 LT
Isopropylbenzene	UG/KG	0	00.0		0	0	41	7.1 U	9.6 U	6.7 U	7.3 U	7.1 U	7 2 U
Meta Para Xylene	UG. KG	0	0.0		0	0	41	7.1 U	9.6 U	6.7 U	7.3 U	7.1 U	7.2 U
Methyl Acetate	UG/KG	1.1	20.0		0	ì	41	11 J	19 U	13 U	15 U	14 U	14 LT
Methyl Tertbutyl Ether	UG KG	0	0%	930	0	0	41	7.1 U	9.6 U	6.7 U	7.3 U	7.1 U	7.2 U
Methyl bromide	UG-KG	0	0.0		0	0	41	7.1 U	9.6 U	6.7 U	7.3 U	7.1 U	7.2 U
Methyl butyl ketone	UG KG	8.1	2° o		0	1	41	14 U	8.1 J	13 U	15 U	14 U	[4 U
Methyl chloride	UG-KG	0	0°6		0	0	41	7.1 U	9.6 U	6.7 U	7.3 U	7.1 U	7 2 U
Methyl cyclohexane	UG/KG	0	0° °	170	0	0	41	7.I U	9.6 U	6.7 U	7.3 U	7.1 U	7.2 U
Methyl ethyl ketone	UG/KG	63 0	90%	120		37	41	12 J	63	13 J	25	13 J	24
Methyl isobutyl ketone	UG/KG	4.6	0%	50	0	0	41	14 U	19 U	13 U	15 U	14 U	14 U
Methylene chloride	UG/KG UG/KG	4.6	73° o 0°-o	50		30	41	0.92 J	9.6 U	6.7 U	7.3 U	1.4 J	7.2 L <sup>1</sup>
Ortho Xylene	UG-KG	0	0%		0	0	41	7.1 U 7.1 U	9.6 U	6.7 U	7.3 U	7.1 U	7.2 U
Styrene Tetrachloroethene	UG/KG	2.4	10%	1300	0	4	41 41	7.1 U 1.1 J	9.6 U 9.6 U	6.7 U 6.7 U	7.3 U 7.3 U	7.1 U	7.2 U 0.7 J
Toluene	UG KG	8.7	27%	700	0	11	41	0.54 J			7.3 U	7.1 U 8.7	
Trans-1,2-Dichloroethene	UG/KG	0.7	0%	190	0	0	41	7.1 U	1.1 J 9.6 U	6.7 U 6.7 U	7.3 U	7 L U	1.2 J 7.2 U
Trans-1,3-Dichloropropene	UG.KG	0	0%	170	0	0	41	7.1 U	9.6 U	6.7 U	7.3 U	7.1 U	7.2 U
Trichloroethene	UG KG	0	0%	470	0	0	41	7.1 U	9.6 U	6.7 U	7.3 U	7.1 U	7.2 U
Tuchlorofluoromethane	UG-KG	0	0%	470	0	0	41	7.1 U	9.6 U	6.7 U	7.3 U	7.1 U	7.2 U
Vinyl chloride	UG/KG	0	0" 0	20	0	0	41	7.1 U	9.6 U	6.7 U	7.3 U	7.1 U	7.2 L1
Semivolatile Organic Compounds	CORO	U	0 0	20	0	0	41	7.1 0	7.0 ()	0.7 C	7.5 0	7.1 0	72.0
1,1'-Biphenyl	UG-KG	0	00.0		0	0	41	430 U	500 U	440 U	460 U	450 U	440 U
2,4,5-Trichlorophenol	UG/KG	0	00.0		0	0	41	430 U	500 U	440 U	460 U	450 U	440 U
2,4,6-Trichlorophenol	UG KG	0	00.0		0	0	41	430 U	500 U	440 U	460 U	450 U	440 U
2,4-Dichlorophenol	UG/KG	0	0° e		0	0	41	430 U	500 U	440 U	460 U	450 U	440 U
2,4-Directlylphenol	UG/KG	0	0%		0	0	41	430 U	500 U	440 U	460 U	450 U	440 U
2,4-Dinethylphenol	UG KG	0	0° o		0	0	4!	2200 UJ	2600 U	2300 U	2400 U	2300 U	2300 U
2,4-Dinitrophenol	UG-KG	430	2%		0		41	430 U	500 U	440 U	460 U	450 U	440 U
2,6-Dinitiotoluene	UG KG	430	0°i		0	0	41	430 U	500 U	440 U	460 U	450 U	440 U
2-Chloronaphthalene	UG/KG	0	0%		0	0	41	430 U	500 U	440 U	460 U	450 U	440 U
2-Chlorophenol	UG/KG	0	0,0		0	0	41	430 U	500 U	440 U	460 U	450 U	440 U
2 - Carorophenor	CORC	U	J0		U	U	41	430 0	200 0	440 O	400 U	430 U	440 U

GR GR GR GR SITE LOCATION GR GR LOCATION ID GR-E4 GR-F1 GR-F2 GR-F3 GR-F4 GR-G1 MATRIX SOIL SOIL SOIL SOIL SOIL SOIL SAMPLE ID 007R011031 007R011035 007R011034 007R011033 007R011032 007R011036 TOP OF SAMPLE BOTTOM OF SAMPLE 0.2 0.2 0.2 0.2 0.2 0.2 12/13/06 12/13/06 12/13/06 12/13/06 SAMPLE DATE 12/13/06 12/13/06 OC CODE SA SA SA SA SA SA STUDY ID NYSDEC Number Number Number RA RA RA RA RA RA Frequency Maximum of Unresticted of of Times of Samples Value (O) Value (O) Parameter Concentratio Detection Use Value (1) Exceedance Detected Analyzed (2) Value (O) Value (O) Value (O) Value (O) 2-Methylnaphthalene UG/KG 430 U 500 U 450 U 440 U 0% 41 440 U 460 U 2-Methylphenol UG/KG 0% 330 n 41 430 II 500 U 440 II 460 U 450 II 440 II 2-Nitroaniline UG/KG 0% 41 2200 U 2600 U 2300 U 2400 U 2300 U 2300 U 2-Nitrophenol UG/KG 0% 41 430 U 500 U 440 U 460 U 450 U 440 U 3,3'-Dichlorobenzidine UG/KG 0% 41 430 U 500 U 440 U 460 U 450 U 440 U 3-Nitroaniline UG/KG 0% 41 2200 U 2600 U 2300 U 2400 U 2300 U 2300 U 4,6-Dinitro-2-methylphenol UG/KG 0% 0 41 2200 U 2600 U 2300 U 2400 U 2300 U 2300 U 4-Bromophenyl phenyl ether UG/KG 0% 41 430 U 500 U 440 U 460 U 450 U 440 U 4-Chloro-3-methylphenol UG/KG 41 500 U 440 U 460 U 450 U 440 U 0% 0 430 U 4-Chloroaniline UG/KG 0% 41 430 U 500 U 440 U 460 U 450 U 440 II 4-Chlorophenyl phenyl ether UG/KG 0% 41 430 U 500 U 440 U 460 U 450 U 440 U 4-Methylphenol UG/KG 0% 330 41 430 U 500 U 440 U 460 U 450 U 440 U 4-Nitroaniline UG/KG 0% 2200 U 2600 U 2300 U 2400 U 2300 U 2300 U 4-Nitrophenol UG/KG 0% 41 2200 U 2600 U 2300 U 2400 U 2300 U 2300 U UG/KG 20000 430 U 500 U 440 U 460 U 450 U 440 U Acenaphthene 0% 41 Acenaphthylene UG/KG 0% 100000 41 440 U 460 U 450 U 440 U 0 430 U 500 U Acetophenone UG/KG 0% 41 430 U 500 U 440 U 460 U 450 U 440 U Anthracene UG/KG 0% 100000 41 430 U 500 U 440 IJ 460 U 450 U 440 U UG/KG 0% 41 430 U 500 U 440 U 460 U 450 U 440 U Atrazine Benzaldehyde UG/KG 420 2% 41 430 U 500 U 440 U 460 U 450 U 440 U UG/KG 0% 1000 41 430 U 500 U 440 U 460 U 450 U 440 U Benzo(a)anthracene 0 UG/KG 430 II 500 II 440 II 460 II 450 U 440 U 0% 1000 41 Benzo(a)pyrene UG/KG 460 U 450 U 440 U Benzo(b)fluoranthene 0% 1000 41 430 U 500 U 440 IJ Benzo(ghi)perylene UG/KG 0 0% 100000 41 430 U 500 U 440 II 460 II 450 II 440 II Benzo(k)fluoranthene UG/KG 0% 800 41 430 U 500 U 440 U 460 U 450 U 440 U Bis(2-Chloroethoxy)methane UG/KG 0% 41 430 U 500 U 440 U 460 U 450 U 440 U Bis(2-Chloroethyl)ether UG/KG 0% 41 430 U 500 U 440 U 460 U 450 U 440 U Bis(2-Chloroisopropyl)ether UG/KG 0% 41 430 U 440 U 460 U 450 U 440 U 500 U 440 U 430 II 500 U 440 II 460 U 450 II Bis(2-Ethylhexyl)phthalate UG/KG 0% 41 HG/KG 450 II 440 II Butylbenzylphthalate 0% 41 430 II 500 T1 440 II 460 U Caprolactam UG/KG 0% 41 430 U 500 II 440 II 460 II 450 II 440 II Carbazole UG/KG 0% 41 430 U 500 U 440 U 460 U 450 U 440 U UG/KG 0% 1000 41 430 U 500 U 440 U 460 U 450 U 440 U Chrysene Di-n-butylphthalate UG/KG 0% 41 430 U 500 U 440 U 460 U 440 U Di-n-octylphthalate UG/KG 0% 41 430 U 500 U 440 U 460 U 450 U 440 U Dibenz(a,h)anthracene UG/KG 440 U 460 U 450 U 440 U 0% 330 41 430 II 500 U 450 II Dibenzofuran UG/KG 0% 7000 41 430 II 500 II 440 II 460 II 440 II Diethyl phthalate UG/KG 0% 41 430 U 500 U 440 U 460 U 450 IJ 440 II Dimethylphthalate UG/KG 0% 41 430 U 500 U 440 U 460 U 450 U 440 U UG/KG 0% 100000 41 430 U 500 U 440 U 460 U 450 U 440 U Fluoranthene Fluorene UG/KG 0% 30000 41 430 U 500 U 440 U 460 U 450 U 440 U Hexachiorobenzene UG/KG 0% 330 41 430 U 440 U 460 U 450 U 440 U 500 U UG/KG 430 U 500 U 460 U 440 U Hexachlorobutadiene 0% 41 440 U 450 U Hexachlorocyclopentadiene LIG/KG 0% 41 430 II 500 II 440 TI 460 II 450 II 440 II Hexachloroethane UG/KG 0% 41 430 U 500 U 440 U 460 U 450 U 440 II Indeno(1,2,3-cd)pyrene UG/KG 0% 500 41 430 U 500 U 440 U 460 U 450 U 440 II Isophorone UG/KG 0% 41 430 U 500 U 440 U 460 U 450 U 440 U N-Nitrosodiphenylamine 430 U 440 U 440 U UG/KG 0% 500 U 460 U N-Nitrosodipropylamine UG/KG 0% 41 430 U 500 U 440 U 460 U 450 U 440 U 0 12000 Naphthaiene UG/KG 0% 41 430 U 500 U 440 U 460 U 450 U 440 U Nitrobenzene UG/KG 0 0% 41 430 II 500 LJ 440 U 460 U 450 U 440 II Pentachlorophenol UG/KG 0 0% 800 41 2200 U 2600 U 2300 U 2400 U 2300 U 2300 U Phenanthrene UG/KG 0% 100000 41 430 U 500 U 440 U 460 U 450 U 440 U Phenol UG/KG 0% 330 41 430 U 500 U 440 U 460 U 450 U 440 U 41 Pyrene UG/KG 0% 100000 430 U 500 U 440 U 460 U 450 U 440 U Explosives 1.3.5-Trinitrobenzene UG/KG 0% 41 2000 U 2000 U 2000 U 2000 U 2000 U 2000 U 0 0 1.3-Dinitrobenzene UG/KG 0 0% 41 2000 U 2000 U 2000 U 2000 U 2000 U 2000 U 2.4.6-Trinitrotoluene UG/KG 0 0% 41 2000 U 2000 U 2000 U 2000 U 2000 U 2000 U 2,4-Dinitrotoluene UG/KG 0% 41 2000 U 2000 U 2000 IJ 2000 U 2000 U 2000 U 2,6-Dinitrotoluene UG/KG 0% 41 1000 U 1000 U 1000 U 1000 U 1000 U 1000 U

SITE LOCATION LOCATION ID MATRIX SAMPLE ID TOP OF SAMPLE BOTTOM OF SAMPLE SAMPLE DATE QC CODE STILDY ID

GR GR GR GR-E4 GR-F1 GR-F2 GR-F3 GR-F4 GR-G1 SOIL SOIL SOIL SOIL SOIL SOIL 007R011031 007R011035 007R011034 007R011033 007R011032 007R011036 0.2 0.2 0.2 0.2 0.2 0.2 12/13/06 12/13/06 12.13/06 12/13/06 12-13/06 12 13 06 SA SA SA

STUDY ID		Maximum	Frequency of	NYSDEC Unresticted	Number	Number of Times	Number of Samples	RA	RA	RA	RA	RA	RA
Parameter	Units	Concentration	Detection	Use Value (1)	Exceedances	Detected	Analyzed (2)	Value (O)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
2-Nitrotoluenc	UG, KG	0	0%		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
2-amino-4,6-Dinitiotoluene	UG/KG	0	0%		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
3-Nitrotoluene	UG/KG	0	0%		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
4-Nitrotoluene	UG KG	0	0%		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
4-ammo-2,6-Dmittotoluene	UG/KG	0	0.0		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
HMX	UG:KG	0	0%		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 L <sup>1</sup>
Nitiobenzene	UG-KG	0	0°-0		0	0	41	500 U	500 U	500 U	500 U	500 LT	500 U
Nitroglyceime	UG·KG	0	0°·0		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Pentaerythritol Tetranitrate	UG. KG	C)	Ου υ		0	0	41	2000 U	2000 U	2000 ∪	2000 U	2000 U	2000 U
RDX	UG/KG	0	Go. a		0	0	41	2000 U	2000 U	2000 U	2000 ∪	2000 €	2000 U
Tetryl	UG KG	0	00.0		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
PCBs													
Aroclor-1016	UG-KG	0	() <sub>0</sub> , <sub>0</sub>		0	0	41	43 UJ	50 U	44 U	46 U	45 U	44 U
Arueloi-1221	UG/KG	0	00.0		0	0	41	88 UJ	100 U	89 U	94 LT	92 U	90 U
Aroclor-1232	UG KG	0	0%		0	0	41	43 UJ	50 U	44 U	46 U	45 U	44 U
Arocloi-1242	UG/KG	0	On'o		0	0	41	43 UJ	50 U	44 U	46 U	45 U	44 U
Aroclor-1248	UG KG	0	0 ο υ		0	0	41	43 UJ	50 U	44 U	46 U	45 U	44 U
Aroclor-1254	UG KG	0	00.0		0	0	41	43 UJ	50 U	44 U	46 U	45 U	44 U
Aroclor-1260	UG/KG	0	00.0		0	0	41	43 UJ	50 U	44 U	46 U	45 U	44 U
Pesticides													
4.4'-DDD	UG KG	0	0.0	3.3	0	0	41	4.3 U	5 U	4.4 U	4.6 U	4.5 U	4.4 U
4,4'-DDE	UG KG	0	0° :	3.3	0	0	41	4.3 U	5 U	4.4 U	4.6 U	4.5 U	4.4 U
4.4'-DDT	UG/KG	0	000	3.3	0	0	41	4.3 U	5 U	4.4 U	4.6 U	4.5 U	44 U
Aldrin	UG/KG	0	0,0	5	0	0	41	2.2 U	2.6 U	2.3 U	2.4 U	2.3 U	2 3 U
Alpha-BHC	UG-KG	0	O <sub>a</sub> .º	20	()	0	41	2.2 U	2.6 U	2.3 U	2.4 U	2.3 U	2.3 U
Alpha-Chlordane	UG:KG	0	0,0	94	0	0	41	2.2 U	2.6 U	2.3 U	2.4 U	2.3 U	2 3 U
Beta-BHC	UG. KG	0	Ou.º	36	0	0	41	2.2 U	2.6 U	2.3 U	2.4 U	2.3 U	2.3 (1
Delta-BHC	UG-KG	0	0%	40	0	0	41	2.2 U	2.6 U	2.3 U	2.4 U	2.3 U	2.3 U
Dieldrin	UG/KG	0	Oo.e	5	0	0	41	4.3 U	5 U	4.4 U	4.6 U	4.5 U	4.4 U
Endosulfan I	UG KG	0	0°,0	2400	0	0	41	2.2 U	2.6 U	2.3 U	2.4 U	2.3 U	2.3 (1
Endosulfan II	UG KG	0	0.0	2400	0	0	41	4.3 U	5 U	4.4 (1	4.6 U	45 U	4.4 U
Endusulfan sulfate	UGIKG	0	O°.	2400	0	0	41	4.3 U	5 U	4.4 U	4.6 U	4.5 U	4.4 U
Endrin	UG KG	0	00,0	14	0	0	41	4.3 U	5 U	4.4 U	4.6 U	4.5 U	44 U
Endim aldehyde	UG.KG	0	0° 0		0	0	41	4.3 U	5 U	4.4 U	4.6 U	4.5 U	4.4 U
Endrin ketone	UG/KG	0	00.0		0	0	41	4.3 U	5 U	4.4 U	4.6 U	4.5 U	4.4 U
Gamma-BHC Lindane	UG/KG	0	0.0	100	0	0	41	2.2 U	2.6 LT	2.3 U	2.4 U	2.3 U	2 3 U
Gamina-Chlordane	UG/KG	0	0°.0		0	0	41	2.2 U	2.6 U	2.3 U	2.4 U	2.3 U	2 3 L <sup>1</sup>
Heptachlor	UG/KG	0	00,0	42	0	0	41	2.2 U	2.6 U	2.3 U	2.4 U	2.3 U	2,3 U
Heptachlor epoxide	UG/KG	0	000		0	0	41	2.2 U	2.6 U	2.3 U	2.4 U	2.3 U	2 3 U
Methoxychlor	UG/KG	0	Ou a		0	0	41	22 U	26 U	23 U	24 U	23 U	23 U
Toxaphene Metals	UG, KG	0	0° o		0	0	41	43 U	50 U	44 U	46 U	45 U	44 (1
Alumnum	MG/KG	19600	100%		0	41	41	14200	14200	1.1000	14400	1.4300	15000
Antimony	MG-KG	0	000		0	0	41 41	16300	15300	14800	16600	14300	15000
Attenic	MG KG	9.3	100%	13	0	41		0.44 UJ	0.53 UJ	0.46 UJ	0.47 UJ	0.47 UJ	0 46 UJ
Barrum	MG KG	180	100%	350	0	41	41 41	3.9 86.2	2.4 110	3.6 60.5	3.1	4.5 99.5	2.5 87.4
Berylhum	MCKG	1.1	98%	7.2	0	40	41	0.68 J	0.75 J		128 0.81 J		0.68 J
Cadmum	MG/KG	0.25	59%	2.5	0	24	41	0.04 U	0.08 J	0.6 J 0.05 U	0.11 J	0.71 J 0.1 J	0.05 U
Calcium	MG/KG	11100	100%	2.3	0	41	41	1530	3580	1900	2900	2130	1800
Chromum	MG/KG	27 7	100%		0	41	41	21.4	22.5	22.4	23.1	193	21.4
Cobalt	MG KG	23.5	100%		0	41	41	11.3	9.4	8.6	12.1	13 7	8.9
Copper	MG KG	22.2	100°s	50	0	41	41	13.2	17.2	18.4	15.6	13	16.4
Iron	MG/KG	32300	100%	20	0	41	41	23400	20800	21100	21700	23200	20000
Lead	MG/KG	38.5	100%	63	0	41	41	21.5	24.7	22.8	22	23.1	20.7
Magnesium	MG-KG	5230	100%	0.5	0	41	41	3660	3820	3970	3880	3070	3650
Manganese	MG/KG	1880	100° u	1600	ı	41	41	648	553	217	818	1180	521
Mercury	MG/KG	0.08	100%	0.18	0	41	41	0.04	0.06	0.04 J	0.05	0.05	0.05
Nickel	MG/KG	31.1	100%	30	,	41	41	20.1	24.9	24.2	23.7	18	22.7
Potassium	MG-KG	2370	100°a	20	0	41	41	1400	2370	1860	1930	1470	1570
Selenium	MG-KG	4.4	100°a	3.9	2	41	41	2.1 J	1.5 J	1.9 J	1.7 J	2.2 J	163
Silver	MG-KG	0	0"6	2	0	0	41	0.15 U	0.17 U	0.15 U	0.15 U	0.15 U	0.15 U
		-		-			71	V.15 U	0.17 0	0.15	0.15	0.15 0	0.15 5

SITE LOCATION LOCATION ID MATRIX								GR GR-E4 SOIL	GR GR-F1 SOIL	GR GR-F2 SOIL	GR GR-F3 SOIL	GR GR-F4 SOIL	GR GR-G1 SOIL
SAMPLE ID								007R011031	007R011035	007R011034	007R011033	007R011032	007R011036
TOP OF SAMPLE								0	0	0	0	0	0
BOTTOM OF SAMPLE								0.2	0.2	0,2	0.2	0.2	0.2
SAMPLE DATE								12/13/06	12/13/06	12/13/06	12/13/06	12/13/06	12/13/06
QC CODE								SA	SA	SA	SA	SA	SA
STUDY ID			Frequency	NYSDEC	Number	Number	Number	RA	RA	RA	RA	RA	RA
		Maximum	of	Unresticted	of	of Times	of Samples						
Parameter	Units	Concentration	Detection	Use Value (1)	Exceedances	Detected	Analyzed (2)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Sodium	MG/KG	54.7	63%		0	26	41	36.3 J	41.9 J	35.2 J	45.3 J	40.3 J	39.1 J
PRIN. 881							4.4	30.3 3	41.7 3		42.2 2		
Thallium	MG/KG	0	0%		0	0	41	0.74 U	0.44 U	0.38 U	1.2 U	2 U	0.76 U
Vanadium	MG/KG MG/KG	0 33.5	0% 100%		0	0 41				0.38 U 27	1.2 U 29.4	2 U 30.5	0.76 U 25.2
		0 33.5 110		109	0 0 1	0	41	0.74 U	0.44 U	0.38 U	1.2 U	2 U	0.76 U
Vanadium	MG/KG		100%	109	0 0 1	0 41	41 41	0.74 U 29.9	0.44 U 26.3	0.38 U 27	1.2 U 29.4	2 U 30.5	0.76 U 25.2
Vanadium Zinc	MG/KG		100%	109	0 0 1	0 41	41 41	0.74 U 29.9	0.44 U 26.3	0.38 U 27	1.2 U 29.4	2 U 30.5	0.76 U 25.2

- (1) Criteria based on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives, http://www.dec.state.ny.us/website/regs/subpart375\_6.html (2) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. (3) A boiled and outlined cell indicates a concentration that exceeded the criteria.

- $\label{eq:U} U = compound \ was not detected \\ J = the reported value is an estimated concentration \\ UJ = the compound was not detected; the associated reporting limit is approximate \\ R = the analytical result was rejected during data validation.$

SITE LOCATION GR GR GR GR GR GR LOCATION (D GR-G2 GR-G2 GR-G3-A GR.G3.B GR-G4-A GR-G4-B MATRIX SOIL SOIL SOIL SOIL SOIL SOIL SAMPLE ID 007R011041 007R011037 007R011038 007R011039 007R011040 007R011042 TOP OF SAMPLE BOTTOM OF SAMPLE 0.2 0.2 0.2 0.2 0.2 0.2 SAMPLE DATE 12/13/06 12/13/06 12/13/06 12/13/06 12 13 06 12-13/06 OC. CODE DU SA SA SA SA SA STUDY ID NYSDEC Frequency Number Number Number R.A. RA RA RA RA RA Maximum of Unresticted of of Times of Samples Concentration Parameter Units Detection Use Value (1) Exceedances Detected Analyzed (2) Value (Q) Value (Q) Value (Q) Value (Q) Value (Q) Value (Q) Volatile Organic Compounds 1,1,1.Trichloroethane UG'KG 000 680 7.6 U 7.2 U 8.2 U 8.4 U 6.7 U 69 U 1,1,2,2-Tetrachloroethane UG KG 0% 7.6 U 7.2 U 6.7 LT 0 41 8.2 U 8.4 U 6.9 U 1,1,2-Trichloro-1,2,2-Trifluoroethane 0% UG/KG 7.6 U 7.2 U 0 41 8.2 U 8.4 11 6.7 U 6911 1.1.2-Trichlorgethane UGʻKG ()% 41 76 [] 7.2 U 8.2 U 84 11 6.7 U 69 [] 270 1.1-Dichloroethane UG-KG 050 41 7.6 U 7.2 U 8.2 U 8.4 U 6.7 U 6.9 U 1.1.Dichloroethene UG/KG 0% 330 41 7.6 U 7.2 U 8.2 U 8.4 U 6.7 U 6.9 U 1,2,4-Trichlorobenzene UG-KG 00,0 41 7.6 U 7.2 U 8.2 U 8.4 U 6.7 U 6.9 LT 1,2-Dibromo-3-chloropi opane UG/KG 0% 41 7.6 U 7.2 U 8.2 U 6.7 U 6.9 U 1,2-Dibiomoethane UG/KG 00.0 41 7.6 U 7.2 U 8.2 U 8.4 U 6.7 U 6.9 U 1,2-Dichlorobenzene UG/KG 000 1100 41 7.6 U 7.2 U 8.2 U 8.4 U 6.7 U 6.9 U 1.2-Dichloroethane UG/KG 00% 20 7.6 U 7.2 U 41 8.2 U 8.4 U 6.7 LI 6.9 11 1.2-Dichloropropane UG/KG 00.0 41 7611 7211 8 2 [] 8 4 11 6.7 U 6.9 U 1.3-Dichlutobenzene UG.KG 0% 2400 41 7.6 U 7.2 U 8.2 U 8.4 U 6.7 U 6.9 U 7.2 U 1,4-Dichlorobenzene UG/KG ()v.o 1800 41 7.6 U 8.2 U 8.4 U 6.7 U 6.9 U Acctone UG KG 290 9800 50 40 41 290 J 75 200 160 150 130 Benzene UG'KG 00,0 60 41 7.6 U 7.2 U 8.2 U 6.7 U 8.4 U 6.9 U Bromodichloromethane UG/KG 00.0 41 7.6 U 7.2 U 8.4 U 6.7 U 8.2 U 6.9 U Bromoform UG/KG 0% 7.6 U 7.2 U 6.7 U 41 8.2 U 8.4 U 6.9 LI Carbon disulfide UG:KG 0 09.0 41 15 U 14 U 16 U 17 U 13 U 14 U Carbon tetrachloride UG/KG 0.5 760 41 7.6 U 7.2 U 8.2 U 8.4 11 6.7 U 0.0 Chlorobenzene UG KG 000 1100 41 7.6 U 7.2 U 8.2 U 8.4 U 6.7 U 69 U Chlorodibromomethane UG KG 00,0 41 7.6 U 7.2 U 8.2 U 8.4 U 6.7 U 6.9 U Chloroethane UG KG 0% 15 U 14 U 16 U 17 U 13 U 14 U 370 Chloroform UG-KG 00.0 41 7.6 U 7.2 U 8.2 U 8.4 U 6.7 U 6.9 U Cis-1,2-Dichloroethene UG<sub>i</sub>KG ()°,0 250 7.6 U 7.2 U 8.2 U 8.4 U 6.7 U 6.9 U 41 Cis-1,3-Dichloropropene 00.0 7.6 U 7.2 U 6.7 U 6.9 U UG·KG 0 41 8.2 U 8.4 U 7.6 U 72.11 Cyclohexane UG-KG 1.5 2° 6 41 8.2 U 8.4.11 6.7.11 69 U Dichlorodifluoromethane UG:KG 00'0 41 7.6 U 7.2 U 8.2 U 8.4 U 6.7 U 6.9 U Ethyl benzene UG/KG 0 0.5 1000 41 7.6 U 7.2 U 8.2 U 8.4 U 6.7 U 6.9 U lsopropylbenzene UG-KG O° o 7.6 U 7.2 U 8.2 U 8.4 U 6.7 LI 6.9 U Meta-Para Xylene UG/KG 0% 41 7.6 U 7.2 U 8.2 U 8.4 U 67 U 6.9 U Methyl Acetate UG/KG 11 2% 41 15 U 14 U 16 U 17 U 13 U 14 U Methyl Tertbutyl Ether UG/KG 00:0 930 41 7.6 U 7.2 U 8.2 U 8.4 U 6.7 U 6.9 LI 0 7.6 U 7.2 U 8.2 U 8.4 U 6.7 U 6.9 U Methyl bromide UG/KG 0 Out 41 Methyl botyl ketone UG/KG 8.1 29.0 41 15 II 14 U 16 U 17 11 13 U 14 U Methyl chloride UG/KG 0 0% 41 7.6 U 7.2 U 8.2 U 8.4 U 67 U 69 [] Methyl cyclohexane UG/KG 0.0 41 7.6 U 7.2 U 8.2 U 8.4 U 6.7 U 6.9 LT Methyl ethyl ketone UG/KG 63 90% 120 41 27 J 5.5 J 13 J 11 J 9.5 J Methyl isobutyl ketone UG/KG  $0^{\nu_{i'}}$ 15 U 14 U 17 U 13 U 14 U Methylene chloride UG/KG 4.6 73% 50 41 7.6 U 7.2 U 8.2 U 8.4 U 6.7 U 69 U 7.6 U 7.2 U 8.2 U 8.4 U 6.7 U 6.9 U Ortho Xylene UG/KG 0% 41 0 Styrene UG/KG 0 Do: 41 7.6 U 7.2 U 8.2 U 8.4 U 6.7 U 6.9 U 7.2 U 6.7 LI Tetrachloroethene UG/KG 2.4 10° a 1300 41 7.6 U 8.2 U 8.4 U 0.55 I UG'KG 8.7 27% 700 11 41  $0.8 \ J$ 7.2 U 0.59 J 8.4 U 6.7 U 0.63 [ Toluene Trans-1.2-Dichloroethene UG-KG 00.0 190 41 7.6 U 7.2 U 8.2 U 8.4 U 6.7 U 69 U Trans-1,3 Dichtoropropene UG/KG 41 7.6 U 7.2 U 8.2 U 8.4 U 6.7 U 6.9 LF UG/KG 0 470 7.6 U 7.2 U 8.2 U 8.4 U 6.7 U 69 LT Trichloroethene 000 UG/KG 7.6 U 7.2 U 8.2 U 8.4 U 6.7 U 6.9 LT Trichlorofluoromethane 00% 41 0 20 7.6 U 8.4 U 6.7 U 6.9 L1 Vinyl chloride UG/KG 00.0 0 41 7.2 U 8.2 U Semivolatile Organic Compounds 450 U 1,1'-Biphenyl UG KG 0 000 Π 41 450 U 450 U 470 II 480 II 440 U 2,4,5-Trichlorophenol UG·KG 0% 41 450 U 450 U 470 U 480 U 440 U 450 U 2,4,6-Trichlorophenol 450 LI 450 U 470 U 480 U 440 U 450 L1 UG KG 0% 41 2.4-Dichlorophenol UG·KG 00.0 41 450 U 450 U 470 U 480 U 440 U 450 U 2,4-Dimethylphenol UG/KG 450 U 450 U 470 U 480 U 440 U 450 U 0 000 41 2300 LI 2300 U 2400 U 2500 U 2300 U 2300 U 2.4-Dinttrophenol UG-KG O (10: 41 450 U 470 U 480 U 440 Li 450 U 2.4 Dinitrotoluene UG KG 430 20.0 0 41 430 J 2,6-Dinitrotoluene UG.KG () 00. 41 450 U 450 11 470.11 480.11 440 U 450 U 2-Chloronaphthalene UG/KG 00,0 41 450 U 450 U 470 U 480 U 440 U 450 U

450 U

450 U

470 U

480 U

440 U

UG.KG

2-Chlorophenol

450 U

SITE LOCATION GR GR GR GR GR LOCATION ID GR-G2 GR-G2 GR-G3-A GR-G3-B GR-G4-A GR-G4-B MATRIX SOIL SOIL SOIL SOIL SOIL SOIL SAMPLE ID 007R011040 007R011042 007R011041 007R011037 007R011038 007R011039 TOP OF SAMPLE BOTTOM OF SAMPLE 0.2 0.2 0.2 0.2 0.2 0.2 SAMPLE DATE 12/13/06 12/13/06 12/13/06 12/13/06 12/13/06 12/13/06 QC CODE DU SA SA SA SA SA STUDY ID Frequency NYSDEC Number Number RA RA RA RA RA Number RA Maximum Unresticted of Times of Samples of of Parameter Units Concentration Detection Use Value (1) Exceedances Detected Analyzed (2) Value (Q) Value (Q) Value (Q) Value (Q) Value (Q) Value (Q) 2-Methylnaphthalene UG/KG 0% 41 450 U 450 U 470 U 480 U 440 U 450 U 2-Methylphenol UG/KG 0% 330 0 41 450 IJ 450 U 470 U 480 U 440 U 450 U 2-Nitroaniline UG/KG 0% 41 2300 U 2300 U 2400 U 2500 U 2300 U 2300 U 2-Nitrophenol UG/KG 0% 41 450 U 450 U 470 U 480 U 440 U 450 U 3,3'-Dichlorobenzidine UG/KG 0% 41 450 U 450 U 480 U 450 U 470 U 440 U 3-Nitroaniline UG/KG 0% 2300 U 2300 U 2400 II 2500 II 2300 II 2300 11 41 4,6-Dinitro-2-methylphenol UG/KG 0% 2300 U 2300 U 2500 U 0 41 2400 U 2300 U 2300 U 4-Bromophenyl phenyl ether UG/KG 0% 0 41 450 II 450 II 470 II 480 II 440 II 450 II 4-Chloro-3-methylphenol UG/KG 0% 41 450 U 450 U 470 U 480 U 440 U 450 U 4-Chloroaniline UG/KG 0% 0 41 450 U 450 U 470 U 480 U 440 U 450 U 4-Chlorophenyl phenyl ether UG/KG 0% 41 450 U 450 U 470 U 480 U 440 U 450 U 4-Methylphenol UG/KG 0% 330 41 450 U 450 U 470 U 480 U 0 440 U 450 U 4-Nitroaniline UG/KG 0% 2300 U 2300 U 2400 II 2500 II 2300 II 41 2300 II 4-Nitrophenol UG/KG 0% n 41 2300 11 2300 11 2400 11 2500 U 2300 U 2300 U 20000 Acenaphthene UG/KG 0% 0 41 450 II 450 U 470 II 480 U 440 U 450 U Acenaphthylene UG/KG 0% 100000 0 41 450 U 450 U 470 II 480 U 440 U 450 U Acetophenone UG/KG 0% 41 450 U 450 U 470 U 480 U 440 U 450 U Anthracene UG/KG 0% 100000 41 450 U 450 U 470 U 480 U 440 U 450 U UG/KG 0% Atrazine 41 450 U 450 U 470 U 450 U 0 480 U 440 U Benzaldehyde UG/KG 420 2% 450 U 450 U 41 420 I 480 II 440 II 450 II Benzo(a)anthracene UG/KG 1000 0 0% n 41 450 T1 450 II 470 U 480 U 440 TT 450 U HG/KG Benzo(a)pyrene 0% 1000 0 41 450 II 450 U 470 U 480 U 440 II 450 U Benzo(b)fluoranthene UG/KG 0% 1000 41 450 U 450 U 470 U 480 U 440 U 450 U 0 Benzo(ghi)perylene UG/KG 0% 100000 41 450 U 450 U 470 U 480 U 440 U 450 U Benzo(k)fluoranthene UG/KG 0% 800 41 450 U 450 U 470 U 480 U 440 U 450 U Bis(2-Chloroethoxy)methane UG/KG 0% 41 450 U 0 450 U 470 U 480 U 440 U 450 U Bis(2-Chloroethyl)ether UG/KG 0% 41 450 U 450 U 470 II 480 II 440 TI 450 II Bis(2-Chloroisopropyl)ether UG/KG 0% 0 41 450 II 450 TI 470 II 480 U 440 U 450 U Bis(2-Ethylhexyl)phthalate HG/KG 0% 41 450 U 450 U 470 U 480 U 440 U 450 U Butvibenzylphthalate UG/KG 0% 41 450 U 450 U 470 U 480 U 440 U 450 U Caprolactam UG/KG 0% 41 450 U 450 U 470 U 480 U 440 U 450 U Carbazole UG/KG 0% 450 U 450 U 470 U 480 U 440 U 450 U Chrysene UG/KG 0% 1000 41 450 U 450 U 470 U 480 U 440 U 450 U Di-n-butylphthalate UG/KG 0% 41 450 U 450 U 470 U 480 U 440 U 450 U Di-n-octylphthalate UG/KG 0% 41 450 U 0 450 U 470 U 480 II 440 U 450 II Dibenz(a,h)anthracene UG/KG 0% 330 n 41 450 TI 450 U 470 U 480 U 440 U 450 U Dibenzofirran UG/KG 0% 7000 41 450 U 450 U 470 U 480 U 440 U 450 U Diethyl phthalate UG/KG 0% 0 41 450 U 450 U 470 U 480 U 440 U 450 U Dimethylphthalate UG/KG 0% 450 U 450 U 480 U 440 U 470 U 450 U Fluoranthene UG/KG 0% 100000 41 450 U 450 U 470 U 480 U 440 U 450 U Fluorene UG/KG 0% 30000 41 450 U 450 U 470 U 480 U 440 U 450 U Hexachlorobenzene UG/KG 0% 330 0 41 450 U 450 U 470 U 480 U 440 U 450 II Hexachlorobutadiene UG/KG 0% 41 450 II 450 II 470 U 480 U 440 U 450 U Hexachlorocyclopentadiene UG/KG 0% n 41 450 U 450 U 470 U 480 U 440 U 450 U Hexachloroethane UG/KG 0% 0 41 450 U 450 U 470 U 480 U 440 U 450 U Indeno(1,2,3-cd)pyrene UG/KG 0% 500 41 450 U 450 U 470 II 480 U 440 U 450 TI Isophorone UG/KG 0% 41 450 U 450 U 470 U 480 U 440 U 450 U N-Nitrosodiphenylamine UG/KG 0% 41 450 U 450 U 470 II 480 II 440 11 450 II N-Nitrosodipropylamine UG/KG 0% 41 450 U 450 U 470 U 0 480 U 440 U 450 U Naphthalene UG/KG 0% 12000 450 II 0 41 450 U 470 TI 480 II 440 II 450 U Nitrobenzene UG/KG 0% Ω 41 450 U 450 U 470 U 480 U 440 U 450 U Pentachlorophenol UG/KG 0% 800 0 41 2300 U 2300 U 2400 U 2500 U 2300 U 2300 U Phenanthrene UG/KG 0% 100000 0 41 450 U 450 U 470 U 480 U 440 U 450 U Phenol UG/KG 0% 330 41 450 U 450 U 470 U 480 U 440 U 450 U UG/KG 0% 100000 41 450 U 450 U 470 U 480 U 440 U 450 II Explosives 1,3,5-Trinitrobenzene UG/KG 0% 41 0 2000 U 2000 U 2000 U 2000 U 2000 U 2000 U 1.3-Dinitrobenzene UG/KG 0% 0 41 2000 TI 2000 11 2000 U 2000 U 2000 U 2000 U 2.4.6-Trinitrotoluene UG/KG 0% 0 41 2000 U 2000 U 2000 U 2000 U 2000 U 2000 U 2.4-Dinitrotoluene UG/KG 0% 41 2000 U 2000 U 2000 U 2000 U 2000 U 2000 U 2,6-Dinitrotoluene UG/KG 0% 41 1000 U 1000 U 1000 U 1000 U 1000 U 1000 U

SITE LOCATION LOCATION ID MATRIX SAMPLE ID TOP OF SAMPLE BOTTOM OF SAMPLE SAMPLE DATE OC CODE

GR GR GR GR GR GR GR-G2 GR-G2 GR-G3-A GR-G3-B GR-G4-A GR-G4-B SOIL SOIL SOIL SOIL SOIL SOIL 007R011041 007R011037 007R011038 007R011039 007R011040 007R011042 0.2 0.2 0.2 0.2 0.2 0.2 12/13/06 12.13/06 12/13:06 12/13.06 12-13/06 12.13-06

OC. CODE								14.13/06	12/13/06	12/13:06	12/13.06	12/13/06	12.13-06
STUDY ID			r	NWODEC				DU	SA	SA	SA	S.A.	SA
31(0110		**	Frequency	NYSDEC	Number	Number	Number	RA	RA	RA	RA	RA	R.A
Dunamatan	¥1-74	Maximum	of	Unresticted	of	of Times	of Samples						
Parameter	Units	Concentration	Detection	Use Value (1)	Exceedances	Detected	Analyzed (2)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
2-Nitrotoluene	UG KG	0	0%		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
2-amino-4,6-Dinitrotoluene	UG/KG	0	0.0		D	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
3-Nitrotoluene	UG′KG	0	Oo n		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 LF	2000 U
4-Nitrotoluene	UG KG	0	0% a		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
4-ammo-2,6-Dimitrotoluene	UG/KG	0	00.0		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 1	2000 U
HMX	UG/KG	0	0°6		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Niti obenzene	UG KG	0	Oº 6		0	0	41	500 U	500 U	500 U	500 U	500 U	500 U
Nitioglycerine	UG/KG	0	0%		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Pentaerythritol Tetranitrate	UG KG	0	0° o		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
RDX	UG KG	0	00,0		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Tetryl	UG/KG	0	0%		0	0	41	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
PCBs											2000	2000	2000 (
Atoclo:-1016	UG-KG	0	00.0		0	0	41	45 U	45 U	47 U	48 U	44 U	45 U
Arocfor-1221	UG/KG	0	0°%		0	0	41	91 U	92 U	96 U	98 U	90 U	92 U
Arocloi-1232	UG-KG	0	0.0		0	0	41	45 U	45 U	47 U	48 U	44 Li	45 U
Aruclor-1242	UG/KG	0	0%		0	0	41	45 U	45 U	47 U	48 U	44 U	45 U
Aroclor-1248	UG/KG	0	Ou-0		0	0	41	45 U	45 U	47 U	48 U		
Aroclor-1254	UG/KG	0	0%		0	0	41	45 U				44 U	45 U
Aroclor-1260	UG-KG	0	0%		0	0			45 U	47 U	48 U	44 [I	45 U
Pesticides	OG/KG	V	0.70		U	U	41	45 U	45 U	47 U	48 U	44 U	45 U
4.4'-DDD	UG/KG	0	00.0	2.2		0							
4,4'-DDE	UG KG	0	0%	3.3	0	0	41	4.5 U	4.5 U	4.7 U	4.8 U	4.4 U	4.5 [1
4,4'-DDT		0		3.3	-	0	41	4.5 U	4.5 U	4.7 U	4.8 U	4.4 ()	4.5 U
	UG-KG	0	00.0	3.3	0	0	41	4.5 U	4.5 U	4.7 U	4.8 U	4,4 U	45 U
Aldrin	UG/KG		() <sub>0</sub> , <sub>0</sub>	5	0	0	41	2.3 U	2.3 U	2.4 U	2.5 U	2.3 U	2 3 U
Alpha-BHC	UG, KG	0	00,0	20	0	0	41	2.3 U	2.3 U	2.4 U	2.5 U	2.3 U	2 3 U
Alpha-Chlordane	UG-KG	0	On o	94	0	0	41	2.3 U	2.3 U	2.4 U	2.5 U	2.3 €	23 ()
Beta-BHC	UG. KG	0	0%	36	0	0	41	2.3 U	2.3 U	2.4 U	2.5 U	2.3 U	23 (1
Delta-BHC	UG/KG	0	0°.0	40	0	0	41	2.3 U	2.3 U	2.4 U	2.5 U	2.3 U	2.3 (1
Dieldrin	UG, KG	0	09.0	5	0	0	41	4.5 U	4.5 U	4.7 U	4.8 U	4.4 U	4.5 U
Endosulfan I	UG-KG	0	00.0	2400	0	0	41	2.3 U	2.3 U	24 U	2.5 U	2.3 U	2.3 Lf
Endosulfan II	UG/KG	0	0%	2400	0	0	41	4.5 U	4.5 U	4.7 U	4.8 U	4.4 U	4.5 U
Endosulfan sulfate	UG/KG	0	0,0	2400	0	0	41	4.5 U	4.5 U	4.7 U	4.8 U	4.4 U	4.5 U
Endrin	UG <sub>r</sub> KG	0	0%	14	0	0	41	4.5 U	4.5 U	4.7 U	4.8 U	4.4 U	4.5 U
Endrin aldehyde	UG-KG	0	00,0		0	0	41	4.5 U	4.5 U	4.7 U	4.8 U	4.4 U	4.5 U
Endrin ketone	UG/KG	0	000		0	0	41	4.5 U	4.5 U	4.7 U	4.8 U	4.4 U	4.5 U
Gamma-BHC Lindane	UG/KG	0	0°, °	100	0	0	41	2.3 U	2.3 U	2.4 U	2.5 U	2.3 U	2.3 U
Gamma-Chlordane	UG, KG	0	0° o		0	0	41	2.3 U	2.3 U	2.4 U	2.5 U	2.3 U	2 3 U
Heptachlor	UG-KG	0	$O_{n^{\prime}o}$	42	0	0	41	2.3 U	2.3 U	2.4 U	2.5 U	2.3 U	2.3 U
Heptachlor epoxide	UG/KG	0	00.0		0	0	41	2.3 U	2.3 U	2.4 U	2.5 U	2.3 U	2.3 U
Methoxychlor	UG·KG	0	00.0		0	0	41	23 U	23 U	24 U	25 U	23 U	23 U
Toxaphene	UG/KG	0	000		0	0	41	45 U	45 U	47 U	48 U	44 U	45 U
Metals													
Aluminum	MG:KG	19600	100%		0	41	41	16400	15900	13200	16200	12200	14000
Antunony	MG KG	0	0%		0	0	41	0.46 UJ	0.48 UJ	0.48 UJ	0.49 UJ	0.46 UJ	0.46 []]
Arsenic	MGrKG	9.3	100%	13	0	41	41	3.6	3.3	2.8	3.2	2.8	3
Baritin	MG KG	180	100%	350	0	41	41	86	84.6	97.6	180	84.5	88.2
Betyllium	MG/KG	1.1	98%	7.2	0	40	41	0.76 J	0.75 J	0.58 J	0.95 J	0.55 J	0.69 J
Cadmium	MG/KG	0.25	59° 。	2.5	0	24	41	0.05 U	0.05 J	0.05 U	0.24 J	0.05 J	0.05 (1
Calcium	MG <sup>*</sup> KG	11100	100%		0	41	41	2090	2250	3120	4420	2370	3020
Chromum	MG/KG	27.7	100%		0	41	41	24.4	23.9	16.7	23.1	15.9	20.2
Cobalt	MG·KG	23.5	100%		0	41	41	13.9	13.7	5 J	9.4	10.5	8.6
Copper	MG-KG	22.2	100%	50	0	41	41	21.4	21	12.1	20.8	11.8	15.9
lion	MG/KG	32300	100%		0	41	41	24300	23800	15900	22400	16400	20900
Lead	MG/KG	38.5	100%	63	0	41	41	27					
Magnesium	MG/KG	5230	100%	03					26.3	18.2	38.5	17.1	20
				1700	0	41	41	4380	4300	2940	3940	2790	3700
Manganese	MG/KG	1880	100%	1600	1	41	41	606	605	133	564	563	269
Mercury	MG/KG	0.08	100%	0.18	0	41	41	0.05	0.04 J	0.05	0.08	0.04	0.05
Nickel	MG/KG	31.1	100%	30	2	41	41	31.1	30.5	13.9	24.9	14.7	21.7
Potassium	MG/KG	2370	100%		0	41	41	2030	1970	1230	1900	1090	1500
Selenium	MG-KG	4.4	100%	3,9	2	41	41	2 J	1.6 J	1.4 1	2.2 J	1.3 J	1.8 J
Silver	MG·KG	0	00.0	2	0	0	41	0.15 U	0.16 U	0.16 U	0.16 U	0.15 U	0 15 U

TABLE 1 SEAD-007-R-001 (Grenade Range) SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

SITE LOCATION LOCATION ID MATRIX								GR GR-G2 SOIL	GR GR-G2 SOIL	GR GR-G3-A SOIL	GR GR-G3-B SOIL	GR GR-G4-A SOIL	GR GR-G4-B SOIL
SAMPLE ID								007R011041	007R011037	007R011038	007R011039	007R011040	007R011042
TOP OF SAMPLE								0	0	0	0	0	0
BOTTOM OF SAMPLE								0,2	0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								12/13/06	12/13/06	12/13/06	12/13/06	12/13/06	12/13/06
QC CODE								DU	SA	SA	SA	SA	SA
STUDY ID			Frequency	NYSDEC	Number	Number	Number	RA	RA	RA	RA	RA	RA
		Maximum	of	Unresticted	of	of Times	of Samples						
		TAY WATER THE STATE OF	O.	Chresucted	O.	OI LIMES	or parmbics						
Parameter	Units	Concentration	Detection	Use Value (1)	Exceedances	Detected	Analyzed (2)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Parameter Sodium	Units MG/KG							Value (Q) 32,2 J	Value (Q) 32.7 J	46.9 J	54.7 J	35.6 J	42.9 J
		Concentration	Detection			Detected	Analyzed (2)	32,2 J 0.77 U	32.7 J 0.4 U	46.9 J 0.4 U	54.7 J 1.2 U	35.6 J 1.1 U	42.9 J 0.38 U
Sodium	MG/KG	Concentration	Detection 63%			Detected	Analyzed (2)	32,2 J 0,77 U 27,3	32.7 J 0.4 U 26.5	46.9 J 0.4 U 24	54.7 J 1.2 U 29.2	35.6 J 1.1 U 23	42.9 J 0.38 U 24.8
Sodium Thallium	MG/KG MG/KG	Concentration 54.7 0	Detection 63% 0%			Detected	Analyzed (2) 41 41	32,2 J 0.77 U	32.7 J 0.4 U	46.9 J 0.4 U	54.7 J 1.2 U	35.6 J 1.1 U	42.9 J 0.38 U
Sodium Thallium Vanadium	MG/KG MG/KG MG/KG	54.7 0 33.5	0% 100%	Use Value (1)		26 0 41 41	Analyzed (2) 41 41 41 41	32,2 J 0.77 U 27.3 93	32.7 J 0.4 U 26.5 92.8	46.9 J 0.4 U 24 55.4	54.7 J 1.2 U 29.2 109	35.6 J 1.1 U 23 52.4	42.9 J 0.38 U 24.8 64.5
Sodium Thallium Vanadium Zinc	MG/KG MG/KG MG/KG	54.7 0 33.5 110 9.52	0% 100% 100%	Use Value (1)		26 0 41	Analyzed (2) 41 41 41 41 41	32.2 J 0.77 U 27.3 93	32.7 J 0.4 U 26.5 92.8 8.34	46.9 J 0.4 U 24 55.4 8.88	54.7 J 1.2 U 29.2 109 9.52	35.6 J 1.1 U 23 52.4 6.69 U	42.9 J 0.38 U 24.8 64.5
Sodium Thallium Vanadium Zinc Other Analyses	MG/KG MG/KG MG/KG MG/KG	54.7 0 33.5 110	0% 100%	Use Value (1)		26 0 41 41	Analyzed (2) 41 41 41 41	32,2 J 0.77 U 27.3 93	32.7 J 0.4 U 26.5 92.8	46.9 J 0.4 U 24 55.4	54.7 J 1.2 U 29.2 109	35.6 J 1.1 U 23 52.4	42.9 J 0.38 U 24.8 64.5

#### Notes:

- (1) Criteria based on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives,
- http://www.dec.state.ny.us/website/regs/subpart375\_6.html

  (2) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table.
- (3) A bolded and outlined cell indicates a concentration that exceeded the criteria.

- $\label{eq:U} U = \text{compound was not detected} \\ J = \text{the reported value is an estimated concentration} \\ UJ = \text{the compound was not detected; the associated reporting limit is approximate} \\ R = \text{the analytical result was rejected during data validation.}$

#### TABLE 2

### OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN IN SEAD-007-R-01 (Grenade Range) SOIL SENECA ARMY DEPOT ACTIVITY

Scenario Time frame: Curent/Future
Medium: Soil
Exposure Medium: Soil
Exposure Point: Grenade Range

CAS Number	Chemical	Minimum Detected Concentration <sup>1</sup> (mg/kg)	Q	Maximum Detected Concentration (mg/kg)	Q	Location of Maximum Concentration	Limits 1		1	Concentration Used for Screening 2 (mg/kg)	Background Value <sup>3</sup> (mg/kg)	Screening Value <sup>4</sup> (mg/kg)	Potential ARAR/TBC Source	ARAR / TBC Value <sup>5</sup> (mg/kg)	COPC	Rationale for Contaminan Deletion or Selection <sup>6</sup>			
/OC						··											-		
67-64-1	Acetone	0.012	J	0.29	J	GR-G2	41	1	42	0.0296		0.0296	0.29		6,100	NYSDEC Subpart 375-6	0.05	NO	BSL
110-82-7	Cyclohexane	0.0015	J	0.0015	J	GR-A2-B	1	1	42	0.0059	-	0.014	0.0015		720			NO	BSL
79-20-9	Methyl Acetate	0.011	J	0.011	J	GR-E4	1	/	42	0.012	-	0.028	0.011		7,800			NO	BSL
96-33-3	Methyl butyl ketone	0.0081	J	0.0081	J	GR-F1	1	/	42	0.012		0.028	0.0081		230			NO	BSL
78-93-3	Methyl ethyl ketone	0.0021	J	0.063		GR-F1	38	1	42	0.013	-	0.019	0.063		2,800	NYSDEC Subpart 375-6	0.12	NO	BSL
75-09-2	Methylene chloride	0.00092	J	0.0046	J	GR-B4-A	31	1	42	0.0067		0.01	0.0046		11	NYSDEC Subpart 375-6	0.05	NO	BSL
127-18-4	Tetrachloroethene	0.00055	J	0.0024	1	GR-E1	4	1	42	0.0059	-	0.014	0.0024		0.57	NYSDEC Subpart 375-6	1.3	NO	BSL
108-88-3	Toluene	0.00054	J	0.0087		GR-F4	11	1	42	0.0059	-	0.014	0.0087		500	NYSDEC Subpart 375-6	0.7	NO	BSL
SVOCs																			
121-14-2	2,4-Dinitrotoluene	0.43	J	0.43	J	GR-G2	1	/	42	0.42	-	0.51	0.43		1.6			NO	BSL
100-52-7	Benzaldehyde	0.42	J	0.42	J	GR-G3-A	1	1	42	0.42		0.51	0.42		780			NO	BSL
METALS																			
7429-90-5	Aluminum	10,500		19,600		GR-B4-A	42	1	42	0	-	0	19,600	20,500	7,700			YES	ASL
7440-38-2	Arsenic	2.4		9.3		GR-A4-A	42	1	42	0	-	0	9.3	21.5	0.39	NYSDEC Subpart 375-6	13	YES	ASL
7440-39-3	Barium	60.5		180		GR-G3-B	42	1	42	0	-	0	180	159	1,500	NYSDEC Subpart 375-6	350	NO	BSL
7440-41-7	Beryllium	0.45	J	1.1	J	GR-E3	41	1	42	0.02		0.02	1.1	1.4	16	NYSDEC Subpart 375-6	7.2	NO	BSL
7440-43-9	Cadmium	0.04	J	0.25	J	GR-E2-B	24	1	42	0.04	-	0.05	0.25	2.9	7	NYSDEC Subpart 375-6	2.5	NO	BSL
7440-70-2	Calcium	1,480		11,100		GR-C1	42	1	42	0	-	0	11,100	293,000					NUT
7440-47-3	Chromium	13.7		27.7		GR-A2-B	42	1	42	0	-	0	27.7	32.7	280			NO	BSL
7440-48-4	Cobalt	5	J	23.5		GR-A2-B	42	1	42	0		0	23.5	29.1	2.3			YES	ASL
7440-50-8	Copper	11.6		23.1		GR-D3-A	42	1	42	0		0	23.1	62.8	310	NYSDEC Subpart 375-6	50	NO	BSL
7439-89-6	Iron	13,700		32,300		GR-A2-B	42	1	42	0	-	0	32,300	38,600	5,500			YES	ASL
7439-92-1	Lead	13.6		38.5		GR-G3-B	42	1	42	0	-	0	38.5	266	40	NYSDEC Subpart 375-6	63	NO	BSL
7539-95-4	Magnesium	2,370		5,230		GR-C1	42	1	42	0		0	5,230	29,100					NUT
7439-96-5	Manganese	133		1,880		GR-A2-B	42	1	42	0	-	0	1,880	2,380	180	NYSDEC Subpart 375-6	1,600	YES	ASL
7439-97-6	Mercury	0.04		0.08		GR-A4-B	42	1	42	0	-	0	0.08	0.13	0.43	NYSDEC Subpart 375-6	0.18	NO	BSL
7440-02-0	Nickel	11.6		31.9		GR-D3-A	42	/	42	0	-	0	31.9	62.3	150	NYSDEC Subpart 375-6	30	NO	BSL
7440-09-7	Potassium	962		2370		GR-E3	42	1	42	0		0	2370	3,160					NUT
7782-49-2	Selenium	1.3	J	4.4		GR-D4-B	42	1	42	0		0	4.4	1.7	39	NYSDEC Subpart 375-6	3.9	NO	BSL
122-34-9	Sodium	32.2	J	54.7	J	GR-G3-B	27	1	42	125	-	153	54.7	269	4			YES	NUT
7440-62-2	Vanadium	20.5		33.5		GR-A2-B	42	1	42	0		0	33.5	32.7	55			NO	BSL
7440-66-6	Zinc	51		110		GR-E3	42	1	42	0	-	0	110	126	2,300	NYSDEC Subpart 375-6	109	NO	BSL

#### Notes

- 1. Field duplicate pairs were averaged as a discrete sample. Laboratory duplicates were not included in the assessment. Range of reporting limits were presented for nondetects only.
- 2. The maximum detected concentration was used for screening.
- 3. Background value is the maximum Seneca background concentration.
- 4. EPA Regional Screening Levels for residential soil. On-line resources available at http://www.epa.gov/region09/superfund/prg/index.html. Last updated April 2009.
- Region 9 PRGs were derived based on Direct contact exposure (ingestion and dermal contact) and a target Cancer Risk of 1E-6 or a Target Hazard Quotient of 0.1.
- Screening values for calcium, magnesium, potassium, and sodium were calculated based on an assumption of 200 mg/day soil ingestion and recommended dietary allowances and adequate intakes for 1-3 yr children
- (500 mg/day and 80 mg/day for calcium and magnesium) and minimum requirements for 1 yr children (225 mg/day and 1000 mg/day for sodium and potassium) from Marilya Wright (2001) Dietary Reference Intakes.
- PRG for total chromium (1:6 ratio Cr VI: Cr III) was used as screening value for chromium.
- PRG for nickel (soluble salts) was used as screening value for nickel.
- 5. Potential ARAR/TBC values are from NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives, http://www.dec.state.ny.us/website/regs/subpart375\_6.html
- 6. Rationale codes Selection Reason: Above Screening Levels (ASL) No Screening Value (NSV)
  Chemicals in the Same Group were retained as COPC (CSG)

Deletion Reason: Essential Nutrient (NUT)

Below Screening Level (BSL)

Definitions: COPC = Chemical of Potential Concern

ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered

Q = Qualifier J = Estimated Value

## TABLE 3A SOIL EXPOSURE POINT CONCENTRATION SUMMARY FOR SEAD-007-R-01 (Grenade Range) SENECA ARMY DEPOT ACTIVITY

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Soil
Exposure Point:	Grenade Range

	Chemical	Units	Arithmetic	EPA ProUCL	Maximum	Q	EPC	F	Reasonable Maximum Exposure	(2)
CAS#	of Potential Concern		Mean (1)	Student-t 95th UCL Value (1, 2)	Detected Concentration (1)		Units	EPA ProUCL Recommended UCL Value	Medium EPC Statistic	Medium EPC Rationale
7429-90-5	Aluminum	mg/kg	15,338	15,771	19,600		mg/kg	15,771	95% Student's-t UCL	Normal
7440-38-2	Arsenic	mg/kg	3.66	3.94	9.3		mg/kg	3.94	95% Student's-t UCL	Normal
7440-48-4	Cobalt	mg/kg	10.28	11.07	23.5		mg/kg	11.07	95% Approximate Gamma	Gamma
7439-89-6	Iron	mg/kg	22,314	23,107	32,300		mg/kg	23,107	95% Student's-t UCL	Normal
7439-96-5	Manganese	mg/kg	551.20	631.6	1,880		mg/kg	631.6	95% Approximate Gamma	Gamma

#### Notes:

- 1. Field duplicates were not averaged and presented as discreet samples. Laboratory duplicates were not included in the assessment. Non-detectes were included in the dataset and 95% UCL analysis was performed as 'With ND' in ProUCL.
- 2. The EPCs were calculated using the ProUCL (Version 4.00.02) and the EPCs were selected in accordance with the ProUCL Version 4.0 User Guide (USEPA, 2004) and the Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites (USEPA, 2002).

Q - qualifier

J = Estimated Value

KM = Kaplan-Meier statistical method

### TABLE 3B

# AMBIENT AIR EXPOSURE POINT CONCENTRATIONS FOR PARK WORKERS, VISITORS, & RESIDENTS AT SEAD-007-R-01 (Grenade Range) SENECA ARMY DEPOT ACTIVITY

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Air
Exposure Point:	SEAD-007-R-01-(Grenade Range)

Equation for Air EPC from Surface Soil (mg/m³) =

CSsurf x PM10 x CF

Variables:

CSsurf = Chemical Concentration in Surface Soil, from EPC data (mg/kg)

PM10 = Avcrage Measured PM10 Concentration = 41.18 ug/m<sup>3</sup>

CF = Conversion Factor = 1E-9 kg/ug

	Reasonable Maximum Exposure						
Analyte	EPC Data for	Calculated Air EPC					
Allalyte	Surface Soil	Surface Soil					
	(mg/kg)	(mg/m³)					
Aluminum	1.6E+04	6.5E-04					
Arsenie	3.9E+00	1.6E-07					
Cobalt	1.1E+01	4.6E-07					
Iron	2.3E+04	9.5E-04					
Manganesc	6.3E+02	2.6E-05					

### TABLE 3C

# AMBIENT AIR EXPOSURE POINT CONCENTRATIONS FOR CONSTRUCTION WORKER AT SEAD-007-R-01 (Grenade Range) SENECA ARMY DEPOT ACTIVITY

Scenario Timeframe: Current/Future

Medium: Soil

Exposure Medium: Air

Exposure Point: SEAD-007-R-01-(Grenade Range)

Equation for Air EPC from Total Soils (mg/m³) =

CStot x PM10 x CF

Variables

CStot = Chemical Concentration in Total Soils, from EPC data (mg/kg)

PM10 = PM10 Concentration Calculated for Construction Worker= 357 ug/m<sup>3</sup>

CF = Conversion Factor = 1E-9 kg/ug

	Reasonable Maximum Exposure						
Analyte	EPC Data for Surface and Subsurface Soil	Calculated Air EPC Surface and Subsurface Soil					
	(mg/kg)	(mg/m³)					
Aluminum	1.6E+04	6.5E-04					
Arsenic	3.9E+00	1.6E-07					
Cobalt	1.1E+01	4.6E-07					
Iron	2.3E+04	9.5E-04					
Manganese	6.3E+02	2.6E-05					

#### TABLE 4 CALCULATION OF INTAKE AND RISK FROM THE INGESTION OF SOIL REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-007-R-01 (Grenade Range) SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) =

EPC x IR x CF x FI x EF x ED x B

BW x AT

Variables (Assumptions for Each Receptor are Listed at the Bottom);
EPC = Exposure Point Concentration in Soil, mg/kg EF IR = Ingestion Rate

EF = Exposure Frequency ED = Exposure Duration

CF = Conversion Factor

B = Bioavailability BW = Bodyweight

FI = Fraction Ingested AT = Averaging Time Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Oral	Carc. Slope		EPC	Park Worker			Construction Worker			Recreational Child Visitor					
Analyte	RfD	Oral	Bioavailability	Surface Soil	Int	ake	Hazard	Cancer	Int	ake	Hazard	Cancer	Inta	ake	Hazard	Cancer
					(mg/k	g-day)	Quotient	Risk	(mg/kg	g-day)	Quotient	Risk	(mg/kg	g-day)	Quotient	Risk
	(mg/kg-day)	(mg/kg-day)-1	(unitless)	(mg/kg)	(Nc)	(Car)			(Nc)	(Car)			(Nc)	(Car)		
Aluminum	1.00E+00	N/A	1	1.6E+04	1.08E-02		1E-02		5.09E-02		5E-02		8.07E-03		8E-03	
Arsenic	3.00E-04	1.5E+00	1	3.9E+00	2.70E-06	9.63E-07	9E-03	1E-06	1.27E-05	1.82E-07	4E-02	3E-07	2.01E-06	1.44E-07	7E-03	2E-07
Cobalt	3.00E-04	N/A	1	1.1E+01	7.58E-06		3E-02		3.57E-05		1E-01		5.66E-06		2E-02	
Iron	3.00E-01	N/A	1	2.3E+04	1.58E-02		5E-02		7.46E-02		2E-01		1.18E-02		4E-02	
Manganese	2.40E-02	N/A	1	6.3E+02	4.33E-04		2E-02		2.04E-03		8E-02		3.23E-04		1E-02	
Total Hazard Quotient and Cancer Risk:				1E-01	1E-06			5E-01	3E-07			9E-02	2E-07			

	Assumptions for Park Worker	Assur	nptions for Construction Worker	Assum	Assumptions for Recreational Child Visitor			
CF =	F = 1E-06 kg/mg		1E-06 kg/mg	CF =	1E-06 kg/mg			
EPC=	EPC Surface Only	EPC=	EPC Surface and Subsurface	EPC=	EPC Surface Only			
BW =	70 kg	BW =	70 kg	BW =	15 kg			
IR =	100 mg/day	IR =	330 mg/day	1R =	200 mg/day			
FI =	1 unitless	FI =	1 unitless	FI =	1 unitless			
EF =	175 days/year	EF =	250 days/year	EF =	14 days/year			
ED =	25 years	ED =	1 years	ED =	5 years			
AT (Nc) =	9,125 days	AT (Nc) =	365 days	AT (Nc) =	1,825 days			
AT (Car) =	25,550 days	AT (Car) =	25,550 days	AT (Car) =	25,550 days			

# CALCULATION OF INTAKE AND RISK FROM THE INGESTION OF SOIL REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-007-R-01 (Grenade Range) SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) =		EPC x IR x CF x FI x EF x ED x B
		BW x AT
Variables (Assumptions for Each Recepto	r are Listed at the Botto	om):
EPC = Exposure Point Concentration in S	oil, mg/kg	EF = Exposure Frequency
IR = Ingestion Rate		ED = Exposure Duration
CF = Conversion Factor	B = Bioavailability	BW = Bodyweight
FI = Fraction Ingested		AT = Averaging Time

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Oral Carc. Slope EPC				Resident (Adult)					Resident	t (Child)		Resident	
Analyte	RfD	Oral	Bioavailability	Surface Soil			Hazard Quotient	Cancer Risk	Intake (mg/kg-day)		Hazard Quotient	Cancer Risk	Total Lifetime	
	(mg/kg-day)	(mg/kg-day)-1	(unitless)	(mg/kg)	(Nc)	(Car)			(Nc)	(Car)			Cancer Risk	
Aluminum	1.00E+00	N/A	1	1.6E+04	2.16E-02		2E-02		2.02E-01		2.0E-01			
Arsenic	3.00E-04	1.5E+00	1	3.9E+00	5.39E-06	1.85E-06	2E-02	3E-06	5.03E-05	4.32E-06	1.7E-01	6E-06	9E-06	
Cobalt	3.00E-04	N/A	1	1.1E+01	1.52E-05		5E-02		1.42E-04		4.7E-01			
Iron	3.00E-01	N/A	1	2.3E+04	3.17E-02		1E-01		2.95E-01		9.8E-01			
Manganese	2.40E-02	N/A	1	6.3E+02	8.65E-04		4E-02		8.08E-03		3.4E-01			
Total Hazard Ouot	ient and Cancer	Risk:					2E-01	3E-06			2E+00	6E-06	9E-06	

	Assumptions for Resident (Adult)	Assumptions for Resident (Child)						
CF =	1E-06 kg/mg	CF =	1E-06 kg/mg					
EPC=	EPC Surface Only	EPC=	EPC Surface Only					
BW =	70 kg	BW =	15 kg					
IR =	100 mg/day	IR =	200 mg/day					
FI =	1 unitless	FI =	1 unitless					
EF =	350 days/year	EF =	350 days/year					
ED =	24 years	ED =	6 years					
AT (Nc) =	8,760 days	AT (Nc) =	2,190 days					
AT (Car) =	25,550 days	AT (Car) =	25,550 days					

# CALCULATION OF ABSORBED DOSE AND RISK FROM DERMAL CONTACT TO SOIL REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-007-R-01 (Grenade Range) SOIL SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) = 

EPC x CF x SA x AF x ABS x EV x EF x ED

B W x AT

Variables (Assumptions for Each Receptor are Listed at the Bottom);

EPC = Chemical Concentration in Soil, mg/kg

CF = Conversion Factor

SA = Surface Area Contact

AF = Adherence Factor

BB = Bodyweight

ABS = Absorption Factor

AT = Averaging Time

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Dermal	Carc. Slope	Absorption	EPC	EPC from	om Park W		Park Worker		Construction Worker				Recreational Child Visitor			
Analyte	RM	Dermal	Fraction*	Surface Soil	Total Soils	Absorbe	ed Dose	Hazard	Cancer	Absorbe	ed Dose	Hazard	Cancer	Absorb	ed Dose	Hazard	Cancer
					110	(mg/h	g-day)	Quotient	Kisk	(mg/kg	g-day)	Quotient	Risk	(mg/kg	g-day)	Quotient	Risk
	(mg/kg-day)	(mg/kg-day)-1	(unitless)	(mg/kg)	(mg/kg)	(Nc)	(Car)			(Nc)	(Car)			(Nc)	(Car)		
Aluminum	1.00E+00	N/A	1E-03	1.6E+04	1.6E+04	7.13E-05		7E-05		1.53E-04		2E-04		2.26E-05		2.26E-05	
Arsenic	3.00E-04	1.5E+00	3E-02	3.9E+00	3.9E+00	5.34E-07	1.91E-07	2E-03	3E-07	1.14E-06	1.63E-08	4E-03	2E-08	1.69E-07	1.21E-08	5.64E-04	1.81E-08
Cobalt	3.00E-04	N/A	1E-03	1.1E+01	1.1E+01	5.00E-08		2E-04		1.07E-07		4E-04		1.59E-08		5.28E-05	
Iron	3.00E-01	N/A	1E-03	2.3E+04	2.3E+04	1.04E-04		3E-04		2.24E-04		7E-04		3.31E-05		1.10E-04	
Manganese	9.60E-04	N/A	1E-03	6.3E+02	6.3E+02	2.86E-06		3E-03		6.12E-06		6E-03		9.04E-07		9.42E-04	
Total Hazard Quotier	nt and Cancer	Risk:						5E-03	3E-07			1E-02	2E-08			2E-03	2E-08

	Assumptions for Park Worker		Assumptions for Construction Worker	As	sumptions for Recreational Child Visitor
CF -	IE-06 kg/mg	C.E	1E-06 kg/mg	CF -	1E-06 kg/mg
CS -	EPC Surface Only	EPC -	EPC Surface and Subsurface	EPC -	EPC Surface Only
BW -	70 kg	BW	70 kg	BW -	15 kg
SA -	3,300 cm <sup>2</sup>	SA -	3,300 cm <sup>2</sup>	SA -	2,800 cm <sup>2</sup>
AF	0.2 ing/cm <sup>2</sup> -event	AF ~	0.3 mg/cm <sup>2</sup> -event	AF -	0.2 mg/cm <sup>2</sup> -event
EV -	1 event/day	EV -	1 event/day	EV -	1 event/day
EF-	175 days/year	EF -	250 days/year	EF-	14 days/year
ED-	25 years	ED -	! years	ED -	5 years
AT (Ne) =	9,125 days	AT (Nc) -	365 days	AT (Nc) -	1,825 days
AT (Car) -	25,550 days	AT (Car) ~	25,550 days	AT (Car)	25,550 days

Note: Cells in this table were intentionally left blank due to a lack of toxicity data. NA= Information not available.

 Absorption factors from Exhibit 3-4 of USEPA (2004) Supplemental Guidance for Dermal Risk Assessment, Part E of Risk Assessment Guidance for Superfund, Human Health Evaluation Manual (Volume I).

Absorption factor for VOC was assumed to be 0.01 and metals not presented in the EPA (2004) document, assumed to be 0.001 in accordance with the USEPA Region 4 (2000)

Supplemental Guidance to RAGS: Region 4 Bulletins, Human Health Risk Assessment Bulletins (http://www.epa.gov/region4/waste/ots/healtbul.htm).

Absorption factor for pesticides was assumed to be 0.037 in accordance with the average absorption factor of chlordane (0.03), DDT (0.04), and lindane (0.04) in accordance with USEPA Region 4 (2000).

# CALCULATION OF ABSORBED DOSE AND RISK FROM DERMAL CONTACT TO SOIL REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-007-R-01 (Grenade Range) SOIL SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) = EPCx CFx SAx AFx ABS x EV x EFx ED

B Wx AT

Variables (Assumptions for Each Receptor are Listed at the Bottom):

EPC = Chemical Concentration in Soil, mg/kg

CF = Conversion Factor

SA = Surface Area Contact

AF = Adherence Factor

ABS = Absorption Factor

ABS = Absorption Factor

AT = Averaging Time

Equation for Hazard Quotient = Chronic Daily Induke (No)/Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Dermal	Carc. Slope	Absorption	Absorption EPC EPC from		Resident (Adult)				Residen	t (Child)		Resident	
Analyte	RfD	Dermal	Fraction*	Surface Soil	Total Soils		ed Dose g-day)	Hazard Quotient	Cancer Risk		ed Dose g-day)	Hazard Quotient	Cancer Risk	Total Lifetime
	(mg/kg-day)	(mg/kg-day)-1	(unitless)	(mg/kg)	(mg/kg)	(Nc)	(Car)			(Nc)	(Car)			Cancer Risk
Aluminum	1.00E+00	N/A	1E-03	1.6E+04	1.6E+04	8.62E-05		9E-05		5.65E-04		5.65E-04		
Arsenic	3.00E-04	1.5E+00	3E-02	3.9E+00	3.9E+00	6.46E-07	2.21E-07	2E-03	3E-07	4,23E-06	3.63E-07	1.41E-02	5.44E-07	9E-07
Cobalt	3.00E-04	N/A	1E-03	1.1E+01	1.1E+01	6.05E-08		2E-04		3.96E-07		1.32E-03		
ron	3.00E-01	N/A	1E-03	2.3E+04	2.3E+04	1.26E-04		4E-04		8.27E-04		2.76E-03		
Manganese	9.60E-04	N/A	1E-03	6.3E+02	6.3E+02	3.45E-06		4E-03		2.26E-05		2.36E-02		
Total Hazard Quot	tient and Cancer I	Risk:						6E-03	3E-07			4E-02	5E-07	9E-07

As	sumptions for Resident (Adult)	Ass	sumptions for Resident (Child)	
CF -	1E-06 kg/mg	CF =	1E-06 kg/mg	_
EPC =	EPC Surface Only	EPC =	EPC Surface Only	
BW-	70 kg	BW-	15 kg	
SA -	5,700 cm <sup>2</sup>	SA-	2,800 cm <sup>2</sup>	
AF-	0.07 mg/cm <sup>2</sup> -event	AF-	0.2 mg/cm <sup>2</sup> -event	
EV-	1 event/day	EV -	l event/day	
EF-	350 days/year	EF =	350 days/year	
ED=	24 years	ED-	6 years	
AT (Nc) -	8,760 days	AT (Nc) -	2,190 days	
AT (Car) =	25,550 days	AT (Car) =	25,550 days	

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

NA= Information not available.

Absorption factor for VOC was assumed to be 0.01 and metals not presented in the EPA (2004) document, a ssumed to be 0.001 in accordance with the USEPA Region 4 (2000)

Supplemental Guidance to RAGS: Region 4 Bulletins, Human Health Risk Assessment Bulletins (http://www.epa.gov/region4/waste/ots/healtbul.htm).

Absorption factor for pesticides was assumed to be 0.037 in accordance with the average absorption factor of chlordane (0.03), DDT (0.04), and lindane (0.04) in accordance with USEPA Region 4 (2000).

Absorption factors from Exhibit 3-4 of USEPA (2004) Supplemental Guidance for Dermal Risk Assessment, Part E of Risk Assessment Guidance for Superfund, Human Health Evaluation Manual (Volume I).

## TABLE 6 CALCULATION OF INTAKE AND RISK FROM INHALATION OF DUST IN AMBIENT AIR REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-007-R-01 (Grenade Range) SOIL SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) =

EPC x IR x EF x ED

BW x AT

Variables (Assumptions for Each Receptor are Listed at the Bottom); EPC = EPC in Air, mg/m3

ED = Exposure Duration

IR = Inhalation Rate

BW = Bodyweight

EF = Exposure Frequency

AT = Averaging Time

	Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose
	Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor
Į	Equation for Curiotic Risk Chromo Daily make (Car) A Stope I actor

	Inhalation	Carc. Slope	Air EPC from	Air EPC from	Park Worker			Construction Worker				Recreational Child Visitor				
Analyte	RfD	Inhalation	Surface Soil	Total Soils	Int	ake	Hazard	Cancer	Int	ake	Hazard	Cancer	Int	ake	Hazard	Cancer
					(mg/k	g-day)	Quotient	Risk	(mg/k	g-day)	Quotient	Risk	(mg/k	g-day)	Quotient	Risk
	(mg/kg-day)	(mg/kg-day)-1	(mg/m3)	(mg/m3)	(Nc)	(Car)			(Nc)	(Car)			(Nc)	(Car)		
Aluminum	1.43E-03	N/A	6.5E-04	6.5E-04	3.56E-05		2E-02		6.61E-05		5E-02		1.44E-05		1E-02	
Arsenic	N/A	1.51E+01	1.6E-07	1.6E-07		3.17E-09		5E-08		2.36E-10		4E-09		2.58E-10		4E-09
Cobalt	1.71E-06	3.15E+01	4.6E-07	4.6E-07	2.50E-08	8.92E-09	1E-02	3E-07	4.64E-08	6.63E-10	3E-02	2E-08	1.01E-08	7.24E-10	6E-03	2E-08
Iron	N/A	N/A	9.5E-04	9.5E-04												
Manganese	1.43E-05	N/A	2.6E-05	2.6E-05	1.43E-06		1E-01		2.65E-06		2E-01		5.79E-07		4E-02	
Total Hazard Quotient	and Cancer I	Risk:					1E-01	3E-07			3E-01	2E-08			6E-02	3E-08

A:	ssumptions for Park Worker	Assump	tions for Construction Worker	Assumptio	Assumptions for Recreational Child Visitor			
CA =	EPC Surface Only	CA=	EPC Surface and Sub-Surface	CA =	EPC Surface Only			
BW =	70 kg	BW =	70 kg	BW =	15 kg			
IR =	8 m3/day	IR =	10.4 m3/day	IR =	8.7 m3/day			
EF =	175 days/year	EF =	250 days/year	EF =	14 days/year			
ED =	25 years	ED =	l year	ED =	5 years			
AT (Nc) =	9,125 days	AT (Nc) =	365 days	AT (Nc) =	1,825 days			
AT (Car) =	25,550 days	AT (Car) =	25,550 days	AT (Car) =	25,550 days			

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

NA= Information not available.

# CALCULATION OF INTAKE AND RISK FROM INHALATION OF DUST IN AMBIENT AIR REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-007-R-01 (Grenade Range) SOIL SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) = CA x IR x EF x ED

BW x AT

Variables (Assumptions for Each Receptor are Listed at the Bottom):

CA = Chemical Concentration in Air from Stockpile Soil, mg/m³ ED = Exposure Duration, year

IR = Inhalation Rate, m³/day

BW = Bodyweight, kg

EF = Exposure Frequency, day/year

AT = Averaging Time, day

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Inhalation	Carc. Slope	Air EPC		Resid	ent Adult			Resid	dent Child		Resident								
Analyte	RfD	Inhalation		Intake (mg/kg-day)								Hazard Contribution Quotient to Lifetime					Intake (mg/kg-day)		Contribution to Lifetime	Total Lifetime
	(mg/kg-day)	(mg/kg-day)-1	$(mg/m^3)$	(Nc)	(Car)		Cancer Risk	(Nc)	(Car)		Cancer Risk	Cancer Risk								
Aluminum	1.43E-03	N/A	6.5E-04	1.78E-04		1E-01		3.61E-04		3E-01										
Arsenic	N/A	1.51E+01	1.6E-07		1.52E-08		2E-07		7.73E-09		1E-07	3E-07								
Cobalt	1.71E-06	3.15E+01	4.6E-07	1.25E-07	4.28E-08	7E-02	1E-06	2.54E-07	2.17E-08	1E-01	7E-07	2E-06								
Iron	N/A	N/A	9.5E-04																	
Manganese	1.43E-05	N/A	2.6E-05	7.13E-06		5E-01		1.45E-05		1E+00										
Total Hazard Qu	otient and Ca	ncer Risk:				7E-01	2E-06			1E+00	8E-07	2E-06								

	Assumptions for Resident Adult		Assumptions for Resident Child
CA =	EPC Surface Only	CA =	EPC Surface Only
BW=	70 kg	BW =	15 kg
IR =	20 m3/day	IR =	8.7 m3/day
EF =	350 days/year	EF =	350 days/year
ED =	24 years	ED =	6 years
AT (Nc) =	8,760 days	AT (Nc) =	2,190 days
AT (Car) =	25,550 days	AT (Car) =	25,550 days

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

N/A= Information not available.

# TABLE 7 CALCULATION OF TOTAL NONCARCINOGENIC AND CARCINOGENIC RISKS - SEAD-007-R-01 (Grenade Range) REASONABLE MAXIMUM EXPOSURE (RME) SENECA ARMY DEPOT ACTIVITY

				M EXPOSURE (RME	
RECEPTOR	EXPOSURE ROUTE	HAZA INDE		CAN	
RECEI TOR	EM OSONE ROOTE	Hazard Index	Percent	Cancer Risk	Percent
PARK WORKER	Inhalation of Dust in Ambient Air	1E-01	53%	3E-07	16%
	Ingestion of Soil	1E-01	44%	1E-06	70%
	Dermal Contact to Soil	5E-03	2%	3E-07	14%
	TOTAL RECEPTOR RISK (Nc & Car)	<u>3E-01</u>	100%	<u>2E-06</u>	100%
CONSTRUCTION WORKER	Inhalation of Dust in Ambient Air	3E-01	32%	2E-08	8%
	Ingestion of Soil	5E-01	67%	3E-07	85%
	Dermal Contact to Soil	1E-02	1%	2E-08	8%
	TOTAL RECEPTOR RISK (Nc & Car)	<u>8E-01</u>	100%	<u>3E-07</u>	100%
ECREATIONAL CHILD VISITOR	Inhalation of Dust in Ambient Air	6E-02	39%	3E-08	10%
	Ingestion of Soil	9E-02	60%	2E-07	83%
	Dermal Contact to Soil	2E-03	1%	2 E-08	7%
	TOTAL RECEPTOR RISK (Nc & Car)	<u>1E-01</u>	100%	<u>3E-07</u>	100%
RESIDENT (ADULT)	Inhalation of Dust in Ambient Air	7E-01	75%	2E-06	34%
	Ingestion of Soil	2E-01	25%	3E-06	59%
	Dermal Contact to Soil	6E-03	1%	3E-07	7%
	TOTAL RECEPTOR RISK (Nc & Car)	9E-01	100%	<u>5E-06</u>	100%
RESIDENT (CHILD)	Inhalation of Dust in Ambient Air	1E+00	39%	8E-07	10%
	Ingestion of Soil	2E+00	60%	6E-06	83%
	Dermal Contact to Soil	4E-02	1%	5E-07	7%
	TOTAL RECEPTOR RISK (Nc & Car)	4E+00	100%	<u>8E-06</u>	100%
RESIDENT (TOTAL)	Inhalation of Dust in Ambient Air			2E-06	19%
	Ingestion of Soil			9E-06	74%
	Dermal Contact to Soil			9E-07	7%
-	TOTAL RECEPTOR CANCER RISK			1E-05	100%

NA - Not Applicable

## Attachment F SEAD-70 – Building 2110 Filled Area

TABLE 1 SEAD-70 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

70EXFL10000

SEAD-70

70EXFL10003

SEAD-70

70EXFL10004

SEAD-70

70EXFL10010

SEAD-70

70EXFL10017

								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
								70EXFL10002	70EXFL10003	70EXFL10009	70EXFL10010	70EXFL10017	70EXFL10018	70EXFL10019	70EXFL10020
								1	Į.	3	l	2	5	6.2	4.5
								1.2	1.5	3.2	1.2	2.2	5.5	6.4	4.7
								5/22/2008	5/22/2008	8/20/2008	8/20/2008	9/4/2008	9/4/2008	9:4:2008	9 4 2008
								SA							
			Frequency		Number	Number	Number	RΛ	RA	RΛ	RA	RA	RA	RA	RA
		Maximum	of	Criteria	of	of Times	of Samples								
Parameter	Units	Value	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value
Volatile Organic Compounds															
1,1,1-Trichloroethane	UG/KG	0	0%	680	0	0	11								
1,1,2,2-Tetrachloroethane	UG/KG	0	0%		0	0	11								
1,1,2- Trichloroethane	UG/KG	0	0%	270	0	0	11								
1,1-Dichloroethane	UG/KG	0	00.0	270	0	0	11								
1,1-Dichloroethene	UG-KG	0	0%	330 20	0	0	11								
1,2-Dichloroethane	UG/KG	0	0% 0%	190	0	0	11								
1,2-Dichloroethene (total)	UG-KG	0	0%	190	0	0	11								
1,2-Dichloropropane	UG/KG	79	9%	50	0	1	11								
Acetone	UG/KG	0	0%	60	0	0	11								
Benzene	UG/KG UG/KG	0	0%	00	0	0	11								
Bromodichloromethane Bromoform	UG/KG	0	0%		0	0	11								
Carbon disulfide	UG/KG	0	0%		0	0	11								
Carbon distinue  Carbon tetrachloride	UG/KG	0	0%	760	0	0	11								
Chlorobenzene	UG/KG		0%	1100	0	0	11								
Chlorodibromomethane	UG/KG	0	0°°	1100	0	0	11								
Chloroethane	UG/KG	0	0%		0	0	11								
Chloroform	UG/KG		0%	370	0	0	11								
Cis-1,3-Dichloropropene	UG/KG		0%	274	0	0	11								
Ethyl benzene	UG/KG	0	0%	1000	0	0	11								
Methyl bromde	UG/KG		0%		0	0	11								
Methyl butyl ketone	UG/KG		00.0		0	0	11								
Methyl chloride	UG/KG		0%		0	0	8								
Methyl ethyl ketone	UG/KG		90%	120	0	1	11								
Methyl isobutyl ketone	UG/KG		0%		0	0	11								
Methylene chloride	UG KG	0	0.0	50	0	0	11								
Styrene	UG/KG	0	0%		0	0	11								
Tetrachloroethene	UG/KG	0	0%	1300	0	0	11								
Toluene	UG KG		9%	700	0	1	11								
Total Xylenes	UG:KG		0%	260	0	0	11								
Trans-1,3-Dichloropropene	UG/KG		()°; a		0	0	11								
Trichloroethene	UG/KG		0%u	470	0	0	ł l								
Vinyl chloride	UG KG	0	0%	20	0	0	11								
Semivolatile Organic Compound															
1,2,4-Trichlorobenzene	UG/KG		0%		0	0	11 11								
1,2-Dichlorobenzene	UG/KG		0%	1100	0	0	11								
1,3-Dichlorobenzene	UG/KG		0%	2400	0	0	11								
1,4-Dichlorobenzene	UG/KG		0% 0%	1800	0	0	11								
2,2'-oxybis(1-Chloropropane)	UG-KG		0%		0	0	ii								
2,4,5-Trichlorophenol	UG/KG		0%		0	0	11								
2,4,6-Truchlorophenol	UG/KG UG/KG		0%		0	0	it								
2,4-Dichlorophenol 2,4-Dirnethylphenol	UG.KG		0%		0	0	11								
2,4-Dintrophenol	UG/KG		0%		0	0	11								
2,4-Dinitrotoluene	UG/KG		0%		0	0	11								
2,6- Dinitrotoluene	UG/KG		0%		0	0	11								
2-Chloronaphthalene	UG/KG		0%		0	0	11								
2-Chlorophenoi	UG/KG		0%		0	0	11								
2-Methylnaphthalene	UG:KG		0%		0	0	11								
2-Methylphenol	UG/KG		0% a	330	0	0	11								
2-Nitroaniline	UG/KG		0%		0	0	11								
2-Nitrophenol	UG KG		0.60		0	0	11								
3,3'-Dichlorobenzidine	UG KG		0° a		0	()	11								
3-Nitroaniline	UG/KG		0,00		0	0	11								
4,6-Dinitro-2-methylphenol	UG KG	0	0%		0	0	11								

SEAD-70

70EXFL10019

SEAD-70 70EXFL10018 SEAD-70

70EXFL10020

TABLE 1 SEAD-70 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

70EXFL10000

SEAD-70

70EXFL10003

SEAD-70

70EXFL10004

SEAD-70

70EXFL10010

SEAD-70

70EXFL10017

SEAD-70

70EXFL10018

SEAD-70

70EXFL10019

SEAD-70

70EXFL10020

								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
								70EXFL10002	70EXFL10003	70EXFL10009	70EXFL10010	70EXFL10017	70EXFL10018	70EXFL10019	70EXFL10020
								1	1.6	3	1 2	2	5	6.2	4.5
								1.2 5/22/2008	1.5 5/22/2008	3.2 8/20/2008	1.2 8/20/2008	2.2 9/4/2008	5.5 9/4/2008	6.4 9/4/2008	4.7 9/4/2008
								SA	SA	SA	SA	SA	SA	SA	SA
			Frequency		Number	Number	Number	RA	RA	RA	RA	RA	RA	RA	RA
		Maximum	of	Criteria	of	of Times	of Samples								101
Parameter	Units	Value	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value
4-Bromophenyl phenyl ether	UG/KG	0	0%		0	0	11								
4-Chloro-3-methylphenol	UG/KG	0	0%		0	0	11								
4-Chloroaniline	UG/KG	0	0%		0	0	11								
4-Chlorophenyl phenyl ether	UG/KG	0	0%		0	0	11								
4-Methylphenol	UG/KG	0	0%	330	0	0	11								
4-Nitroaniline	UG/KG	0	0%		0	0	11								
4-Nitrophenol	UG/KG	0	0%	22222	0	0	11								
Acenaphthene Acenaphthylene	UG/KG UG/KG	0	0%	20000 100000	0	0	11 11								
Anthracene	UG/KG	0	0%	100000	0	0	11								
Benzo(a)anthracene	UG/KG	0	0%	1000	0	0	11								
Benzo(a)pyrene	UG/KG	0	0%	1000	0	0	11								
Benzo(b)fluoranthene	UG/KG	0	0%	1000	0	0	11								
Benzo(ghi)perylene	UG/KG	0	0%	100000	0	0	11								
Benzo(k)fluoranthene	UG/KG	0	0%	800	0	0	11								
Bis(2-Chloroethoxy)methane	UG/KG	0	0%	000	0	0	11								
Bis(2-Chloroethyl)ether	UG/KG	0	0%		0	0	11								
Bis(2-Ethylhexyl)phthalate	UG/KG	610	100%		0	11	11								
Butylbenzylphthalate	UG/KG	0	0%		0	0	11								
Carbazole	UG/KG	0	0%		0	0	11								
Chrysene	UG/KG	0	0%	1000	0	0	11								
Di-n-butylphthalate	UG/KG	51	55%		0	6	11								
Di-n-octylphthalate	UG/KG	30	9%		0	1	11								
Dibenz(a,h)anthracene	UG/KG	0	0%	330	0	0	11								
Dibenzofuran	UG/KG	0	0%	7000	0	0	11								
Diethyl phthalate	UG/KG	0	0%		0	0	11								
Dimethylphthalate	UG/KG	0	- 0%		0	0	11								
Fluoranthene	UG/KG	0	0%	100000	0	0	11								
Fluorene Hexachlorobenzene	UG/KG	0	0%	30000	0	0	11								
Hexachlorobutadiene	UG/KG UG/KG	0	0% 0%	330	0	0	11 11								
Hexachlorocyclopentadiene	UG/KG	0	0%		0	0	11								
Hexachloroethane	UG/KG	0	0%		0	0	11								
Indeno(1,2,3-cd)pyrene	UG/KG	0	0%	500	0	0	11								
Isophorone	UG/KG	0	0%	500	0	0	11								
N-Nitrosodiphenylamine	UG/KG	o o	0%		0	0	11								
N-Nitrosodipropylamine	UG/KG	0	0%		0	0	11								
Naphthalene	UG/KG	0	0%	12000	0	0	11								
Nitrobenzene	UG/KG	0	0%		0	0	11								
Pentachlorophenol	UG/KG	0	0%	800	0	0	11								
Phenanthrene	UG/KG	0	0%	100000	0	0	11								
Phenol	UG/KG	0	0%	330	0	0	11								
Рутепе	UG/KG	0	0%	100000	0	0	11								
Pesticides and PCBs															
4,4'-DDD	UG/KG	0	0%	3.3	0	0	11								
4,4'-DDE	UG/KG	0	0%	3.3	0	0	11								
4,4'-DDT	UG/KG	0	0%	3.3	0	0	11								
Aldrin	UG/KG	0	0%	5	0	0	11								
Alpha-BHC Alpha-Chlordane	UG/KG UG/KG	0	0% 0%	20 94	0	0	11								
Aroclor-1016	UG/KG UG/KG	0	0%	100	0	0	11 11								
Aroclor-1016 Aroclor-1221	UG/KG	0	0%	100	0	0	11								
	UUINU	U	070	100	U	U	11								

TABLE I SEAD-70 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

70EXFL10000

SEAD-70

70EXFL10003

SEAD-70

70EXFL10004

SEAD-70

70EXFL10010

SEAD-70

70EXFL10017

SEAD-70

70EXFL10018

								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
								70EXFL10002	70EXFL10003	70EXFL10009	70EXFL10010	70EXFL10017	70EXFL10018	70EXFL10019	70EXFL10020
								/0EXFL10002	/OEXPETODOS	3	/OEXILIOOIO	2	5	6.2	4.5
								1.2	1.5	3.2	1.2	2.2	5.5	6.4	4.7
								5/22/2008	5,22/2008	8/20/2008	8-20/2008	9 4/2008	9:4:2008	9 4-2008	9 4-2008
								SA							
			Frequency		Number	Number	Number	RA	RA	RA	RA	RA	RA	RA	RA
		Maximum	of	Criteria	of	of Times	of Samples	KA	1074	107	ICA	KA	101	1474	70.1
								27.1	11-1	1/-t (O)	V-1 (O)	Video (O)	Value (O)	Value (Q)	Value
Parameter	Units	Value	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	value (Q)	value (Q)	Value
Aroclor-1232	UG/KG	0	0%g	100	0	0	11								
Aroclor-1242	UG-KG	0	() <sub>D</sub> .0	100	0	0	11								
Aroclor-1248	UG/KG	0	0% o	100	0	0	11								
Aroclor-1254	UG KG			100	0	0	11								
Arocior-1260 Beta-BHC	UG/KG UG/KG	0	0% 0%	36	0	0	11								
Delta-BHC		0	000	40	0	0	11								
	UG/KG	0	0°.0	5	0	0	11								
Dieldrin	UG KG	0	000	2400	0	0	11								
Endosulfan I Endosulfan II	UG/KG	0	0%	2400	0	0	11								
Endosulfan sulfate	UG/KG UG KG	0	0%	2400	0	0	11								
Endosultan suitate Endrin		0	0%	14	0	0	11								
Endrin Endrin aldehyde	UG/KG UG KG	0	0%	14	0	0	11								
Endrin ketone	UG-KG	0	0.0		0	0	11								
Gamma-BHC Lindane	UG-KG	0	0%	100	0	0	11								
Gamma-Chlordane	UG-KG	0	000	100	0	0	11								
Heptachlor	UG KG	0	0%	42	0	0	11								
Heptachlor epoxide	UG/KG	0	0%	72	0	0	11								
Methoxychlor	UG-KG	0	0%		0	0	11								
Toxaphene	UG/KG	0	0%		0	0	11								
Metals	OG/RG	V	0.0		4	**									
Alumnum	MG/KG	16600	100° a		0	11	11								
Antimony	MG/KG	0.47	73%		0	8	11								
Arsenic	MG/KG	15.2	100%	13	2	46	46	4.5	11.1	12.1 J	7.7 J	5.1 J	5.8 J	5.1 J	5.1
Barrum	MG/KG	170	100%	350	0	11	11								
Beryllium	MG/KG	0.81	100%	7.2	0	11	11								
Cadmum	MG-KG	0.8	10000	2.5	0	11	11								
Calcium	MG/KG	59100	100%		0	11	11								
Chromum	MG/KG	26.2	a °001	30	0	11	11								
Cobalt	MG-KG	21	1000%		0	11	11								
Copper	MG-KG	35.2	100%	50	()	11	11								
Cyanide	MG/KG	0	()° a	27	0	0	11								
Iron	MG/KG	32200	100° o		0	11	11								
Lead	MG/KG	22.1	100%	63	0	11	11								
Magnesium	MG·KG	13600	100%		0	11	11								
Manganese	MG/KG	1040	100%	1600	0	11	11								
Mercury	MG/KG	0.1	91%	0.18	0	10	11								
Nickel	MG-KG	52.4	100° o	30	8	11	11								
Potassium	MG/KG	1750	100%		0	11	11								
Selenium	MG KG	l	64%	3.9	0	7	11								
Silver	MG/KG	0	0.0	2	0	0	11								
Sodium	MG·KG	165	82%		0	9	11								
Thallium	MG/KG	0	04.9		0	0	11								
Vanadium	MG-KG	26.9	0.000		0	11	11								
Zinc	MG/KG	116	100%	109	l.	11	11								

## Notes

- (1) Criteria based on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives,
- http://www.dec.state.ny.us/website/regs/subpart375\_6.html
- (2) Sample-duplicate pairs were not averaged. Samples were presented as discreet samples in the summary statistics.
- (3) A bolded and outlined cell indicates a concentration that exceeded the criteria.
- U compound was not detected
- J = the reported value is an estimated concentration
- UJ = the compound was not detected, the associated reporting limit is approximate
- R = the analytical result was rejected during data validation.

SEAD-70

70EXFL10019

SEAD-70

70EXFL10020

## TABLE 1 SEAD-70 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

SEAD-70

SOIL

70EXFL10021

SEAD-70

SOIL

70EXFL10021

SEAD-70

SOIL

70EXPR10003

SEAD-70

SOIL

70EXPR10000

SEAD-70

SOIL

70EXPR10007

SEAD-70

SOIL

70EXPR10008

SEAD-70 70EXPR10009

SOIL

									SOIL 70EXFL10022	SOIL 70EXFL10021	SOIL 70EXPR10000	SOIL 70EXPR10003	SOIL 70EXPR10007	SOIL 70EXPR10008	SOIL 70EXPR10009
									3.2	3.2	0	0	0.5	0	0.2
									3.4	3.4	0.2	0,2	0.8	0.2	0.4
									9/4/2008	9/4/2008	2/6/2008	2/6/2008	5/22/2008	5/22/2008	5/22/2008
									DU	SA	SA	SA	SA	SA	SA
			Frequency		Number	Number	Number		RA	RA	RA	RA	RA	RA	RA
		Maximum	of	Criteria	of	of Times	of Samples								
Parameter	Units	Value	Detection	Value 1	Exceedances	Detected	Analyzed 2	(Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds															
1,1,1-Trichloroethane	UG/KG	0	0%	680	0	0	11								
1,1,2,2-Tetrachloroethane	UG/KG	0	0%		0	0	11								
1,1,2-Trichloroethane	UG/KG	0	0%		0	0	11								
1,1-Dichloroethane	UG/KG	0	0%	270	0	0	11								
1,1-Dichloroethene	UG/KG	0	0%	330	0	0	11								
1,2-Dichloroethane	UG/KG UG/KG	0	0% 0%	20 190	0	0	11								
1,2-Dichloroethene (total) 1,2-Dichloropropane	UG/KG	0	0%	190	0	0	11								
Acetone	UG/KG	79	9%	50	1	1	11								
Benzene	UG/KG	0	0%	60	0	0	11								
Bromodichloromethane	UG/KG	0	0%	00	0	o	11								
Bromoform	UG/KG	o	0%		0	0	11								
Carbon disulfide	UG/KG	0	0%		0	0	11								
Carbon tetrachloride	UG/KG	0	0%	760	0	0	11								
Chlorobenzene	UG/KG	0	0%	1100	0	0	11								
Chlorodibromomethane	UG/KG	0	0%		0	0	11								
Chloroethane	UG/KG	0	0%		0	0	11								
Chloroform	UG/KG	0	0%	370	0	0	11								
Cis-1,3-Dichloropropene	UG/KG	0	0%		0	0	11								
Ethyl benzene	UG/KG	0	0%	1000	0	0	11								
Methyl bromide	UG/KG	0	0%		0	0	11								
Methyl butyl ketone	UG/KG	0	0%		0	0	11								
Methyl chloride	UG/KG	0	0%		0	0	8								
Methyl ethyl ketone	UG/KG	36	9%	120	0	1	11								
Methyl isobutyl ketone	UG/KG	0	0%		0	0	11								
Methylene chloride	UG/KG	0	0%	50	0	0	11								
Styrene Tetrachloroethene	UG/KG	0	0%	1300	0	0	11								
Toluene	UG/KG UG/KG	3	0% 9%	700	0	1	11 11								
Total Xylenes	UG/KG	0	0%	260	0	0	11								
Trans-1,3-Dichloropropene	UG/KG	0	0%	200	0	0	11								
Trichloroethene	UG/KG	0	0%	470	0	0	11								
Vinyl chloride	UG/KG	0	0%	20	0	0	11								
Semivolatile Organic Compounds															
1,2,4-Trichlorobenzene	UG/KG	0	0%		0	0	11								
1,2-Dichlorobenzene	UG/KG	0	0%	1100	0	0	11								
1,3-Dichlorobenzene	UG/KG	0	0%	2400	0	0	11								
1,4-Dichlorobenzene	UG/KG	0	0%	1800	0	0	11								
2,2'-oxybis(1-Chloropropane)	UG/KG	0	0%		0	0	11								
2,4,5-Trichlorophenol	UG/KG	0	0%		0	0	11								
2,4,6-Trichlorophenol	UG/KG	0	0%		0	0	11								
2,4-Dichlorophenol	UG/KG	0	0%		0	0	11								
2,4-Dimethylphenol	UG/KG UG/KG	0	0%		0	0	11								
2,4-Dinitrophenol 2,4-Dinitrotoluene	UG/KG	0	0%		0	0	11 11								
2,6-Dinitrotoluene	UG/KG	0	0%		0	0	11								
2-Chloronaphthalene	UG/KG	0	0%		0	0	11								
2-Chlorophenol	UG/KG	0	0%		0	0	11								
2-Methylnaphthalene	UG/KG	0	0%		0	0	11								
2-Methylphenol	UG/KG	0	0%	330	0	0	11								
2-Nitroaniline	UG/KG	0	0%		0	0	11								
2-Nitrophenol	UG/KG	0	0%		0	0	11								
3,3'-Dichlorobenzidine	UG/KG	0	0%		0	0	11								
3-Nitroaniline	UG/KG	0	0%		0	0	11								
4,6-Dinitro-2-methylphenol	UG/KG	0	0%		0	0	11								

TABLE 1 SEAD-70 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

All content of the	Response	Units	Maximum Value	Frequency of Detection	Criteria Value <sup>1</sup>	Number of	Number of Times Detected	Number of Samples Analyzed <sup>2</sup>	(O)	SEAD-70 70EXFL10021 SOIL 70EXFL10022 3.2 3.4 94/2008 DU RA	SEAD-70 70EXFL10021 SOIL 70EXFL10021 3.2 3.4 9/4/2008 SA RA	SEAD-70 70EXPR10000 SOIL 70EXPR10000 0 0.2 2-6-2008 SA RA	SEAD-70 70EXPR10003 SOIL 70EXPR10003 0 0.2 2:6:2008 SA RA	SEAD-70 70EXPR10007 SOIL 70EXPR10007 0.5 0.8 5-22-2008 SA RA	SEAD-70 70EXPR10008 SOIL 70EXPR10008 0 0.2 5.22 2008 SA RA Value (Q)	SEAD-70 70EXPR10009 SOIL 70EXPR10009 0.2 0.4 5-22 2008 SA RA Value (Q)
	Parameter				varue	Exceedances			(Q)	value (Q)	value (Q)	value (Q)	value (Q)	vame (Q)	value (Q)	value (Q)
							-									
A-Maragin place   MCK																
A-theregisted   USCKG   0					330		**									
4-Monghand UUKG 0 0 91,					330											
Accomplehance																
Andreacement VI, Kir VI					20000											
Marticecies   Cirk Ki						-										
Bernot a) printed   Control   Cont																
Bornack playment   Uk KG																
Borned philipsecanthers						0										
Broads   Broads   CK   G																
Benoal-Chilaronambers   UCKG   0   0"s   800   0   1     Bela-Chilaronamby implantate   UCKG   0   0"s   0   0   1     Bela-Chilaronamby implantate   UCKG   0   0"s   0   0   1     Bela-Chilaronamby implantate   UCKG   0   0   0"s   0   0   1     Bela-Chilaronamby implantate   UCKG   0   0   0"s   0   0   1     Bela-Chilaronamby implantate   UCKG   0   0   0"s   0   0   1     Bela-Chilaronamby implantate   UCKG   0   0   0"s   0   0   0   1     Do-n-any implantate   UCKG   0   0"s   1   000   0   0   1     Do-n-any implantate   UCKG   0   0"s   3   0   0   1     Do-n-any implantate   UCKG   0   0"s   3   0   0   1     Do-n-any implantate   UCKG   0   0"s   3   30   0   0   1     Do-n-any implantate   UCKG   0   0"s   3   30   0   0   1     Dobrout als unificacese   UCKG   0   0"s   3   30   0   0   1     Dobrout als unificacese   UCKG   0   0"s   3   30   0   0   1     Dobrout als unificacese   UCKG   0   0"s   3   300   0   0   1     Dobrout als unificacese   UCKG   0   0"s   3   300   0   0   1     Fluarantee   UCKG   0   0"s   3   300   0   0   1     Fluarantee   UCKG   0   0"s   3   300   0   0   1     Fluarantee   UCKG   0   0"s   3   300   0   0   1     Heasachicrobatorie   UCKG   0   0"s   500   0   0   1     Heasachicrobatorie   UCKG   0   0"s   500   0   0   1     Heasachicrobatorie   UCKG   0   0"s   500   0   0   1     Heasachicrobatorie   UCKG   0   0"s   500   0   0   1     National content   UCKG   0   0"s   500   0   0   1     National content   UCKG   0   0"s   500   0   0   1     National content   UCKG   0   0"s   3   3   0   0   0   1     National content   UCKG   0   0"s   3   3   0   0   0   1     National content   UCKG   0   0"s   3   3   0   0   0   1     National content   UCKG   0   0"s   3   3   0   0   0   1     National content   UCKG   0   0"s   3   3   0   0   1     National content   UCKG   0   0"s   3   3   0   0   1     National content   UCKG   0   0"s   3   3   0   0   0   1     National content   UCKG   0   0"s   3   3   0   0   0   1     National content   UCKG   0   0"s						0	0									
Bay C-Photocophrylinethrough   Clif NG   Clif O   Clif						-	0									
Bot   Chromothy Felder   UG NC   UG						0	0									
B-15-Edrypherylphethalane			0	0%		0	0	11								
Buylberrysphishian   CU-KG   Curband   Curba						0	11									
Carboxole			0	0%		0	0	11								
Den-bayophthalate UGKG 51		UG,KG	0	000		0	0	11								
Dyn-cox/lphchalube	Chrysene	UG/KG	0	0%	1000	0	0	11								
Debrevolation intraceme         UFKG         0         0%         330         0         11           Deteroy platibilate         UFKG         0         0%         7000         0         11           Dumethylphathate         UFKG         0         0%         0         0         11           Husarafhere         UFKG         0         0%         10000         0         11           Husarafhere Auchlorobetivane         UFKG         0         0%         3000         0         11           Hesuafhorobetivane         UFKG         0         0%         3000         0         11           Hesuafhorobetivane         UFKG         0         0%         30         0         11           Hesuafhorobetivane         UFKG         0         0%         0         0         11           Hesuafhorobetivane         UFKG         0         0%         0         0         11           Hesuafhorobetivane         UFKG         0         0%         0         0         11           Indemot         UFKG         0         0%         0         0         11           Indemot         UFKG         0         0%         12000 <td>Di-n-butylphthalate</td> <td>UG/KG</td> <td>51</td> <td>55%</td> <td></td> <td>0</td> <td>6</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Di-n-butylphthalate	UG/KG	51	55%		0	6									
Distributation   UG KG   O   O*   O*   O   O   O   O   O   O	D1-n-octy!phthalate	UG/KG	30	9%		0	l									
Obethyl plabslate         UG KG         0         0%         0         11           Dimcthyl plabslate         UG KG         0         0%         10         0         11           Fluorantheme         UG KG         0         0%         100000         0         11           Fluorantheme         UG KG         0         0%         3300         0         11           Hexachbrobardarheme         UG KG         0         0%         0         0         11           Naphtrosadhpichylarime         UG KG         0         0%         120         0         11           Naphtrasadherophemol         UG KG         0         0%         1200         0         11           Pensadhurophemol         UG KG         0         0%         330	Dibenz(a,h)anthracene	UG-KG				0	0									
Dimethylphthalare   UG KG   0   0%   100000   0   0   11					7000											
Fluarene																
Fluare						-										
Hexachloroberacene UGKG 0 0% 330 0 0 11 Hexachloroberacene UGKG 0 0% 5 0 0% 11 Hexachlorocyclopentadene UGKG 0 0% 0 0% 0 0 11 Hexachlorocyclopentadene UGKG 0 0% 0 0 0 11 Hexachlorocyclopentadene UGKG 0 0% 0 0 0 11 Indeen(1.2)-clopyrene UGKG 0 0% 50 0 0 11 Isophorone UGKG 0 0% 50 0 0 11 Isophorone UGKG 0 0% 50 0 0 11 N-Nitrosodiphroplarame UGKG 0 0% 0 0 11 N-Nitrosodiphroplarame UGKG 0 0% 0 0 0 11 N-Nitrosodiproplarame UGKG 0 0% 0 0 0 11 N-Nitrosodiproplarame UGKG 0 0% 0 0 0 11 N-Introberacene UGKG 0 0% 0 0 0 11 Pentachlorophenol UGKG 0 0 0% 12000 0 0 11 Pentachlorophenol UGKG 0 0 0% 100000 0 0 11 Phenantheene UGKG 0 0 0% 100000 0 0 11 Phenantheene UGKG 0 0 0% 100000 0 0 11 Phenantheene UGKG 0 0 0% 100000 0 0 11 Phenantheene UGKG 0 0 0% 330 0 0 11 Prove UGKG 0 0 0% 333 0 0 11 Prove UGKG 0 0 0% 333 0 0 11 Prove Petticles and PCBs 4,4-DDE UGKG 0 0 0% 3.3 0 0 111 Aldra UGKG 0 0 0% 5 0 0 0 11 Aldra UGKG 0 0 0% 2 3 0 0 11 Aldra UGKG 0 0 0% 2 0 0 11 Alpha-Chlordane UGKG 0 0 0% 2 0 0 11 Alpha-Chlordane UGKG 0 0 0% 2 0 0 11 Alpha-Chlordane UGKG 0 0 0% 2 0 0 11 Alpha-Chlordane UGKG 0 0 0% 2 0 0 11 Alpha-Chlordane UGKG 0 0 0% 2 0 0 11 Alpha-Chlordane UGKG 0 0 0% 2 0 0 0 11 Alpha-Chlordane UGKG 0 0 0% 2 0 0 0 11 Alpha-Chlordane UGKG 0 0 0% 2 0 0 0 11 Alpha-Chlordane UGKG 0 0 0% 2 0 0 0 11 Alpha-Chlordane UGKG 0 0 0% 2 0 0 0 11 Alpha-Chlordane UGKG 0 0 0% 2 0 0 0 11 Alpha-Chlordane UGKG 0 0 0% 2 0 0 0 11																
Hexachlorochutadnene UG KG 0 0% 0% 0 0 11 Hexachlorochutadnene UG KG 0 0% 0 0% 0 0 11 Hexachlorochutadnene UG KG 0 0% 0 0% 0 0 11 Indenot (2,3-c-d)pyrene UG KG 0 0% 50 0 0 0 11 Indenot (2,3-c-d)pyrene UG KG 0 0% 50 0 0 0 11 N-Nitrosodiphenylarmae UG KG 0 0% 0 0% 0 0 11 N-Nitrosodiphenylarmae UG KG 0 0% 0 0% 0 0 11 N-Nitrosodiphenylarmae UG KG 0 0% 100 0 0 11 N-Nitrosodiphenylarmae UG KG 0 0% 12000 0 0 11 Naphthalene UG KG 0 0 0% 12000 0 0 11 Nitrobetrzene UG KG 0 0 0% 10000 0 0 11 Pentachlorophenol UG KG 0 0 0% 800 0 0 11 Pentachlorophenol UG KG 0 0 0% 10000 0 0 11 Pyrene UG KG 0 0 0% 330 0 0 11 Pyrene UG KG 0 0 0% 333 0 0 11 Pyrene UG KG 0 0 0% 333 0 0 11 Pyrene UG KG 0 0 0% 333 0 0 11 AjrbaB CBB AjrDD UG KG 0 0 0% 3,3 0 0 0 11 AjrbaB UG KG 0 0 0% 3,3 0 0 0 11 Alfan UG KG 0 0 0% 3 3,3 0 0 0 11 Alfan UG KG 0 0 0% 3 3,3 0 0 0 11 Alfan UG KG 0 0 0% 3 0 0 0 11 Alfan UG KG 0 0 0% 3 0 0 0 11 Alfan UG KG 0 0 0% 9 0 0 0 0 11 Alfan UG KG 0 0 0% 9 0 0 0 0 0 11 Alfan UG KG 0 0 0% 9 0 0 0 0 11 Alfan UG KG 0 0 0% 9 0 0 0 0 0 11 Alfan UG KG 0 0 0% 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0																
Hexachbroeyelopentadneme					330											
Hexachloroethane   UG/KG   0   0%   500   0   0   11     Indenot (1,23-cd)pyrene   UG/KG   0   0%   500   0   0   11     N-Nitrosodhphenyplainne   UG/KG   0   0%   0   0   0   11     N-Nitrosodhphenyplainne   UG/KG   0   0%   12000   0   0   11     Naphthalene   UG/KG   0   0%   12000   0   0   11     Naphthalene   UG/KG   0   0%   12000   0   0   11     Nitrobenzene   UG/KG   0   0%   800   0   0   11     Plenanthrene   UG/KG   0   0%   800   0   0   11     Phenothrene   UG/KG   0   0%   800   0   0   11     Phenothrene   UG/KG   0   0%   100000   0   0   11     Pyrene   UG/KG   0   0%   100000   0   0   11     Pyrene   UG/KG   0   0%   100000   0   0   11     Pyrene   UG/KG   0   0%   3.3   0   0   11     4/F-DDE   UG/KG   0   0%   3.3   0   0   11     4/F-DDE   UG/KG   0   0%   3.3   0   0   11     4/F-DDE   UG/KG   0   0%   3.3   0   0   11     4/F-DDF   UG/KG   0   0%   3.3   0   0   11     4/F-DDF   UG/KG   0   0%   5   0   0   0   11     Aldrin   UG/KG   0   0%   5   0   0   0   11     Aldrin   UG/KG   0   0%   5   0   0   0   11     Alpha-Chlordane   UG/KG   0   0%   5   0   0   0   11     Alpha-Chlordane   UG/KG   0   0%   5   0   0   0   11     Arouler-1016   UG/KG   0   0%   5   0   0   0   11     Arouler-1016   UG/KG   0   0%   00   0   0   0   11     Arouler-1016   UG/KG   0   0%   00   0   0   0   0   0   0																
Indeno(1,2,3-ed)pyrene         UG.KG         0         0% o         0         0         11           Isophorone         UG.KG         0         0% o         0         0         11           N-Nitrosodiphenylarme         UG.KG         0         0% o         0         0         11           N-Nitrosodiphenylarme         UG.KG         0         0% o         0         0         11           Naphthalene         UG.KG         0         0% o         12000         0         0         11           Nitrobenzene         UG.KG         0         0% o         0         0         11           Phenathrene         UG.KG         0         0% o         800         0         11           Pyrene         UG.KG         0         0% o         330         0         0         11           Pyrene         UG.KG         0         0% o         333         0         0         11           Pesticides and PCBs         4.4-DDD         UG.KG         0         0% o         3.3         0         0         11           4,4-DDF         UG.KG         0         0% o         3.3         0         0         11						-										
Sophorone   UG KG   O   O%   O   O   O   O   O   O   O					500											
N-Nitrosoliphenylamine UG-KG 0 0% 0% 0 0% 0 0 0 11 N-Nitrosoliphenylamine UG-KG 0 0% 0 0% 1 0 0 0 11 N-Introsoliphenylamine UG-KG 0 0% 0 0% 1 0 0 0 11 Nitroberizene UG-KG 0 0% 800 0 0 11 Pentachlorophenol UG-KG 0 0% 800 0 0 11 Phenanthrene UG-KG 0 0% 800 0 0 11 Phenanthrene UG-KG 0 0% 330 0 0 11 Phenol UG-KG 0 0% 330 0 0 11 Pyrene UG-KG 0 0% 330 0 0 11 Pyrene UG-KG 0 0% 330 0 0 11 P-Esticides and PCB-S -4,4-DDD UG-KG 0 0% 3.3 0 0 0 11 -4,4-DDL UG-KG 0 0% 3.3 0 0 0 11 -4,4-DDL UG-KG 0 0% 3.3 0 0 0 11 -4,4-DDL UG-KG 0 0% 3.3 0 0 0 11 -4,4-DDL UG-KG 0 0% 3.3 0 0 0 11 -4,4-DDL UG-KG 0 0% 3.3 0 0 0 11 -4,4-DDL UG-KG 0 0% 9% 3.3 0 0 0 11 -4,4-DDL UG-KG 0 0% 9% 3.3 0 0 0 11 -4,4-DDL UG-KG 0 0% 9% 3.3 0 0 0 11 -4,4-DDL UG-KG 0 0% 9% 3.3 0 0 0 11 -4,4-DDL UG-KG 0 0% 9% 3.3 0 0 0 11 -4,4-DDL UG-KG 0 0% 9% 3.3 0 0 0 11 -4,4-DDL UG-KG 0 0% 9% 3.3 0 0 0 11 -4,4-DDL UG-KG 0 0% 9% 3.3 0 0 0 11 -4,4-DDL UG-KG 0 0% 9% 3.3 0 0 0 11 -4,4-DDL UG-KG 0 0% 9% 3.3 0 0 0 11 -4,4-DDL UG-KG 0 0% 9% 3.3 0 0 0 11 -4,4-DDL UG-KG 0 0% 9% 3.3 0 0 0 0 11 -4,4-DDL UG-KG 0 0% 9% 3.3 0 0 0 0 11 -4,4-DDL UG-KG 0 0 0% 3.3 0 0 0 0 11 -4,4-DDL UG-KG 0 0 0% 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0					300											
N-Nitrosodipropylamme UG KG 0 0% 1200 0 0 11 Naphthalene UG KG 0 0% 1200 0 0 11 Nitrobezene UG KG 0 0% 0 0% 0 0 0 11 Pentachlorophenol UG KG 0 0% 800 0 0 11 Phenanthrene UG KG 0 0% 0 0% 10000 0 0 11 Phenon UG KG 0 0 0% 330 0 0 11 Pyrene UG KG 0 0% 0 0% 330 0 0 11 Pyrene UG KG 0 0 0% 330 0 0 11 Pyrene UG KG 0 0 0% 330 0 0 11 Pyrene UG KG 0 0 0% 33.3 0 0 11 Pyrene VG KG 0 0 0% 10000 0 11 Pyrene VG KG 0 0 0% 10000 0 11 A,t-DDD UG KG 0 0 0% 3.3 0 0 11 A,t-DDE UG KG 0 0 0% 3.3 0 0 11 A,t-DBE UG KG 0 0 0% 3.3 0 0 11 A,t-DBE UG KG 0 0 0% 3.3 0 0 0 11 A,t-DBT UG KG 0 0 0% 3.3 0 0 0 11 Aldran UG KG 0 0 0% 2 0 0 0 0 11 Aldran UG KG 0 0 0% 5 0 0 0 0 11 Aldran UG KG 0 0 0% 5 0 0 0 11 Alpha-BHC UG KG 0 0 0% 94 0 0 0 11 Arceler-1016 UG KG 0 0 0% 94 10 0 0 11 Arceler-1016 UG KG 0 0 0% 96 100 0 0 11						-										
Naphthalene         UG KG         0         0% 12000         0         11           Nitrobenzene         UG KG         0         0% 3         0         0         11           Pentachlorophenol         UG KG         0         0% 800         0         0         11           Phenanthrene         UG KG         0         0% 10000         0         0         11           Phenol         UG KG         0         0% 330         0         0         11           Pyrene         UG KG         0         0% 330         0         0         11           Pesticides and PCBs         UG KG         0         0% 3.3         0         0         11           4,4*DDL         UG KG         0         0% 3.3         0         0         11           Aldrin         UG KG         0         0% 3.3         0         0         11           Alpha-BHC         UG KG         0         0% 20         0         0         11           Alpha-Chlordane         UG KG         0         0% 94         0         0         11           Arcelor-1016         UG KG         0         0% 94         0         0         11																
Nitroberreene UG KG 0 0% 800 0 0 11 Pentachlorophenol UG KG 0 0% 800 0 0 11 Phenanthrene UG KG 0 0% 100000 0 11 Phenanthrene UG KG 0 0% 330 0 0 11 Phenol UG KG 0 0% 330 0 0 11 Pyrene UG KG 0 0% 330 0 0 11 Pyrene UG KG 0 0% 330 0 0 11 Pesticides and PCBs 4,4*-DDD UG KG 0 0% 3.3 0 0 11 4,4*-DDD UG KG 0 0% 3.3 0 0 11 4,4*-DDD UG KG 0 0% 3.3 0 0 11 4,4*-DDT UG KG 0 0% 3.3 0 0 11 Aldran UG KG 0 0% 5 0 0% 13.3 0 11 Aldran UG KG 0 0% 5 0 0% 5 0 0 11 Aldran UG KG 0 0% 9% 5 0 0 11 Alpha-BHC UG KG 0 0% 9% 20 0 0 11 Alpha-Chlordane UG KG 0 0% 94 0 0 0 11 Aroler-1016 UG KG 0 0% 9% 100 0 0 11 Aroler-1016 UG KG 0 0% 9 100 0 0 11					12000											
Pentachlorophenol         UG KG         0         0% 800         0         0         11           Phenonthrene         UG KG         0         0% 100000         0         0         11           Phenol         UG KG         0         0% 330         0         0         11           Pyrene         UG KG         0         0% 10000         0         0         11           Pesticides and PCBs         4.4-DDD         UG KG         0         0% 3.3         0         0         11           4,4-DDE         UG KG         0         0% 3.3         0         0         11           4,4-DDT         UG KG         0         0% 3.3         0         0         11           Aldran         UG KG         0         0% 3.3         0         0         11           Alpha-BHC         UG KG         0         0% 9/2         20         0         0         11           Arough-1016         UG KG         0         0% 9/2         10         0         11           Arough-1016         UG KG         0         0% 9/2         10         0         11					12000											
Phenanthrene         UG/KG         0         0% 0         100000         0         11           Phenol         UG/KG         0         0% 330         0         0         11           Pyreticle         UG/KG         0         0% 0         100000         0         11           Pesticides and PCBs					800	0										
Phenol         UG KG         0         0%         330         0         0         11           Pyrene         UG KG         0         0%         100000         0         11           Pesticides and PCBs         UG KG         0         0%         3.3         0         0         11           4,4*DDD         UG KG         0         0%         3.3         0         0         11           4,4*DDT         UG KG         0         0%         3.3         0         0         11           Aldran         UG KG         0         0%         5         0         0         11           Alpha-BHC         UG KG         0         0%         20         0         0         11           Aroler-1016         UG KG         0         0%         94         0         0         11           Aroler-1016         UG KG         0         0%         10         0         11																
Pyrene         UG KG         0         0%         100000         0         II           Pesticides and PCBs         4.4-DDD         UG KG         0         0%         3.3         0         0         11           4,4-DDE         UG KG         0         0%         3.3         0         0         II           4,4-DDT         UG KG         0         0%         3.3         0         0         II           Aldran         UG KG         0         0%         3.3         0         0         II           Alpha-BHC         UG KG         0         0%         5         0         0         II           Alpha-Chlordune         UG KG         0         0%         94         0         0         II           Arceler-1016         UG KG         0         0%         10         0         II						0										
Pesticides and PCBs         4,4-DDD       UG-KG       0       0° 0       3.3       0       0       11         4,4-DDE       UG-KG       0       0° 0       3.3       0       0       11         4,4-DDT       UG-KG       0       0° 0       3.3       0       0       11         Aldrin       UG-KG       0       0° 0       5       0       0       11         Alpha-BHC       UG-KG       0       0° 0       20       0       0       11         Alpha-Chlordane       UG-KG       0       0° 0       4       0       0       11         Arceler-1016       UG-KG       0       0° 0       10       0       11						0	0	1.1								
4,4°DDD UG·KG 0 0°0 3.3 0 0 11 4,4°DDT UG·KG 0 0°0 3.3 0 0 11 Aldrin UG·KG 0 0°0 5 0 0 11 Alpha-BHC UG·KG 0 0°0 5 0 0 11 Alpha-Chlordane UG·KG 0 0°0 94 0 0 11 Arceler-1016 UG·KG 0 0°0 94 0 0 11																
4,4'-DDE UG·KG 0 0% 3.3 0 0 11   4,4'-DDT UG·KG 0 0% 3.3 0 0 11   Aldran UG·KG 0 0% 5 0 0 11   Alpha-BHC UG·KG 0 0% 20 0 11   Alpha-Chlordane UG·KG 0 0% 94 0 0 11   Arceler-1016 UG·KG 0 0% 94 0 0 11   Arceler-1016 UG·KG 0 0% 100 0 0 11   Arceler-1016 UG·KG 0 0% 100 0 0 11   Arceler-1016 UG·KG 0 0% 100 0 0 11   Arceler-1016 UG·KG 0 0% 100 0 0 11   Arceler-1016 UG·KG 0 0% 100 0 0 11   Arceler-1016 UG·KG 0 0% 100 0 0 0 11   Arceler-1016 UG·KG 0 0% 100 0 0 0 11   Arceler-1016 UG·KG 0 0% 100 0 0 0 11   Arceler-1016 UG·KG 0 0% 100 0 0 0 0 11   Arceler-1016 UG·KG 0 0 0% 100 0 0 0 11   Arceler-1016 UG·KG 0 0 0% 100 0 0 0 0 11   Arceler-1016 UG·KG 0 0 0% 100 0 0 0 0 11   Arceler-1016 UG·KG 0 0 0% 100 0 0 0 0 0 0 0 0 0 0 0 0 0 0		UG-KG	0	0°6	3.3	0	0	11								
4,4'DDT UG KG 0 0% 3.3 0 0 11 $11$ Aldrin UG KG 0 0% 5 0 0 11 $11$ Alpha-BHC UG KG 0 0% 20 0 11 $11$ Alpha-Chlordane UG KG 0 0% 94 0 0 11 $11$ Arcelor-1016 UG KG 0 0% 100 0 0 11						0	0	11								
Aldrin UG·KG 0 0% 5 0 0 0 11 Alpha-BHC UG·KG 0 0% 20 0 0 11 Alpha-Chlordane UG·KG 0 0% 94 0 0 11 Arceler-1016 UG·KG 0 0% 100 0 0 11				0° 0	3.3	0	0									
Alpha-BHC       UG-KG       0       0%       20       0       0       II         Alpha-Chlordane       UG-KG       0       0%       94       0       0       11         Aroelor-1016       UG-KG       0       0%       100       0       0       II			0	0%	5	0	0									
Aroclor-1016 UG-Kti 0 0% 100 0 0 H	Alpha-BHC	UG-KG	0	0%		0										
Aroclor-122! UG·KG 0 0% 100 0 0 II																
	Aroclor-1221	UG-KG	0	0,0	100	0	0	11								

## TABLE 1 SEAD-70 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

SEAD-70

70EXFL10021

SEAD-70

70EXFL10021

SEAD-70

70EXPR10000

SEAD-70

70EXPR10003

SEAD-70

70EXPR10007

SEAD-70

70EXPR10008

SEAD-70

70EXPR10009

									70EXFL10021 SOIL	70EXFL10021 SOIL	70EXPR10000 SOIL	70EXPR10003 SOIL	70EXPR10007 SOIL	70EXPR10008 SOIL	70EXPR10009 SOIL
									70EXFL10022	70EXFL10021	70EXPR10000	70EXPR10003	70EXPR10007	70EXPR10008	70EXPR10009
									3.2	3.2	0	0	0.5	0	0.2
									3.4	3.4	0.2	0.2	0.8	0.2	0.4
									9/4/2008	9/4/2008	2/6/2008	2/6/2008	5/22/2008	5/22/2008	5/22/2008
									DU	SA	SA	SA	SA	SA	SA
			Frequency		Number	Number	Number		RA	RA	RA	RA	RA	RA	RA
		Maximum	of	Criteria	of	of Times	of Samples								
Parameter	Units	Value	Detection	Value 1	Exceedances	Detected	Analyzed 2	(O)	Value (O)	Value (Q)					
Arocior-1232	UG/KG	0	0%	100	0	0	11	197	74160 (Q)	10000 (47)	7 2120 (42)	7 4144 (4)	197		
Aroclor-1242	UG/KG	0	0%	100	0	0	11								
Aroclor-1248	UG/KG	0	0%	100	0	0	11								
Aroclor-1254	UG/KG	0	0%	100	0	0	11								
Aroclor-1260	UG/KG	0	0%	100	0	0	11								
Beta-BHC	UG/KG	0	0%	36	0	0	11								
Delta-BHC	UG/KG	0	0%	40	0	0	11								
Dieldrin	UG/KG	0	0%	5	0	0	11								
Endosulfan I	UG/KG	0	0%	2400	0	0	11								
Endosulfan II	UG/KG	0	0%	2400	0	0	11								
Endosulfan sulfate	UG/K.G	0	0%	2400	0	0	11								
Endrin	UG/KG	0	0%	14	0	0	11								
Endrin aldehyde	UG/KG	0	0%		0	0	11								
Endrin ketone	UG/KG	0	0%		0	0	11								
Garma-BHC/Lindane	UG/KG	0	0%	100	0	0	11								
Gamma-Chlordane	UG/KG	0	0%	100	0	0	11								
Heptachlor	UG/KG	0	0%	42	0	0	11								
Heptachlor epoxide	UG/KG	0	0%	72	0	0	11								
Methoxychlor	UG/KG	0	0%		0	0	11								
Toxaphene	UG/KG	0	0%		0	0	11								
Metals	00/100	· ·	070		· ·	Ü	••								
Aluminum	MG/KG	16600	100%		0	11	11								
Antimony	MG/KG	0.47	73%		0	8	11								
Arsenic	MG/KG	15.2	100%	13	2	46	46	J	5.1 J	6.6 J	5.1 J	6.9 J	4.7	4.1	7
Barium	MG/KG	170	100%	350	0	11	11	•	312 9	0.0		0.5			
Beryllium	MG/KG	0.81	100%	7.2	0	11	11								
Cadmium	MG/KG	0.8	100%	2.5	0	11	11								
Calcium	MG/KG	59100	100%		0	11	11								
Chromium	MG/KG	26.2	100%	30	0	11	11								
Cobalt	MG/KG	21	100%	• •	0	11	11								
Соррет	MG/KG	35.2	100%	50	0	11	11								
Cyanide	MG/KG	0	0%	27	0	0	11								
Iron	MG/KG	32200	100%	2,	0	11	11								
Lead	MG/KG	22.1	100%	63	0	11	11								
Magnesium	MG/KG	13600	100%	**	0	11	11								
Manganese	MG/KG	1040	100%	1600	0	11	11								
Mercury	MG/KG	0.1	91%	0.18	0	10	11								
Nickel	MG/KG	52.4	100%	30	8	11	11								
Potassium	MG/KG	1750	100%	-	0	11	11								
Selenium	MG/KG	1	64%	3.9	0	7	11								
Silver	MG/KG	o	0%	2	0	ó	11								
Sodium	MG/KG	165	82%	2	0	9	11								
Thallium		0	0%		0	ó	11								
	MG/KG														
Vanadium	MG/KG MG/KG				0										
Vanadium Zinc	MG/KG MG/KG MG/KG	26.9 116	100% 100%	109	•	11 11	11 11								

- (1) Criteria based on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives, http://www.dec.state.ny.us/website/regs/subpart375\_6.html
- (2) Sample-duplicate pairs were not averaged. Samples were presented as discreet samples in the summary statistics.
- (3) A bolded and outlined cell indicates a concentration that exceeded the criteria.
- U = compound was not detected
- J = the reported value is an estimated concentration
- UJ = the compound was not detected; the associated reporting limit is approximate
- R = the analytical result was rejected during data validation.

TABLE 1 SEAD-70 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

SEAD-70

SEAD-70

								SEAD-70	SEAD-70	SEAD-70	SEAD-70	SEAD-70	SEAD-70	SEAD-70	SEAD-70
								70EXPR10011	70EXPR10011	70EXPR10012	70EXPR10013	70EXPR10014	70EXPR10015	70EXPR10016	70EXPR10018 SOIL
								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	70EXPR10018
								70EXFL10008	70EXFL10007	70EXPR10012	70EXPR10013	70EXPR10014	70EXPR10015	70EXPR10016 1.5	/0EAPR10018
								1.5	1.5	0.5 0.8	0 0.2	0.2	1.5 1.7	1.7	1.7
								1.7 6/26/2008	1.7 6/26/2008	5:22:2008	6/26/2008	6-26/2008	8/20/2008	K-20 2008	8 20 2008
								DU	SA	5/22/2006 SA	SA	SA	S/\.	SA	SA
			Frequency		Number	Number	Number	RA	RA	RA	RA	RA	RA	RA	RA
		Maximum	of	Criteria	of	of Times	of Samples	1071	101	101		141			
D	Timie	Value		Value 1	Exceedances	Detected	Analyzed 2	Value (Q)	Value (Q)	Value (Q)	Value (O)	Value (O)	Value (Q)	Value (Q)	Value
Parameter Volatile Organic Compounds	Units	vane	Detection	value	Exceedances	Detected	Allalyzeu	value (Q)	Value (Q)	value (Q)	value (Q)	value (Q)	value (Q)	· uide (Q7	- 11111
1,1,1-Trichloroethane	UG/KG	0	0% a	680	0	0	11								
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	000	0	0	11								
1,1,2-Trichloroethane	UG-KG	0	0%		0	0	11								
1,1-Dichloroethane	UG/KG	0	0%	270	0	0	1.1								
1,1-Dichloroethene	UG-KG	0	0%	330	0	0	11								
1,2-Dichloroethane	UG/KG	0	0,0	20	0	0	11								
1,2-Dichloroethene (total)	UG/KG	0	0%	190	0	0	11								
1,2-Dichloropropane	UG KG	0	0%		0	0	11								
Acetone	UG/KG	79	9%	50	1	1	11								
Benzene	UG-KG	0	0%	60	0	0	11								
Bromodichloromethane	UG KG	0	0%		0	0	11								
Bromoform	UG/KG	0	0%		0	0	11								
Carbon disulfide	UG.KG	0	0%	760	0	0	11 11								
Carbon tetrachloride Chlorobenzene	UG KG	0	0%	1100	0	0	11								
Chlorodibromomethane	UG/KG UG/KG	0	0%	1100	0	0	11								
Chloroethane	UG/KG	0	0%		0	0	11								
Chloroform	UG/KG	0	0%	370	0	0	11								
C1s-1,3-Dichloropropene	UG/KG	Ü	0°6	570	0	0	11								
Ethyl benzene	UG/KG	0	0%	1000	0	0	11								
Methyl bromide	UG-KG	0	0%		0	0	11								
Methyl butyl ketone	UG/KG	0	0%		0	0	11								
Methyl chloride	UG/KG	0	0.00		0	0	8								
Methyl ethyl ketone	UG KG	36	9%	120	0	l	11								
Methyl isobutyl ketone	UG-KG	0	О о		0	0	11								
Methylene chloride	UG-KG	0	0%	50	0	0	11								
Styrene	UG-KG	D	0%		0	0	11								
Tetrachloroethene	UG, KG	0	0%	1300	0	0	11								
Toluene	UG/KG	3	9%	700 260	0	1	11								
Total Xylenes	UG/KG	0	00.5	200	0	0	11								
Trans-1,3-Dichloropropene Trichloroethene	UG/KG UG-KG	0	0°a	470	0	0	11								
Vinyl chloride	UG-KG	0	0%	20	0	0	11								
Semivolatile Organic Compound		0	0.0	20	V										
1,2,4-Trichlorobenzene	UG-KG	0	0%		0	0	11								
1,2-Dichlorobenzene	UG/KG	0	0%"	1100	0	0	11								
1,3-Dichlorobenzene	UG-KG	0	0%	2400	0	0	11								
1,4-Dichlorobenzene	UG:KG	0	0°°	1800	0	0	11								
2,2'-oxybis(1-Chloropropane)	UG KG	0	0%		0	0	11								
2,4,5-Trichlorophenol	UG/KG	0	0.00		0	0	11								
2.4,6-Trichlorophenol	UG-KG	0	0.6.0		0	0	11								
2,4-Dichlorophenol	UG/KG	0	0°6		0	0	11								
2,4- Dunethylphenol	UG KG	0	0%				11 11								
2.4-Dinitrophenol	UG/KG UG/KG	0	0% 0%		0	0	11								
2,4-Dinitrotoluene	UG-KG	0	0%		0	0	11								
2,6-Dinitrotoluene 2-Chloronaphthalene	UG/KG	0	0%		0	0	11								
2-Chlorophenol	UG/KG	0	0%		0	0	11								
2-Methylnaphthalene	UG-KG	0	0%		0	0	11								
2-Methylphenol	UG-KG	0	0%	330	0	0	11								
2-Nitroaniline	UG-KG	0	0%		0	0	11								
2-Nitrophenol	UG-KG	0	0%		0	0	11								
3,3'-Dichlorobenzidine	UG KG	0	00.0		0	0	11								
3-Nitroaniline	UG'KG	0	0° 0		0	0	11								
4,6-Dinitro-2-methylphenol	UG/KG	0	0%		0	0	11								

SEAD-70

SEAD-70

SEAD-70

SEAD-70

TABLE 1 SEAD-70 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

70EXPR10011

SEAD-70

70EXPR10011

SEAD-70

70EXPR10012

SEAD-70 70EXPR10013

							70EXPR10011	70EXPR10011	70EXPR10012	70EXPR10013	70EXPR10014	70EXPR10015	70EXPR10016	70EXPR10018
							SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
							70EXFL10008	70EXFL10007	70EXPR10012	70EXPR10013	70EXPR10014	70EXPR10015	70EXPR10016	70EXPR10018
							1.5	1.5	0.5	0	0	1.5	1.5	1.5
							1.7	1.7	8.0	0.2	0.2	1.7	1.7	1.7
							6/26/2008	6/26/2008	5/22/2008	6/26/2008	6/26/2008	8/20/2008	8/20/2008	8/20/2008
							DU	SA						
		Frequency		Number	Number	Number	RA							
	Maximum	of	Criteria	of	of Times	of Samples								
Parameter Units	Value	Detection	Value 1	Exceedances	Detected	Analyzed <sup>2</sup>	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value
4-Bromophenyl phenyl ether UG/KG	0	0%		0	0	11								
4-Chloro-3-methylphenol UG/KG	0	0%		0	0	11								
4-Chloroaniline UG/KG	0	0%		0	0	11								
4-Chlorophenyl phenyl ether UG/KG	0	0%		0	0	11								
4-Methylphenol UG/KG	0	0%	330	0	0	11								
4-Nitroaniline UG/KG	0	0%		0	0	11								
4-Nitrophenol UG/KG	0	0%		0	0	11								
Acenaphthene UG/KG	0	0%	20000	0	0	11								
Acenaphthylene UG/KG	0	0%	100000	0	0	11								
Anthracene UG/KG	0	0%	100000	0	0	11								
Benzo(a)anthracene UG/KG	0	0%	1000	0	0	11								
Benzo(a)pyrene UG/KG	0	0%	1000	0	0	11								
Benzo(b)fluoranthene UG/KG	0	0%	1000	0	0	11								
Benzo(ghi)perylene UG/KG	0	0%	100000	0	0	11								
Benzo(k)fluoranthene UG/KG	0	0%	800	0	0	11								
Bis(2-Chloroethoxy)methane UG/KG	0	0%		0	0	11								
Bis(2-Chloroethyl)ether UG/KG	0	0%		0	0	11								
Bis(2-Ethylhexyl)phthalate UG/KG	610	100%		0	11	11								
Butylbenzylphthalate UG/KG	0	0%		0	0	11								
Carbazole UG/KG	0	0%		0	0	11								
Chrysene UG/KG	0	0%	1000	0	0	11								
Di-n-butylphthalate UG/KG	51	55%		0	6	11								
Di-n-octylphthalate UG/KG	30	9%	222	0	0	11 11								
Dibenz(a,h)amhracene UG/KG	0		330 7000	0	0	11								
Dibenzofuran UG/KG Diethyl phthalate UG/KG	0	0% 0%	7000	0	0	11								
Diethyl phthalate UG/KG Dimethylphthalate UG/KG		0%		0	0	11								
Fluoranthene UG/KG	0	0%	100000	0	0	11								
Fluorene UG/KG	0	0%	30000	0	0	11								
Hexachlorobenzene UG/KG	0	0%	330	0	0	11								
Hexachlorobutadiene UG/KG	0	0%	330	0	0	11								
Hexachlorocyclopentadiene UG/KG	0	0%		0	0	11								
Hexachloroethane UG/KG	0	0%		0	0	11								
Indeno(1,2,3-cd)pyrene UG/KG	0	0%	500	0	0	11								
Isophorone UG/KG	0	0%		0	0	11								
N-Nitrosodiphenylamine UG/KG	0	0%		0	0	11								
N-Nitrosodipropylamine UG/KG	0	0%		0	0	11								
Naphthalene UG/KG	0	0%	12000	0	0	11								
Nitrobenzene UG/KG	0	0%		0	0	11								
Pentachlorophenol UG/KG	0	0%	800	0	0	11								
Phenanthrene UG/KG	0	0%	100000	0	0	11								
Phenol UG/KG	0	0%	330	0	0	11								
Pyrene UG/KG	0	0%	100000	0	0	11								
Pesticides and PCBs														
4,4'-DDD UG/KG	0	0%	3.3	0	0	11								
4,4'-DDE UG/KG	0	0%	3.3	0	0	11								
4,4'-DDT UG/KG	0	0%	3.3	0	0	11								
Aldrin UG/KG	0	0%	5	0	0	11								
Alpha-BHC UG/KG	0	0%	20	0	0	11								
Alpha-Chlordane UG/KG	0	0%	94	0	0	11								
Aroclor-1016 UG/KG	0	0%	100	0	0	11								
Aroclor-1221 UG/KG	0	0%	100	0	0	11								

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70EXPR10015

SEAD-70

70EXPR10014

SEAD-70

70EXPR10016

SEAD-70

70EXPR10018

TABLE 1 SEAD-70 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

SEAD-70

SEAD-70

SEAD-70

SEAD-70

SEAD-70

SEAD-70

SEAD-70

								SEAD-70	SEAD-70	SEAD-70	SEAD-70	SEAD-70	SEAD-70	SEAD-70	SEAD-70
								70EXPR10011	70EXPR10011	70EXPR10012	70EXPR10013	70EXPR10014	70EXPR10015	70EXPR10016	70EXPR10018
								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
								70EXFL10008	70EXFL10007	70EXPR10012	70EXPR10013	70EXPR10014	70EXPR10015	70EXPR10016	70EXPR10018
								1.5	1.5	0.5	0	0	1.5	1.5	1.5
								1.7	1.7	0.8	0.2	0.2	1.7	1.7	1.7
								6/26/2008	6/26/2008	5/22/2008	6/26/2008	6/26/2008	8/20/2008	8.20.2008	8 20 2008
					North	N	N. hom	DU	SA						
		M	Frequency	Caltural	Number	Number	Number	RA							
D	V1-74-	Maximum Value	of	Criteria Value <sup>1</sup>	of	of Times Detected	of Samples  Analyzed <sup>2</sup>	V 1 (O)	Value (O)	V-1 (O)	Volum (O)	1/ 1/ /0)	M. I (0)	17-1 (0)	31-1
Parameter Aroclor-1232	Units UG/KG	Value 0	Detection 0°6	100	Exceedances	0 Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value
Aroclor-1242	UG/KG	0	0%	100	0	0	11								
Aroclor-1248	UG/KG	0	0%	100	0	0	11								
Aroclor-1254	UG/KG	0	0%	100	0	0	11								
Aroclor-1260	UG/KG	0	0%	100	0	0	11								
Beta-BHC	UG/KG	0	0%	36	0	0	11								
Delta-BHC	UG KG	0	0%	40	0	0	11								
Dieldrin	UG/KG	0	0%	5	0	0	11								
Endosulfan I	UG/KG	0	00.0	2400	0	0	11								
Endosulfan II	UG/KG	0	O° u	2400	0	0	11								
Endosulfan sulfate	UG/KG	0	0%	2400	0	0	11								
Endrin	UG/KG	0	0%	14	0	0	11								
Endrin aldehyde	UG/KG	0	0%0		0	0	Ιi								
Endrin ketone	UG/KG	0	0%		0	0	11								
Gamma-BHC-Lindane	UG KG	0	000	100	0	0	11								
Gamma-Chlordane	UG-KG	0	0%		0	0	11								
Heptachlor	UG/KG	0	0%	42	()	0	11								
Heptachlor epoxide	UG-KG	0	0%		0	0	11								
Methoxychlor	UG. KG	0	0°0		0	0	11								
Toxaphene	UG/KG	0	0.0		0	0	11								
Metals															
Aluminum	MG/KG	16600	100%		0	11	11								
Antimony	MG/KG	0.47	73%	12	2	8	11	1.2	4.0	0.4		14.9	5.6 J	4.7 J	12.8
Arsenic	MG/KG	15.2 170	100% 100%	13 350	0	46 11	46 11	4.2	4.9	9.4	4	14.9	3.0 J	4.7 3	12.0
Barium	MG/KG	0.81	100%	7.2	0	11	11								
Beryllium Cadmum	MG/KG MG/KG	0.81	100%	2.5	0	11	11								
Calcium	MG/KG	59100	100%	2.3	0	11	11								
Chromium	MG-KG	26.2	100%	30	0	ii	11								
Cobalt	MG-KG	21	100%	30	0	11	11								
Copper	MG/KG	35.2	100%	50	0	11	11								
Cyanide	MG/KG	0	0%	27	0	0	11								
Iron	MG-KG	32200	100%		0	11	11								
Lead	MG-KG	22.1	100%	63	0	11	11								
Magnesium	MG/KG	13600	100%		0	11	11								
Manganese	MG:KG	1040	100%	1600	0	11	11								
Mercury	MG KG	0.1	91%	0.18	0	10	11								
Nickel	MG/KG	52.4	100%	30	8	11	11								
Potassium	MG/KG	1750	100%a		0	11	11								
Selemum	MG-KG	l	64%	3.9	0	7	11								
Silver	MG/KG	0	0%	2	0	0	11								
Sodium	MG-KG	165	82° o		0	9	11								
Thallium	MG/KG	0	0%		0	0	11								
Vanadium	MG/KG	26.9	100%		0	11	11								
Zinc	MG-KG	116	100%	109	l	11	11								
Nates															

## Notes

- (1) Criteria based on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives,
- http://www.dec.state.ny/us/website/regs/subpart375/6.html
- (2) Sample-duplicate pairs were not averaged. Samples were presented as discreet samples in the summary statistics.
- (3) A bolded and outlined cell indicates a concentration that exceeded the criteria.
- U = compound was not detected
- J the reported value is an estimated concentration
- UJ = the compound was not detected, the associated reporting limit is approximate
- R = the analytical result was rejected during data validation.

TABLE 1 SEAD-70 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

SEAD-70

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Maximum   Of   Criteria   Of   Of Times   Of Samples	0.2 0.4 12/15/2008 SA RA
Volatile Organic Compounds	(Q) Value (Q)
1,1,2,2-Tetrachloroethane         UG/KG         0         0%         0         0         11           1,1,2-Trichloroethane         UG/KG         0         0%         0         0         11           1,1-Dichloroethane         UG/KG         0         0%         270         0         0         11           1,1-Dichloroethane         UG/KG         0         0%         330         0         0         11           1,2-Dichloroethane         UG/KG         0         0%         20         0         0         11           1,2-Dichloroethane         UG/KG         0         0%         190         0         0         11           1,2-Dichloropropane         UG/KG         0         0%         0         0         11           Acetone         UG/KG         0         0%         50         1         1         11           Benzene         UG/KG         0         0%         60         0         0         11           Bromodichloromethane         UG/KG         0         0%         0         0         11           Carbon disulfide         UG/KG         0         0%         0         0         11 <td></td>	
1,1,2-Trichloroethane         UG/KG         0         0%         0         0         11           1,1-Dichloroethane         UG/KG         0         0%         270         0         0         11           1,1-Dichloroethane         UG/KG         0         0%         330         0         0         11           1,2-Dichloroethane         UG/KG         0         0%         20         0         0         11           1,2-Dichloroethene (total)         UG/KG         0         0%         190         0         0         11           1,2-Dichloropropane         UG/KG         0         0%         0         0         11           Acetone         UG/KG         79         9%         50         1         1         11           Benzene         UG/KG         0         0%         60         0         0         11           Bromoform         UG/KG         0         0%         0         0         11           Carbon disulfide         UG/KG         0         0%         0         0         11	
1,1-Dichloroethane       UG/KG       0       0%       270       0       0       11         1,1-Dichloroethane       UG/KG       0       0%       330       0       0       11         1,2-Dichloroethane       UG/KG       0       0%       20       0       0       11         1,2-Dichloroethene (total)       UG/KG       0       0%       190       0       0       11         1,2-Dichloropropane       UG/KG       0       0%       0       0       11         Acetone       UG/KG       0       0%       50       1       1       11         Benzene       UG/KG       0       0%       60       0       0       11         Bromoform       UG/KG       0       0%       0       0       11         Carbon disulfide       UG/KG       0       0%       0       0       11         Bromoform       UG/KG       0       0%       0       0       0       11         Carbon disulfide       UG/KG       0       0%       0       0       0       11	
1,1-Dichloroethene	
1,2-Dichloroethane       UG/KG       0       0%       20       0       0       11         1,2-Dichloroethene (total)       UG/KG       0       0%       190       0       0       11         1,2-Dichloropropane       UG/KG       0       0%       0       0       11         Acetone       UG/KG       79       9%       50       1       1       11         Benzene       UG/KG       0       0%       60       0       0       11         Bromodichloromethane       UG/KG       0       0%       0       0       11         Bromoform       UG/KG       0       0%       0       0       11         Carbon disulfide       UG/KG       0       0%       0       0       11	
1,2-Dichloroetheme (total)	
1,2-Dichloropropane       UG/KG       0       0%       0       0       11         Acetone       UG/KG       79       9%       50       1       1       11         Benzene       UG/KG       0       0%       60       0       0       11         Bromodicultoromethane       UG/KG       0       0%       0       0       11         Bromoform       UG/KG       0       0%       0       0       11         Carbon disulfide       UG/KG       0       0%       0       0       11	
Acetone UG/KG 79 9% 50 1 1 1 1 11   Benzene UG/KG 0 0% 60 0 0 11   Bromodichloromethane UG/KG 0 0% 0 0 11   Bromoform UG/KG 0 0% 0 0 11   Carbon disulfide UG/KG 0 0% 0 0 11	
Benzene         UG/KG         0         0%         60         0         0         11           Bromodichloromethane         UG/KG         0         0%         0         0         11           Bromoform         UG/KG         0         0%         0         0         11           Carbon disulfide         UG/KG         0         0%         0         0         11	
Bromodichloromethane         UG/KG         0         0%         0         0         11           Bromoform         UG/KG         0         0%         0         0         11           Carbon disulfide         UG/KG         0         0%         0         0         11	
Bromoform UG/KG 0 0% 0 0 11 Carbon disulfide UG/KG 0 0% 0 0 11	
Carbon disulfide UG/KG 0 0% 0 0 11	
Chlorobenzene         UG/KG         0         0%         1100         0         0         11           Chlorodibromomethane         UG/KG         0         0%         0         0         11	
Chiorestane UG/KG 0 0% 0 0 11	
Chloroform UG/KG 0 0% 370 0 0 11	
Clis-1,3-Dichloropropens UG/KG 0 0% 0 0 0 11	
Ethyl Benzene UG/KG 0 0% 1000 0 0 11	
Methyl bromide UG/KG 0 0% 0 0 11	
Methyl butyl ketone UG/KG 0 0% 0 0 11	
Methyl chloride UG/KG 0 0% 0 0 8	
Methyl ethyl ketone UG/KG 36 9% 120 0 1 11	
Methyl isobutyl ketone UG/KG 0 0% 0 0 11	
Methylene chloride UG/KG 0 0% 50 0 0 11	
Styrens UG/KG 0 0% 0 0 11	
Tetrachloroethene UG/KG 0 0% 1300 0 0 11	
Toluene UG/KG 3 9% 700 0 1 11	
Total Xylenes UG/KG 0 0% 260 0 0 11	
Trans-I,3-Dichloropropene UG/KG 0 0% 0 0 11	
Trichloroethene         UG/KG         0         0%         470         0         0         11           Vinvl chloride         UG/KG         0         0%         20         0         0         11	
Semivolatile Organic Compounds           1,2,4-Trichlorobenzene         UG/KG         0         0%         0         11	
1,2,9-1,10m)ropenzene UG/KG 0 0% 1100 0 0 11	
1,3-Dichlorobenzene UG/KG 0 0% 2400 0 0 11	
1,4-Dichlorobenzene UG/KG 0 0% 1800 0 0 11	
2,2°-oxybis(1-Chloropropane) UG/KG 0 0% 0 0 11	
2,4,5-Trichlorophenol UG/KG 0 0% 0 0 11	
2,4,6-Trichloropheno! UG/KG 0 0% 0 0 11	
2,4-Dichlorophenol UG/KG 0 0% 0 0 11	
2,4-Dimethylphenol UG/KG 0 0% 0 0 11	
2,4-Dinitrophenol UG/KG 0 0% 0 0 11	
2,4-Dinitrotoluene UG/KG 0 0% 0 0 11	
2,6-Dinitrotohuene UG/KG 0 0% 0 0 11	
2-Chloronaphthalene UG/KG 0 0% 0 0 11	
2-Chlorophemol UG/KG 0 0% 0 0 11	
2-Methylnaphthalene UG/KG 0 0% 0 11	
2-Methylphenol UG/KG 0 0% 330 0 0 11 2-Nitrogniline UG/KG 0 0% 0 0 11	
2-1-titotitime 00/160 0 00	
2-Nitrophenol UG/KG 0 0% 0 0 11 3.3'-Dichloroberzzidine UG/KG 0 0% 0 0 11	
3,3-Diculoroberizame UC/KG 0 0% 0 11	
4,6-Dinitro-2-methylphenol UG/KG 0 0% 0 0 11	

TABLE 1 SEAD-70 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

SEAD-70

SEAD-70 70EXPR10045 SEAD-70

SEAD-70

									SEAD-70	SEAD-70	SEAD-70	SEAD-70	SEAD-70	SEAD-70	SEAD-70
									70EXPR10044	70EXPR10045	70EXPR10046	70EXPR10047	70EXPR1004X	70EXPR10048	Location-1
									SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
									70EXPR10044	70EXPR10045	70EXPR10046	70EXPR10047	70EXPR10049	70EXPR10048	70EXPR10025
									0.2	1.4	1.2	0.2	1.8	1.8	0.2
									0.4	1.6	1.4	0.4	2	2	0.4
									6:4/2009	6/4/2009	6-4/2009	6:4:2009	6-4-2009	6:4/2009	12 15/2008
									SΛ	SA	SA	SA	DU	SA	SA
			Frequency		Number	Number	Number		RΛ	RA	RΛ	RA	RA	RA	RA
		Maximum	of	Criteria	of	of Times	of Samples								
Parameter	Units	Value	Detection	Value 1	Exceedances	Detected	Analyzed <sup>2</sup>	(Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
4-Bromophenyl phenyl ether	UG-KG	0	0%		0	0	11								
4-Chloro-3-methylphenol	UG-KG	()	0%		0	0	П								
4-Chloroandine	UG/KG	0	0%		0	0	11								
4-Chlorophenyl phenyl ether	UG/KG	0	0%		0	0	11								
4-Methylphenol	UG/KG	0	()0 0	330	0	0	11								
4-Nitroaniline	UG/KG	0	0% a		0	0	11								
4-Nitrophenol	UG-KG	0	00.0	20000	0	0	11 11								
Acenaphthene	UG-KG	0	0%	20000	0	0	11								
Acenaphthylene	UG KG	0	0% 0%	100000	0	0	11								
Anthracene	UG/KG	0	00.0	100000	0	0	11								
Benzo(a)anthracene	UG/KG UG/KG	0	0%	1000	0	0	11								
Benzo(a)pyrene Benzo(b)fluoranthene	UG:KG	0	000	1000	0	0	11								
Benzo(ghi)perylene	UG/KG	0	00.5	10000	0	0	11								
Benzo(ghr)peryiene Benzo(k)fluoranthene	UG/KG	0	0%	800	0	0	11								
Bis(2-Chloroethoxy)methane	UG/KG	0	0%	1300	0	0	11								
Bis(2-Chloroethyl)ether	UG-KG	0	0°6		0	0	11								
Bis(2-Ethylhexyl)phthalate	UG/KG	610	100%		0	ΙΙ	11								
Butylbenzylphthalate	UG KG	0	000		0	0	11								
Carbazole	UG-KG	0	0%		0	0	11								
Chrysene	UG KG	0	0°0	1000	0	0	11								
Di-n-butylphthalate	UG-KG	51	55° i		0	6	11								
D1-n-octylphthalate	UG/KG	30	90 0		0	1	11								
Dibenz(a,h)anthracene	UG-KG	0	0%	330	0	0	l l								
Dibenzofuran	UG KG	0	0%	7000	0	0	11								
Diethyl phthalate	UG-KG	0	0%		0	0	i i								
Dimethylphthalate	UG-KG	0	0.0		0	0	11								
Fluoranthene	UG KG	0	000	100000	0	0	11								
Fluorene	UG <sub>1</sub> KG	0	0% 0	30000	0	0	l l								
Hexachlorobenzene	UG KG	0	0%c	330	0	0	11								
Hexachlorobutadiene	UG-KG	()	0%		0	0	11								
Hexachlorocyclopentadiene	UG-KG	0	0° c		0	0	11								
Hexachloroethane	UG-KG	0	0%		0	0	11								
Indeno(1,2,3-cd)pyrene	UG KG	0	0%	500	0	0	11 11								
Isophorone	UG KG	0	0°°		0	0	[[								
N-Nitrosodiphenylainine	UG/KG	0	0%		0	0	11								
N-Nitrosodipropylamine	UG.KG UG.KG	0	0%	12000	0	0	11								
Naphthalene Nitrobenzene	UG/KG	0	0%	12000	0	0	11								
Pentachlorophenol	UG/KG	0	0%	800	0	0	11								
Phenanthrene	UG-KG	0	0%	100000	0	0	11								
Phenol	UG/KG	0	0°6	330	0	0	11								
Pyrene	UG KG	0	0°6	100000	0	0	11								
Pesticides and PCBs	00.160														
4,4'-DDD	UG-KG	0	0%	3.3	0	0	11								
4,4'-DDE	UG/KG	0	000	3.3	0	0	11								
4,4'-DDT	UG:KG	0	00 0	3.3	0	0	11								
Aldrin	UG:KG	0	0%	5	0	0	11								
Alpha-BHC	UG-KG	0	0%	20	0	0	11								
Alpha-Chlordane	UG/KG	0	0%	94	0	0	11								
Aroclor-1016	UG-KG	0	()%,0	100	0	0	11								
Aroclor-1221	UG/KG	0	0° 5	100	0	0	11								

SEAD-70

SEAD-70

## TABLE 1 SEAD-70 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

SEAD-70

SEAD-70

SEAD-70

SEAD-70

SEAD-70

SEAD-70

									SEAD-70	SEAD-70	SEAD-70	SEAD-70	SEAD-70	SEAD-70	SEAD-70
									70EXPR10044	70EXPR10045	70EXPR10046	70EXPR10047	70EXPR10048	70EXPR10048	Location-1
									SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
									70EXPR10044	70EXPR10045	70EXPR10046	70EXPR10047	70EXPR10049	70EXPR10048	70EXPR10025
									0.2	1.4	1.2	0.2	1.8	1.8	0.2
									0.4	1.6	1.4	0.4	2	2	0.4
									6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	12/15/2008
									SA	SA	SA	SA	DU	SA	SA
			Frequency		Number	Number	Number		RA	RA	RA	RA	RA	RA	RA
		Maximum	of	Criteria	of	of Times	of Samples								
Baumanatau	Units	Value	Detection	Value 1	Exceedances	Detected	Analyzed <sup>2</sup>	(O)	Value (Q)	Value (Q)	Value (Q)	Value (O)	Value (Q)	Value (Q)	Value (Q)
Parameter Aroclor-1232	UG/KG	0 Varine	0%	100	D. Acceptances	0	11	(0)	Yazue (Q)	Yaius (Q)	Yaige (Q)	value (Q)	70100 (Q)	Yulue (Q)	tatas (4)
Aroclor-1242	UG/KG	0	0%	100	0	0	11								
Aroclor-1248	UG/KG	0	0%	100	0	0	11								
Aroclor-1254	UG/KG	0	0%	100	0	0	11								
Aroclor-1260	UG/KG	0	0%	100	0	0	11								
Beta-BHC	UG/KG	0	0%	36	0	0	11								
Delta-BHC	UG/KG	0	0%	40	0	0	11								
	UG/KG	0	0%	5	0	0	11								
Dieldrin			0%	2400	0	0	11								
Endosulfan I Endosulfan II	UG/KG	0	0%	2400	0	0	11								
	UG/KG	0	0%	2400	0	0	11								
Endosulfan sulfate	UG/KG	-		14	0	0	11								
Endrin	UG/KG	0	0%	14	0	0	11								
Endrin aldehyde	UG/KG	-	0%		0	0	11								
Endrin ketone	UG/KG	0		100	0	0	11								
Gamma-BHC/Lindane	UG/KG	0	0%	100	0	0	11								
Gamma-Chlordane	UG/KG	0	0%	40	0	0	11								
Heptachlor	UG/KG	0	0%	42	0										
Heptachlor epoxide	UG/KG	0	0%		-	0	11								
Methoxychlor	UG/KG	0	0%		0		11								
Toxaphene	UG/KG	0	0%		0	0	11								
Metals															
Aluminum	MG/KG	16600	100%		0	11 8	11								
Antimony	MG/KG	0.47	73%	4.5	0		11	3	2.7	11.7	15.2 J	2.4 J	7.4 J	9 J	11
Arsenic	MG/KG	15.2	100%	13	2	46	46	3	3 J	11 J	15.2	2.4 J	7.4 3	,,,	11
Barium	MG/KG	170	100%	350	0	11	11								
Beryllium	MG/KG	0.81	100%	7.2	0	11	11								
Cadmium	MG/KG	0.8	100%	2.5	0	11	11								
Calcium	MG/KG	59100	100%	20	0	11 11	11								
Chromium	MG/KG	26.2	100%	30			11 11								
Cobalt	MG/KG	21	100%	**	0	11									
Copper	MG/KG	35.2	100%	50	0	11	11								
Cyanide	MG/KG	0	0%	27	0	0	11								
Iron	MG/KG	32200	100%	12	0	11 11	11 11								
Lead	MG/KG	22.1	100%	63	0		11								
Magnesium	MG/KG	13600	100%	1.000		11 11									
Manganese	MG/KG	1040	100%	1600	0		11								
Mercury	MG/KG	0.1	91%	0.18	8	10	11								
Nickel	MG/KG	52.4	100%	30	-	11	11								
Potassium	MG/KG	1750	100%		0	11	11								
Selenium	MG/KG	1	64%	3.9	0	7	11								
Silver	MG/KG	0	0%	2	0	0	11								
Sodium	MG/KG	165	82%		0	9	11								
Thallium	MG/KG	0	0%		0	0	11								
Vanadium	MG/KG	26.9	100%		0	11	11								
Zinc	MG/KG	116	100%	109	1	11	11								

- (1) Criteria based on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives,
  - http://www.dec.state.ny.us/website/regs/subpart375\_6.html
- (2) Sample-duplicate pairs were not averaged. Samples were presented as discreet samples in the summary statistics.
- (3) A bolded and outlined cell indicates a concentration that exceeded the criteria.
- U = compound was not detected
- J = the reported value is an estimated concentration
- UJ = the compound was not detected; the associated reporting limit is approximate
- R = the analytical result was rejected during data validation.

TABLE 1 SEAD-70 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

		Maximum	Frequency of	Criteria Value <sup>1</sup>	Number of	Number of Times Detected	Number of Samples Analyzed <sup>2</sup>	SEAD-70 Location-1 SOIL 70EXPR10026 0.5 1 12/15/2008 SA RA	SEAD-70 Location-1 SOIL 70EXFL10027 1 2 12/15/2008 DU RA	SEAD-70 Location-1 SOIL 70EXPR10027 1 2 12/15/2008 SA RA	SEAD-70 Location-2 SOIL 70EXPR10028 0.2 0.4 12-15-2008 SA RA	SEAD-70 Location-3 SOIL 70EXPR10029 0.2 0.4 12/15/2008 SA RA	SEAD-70 MW70-1 SOIL MW70-1-00 0 0.2 5-11-1994 SA ESI	SEAD-70 MW70-1 SOIL MW70-1-02 2 4 5 11-1994 SA ES1 Value (Q)	SEAD-70 MW70-1 SOIL MW70-1-03 4 6 5 11.1994 SA ESI
Parameter Volatile Organic Compounds	Units	Value	Detection	Value	Exceedances	Detected	Analyzed	Value (Q)	value (Q)	value (Q)	value (Q)	value (Q)	value (Q)	value (Q)	Value
1,1,1-Trichloroethane	UG/KG	0	0%	680	0	D	11						14 U	12 U	11
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	000	0	0	11						14 U	12 U	11
1,1,2-Trichloroethane	UG/KG	0	0%		0	0	11						14 U	12 U	11
t,1-Dichloroethane	UG-KG	()	0%	270	0	0	11						14 U	12 U	11
1,1-Dichloroethene	UG-KG	0	0%0	330	0	0	11						14 U	12 U	11
1,2-Dichloroethane	UG/KG	0	0,0	20	0	0	11						14 U	12 U	11
1,2-Dichloroethene (total)	UG KG	0	O <sub>0</sub> .0	190	0	0	11						14 U	12 1	11
1,2-Dichloropropane	UG-KG	0	0%		0	0	11						14 U	12 U	11
Acetone	UG:KG	79	90,0	50	l .	l	11						14 U	14 U	11
Benzene	UG-KG	0	0%	60	0	0	11						14 U	12 U	11
Bromodichloromethane	UG/KG	0	0% 0		0	0	11						14 U 14 U	12 U 12 U	11
Bromoform	UG/KG	0	0% a		0	0	11						14 U	12 U	11
Carbon disulfide Carbon tetrachloride	UG/KG UG/KG	0	0% 0%	760	0	0	11						14 U	12 U	ii
Chlorobenzene	UG/KG	0	0%	1100	0	0	11						14 U	12 U	11
Chlorodibromomethane	UG-KG	0	0%	1100	0	0	11						14 U	12 (1	11
Chloroethane	UG KG	0	0%		0	0	11						14 U	12 U	11
Chloroform	UG/KG	0	0%	370	0	0	11						14 U	12 U	11
Cis-1,3-Dichloropropene	UG/KG	0	0%		0	0	11						14 U	12 U	11
Ethyl benzene	UG/KG	0	0°:a	1000	0	0	11						14 U	12 U	11
Methyl bromide	UG,KG	0	0%		0	0	11						14 U	12 U	11
Methyl butyl ketone	UG/KG	0	0%		0	0	11						14 U	12 1/	11
Methyl chloride	UG/KG	0	0%		0	0	8							12.11	11
Methyl ethyl ketone	UG-KG	36	9%	120	0	l .	11						14 U 14 U	12 U 12 U	11
Methyl isobutyl ketone	UG/KG	0	0%	50	0	0	11						14 U	12 U	11
Methylene chloride	UG/KG	0	06.0	50	0	0	11 11						14 U	12 U	11
Styrene Tetrachloroethene	UG/KG UG/KG	0	000	1300	0	0	11						14 U	12 U	11
Toluene	UG/KG	3	9%	700	0	ı	11						14 U	12 U	11
Total Xylenes	UG/KG	0	0%	260	0	0	11						14 U	12 U	11
Trans-1,3-Dichloropropene	UG/KG	0	0%		0	0	11						14 U	12 U	11
Trichloroethene	UG-KG	0	0° a	470	0	0	11						14 U	12 U	11
Vinyl chloride	UG/KG	0	000	20	0	0	11						14 U	12 U	11
Semivolatile Organic Compound	s														200
1,2,4-Trichlorobenzene	UG/KG	0	0%		0	0	11						490 U 490 U	400 U 400 U	370 370
1,2-Dichlorobenzene	UG KG	0	0%	1100	0	0	11						440 O	400 U	370
1,3-Dichlorobenzene	UG-KG	0	0%	2400		0							490 U	400 U	370
1,4-Dichlorobenzene	UG/KG	0	0% 0%	1800	0	0	11						490 U	400 U	370
2,2'-oxybis(1-C'hloropropane) 2,4,5-Trichlorophenol	UG/KG UG/KG	0	0%		0	0	11						1200 U	960 U	890
2,4,6-Trichlorophenol	UG/KG	0	0%		0	0	11						490 U	400 U	370
2,4-Dichlorophenol	UGIKG	0	0%		0	0	11						490 U	400 U	370
2,4-Directlylphenol	UG-KG	0	0%		0	0	11						490 U	400 U	370
2,4-Dinitrophenol	UG/KG	0	0%		0	0	11						1200 U	960 U	890
2,4-Dinitrotoluene	UG/KG	0	0%		0	0	11						490 U	400 U	370
2,6-Dinitrotoluene	UG-KG	0	O° e		0	0	11						490 U	400 U	370
2-Chloronaphthalene	UG-KG	0	00,0		0	0	11						490 U	400 L1	370 370
2-Chlorophenol	UG KG	0	0%		0	0	11						490 U	400 U 400 U	370
2-Methylnaphthalene	UG-KG	0	0%	9.00	0	0	11						490 U	400 U	370
2-Methylphenol	UG/KG	0	0%	330	0	0	11						1200 U	960 L1	890
2-Nitroaniline	UG/KG	0	0%		0	0	11 11						490 LI	400 U	370
2-Nitrophenol	UG-KG	0	0%		0	0	11						490 U	400 U	370
3,3'-Dichlorobenzidine 3-Nitroaniline	UG KG UG KG	0	0%		0	0	11						1200 U	960 U	890
4,6-Dinitro-2-methylphenol	UG-KG	0	0%		0	0	11						1200 U	960 U	890
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TABLE 1 SEAD-70 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

								SEAD-70	SEAD-70	SEAD-70	SEAD-70	SEAD-70	SEAD-70	SEAD-70	SEAD-70
								Location-1	Location-1	Location-1 SOIL	Location-2 SOIL	Location-3 SOIL	MW70-1	MW70-1	MW70-1
								70EXPR10026	SOIL 70EXFL10027	70EXPR10027	70EXPR10028	70EXPR10029	SOIL MW70-1-00	SOIL MW70-1-02	SOIL MW70-1-03
								0.5	1	1 1	0.2	0.2	0	2	4
								1	2	2	0.4	0.4	0.2	4	6
								12/15/2008	12/15/2008	12/15/2008	12/15/2008	12/15/2008	5/11/1994	5/11/1994	5/11/1994
								SA	DU	SA	SA	SA	SA	SA	SA
			Frequency		Number	Number	Number	RA	RA	RA	RA	RA	ESI	ESI	ESI
		Maximum	of	Criteria	of	of Times	of Samples								
Parameter	Units	Value	Detection	Value 1	Exceedances	Detected	Analyzed 1	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value
4-Bromophenyl phenyl ether	UG/KG	0	0%		0	0	11						490 U	400 U	370
4-Chloro-3-methylphenol	UG/KG	0	0%		0	0	11						490 U	400 U	370
4-Chloroaniline	UG/KG	0	0%		0	0	11						490 U	400 U	370
4-Chloropheπyl phenyl ether 4-Methylphenol	UG/KG UG/KG	0	0% 0%	330	0	0	11 11						490 U 490 U	400 U	370 370
4-Nitroaniline	UG/KG	0	0%	330	0	0	11						1200 U	400 U 960 U	890
4-Nitrophenol	UG/KG	0	0%		0	0	11						1200 U	960 U	890
Acenaphthene	UG/KG	0	0%	20000	0	0	11						490 U	400 U	370
Acenaphthylene	UG/KG	0	0%	100000	0	0	11						490 U	400 U	370
Anthracene	UG/KG	0	0%	100000	0	0	11						490 U	400 U	370
Benzo(a)anthracene	UG/KG	0	0%	1000	0	0	11						490 U	400 U	370
Benzo(a)pyrene	UG/KG	0	0%	1000	0	0	11						490 U	400 U	370
Benzo(b)fluoranthene	UG/KG	0	0%	1000	0	0	11						490 U	400 U	370
Benzo(ghi)perylene	UG/KG	0	0%	100000	0	0	11						490 U	400 U	370
Benzo(k)fluoranthene	UG/KG	0	0%	800	0	0	11						490 U	400 U	370
Bis(2-Chloroethoxy)methane	UG/KG	0	0%		0	0	11						490 U	400 U	370
Bis(2-Chloroethyl)ether Bis(2-Ethylhexyl)phthalate	UG/KG UG/KG	0 610	100%		0	11	11 11						490 U 78 J	400 U 550	370 610
Butylbenzylphthalate	UG/KG	0	0%		0	0	11						490 U	400 U	370
Carbazole	UG/KG	0	0%		0	0	11						490 U	400 U	370
Chrysene	UG/KG	0	0%	1000	0	o	11						490 U	400 U	370
Di-n-butylphthalate	UG/KG	51	55%		0	6	11						490 U	400 U	370
Di-n-octylphthalate	UG/KG	30	9%		0	1	11						490 U	400 U	370
Dibenz(a,h)anthracene	UG/KG	0	0%	330	0	0	11						490 U	400 U	370
Dibenzofuran	UG/KG	0	0%	7000	0	0	11						490 U	400 U	370
Diethyl phthalate	UG/KG	0	0%		0	0	11						490 U	400 U	370
Dimethylphthalate	UG/KG	0	0%	100000	0	0	11						490 U	400 U	370
Fluoranthene Fluorene	UG/KG UG/KG	0	0%	100000 30000	0	0	11 11						490 U 490 U	400 U 400 U	370 370
Hexachlorobenzene	UG/KG	0	0%	330	0	0	11						490 U	400 U	370
Hexachlorobutadiene	UG/KG	0	0%	330	0	0	11						490 U	400 U	370
Hexachlorocyclopentadiene	UG/KG	0	0%		0	0	11						490 U	400 U	370
Hexachloroethane	UG/KG	0	0%		0	0	11						490 U	400 U	370
Indeno(1,2,3-cd)pyrene	UG/KG	0	0%	500	0	0	11						490 U	400 U	370
Isophorone	UG/KG	0	0%		0	0	11						490 U	400 U	370
N-Nitrosodiphenylamine	UG/KG	0	0%		0	0	11						490 U	400 U	370
N-Nitrosodipropylamine	UG/KG	0	0%		0	0	11						490 U	400 U	370
Naphthalene	UG/KG	0	0%	12000	0	0	11						490 U	400 U	370
Nitrobenzene	UG/KG UG/KG	0	0%	800	0	0	11 11						490 U 1200 U	400 U 960 U	370 890
Pentachlorophenol Phenanthrene	UG/KG	0	0%	100000	0	0	11						490 U	400 U	370
Phenol	UG/KG	0	0%	330	0	0	11						490 U	400 U	370
Pyrene	UG/KG	0	0%	100000	0	0	11						490 U	400 U	370
Pesticides and PCBs													.,,		
4,4'-DDD	UG/KG	0	0%	3.3	0	0	11						4.9 U	4 U	3.7
4,4'-DDE	UG/KG	0	0%	3.3	0	0	11						4.9 U	4 U	3.7
4,4'-DDT	UG/KG	0	0%	3.3	0	0	11						4.9 U	4 U	3.7
Aldrin	UG/KG	0	0%	5	0	0	11						2.5 U	2 U	1.9
Alpha-BHC	UG/KG	0	0%	20	0	0	11						2.5 U	2 U	1.9
Alpha-Chlordane Aroclor-1016	UG/KG	0	0%	94 100	0	0	11						2.5 U	2 U	1.9
Aroclor-1016 Aroclor-1221	UG/KG UG/KG	0	0% 0%	100	0	0	11 11						49 U 99 U	40 U 81 U	37 74
AL OUIDI-1221	UGIRU	U	070	100	U	· ·	11						39 U	01 U	74

TABLE 1 SEAD-70 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

								SEAD-70 Location-1 SOIL 70EXPR10026	SEAD-70 Location-1 SOIL 70EXFL10027	SEAD-70 Location-1 SOIL 70EXPR10027	SEAD-70 Location-2 SOIL 70EXPR10028	SEAD-70 Location-3 SOIL 70EXPR10029 0.2	SEAD-70 MW70-1 SOIL MW70-1-00	SEAD-70 MW70-1 SOIL MW70-1-02	SEAD-70 MW70-1 SOIL MW70-1-03
								0.5	i 2	2	0.2	0.4	0.2	4	6
								12/15/2008	12/15/2008	12/15/2008	12/15/2008	12/15/2008	5-11-1994	5 11 1994	5 11/1994
								SA	DU	SA	SA	SΛ	SA	SA	SA
			Frequency		Number	Number	Number	RΛ	RA	RA	RA	RA	ESI	ESI	ESI
		Maximum	of	Criteria	of	of Times	of Samples								21.1
Parameter	Units	Value	Detection	Value	Exceedances	Detected	Analyzed 2	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q) 49 U	Value (Q) 40 U	Value 37
Aroclor-1232	UG/KG	0	0%	100	0	0	11						49 U	40 U	37
Aroclor-1242	UG/KG	0	0%	100	0	0	11 11						49 U	40 U	37
Aroclor-1248 Aroclor-1254	UG/KG UG/KG	0	0%	100	0	0	11						49 U	40 U	37
Aroclor-1259 Aroclor-1260	UG/KG	0	0.0	100	0	0	11						49 U	40 U	37
Beta-BHC	UG/KG	0	0%	36	0	0	11						2.5 U	2 LF	1.9
Delta-BHC	UG/KG	0	0%	40	0	0	11						2.5 U	2 U	1.9
Dieldrin	UG-KG	0	0%	5	0	0	11						4.9 U	4 U	3.7
Endosulfan I	UG/KG	0	0%	2400	0	0	11						2.5 U	2 U	1.9
Endosulfan II	UG/KG	0	0%	2400	0	0	11						4.9 U	4 U	3.7
Endosulfan sulfate	UG/KG	()	0%	2400	0	0	11						4.9 U	4 U	3.7
Endrin	UG/KG	0	0%	14	0	0	11						4.9 U	4 f.i	3.7
Endrin aldehyde	UG/KG	0	0%		0	0	11						4.9 U	4.0	3.7
Endrin ketone	UG/KG	0	0%		0	0	11						4.9 U	4 ()	3,7
Gamma-BHC/Lindane	UG/KG	0	0%	100	0	0	11						2.5 U	2 U	19
Gamma-Chlordane	UG/KG	0	0%		0	0	11						2.5 U	2 LT	1.9
Heptachlor	UG-KG	0	00%	42	0	0	11						2.5 U	2 U	1.9 1.9
Heptachlor epoxide	UG-KG	0	0%		0	0	11						2.5 U	2 U 20 U	1.9
Methoxychlor	UG/KG	0	0°6		0	0	11						25 U 250 U	200 U	190
Toxaphene	UG/KG	0	0%		0	0	11						230 0	200 0	(90)
Metals			1000		0	11	11						12200	9480	11000
Aluminum	MG/KG	16600	100%		0	, X	11						0.23 UJ	0.21 UJ	0.19
Antimony	MG-KG	0.47	73%	1.3	2	46	46	11.7	10.4 J	6.L J	9.3	6.4	5.4	4.1	5.7
Arsenic	MG-KG	15.2 170	100%	13 350	0	11	11	11.7	10,4 3	0.1 2	*	0.1	67.5	56.6	79.9
Barium	MG/KG MG/KG	0.81	100%	7.2	0	11	11						0.44 J	0.41 J	0.54
Beryllium Cadimum	MG/KG	0.81	100%	2.5	0	11	11						0.57 J	0.43 J	0.8
Calcium	MG/KG	59100	100%	2.3	0	11	11						3600	51600	48600
Chromum	MG:KG	26 2	100%	30	0	11	11						13.7	14.7	17.8
Cobalt	MG/KG	21	100%		0	11	11						5.5 J	7.1 J	21
Copper	MG/KG	35.2	100%	50	0	11	11						12.4	19.7	33.5
Cyanide	MG/KG	0	0%	27	0	0	11						0.64 U	0.59 U	0.48
Iron	MG-KG	32200	100%		0	11	11						17700	16000	26400
Lead	MG/KG	22 1	100° 6	63	0	11	11						20.7	9.1	13.6
Magnesium	MG-KG	13600	100%		0	11	11						2830	13600	7980
Manganese	$MG\cdot KG$	1040	100%	1600	0	l I	11						233	470	1040
Mercury	MG/KG	0.1	91%	0.18	0	10	11						0.1	0.03 J	0.02 <b>52.4</b>
Nickel	MG/KG	52 4	100%	30	8	11	11						12.3 982 J	17.6 1590	1350
Potassium	MG/KG	1750	100%		0	11	1.1						702 J	0.64 J	0.32
Selenium	MG/KG	1	64%	3.9	0	7	11						0.16 UJ	0.14 [1]	0.13
Silver	MG-KG	0	0%	2	0	0	11						36.4 U	126 J	165
Sodium	MG/KG	165	82%		0	9	11						0.37 U	0.33 U	0.31
Thallium	MG/KG	0	0%		0	11	11						23.3	17.2	17.6
Vanadium	MG/KG	26.9 116	100%	109	1	11	11						55.4	42.4	116
Zinc	MG-KG	110	100.0	109	1	11	11								

- (1) Criteria based on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives,
- http://www.dec.state.ny/us/website/regs/subpart375/6.html
- (2) Sample-duplicate pairs were not averaged. Samples were presented as discreet samples in the summary statistics.
- (3) A bolded and outlined cell indicates a concentration that exceeded the criteria.
- U = compound was not detected
- J = the reported value is an estimated concentration
- UJ = the compound was not detected, the associated reporting limit is approximate
- R = the analytical result was rejected during data validation.

## TABLE 1 SEAD-70 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

SEAD-70

SB70-1

SEAD-70

SB70-1

SEAD-70

SB70-1

SEAD-70

SB70-2

SEAD-70

SB70-2

SEAD-70

SB70-3

SEAD-70

SB70-3

		Maximum	Frequency of	Criteria	Number of	Number of Times	Number of Samples		SB70-1 SOIL SB70-1-01 0 0.2 2/22/1994 SA ESI	SB70-1 SOIL SB70-1-02 2 4 2/22/1994 SA ESI	SB70-1 SOIL SB70-1-03 4 6 2/22/1994 SA ES1	SB70-2 SOIL SB70-2-03 4 6 2/21/1994 SA ESI	SB70-2 SOIL SB70-2-05 8 10 2/21/1994 SA ESI	SB70-3 SOIL SB70-3-01 0 0.2 2/21/1994 SA ESI	SB70-3 SOIL SB70-3-03 4 6 2/21/1994 SA ESI
Parameter	Units	Value	Detection	Value 1	Exceedances	Detected	Analyzed 2	(Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds															
1,1,1-Trichloroethane	UG/KG	0	0%	680	0	0	11	U	11 U	14 U	11 U	11 U	11 U	12 U	11 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%		0	•	11	U	11 U	14 U 14 U	11 U	11 U	11 U	12 U	11 U
1,1,2-Trichloroethane 1,1-Dichloroethane	UG/KG UG/KG	0	0%	270	0	0	11	U	11 U	14 U	11 U 11 U	11 U 11 U	11 U 11 U	12 U 12 U	11 U 11 U
1,1-Dichloroethene	UG/KG	0	0%	330	0	0	11	U	11 U	14 U	11 U	11 U	11 U	12 U	11 U
1.2-Dichloroethane	UG/KG	0	0%	20	0	0	11	U	11 U	14 U	11 U	11 U	11 U	12 U	11 U
1,2-Dichloroethene (total)	UG/KG	0	0%	190	0	0	11	U	11 U	14 U	11 U	11 U	11 U	12 U	11 U
1,2-Dichloropropane	UG/KG	0	0%		0	0	11	U	11 U	14 U	11 U	11 U	11 U	12 U	11 U
Acetone	UG/KG	79	9%	50	1	1	11	U	11 U	79	35 U	11 U	11 U	12 U	11 U
Benzene	UG/KG	0	0%	60	0	0	11	U	11 U	14 U	11 U	11 U	11 U	12 U	11 U
Bromodichloromethane	UG/KG	0	0%		0	0	11	U	11 U	14 U	11 U	11 U	11 U	12 U	11 U
Bromoform	UG/KG	0	0%		0	0	11	U	11 U	14 U	11 U	11 U	11 U	12 U	11 U
Carbon disulfide	UG/KG	0	0%		0	0	11	U	11 U	14 U	11 U	11 U	11 U	12 U	11 U
Carbon tetrachloride	UG/KG	0	0%	760	0	0	11	U	11 U	14 U	11 U	11 U	11 U	12 U	11 U
Chlorobenzene	UG/KG	0	0%	1100	0	0	11	U	11 U	14 U	11 U	11 U	11 U	12 U	11 U
Chlorodibromomethane	UG/KG	0	0%		0	0	11	U	11 U	14 U	11 U	11 U	11 U	12 U	11 U
Chloroethane	UG/KG	0	0%	200	0	0	11	U	11 U	14 U	11 U	11 U	11 U	12 U	11 U
Chloroform Cis-1,3-Dichloropropene	UG/KG UG/KG	0	0%	370	0	0	11 11	U	11 U 11 U	14 U 14 U	11 U 11 U	11 U 11 U	11 U 11 U	12 U 12 U	11 U 11 U
Ethyl benzene	UG/KG	0	0%	1000	0	0	11	Ü	11 U	14 U	11 U	11 U	11 U	12 U	11 U
Methyl bromide	UG/KG	0	0%	1000	0	0	11	U	11 U	14 U	11 U	11 U	11 U	12 U	11 U
Methyl butyl ketone	UG/KG	0	0%		0	0	11	U	11 U	14 U	11 U	11 U	11 U	12 U	11 U
Methyl chloride	UG/KG	0	0%		0	0	8	0	11 U	14 U	11 U	11 U	11 U	12 U	11 U
Methyl ethyl ketone	UG/KG	36	9%	120	0	1	11	U	11 U	36	17 U	11 U	11 U	12 U	11 U
Methyl isobutyl ketone	UG/KG	0	0%		0	0	11	U	11 U	14 U	11 U	11 U	11 U	12 U	11 U
Methylene chloride	UG/KG	0	0%	50	0	0	11	U	11 U	14 U	11 U	11 U	11 U	12 U	11 U
Styrene	UG/KG	0	0%		0	0	11	U	11 U	14 U	11 U	11 U	11 U	12 U	11 U
Tetrachloroethene	UG/KG	0	0%	1300	0	0	11	U	11 U	14 U	11 U	11 U	11 U	12 U	11 U
Toluene	UG/KG	3	9%	700	0	1	11	U	11 U	3 Ј	11 U	11 U	11 U	12 U	11 U
Total Xylenes	UG/KG	0	0%	260	0	0	11	U	11 U	14 U	11 U	11 U	11 U	12 U	11 U
Trans-1,3-Dichloropropene	UG/KG	0	0%		0	0	11	U	11 U	14 U	11 U	11 U	11 U	12 U	11 U
Trichloroethene	UG/KG	0	0%	470	0	0	11	U	11 U	14 U	11 U	11 U	11 U	12 U	11 U
Vinyl chloride	UG/KG	0	0%	20	0	0	11	U	11 U	14 U	11 U	11 U	11 U	12 U	11 U
Semivolatile Organic Compound: 1,2,4-Trichlorobenzene	UG/KG	0	0%		0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
1,2-Dichlorobenzene	UG/KG	0	0%	1100	0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
1,3-Dichlorobenzene	UG/KG	0	0%	2400	0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
1,4-Dichlorobenzene	UG/KG	0	0%	1800	0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
2,2'-oxybis(1-Chloropropane)	UG/KG	0	0%	1000	0	0	11	Ü	390 U	370 U	400 U	360 U	360 U	430 U	370 U
2,4,5-Trichlorophenol	UG/KG	0	0%		0	0	11	U	940 U	910 U	960 U	870 U	880 U	1100 U	890 U
2,4,6-Trichlorophenol	UG/KG	0	0%		0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
2,4-Dichlorophenol	UG/KG	0	0%		0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
2,4-Dimethylphenol	UG/KG	0	0%		0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
2,4-Dinitrophenol	UG/KG	0	0%		0	0	11	U	940 U	910 U	960 U	870 U	880 U	1100 U	890 U
2,4-Dinitrotoluene	UG/KG	0	0%		0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
2,6-Dinitrotoluene	UG/KG	0	0%		0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
2-Chloronaphthalene	UG/KG	0	0%		0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
2-Chlorophenol	UG/KG	0	0%		0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
2-Methylnaphthalene	UG/KG	0	0%	220	0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
2-Methylphenol	UG/KG UG/KG	0	0%	330	0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
2-Nitroaniline 2-Nitrophenol	UG/KG UG/KG	0	0% 0%		0	0	11 11	U	940 U 390 U	910 U 370 U	960 U 400 U	870 U 360 U	880 U 360 U	1100 U 430 U	890 U 370 U
3,3'-Dichlorobenzidine	UG/KG	0	0%		0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
3-Nitroaniline	UG/KG	0	0%		0	0	11	U	940 U	910 U	960 U	870 U	880 U	1100 U	890 U
4,6-Dinitro-2-methylphenol	UG/KG	0	0%		0	0	11	U	940 U	910 U	960 U	870 U	880 U	1100 U	890 U
,		-			•	•		_	2.50	, 0	,,,,	0,00	000 0		0,00

TABLE 1 SEAD-70 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

									SEAD-70 SB70-1	SEAD-70 SB70-1	SEAD-70 SB70-1	SEAD-70 SB70-2	SEAD-70 SB70-2	SEAD-70 SB70-3	SEAD-70 SB70-3
									SOIL SB70-1-01	SOIL SB70-1-02	SOIL SB70-1-03	SOIL SB70-2-03	SOIL SB70-2-05	SOIL SB70-3-01	SOIL SB70-3-03
									0	2	4	4	8	0	4
									0.2	4	6	6	10	0.2	6
									2/22/1994	2/22/1994	2/22/1994	2,21,1994	2/21/1994	2/21/1994	2.21/1994
									SA	SA	SA	SA	SΛ	SA	SA
		Maximum	Frequency of	Criteria	Number of	Number of Times	Number of Samples		ESI	ESI	ES1	ESI	ESI	ES1	ESI
Parameter	Units	Value	Detection	Value 1	Exceedances	Detected	Analyzed 2	(Q)	Value (O)	Value (Q)	Value (O)	Value (O)	Value (O)	Volum (O)	Value (O)
4-Bromophenyl phenyl ether	UG.KG	0	0%	value	0	()	Analyzeu	U	390 U	370 U	Value (Q) 400 U	Value (Q) 360 U	Value (Q) 360 U	Value (Q) 430 U	Value (Q) 370 U
4-Chloro-3-methylphenol	UG/KG	0	0%		0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
4-Chloroantine	UG/KG	0	0%		0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
4-Chlorophenyl phenyl ether	UG-KG	0	0%0		0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
4-Methylphenol	UG/KG	0	0%	330	0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
4-Nitroamline	UG/KG	0	0%		0	0	11	U	940 U	910 U	960 U	870 U	880 U	1100 U	890 U
4-Nitrophenol	UG/KG	0	0° o		0	0	11	U	940 U	910 U	960 U	870 U	880 U	1100 U	890 U
Acenaphthene	UG,KG	0	0%	20000	0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
Acenaphthylene	UG-KG	0	0%	100000	0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
Anthracene	UG/KG	0	0%	100000	0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
Benzo(a)anthracene	UG KG UG KG	0	0° c	1000	0	0	11 11	U	390 U 390 U	370 U 370 U	400 U 400 U	360 U 360 U	360 U	430 U 430 U	370 U 370 U
Benzo(a)pyrene Benzo(b)fluoranthene	UG/KG	0	0%	1000	0	0	11	U	390 U	370 U	400 U	360 U	360 U 360 U	430 U	370 U
Benzo(ghi)perylene	UG/KG	0	0%	100000	0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
Benzo(k)fluoranthene	UG/KG	0	0%	800	0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
Bis(2-Chloroethoxy)methane	UG/KG	0	0%		0	0	11	Ü	390 U	370 U	400 U	360 U	360 U	430 U	370 U
Bis(2-Chloroethyl)ether	UG/KG	0	00.5		0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 1
Bis(2-Ethylhexyl)phthalate	UG KG	610	100%		0	11	11		21 J	27 J	73 J	43 J	66 J	48 J	89 J
Butylbenzylphthalate	UG-KG	0	0% 0		0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
Carbazole	UG-KG	()	0.0		0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
Chrysene	UG'KG	0	0%	1000	0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
Di-n-butylphthalate	UG:KG	51	55%		0	6	11	U	35 J	28 J	35 J	360 U	360 U	45 J	51 J
Di-n-octylphthalate	UG/KG	30	90,0		0	l	11	U	390 U	30 J	400 U	360 U	360 U	430 U	370 L1
Dibenz(a,h)anthracene	UG.KG	0	0°6	330	0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
Dibenzofuran	UG KG UG KG	0	0.0	7000	0	0	11 11	U	390 U 390 U	370 U 370 U	400 U 400 U	360 U 360 U	360 U 360 U	430 U 430 U	370 U 370 U
Diethyl phthalate Dimethylphthalate	UG KG	0	0%		0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
Fluoranthene	UG KG	0	0%	100000	0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
Fluorene	UG KG	0	0%	30000	0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
Hexachlorobenzene	UG-KG	0	0%	330	0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
Hexachlorobutadiene	UG KG	0	0%		0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
Hexachlorocyclopentadiene	UG/KG	0	0%		0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
Hexachloroethane	UG·KG	0	()%;		0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 LF
Indeno(1,2,3-cd)pyrene	UG-KG	0	00.0	500	0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
Isophorone	UG-KG	0	0.0		0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
N-Nitrosodiphenylamine	UG KG	0	0%		0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
N-Nitrosodipropylamine	UG-KG	0	00,0	10000	0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U 430 U	370 U
Naphthalene Nitrobenzene	UG/KG UG/KG	0	0%	12000	0	0	11	U	390 U 390 U	370 U 370 U	400 U 400 U	360 U 360 U	360 U 360 U	430 U	370 U 370 U
Pentachloropheno!	UG/KG	0	0%	800	0	0	11	U	940 U	910 U	960 U	870 U	880 U	1100 U	890 U
Phenanthrene	UG/KG	0	0%	100000	0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
Phenol	UG/KG	0	0%	330	0	0	11	U	390 U	370 U	400 U	360 U	360 U	430 U	370 U
Pyrene	UG-KG	0	0°6	100000	0	0	11	Ü	390 U	370 U	400 U	360 U	360 U	430 U	370 U
Pesticides and PCBs															
4,4'-DDD	UG-KG	0	0%	3.3	0	0	11	U	3.9 U	3.7 U	4 U	3.6 U	3.6 U	4.3 U	3.7 U
4,4'-DDE	UG-KG	0	()% 0	3.3	0	0	3.1	U	3.9 U	3.7 U	4 U	3.6 U	3.6 U	4.3 U	3.7 U
4,4'-DDT	UG/KG	0	()% o	3.3	0	0	11	U	3.9 U	3.7 U	4 U	3.6 U	3.6 U	4.3 U	3.7 LT
Aldrin	UG/KG	0	0%	5	0	0	1.1	U	2 U	1.9 U	2 U	1.8 U	1.9 U	2.2 U	L.9 U
Alpha-BHC	UG-KG	0	00.0	20	0	0	11	U	2 U	1.9 U	2 U	1.8 U	1.9 U	2.2 U	1.9 U
Alpha-Chlordane	UG/KG	0	0%	94	0	0	11	U	2 U	1.9 U	2 U	1.8 U	1.9 U	2 2 U	1.9 U
Aroclor-1016	UG/KG	0	()%	100	0	0	11	U	39 U	37 U	40 U	36 U 73 U	36 U 74 U	43 U 88 U	37 U 74 U
Aroclor-1221	UG. KG	0	0% a	100	U	U	11	U	79 U	76 U	81 U	75 0	/4 U	86 U	/4 U

TABLE 1 SEAD-70 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

SEAD-70

SEAD-70

SEAD-70

SEAD-70

									SEAD-70 SB70-1 SOIL SB70-1-01	SEAD-70 SB70-1 SOIL SB70-1-02	SEAD-70 SB70-1 SOIL SB70-1-03	SEAD-70 SB70-2 SOIL SB70-2-03	SEAD-70 SB70-2 SOIL SB70-2-05	SEAD-70 SB70-3 SOIL SB70-3-01	SEAD-70 SB70-3 SOIL SB70-3-03
									0	2	4	4	8	0	4
									0.2	4	6	6	10	0.2	6
									2/22/1994	2/22/1994	2/22/1994	2/21/1994	2/21/1994	2/21/1994	2/21/1994
			_						SA	SA	SA	SA	SA	SA ESI	SA ESI
			Frequency	0 11 1	Number	Number	Number		ESI	ESI	ESI	ESI	ESI	231	E31
		Maximum	of	Criteria	of	of Times	of Samples			*** ( (6)	** 1 (0)	71.1 (0)	11.1 (0)	17-1 (0)	17-1 (0)
Parameter	Units	Value	Detection	Value 1	Exceedances	Detected	Analyzed <sup>2</sup>	(Q) U	Value (Q) 39 U	Value (Q) 37 U	Value (Q) 40 U	Value (Q) 36 U	Value (Q) 36 U	Value (Q) 43 U	Value (Q) 37 U
Aroclor-1232	UG/KG	0	0%	100	0	0	11	U	39 U	37 U	40 U	36 U	36 U	43 U	37 U
Aroclor-1242	UG/KG	0	0%	100	0	0	11 11	U	39 U	37 U	40 U	36 U	36 U	43 U	37 U
Aroclor-1248	UG/KG UG/KG	0	0% 0%	100	0	0	11	U	39 U	37 U	40 U	36 U	36 U	43 U	37 U
Aroclor-1254		0	0%	100	0	0	11	U	39 U	37 U	40 U	36 U	36 U	43 U	37 U
Aroclor-1260	UG/KG	0	0%	36	0	0	11	U	2 U	1.9 U	2 U	1.8 U	1.9 U	2.2 U	1,9 U
Beta-BHC Delta-BHC	UG/KG UG/KG	0	0%	40	0	0	11	U	2 U	1.9 U	2 U	1.8 U	1.9 U	2.2 U	1.9 U
Dieldrin	UG/KG	0	0%	5	0	0	11	U	3.9 U	3.7 U	4 U	3.6 U	3.6 U	4.3 U	3.7 U
Endosulfan I	UG/KG	0	0%	2400	0	0	11	U	2 U	1.9 U	2 U	1.8 U	1.9 U	2.2 U	1.9 U
Endosulfan II	UG/KG	0	0%	2400	0	0	11	U	3.9 U	3.7 U	4 U	3.6 U	3.6 U	4.3 U	3.7 U
Endosulfan sulfate	UG/KG	0	0%	2400	0	0	11	U	3.9 U	3.7 U	4 U	3.6 U	3.6 U	4.3 U	3.7 U
Endrin	UG/KG	0	0%	14	0	0	11	U	3.9 U	3,7 U	4 U	3.6 U	3.6 U	4.3 U	3.7 U
Endrin aldehyde	UG/KG	0	0%		0	0	11	U	3.9 U	3.7 U	4 U	3.6 U	3.6 U	4.3 U	3.7 U
Endrin ketone	UG/KG	0	0%		0	0	11	U	3.9 U	3.7 U	4 U	3.6 U	3.6 U	4.3 U	3.7 U
Garma-BHC/Lindane	UG/KG	0	0%	100	0	0	11	U	2 U	1.9 U	2 U	1.8 U	1.9 U	2.2 U	1.9 U
Gamma-Chlordane	UG/KG	0	0%	100	0	0	11	U	2 U	1.9 U	2 U	1.8 U	1.9 U	2.2 U	1.9 U
Heptachlor	UG/KG	0	0%	42	0	0	11	U	2 U	1.9 U	2 U	1.8 U	1.9 U	2.2 U	1.9 U
Heptachlor epoxide	UG/KG	0	0%	12	0	0	11	U	2 U	1.9 U	2 U	1.8 U	1.9 U	2.2 U	1.9 U
Methoxychlor	UG/KG	0	0%		0	0	11	Ü	20 U	19 U	20 U	18 U	19 U	22 U	19 U
Toxaphene Metals	UG/KG	o	0%		0	0	11	U	200 U	190 U	200 U	180 U	190 U	220 U	190 U
Aluminum	MG/KG	16600	100%		0	11	11		12400	15600	16600	11600	12900	9340	11000
Antimony	MG/KG	0.47	73%		0	8	11	UJ	0.36 J	0.45 J	0.39 J	0.47 J	0.41 J	0.19 J	0.45 J
Arsenic	MG/KG	15.2	100%	13	2	46	46		3.5 J	4.8 J	4.5 J	4.5 J	4.5 J	6.9 J	4 J
Barium	MG/KG	170	100%	350	0	11	11		55.9	91.7	170	42.1	55.8	40.5	74.8
Beryllium	MG/KG	0.81	100%	7.2	0	11	11	J	0.6 J	0.77 J	0.81 J	0.54 J	0.62 J	0.44 J	0.53 J
Cadmium	MG/KG	0.8	100%	2.5	0	11	11	J	0.05 J	0.07 J	0.14 J	0.23 J	0.12 J	0.07 J	0.18 J
Calcium	MG/KG	59100	100%		0	11	11		15000	6150	4300	55500	31700	22500	59100
Chromium	MG/KG	26.2	100%	30	0	11	11		21.3	26.2	25.3	19	21.9	15.3	18
Cobalt	MG/KG	21	100%		0	11	11		11.9	15	13.1	10.8	12.3	8.4	10.5
Copper	MG/KG	35.2	100%	50	0	11	11		22.9	35.2	22.5	28.8	28.7	17.9	24.2
Cyanide	MG/KG	0	0%	27	0	0	11	U	0.58 U	0.56 U	0.6 U	0.53 U	0.51 U	0.64 U	0.55 U
Iron	MG/KG	32200	100%		0	11	11		26300	32200	30300	23300	26700	18900	22800
Lead	MG/KG	22.1	100%	63	0	11	11		17.2 J	22.1 J	11.4 J	9.5 J	4.2 J	8.9 J	8.1 J
Magnesium	MG/KG	13600	100%		0	11	11		5070	6150	5580	8260	8360	5490	11000
Manganese	MG/KG	1040	100%	1600	0	11	11		465	425	689	439	390	299	441
Mercury	MG/KG	0.1	91%	0.18	0	10	11	J	0.04 J	0.04 J	0.04 J	0.02 J	0.02 J	0.02 J	0.02 J
Nickel	MG/KG	52.4	100%	30	8	11	11		39.3	47.4	36	30.6	34	24.6	30.4
Potassium	MG/KG	1750	100%		0	11	11		1170	1300	1400	1750	1420	1260	1680
Selenium	MG/KG	1	64%	3.9	0	7	11	U	0.32 J	0.48 J	0.89 J	0.25 U	0.24 U	0.58 J	0.31 U
Silver	MG/KG	0	0%	2	0	0	11	UJ	0.1 U	0.12 U	0.15 U	0.1 U	0.1 U	0.11 U	0.13 U
Sodium	MG/KG	165	82%		0	9	11	J	30.3 J	34.7 J	34.9 U	81.8 J	89.5 J	47.1 J	84.5 J
Thallium	MG/KG	0	0%		0	0	11	U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 U	0.18 U	0.18 U
Vanadium	MG/KG	26.9	100%		0	11	11		16.4	21.7	26.9	17.3	17.7	13.9	16.6
Zinc	MG/KG	116	100%	109	1	11	11		46.4	78.8	79.2	78.6	67.1	53.4	67.8

## Notes:

- (1) Criteria based on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives,
  - http://www.dec.state.ny.us/website/regs/subpart375\_6.html
- (2) Sample-duplicate pairs were not averaged. Samples were presented as discreet samples in the summary statistics.
- (3) A boilded and outlined cell indicates a concentration that exceeded the criteria.
- U = compound was not detected
- J = the reported value is an estimated concentration
- UJ = the compound was not detected; the associated reporting limit is approximate
- R = the analytical result was rejected during data validation.

## TABLE I SEAD-70 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

SEAD-70 SB70-3 SOIL SB70-3-05 8 10 2/21/1994

								2/21/1994
			_					SA
			Frequency		Number	Number	Number	ESI
		Maximum	of	Criteria	of	of Times	of Samples	
Parameter	Units	Value	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)
Volatile Organic Compounds								
1,1,1-Trichloroethane	UG/KG	0	0° 6	680	0	0	11	11 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%		0	0	11	II U
1,1,2-Trichloroethane	UG/KG	0	0.0		0	0	11	11 U
1,1-Dichloroethane	UG/KG	0	0%	270	0	0	11	11 U
1,1-Dichloroethene	UG/KG	0	0%	330	0	0	11	11 U
1,2-Dichloroethane	UG/KG	0	0%	20	0	0	11	II U
1,2-Dichloroethene (total)	UG/KG	0	0%0	190	0	0	11	11 U
1,2-Dichloropropane	UG/KG	0	0%		0	0	11	11 U
Acetone	UG/KG	79	9%	50	l	1	[1	11 U
Benzene	UG/KG	0	00.0	60	0	0	11	11 U
Bromodichloromethane	UG/KG	0	00,9		()	0	11	II U
Bromoform	UG/KG	0	0%		0	0	11	11 U
Carbon disultide	UG/KG	0	0%		0	0	11	11 U
Carbon tetrachloride	UG/KG	0	0%	760	0	0	11	11.0
Chlorobenzene	UG/KG	0	0%	1100	0	0	11	11 U
Chlorodibromomethane	UG/KG	0	0%		0	0	11	II U
Chloroethane	UG/KG	0	0%		0	0	11	11 U
Chloroform	UG/KG	0	0%	370	0	0	11	11 U
Cis-1,3-Dichloropropene	UG/KG	0	0%	370	0	0	11	11 U
Ethyl benzene	UG/KG	0	0°6	1000	0	0	11	11 U
Methyl bromide	UG/KG	0	0°6	1000	0	0	11	11 U
	UG/KG	0	0%		0	0	11	11 U
Methyl butyl ketone		0	0%		0	0	8	11.0
Methyl chloride	UG/KG		0% 9%	120				
Methyl ethyl ketone	UG/KG	36		120	0	1	11	11 U
Methyl isobutyl ketone	UG/KG	0	0%a		0	0	11	11 U
Methylene chloride	UG/KG	0	() <sub>0</sub> , <sub>0</sub>	50	0	0	11	11 U
Styrene	UG/KG	0	00,0	1200	0	0	11	11 U
Tetrachloroethene	UG/KG	0	0%	1300	0	0	11	11 U
Toluene	UG/KG	3	9%	700	0	1	1.1	11 U
Total Xylenes	UG/KG	0	00.6	260	0	0	11	11 U
Trans-1,3-Dichloropropene	UG/KG	0	000		0	0	11	11 U
Trichloroethene	UG/KG	0	0%	470	0	0	li	11 U
Vinyl chloride	UG/KG	0	0%	20	0	0	11	11 U
Semivolatile Organic Compound								
1,2,4-Trichlorobenzene	UG/KG	0	0°6		0	0	l l	360 U
1,2-Dichlorobenzene	UG/KG	0	0%	1100	0	0	11	360 U
1,3-Dichlorobenzene	UG/KG	0	0° a	2400	0	0	11	360 U
1,4-Dichlorobenzenc	UG/KG	0	O°/0	1800	0	0	11	360 U
2,2'-oxybis(1-Chloropropane)	UG/KG	0	0° a		0	0	11	360 U
2,4,5-Trichlorophenol	UG/KG	0	0%		0	0	1.1	880 U
2,4,6-Trichlorophenol	UG/KG	0	0%		0	0	11	360 ₹1
2,4-Dichlorophenol	UG/KG	0	0%		0	0	11	360 U
2,4-Dimethylphenol	UG/KG	0	0%		0	0	11	360 U
2,4-Dinitrophenol	UG/KG	0	0%		0	0	11	880 U
2,4-Dinitrotoluene	UG/KG	0	0%		0	0	11	360 U
2,6-Dinitrotoluene	UG/KG	0	0%		0	0	11	360 U
2-Chloronaphthalene	UG/KG	0	0%a		0	0	11	360 U
2-Chlorophenol	UG/KG	0	0%		0	0	11	360 U
2-Methylnaphthalene	UG/KG	0	0%		0	0	11	360 U
, , , , , , , , , , , , , , , , , , , ,		0	0%	330	0	0	11	
2-Methylphenol	UG/KG			330				360 U
2-Nitroaniline	UG/KG	0	0%		0	0	11	880 U
2-Nitrophenol	UG/KG	0	0°6		0	0	11	360 U
3,3'-Dichlorobenzidine	UG/KG	0	0%		0	0	11	360 U
3-Nitroaniline	UG/KG	0	0%		0	0	11	880 U
4,6-Dinitro-2-methylphenol	UG/KG	0	0%		0	0	11	880 U

TABLE 1 SEAD-70 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

SEAD-70 SB70-3 SOIL SB70-3-05 8 10 2/21/1994

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		Maximum	Frequency of	Criteria	Number	Number of Times	Number of Samples	ESI
Parameter	Units	Value	Detection	Value 1	Exceedances	Detected	Analyzed <sup>2</sup>	Value (O)
4-Bromophenyl phenyl ether	UG/KG	0	0%	7 411 415	0	0	11	360 U
4-Chloro-3-methylphenol	UG/KG	0	0%		0	0	11	360 U
4-Chlorosniline	UG/KG	0	0%		0	0	11	360 U
4-Chlorophenyl phenyl ether	UG/KG	0	0%		0	0	11	360 U
4-Methylphenol	UG/KG	0	0%	330	o	0	11	360 U
4-Nitroaniline	UG/KG	0	0%	550	0	0	11	880 U
4-Nitrophenol	UG/KG	0	0%		0	0	11	880 U
Acenaphthene	UG/KG	0	0%	20000	0	0	11	360 U
Acenaphthylene	UG/KG	0	0%	100000	0	0	11	360 U
Anthracene	UG/KG	0	0%	100000	0	0	11	360 U
Benzo(a)anthracene	UG/KG	0	0%	1000	Ö	0	11	360 U
Benzo(a)pyrene	UG/KG	0	0%	1000	0	0	11	360 U
Benzo(b)fluoranthene	UG/KG	0	0%	1000	0	0	11	360 U
Benzo(ghi)perylene	UG/KG	0	0%	100000	0	0	11	360 U
Benzo(k)fluoranthene	UG/KG	0	0%	800	0	0	11	360 U
Bis(2-Chloroethoxy)methane	UG/KG	0	0%	800	0	0	11	360 U
Bis(2-Chloroethyl)ether	UG/KG	0	0%		0	0	11	360 U
	UG/KG	610	100%		0	11	11	48 J
Bis(2-Ethylhexyl)phthalate Butylbenzylphthalate	UG/KG	0	0%		0	0	11	360 U
Carbazole	UG/KG	0	0%		0	0	11	360 U
		0	0%	1000	0	0	11	360 U
Chrysene	UG/KG	51	55%	1000	0	6	11	25 J
Di-n-butylphthalate	UG/KG UG/KG	30	9%		0	1	11	360 U
Di-n-octylphthalate		0	0%	330	0	0	11	360 U
Dibenz(a,h)anthracene	UG/KG	0	0%	7000	0	0	11	360 U
Dibenzofuran	UG/KG	0		7000	0	0		
Diethyl phthalate	UG/KG	0	0%		0	0	11 11	360 U
Dimethylphthalate	UG/KG	-	0%	100000				360 U
Fluoranthene	UG/KG	0	0%	100000	0	0	11	360 U
Fluorene	UG/KG	0	0%	30000 330	0	0	11 11	360 U
Hexachlorobenzene	UG/KG	0	0%	330				360 U
Hexachlorobutadiene	UG/KG	-	0%		0	0	11	360 U
Hexachlorocyclopentadiene	UG/KG	0	0%		0	0	11 11	360 U
Hexachloroethane	UG/KG	-				0		360 U
Indeno(1,2,3-cd)pyrene	UG/KG	0	0%	500	0	-	11	360 U
Isophorone	UG/KG	0	0%		0	0	11	360 U
N-Nitrosodiphenylamine	UG/KG	0	0%		0	0	11	360 U
N-Nitrosodipropylamine	UG/KG	0	0%		0	0	11	360 U
Naphthalene	UG/KG	0	0%	12000	0	0	11	360 U
Nitrobenzene	UG/KG	0	0%		0	0	11	360 U
Pentachlorophenol	UG/KG	0	0%	800	0	0	11	880 U
Phenanthrene	UG/KG	0	0%	100000	0	0	11	360 U
Phenol	UG/KG	0	0%	330	0	0	11	360 U
Pyrene	UG/KG	0	0%	100000	0	0	11	360 U
Pesticides and PCBs								
4,4'-DDD	UG/KG	0	0%	3.3	0	0	11	3.6 U
4,4'-DDE	UG/KG	0	0%	3.3	0	0	11	3.6 U
4,4'-DDT	UG/KG	0	0%	3.3	0	0	11	3.6 U
Aldrin	UG/KG	0	0%	5	0	0	11	1.9 U
Alpha-BHC	UG/KG	0	0%	20	0	0	11	1.9 U
Alpha-Chlordane	UG/KG	0	0%	94	0	0	11	1.9 U
Aroclor-1016	UG/KG	0	0%	100	0	0	11	36 U
Aroclor-1221	UG/KG	0	0%	100	0	0	11	74 U

## TABLE 1 SEAD-70 SOIL SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

SEAD-70 SB70-3 SB70-3-05 10 2/21-1994 SA

								SA
			Frequency		Number	Number	Number	ESI
		Maximum	of	Criteria	of	of Times	of Samples	
Parameter	Units	Value	Detection	Value 1	Exceedances	Detected	Analyzed 2	Value (Q)
Aroclor-1232	UG/KG	0	0%	100	0	0	11	36 U
Aroclor-1242	UG/KG	0	0%	100	0	0	11	36 U
Aroclor-1248	UG/KG	0	0%	100	0	0	11	36 U
Aroclor-1254	UG/KG	0	000	100	0	0	11	36 U
Aroclor-1260	UG/KG	0	0%	100	0	0	11	36 U
Beta-BHC	UG/KG	0	00.0	36	0	0	11	1.9 U
Delta-BHC	UG/KG	0	0%	40	0	0	11	1.9 U
Dieldrin	UG/KG	0	000	5	0	0	11	3.6 U
Endosulfan I	UG'KG	0	0.2	2400	0	0	11	1.9 U
Endosulfan II	UG/KG	0	0%	2400	0	0	11	3.6 U
Endosulfan sulfate	UG/KG	0	0%	2400	0	0	11	3.6 U
Endrin	UG/KG	0	0%	14	0	0	1.1	3.6 U
Endrin aldehyde	UG/KG	0	0°6		0	0	11	3.6 U
Endrin ketone	UG/KG	0	0%		0	0	11	3.6 U
Gamma-BHC/Lindane	UG/KG	0	0%	100	0	0	11	1.9 U
Gamma-Chlordane	UG/KG	0	0%		0	0	1.1	1.9 U
Heptachlor	UG/K.G	0	0° u	42	0	0	H	L9 U
Heptachlor epoxide	UG/KG	0	00.5		0	0	II	1.9 U
Methoxychlor	UG/KG	0	0%		0	0	11	19 U
Toxaphene	UG/KG	0	000		0	0	11	190 U
Metals								
Aluminum	MG/KG	16600	100° 5		0	11	1.1	11400
Antimony	MG/KG	0.47	73°6		0	8	11	0.25 J
Arsenic	MG/KG	15.2	100%	13	2	46	46	3.9 J
Barium	MG/KG	170	100%	350	0	11	11	50.4
Berylhum	MG/KG	0.81	100%	7.2	0	11	11	0.55 J
Cadmium	MG/KG	8.0	100%	2.5	0	11	11	0.13 J
Calcium	MG/KG	59100	100%		0	11	11	37300
Chromium	MG/KG	26.2	100%	30	0	11	11	19.7
Cobalt	MG/KG	21	100°6		0	11	1.1	12.1
Copper	MG/KG	35.2	100%	50	0	11	11	17.2
Cyanide	MG/KG	0	0%	27	0	0	11	0.53 U
Iron	MG/KG	32200	100%		0	11	11	24800
Lead	MG/KG	22.1	100%	63	0	11	11	5.3 J
Magnesium	MG/KG	13600	100%		0	11	1.1	8170
Manganese	MG/KG	1040	100%	1600	0	11	11	414
Mercury	MG/KG	0.1	91%	0.18	0	10	11	0.02 UJ
Nickel	MG/KG	52.4	100%	30	8	11	11	30.8
Potassium	MG/KG	1750	100% v		0	11	1.1	1260
Selenium	MG/KG	1	64%	3.9	0	7	1.1	0.49 J
Silver	MG/KG	0	0%	2	0	0	11	0.13 U
Sodium	MG/KG	165	82%		0	9	11	89.1 J
Thallrum	MG/KG	0	0%		0	0	11	0.21 U
Vanadium	MG/KG	26.9	100%		0	11	11	16
Zinc	MG/KG	116	100%	109	1	11	11	73

- (1) Criteria based on NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives,
  - http://www.dec.state.ny.us/website/regs/subpart375\_6.html
- (2) Sample-duplicate pairs were not averaged. Samples were presented as discreet samples in the summary statistics.
- (3) A bolded and outlined cell indicates a concentration that exceeded the criteria.
- U = compound was not detected
- J = the reported value is an estimated concentration
- $UJ = the\ compound\ was\ not\ detected;\ the\ associated\ reporting\ limit\ is\ approximate \\ R = the\ analytical\ result\ was\ rejected\ during\ data\ validation.$

TABLE 2 SEAD-70 GROUNDWATER SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

								SEAD-70 MW70-1 GW MW70-1 3.7 9.6	SEAD-70 MW70-2 GW MW70-2 4 10.7	SEAD-70 MW70-3 GW MW70-3 4.3 8.3	SEAD-70 MW70-4 GW MW70-4 3.4 9.3
								7/7/2094	7/7/2094	7/8/2094	7/8/2094
								7772094 SA	77772094 SA	7/6/2094 SA	7/6/2094 SA
			Frequency		Number	Number	Number	ESI	ESI	ESI	ESI
		Maximum	of	Criteria	of	of Times	of Samples	LSI	ESI	ESI	ESI
Parameter	Units	Value	Detection	Level	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds											
1,1,1-Trichloroethane	UG/L	0	0%	5	0	0	4	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	4	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane	UG/L	0	0%	I	0	0	4	10 U	10 U	10 U	10 U
I,1-Dichloroethane	UG/L	0	0%	5	0	0	4	10 U	10 U	10 U	10 U
1,1-Dichloroethene	UG/L	0	0%	5	0	0	4	10 U	10 U	10 U	10 U
1,2-Dichloroethane	UG/L	0	0%	0.6	0	0	4	10 U	10 U	10 U	10 U
1,2-Dichloroethene (total)	UG/L	0	0%	5	0	0	4	10 U	10 U	10 U	10 U
1,2-Dichloropropane	UG/L	0	0%	1	0	0	4	10 U	10 U	10 U	10 U
Acetone	UG/L	11	25%		0	1	4	10 U	11	10 U	10 U
Benzene	UG/L	0	0%	I	0	0	4	10 U	10 U	10 U	10 U
Bromodichloromethane	UG/L	0	0%	80	0	0	4	10 U	10 U	10 U	10 U
Bromoform	UG/L	0	0%	80	0	0	4	10 U	10 U	10 U	10 U
Carbon disulfide	UG/L	0	0%		0	0	4	10 U	10 U	10 U	10 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	4	10 U	10 U	10 U	10 U
Chlorobenzene	UG/L	0	0%	5	0	0	4	10 U	10 U	10 U	10 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	4	10 U	10 U	10 U	10 U
Chloroethane	UG/L	0	0%	5	0	0	4	10 U	10 U	10 U	10 U
Chloroform	UG/L	0	0%	7	0	0	4	10 U	10 U	10 U	10 U
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	4	10 U	10 U	U 01	10 U
Ethyl benzene	UG/L	0	0%	5	0	0	4	10 U	10 U	10 U	10 U
Methyl bromide	UG/L	0	0%	5	0	0	4	10 U	10 U	10 U	10 U
Methyl butyl ketone	UG/L	0	0%		0	0	4	10 U	10 U	10 U	10 U
Methyl ethyl ketone	UG/L	0	0%		0	0	4	10 U	10 U	10 U	10 U
Methyl isobutyl ketone	UG/L	0	0%		0	0	4	10 U	10 U	10 U	10 U
Methylene chloride	UG/L	0	0%	5	0	0	4	10 U	10 U	10 U	10 U
Styrene	UG/L	0	0%	5	0	0	4	10 U	10 U	10 U	10 U
Tetrachloroethene	UG/L	0	0%	5	0	0	4	10 U	10 U	10 U	10 U
Toluene	UG/L	0	0%	5	0	0	4	10 U	10 U	10 U	10 U
Total Xylenes	UG/L	0	0%	5	0	0	4	10 U	10 U	10 U	10 U
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	4	10 U	10 U	10 U	10 U
Trichloroethene	UG/L	0	0%	5	0	0	4	10 U	10 U	10 U	10 U
Vinyl chloride	UG/L	0	0%	2	0	0	4	10 U	10 U	10 U	10 U
Semivolatile Organic Compound		Ŭ	0,0	-	· ·	Ů				100	
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	4	11 U	10 U	11 U	10 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	4	11 U	10 U	11 U	10 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	4	11 U	10 U	11 U	10 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	4	11 U	10 U	11 U	10 U
2,2'-oxybis(1-Chloropropane)	UG/L	0	0%	~	0	0	4	11 U	10 U	11 U	10 U
2,4,5-Trichlorophenol	UG/L	0	0%	1	0	0	4	28 U	25 U	28 U	25 U
2,4,6-Trichlorophenol	UG/L	0	0%	1	0	0	4	11 U	10 U	11 U	10 U
2,4-Dichlorophenol	UG/L	0	0%	5	0	0	4	11 U	10 U	11 U	10 U
,		-	- / 4	-	•	•		0			

TABLE 2 SEAD-70 GROUNDWATER SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

								SEAD-70	SEAD-70	SEAD-70	SEAD-70
								MW70-1	MW70-2	MW70-3	MW70-4
								GW	GW	GW	GW
								MW70-1	MW70-2	MW70-3	MW70-4
								3.7	4	4.3	3.4
								9.6	10.7	8.3	9.3
								7/7/2094	7/7/2094	7/8/2094	7/8/2094
								SA	SA	SA	SA
			Frequency		Number	Number	Number	ESI	ES1	ESI	ESI
		Maximum	of	Criteria	of	of Times	of Samples				
Parameter	Units	Value	Detection	Level	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)
2,4-Dimethylphenol	UG/L	0	0%		0	0	4	11 U	10 U	11 U	10 U
2,4-Dinitrophenol	UG/L	0	0%		0	0	4	28 U	25 U	28 U	25 U
2,4-Dinitrotoluene	UG/L	0	0%	5	0	0	4	11 U	10 U	11 U	10 U
2,6-Dinitrotoluene	UG/L	0	0%	5	0	0	4	11 U	10 U	11 U	10 U
2-Chloronaphthalene	UG/L	0	0%		0	0	4	11 U	10 U	11 U	10 U
2-Chlorophenol	UG/L	0	0%		0	0	4	11 U	10 U	11 U	10 U
2-Methylnaphthalene	UG/L	0	0%		0	0	4	11 U	10 U	11 U	10 U
2-Methylphenol	UG/L	0	0%		0	0	4	11 U	10 U	11 U	10 U
2-Nitroaniline	UG/L	0	0%	5	0	0	4	28 U	25 U	28 U	25 U
2-Nitrophenol	UG/L	0	0%	1	0	0	4	11 U	10 U	11 U	10 U
3,3'-Dichlorobenzidine	UG/L	0	0%	5	0	0	4	11 U	10 U	11 U	10 U
3-Nitroaniline	UG/L	0	0%	5	0	0	4	28 U	25 U	28 U	25 U
4,6-Dinitro-2-methylphenol	UG/L	0	0%	1	0	0	4	28 U	25 U	28 U	25 U
4-Bromophenyl phenyl ether	UG/L	0	0%		0	0	4	11 U	10 U	11 U	10 U
4-Chloro-3-methylphenol	UG/L	0	0%	1	0	0	4	11 U	10 U	11 U	10 U
4-Chloroaniline	UG/L	0	0%	5	0	0	4	11 U	10 U	11 U	10 U
4-Chlorophenyl phenyl ether	UG/L	0	0%		0	0	4	11 U	10 U	11 U	10 U
4-Methylphenol	UG/L	0	0%		0	0	4	11 U	10 U	11 U	10 U
4-Nitroaniline	UG/L	0	0%	5	0	0	4	28 U	25 U	28 U	25 U
4-Nitrophenol	UG/L	0	0%	1	0	0	4	28 U	25 U	28 U	25 U
Acenaphthene	UG/L	0	0%		0	0	4	11 U	10 U	11 U	10 U
Acenaphthylene	UG/L	0	0%		0	0	4	11 U	10 U	11 U	10 U
Anthracene	UG/L	0	0%		0	0	4	11 U	10 U	11 U	10 U
Benzo(a)anthracene	UG/L	0	0%		0	0	4	11 U	10 U	11 U	10 U
Benzo(a)pyrene	UG/L	0	0%	0	0	0	4	11 U	10 U	11 U	10 U
Benzo(b)fluoranthene	UG/L	0	0%		0	0	4	11 U	10 U	11 U	10 U
Benzo(ghi)perylene	UG/L	0	0%		0	0	4	11 U	10 U	11 U	10 U
Benzo(k)fluoranthene	UG/L	0	0%		0	0	4	11 U	10 U	11 U	10 U
Bis(2-Chloroethoxy)methane	UG/L	0	0%	5	0	0	4	11 U	10 U	11 U	10 U
Bis(2-Chloroethyl)ether	UG/L	0	0%	1	0	0	4	11 U	10 U	11 U	10 U
Bis(2-Ethylhexyl)phthalate	UG/L	0	0%	5	0	0	4	16 U	10 U	11 U	10 U
Butylbenzylphthalate	UG/L	0	0%		0	0	4	11 U	10 U	11 U	10 U
Carbazole	UG/L	0	0%		0	0	4	11 U	10 U	11 U	10 U
Chrysene	UG/L	0	0%		0	0	4	11 U	10 U	11 U	10 U
Di-n-butylphthalate	UG/L	0	0%	50	0	0	4	11 U	10 U	11 U	10 U
Di-n-octylphthalate	UG/L	0	0%		0	0	4	11 U	10 U	11 U	10 U
Dibenz(a,h)anthracene	UG/L	0	0%		0	0	4	11 U	10 U	11 U	10 U
Dibenzofuran	UG/L	0	0%		0	0	4	11 U	10 U	11 U	10 U
Diethyl phthalate	UG/L	0	0%		0	0	4	11 U	10 U	11 U	10 U
Dimethylphthalate	UG/L	0	0%		0	0	4	11 U	10 U	11 U	10 U
Fluoranthene	UG/L	0	0%		0	0	4	11 U	10 U	11 U	10 U
Fluorene	UG/L	0	0%		0	0	4	11 U	10 U	11 U	10 U

TABLE 2 SEAD-70 GROUNDWATER SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

								SEAD-70	SEAD-70	SEAD-70	SEAD-70
								MW70-1	MW70-2	MW70-3	MW70-4
								GW	GW	GW	GW
								MW70-1	MW70-2	MW70-3	MW70-4
								3.7	4	4.3	3.4
								9.6	10.7	8.3	9.3
								7/7/2094	7/7/2094	7/8/2094	7/8/2094
								SA	SA	SA	SA
			Frequency		Number	Number	Number	ESI	ESI	ESI	ESI
		Maximum	of	Criteria	of	of Times	of Samples				
Parameter	Units	Value	Detection	Level	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Hexachlorobenzene	UG/L	0	0%	0.04	0	0	4	11 U	10 U	11 U	10 U
Hexachlorobutadiene	UG/L	0	0%	0.5	0	0	4	11 U	10 U	11 U	10 U
Hexachlorocyclopentadiene	UG/L	0	0%	5	0	0	4	11 U	10 U	11 U	10 U
Hexachloroethane	UG/L	0	0%	5	0	0	4	11 U	10 U	11 U	10 U
Indeno(1,2,3-cd)pyrene	UG/L	0	0%		0	0	4	11 U	10 U	11 U	10 U
Isophorone	UG/L	0	0%		0	0	4	11 U	10 U	11 U	10 U
N-Nitrosodiphenylamine	UG/L	0	0%		0	0	4	11 U	10 U	11 U	10 U
N-Nitrosodipropylamine	UG/L	0	0%		0	0	4	11 U	10 U	11 U	10 U
Naphthalene	UG/L	0	0%		0	0	4	11 U	10 U	11 U	10 U
Nitrobenzene	UG/L	0	0%	0.4	0	0	4	11 U	10 U	II U	10 U
Pentachlorophenol	UG/L	0	0%	1	0	0	4	28 U	25 U	28 U	25 U
Phenanthrene	UG/L	0	0%		0	0	4	11 U	10 U	11 U	10 U
Phenol	UG/L	0	0%	1	0	0	4	II U	10 U	11 U	10 U
Pyrene	UG/L	0	0%		0	0	4	11 U	10 U	11 U	10 U
Pesticides and PCBs											
4,4'-DDD	UG/L	0	0%	0.3	0	0	4	0.1 U	0.11 U	0.1 UJ	0.11 U
4,4'-DDE	UG/L	0	0%	0.2	0	0	4	0.1 U	0.11 U	0.1 UJ	0.11 U
4,4'-DDT	UG/L	0	0%	0.2	0	0	4	0.1 U	0.11 U	0.1 UJ	0.11 U
Aldrin	UG/L	0	0%	0	0	0	4	0.051 U	0.054 U	0.052 UJ	0.054 U
Alpha-BHC	UG/L	0	0%	10.0	0	0	4	0.051 U	0.054 U	0.052 UJ	0.054 U
Alpha-Chlordane	UG/L	0	0%		0	0	4	0.051 U	0.054 U	0.052 UJ	0.054 U
Aroclor-1016	UG/L	0	0%	0.09	0	0	4	1 U	1.1 U	1 UJ	1.1 U
Aroclor-1221	UG/L	0	0%	0.09	0	0	4	2 U	2.1 U	2.1 UJ	2.2 U
Arocior-1232	UG/L	0	0%	0.09	0	0	4	1 U	1.1 U	1 UJ	1.1 U
Aroclor-1242	UG/L	0	0%	0.09	0	0	4	1 U	1.1 U	1 UJ	1.1 U
Aroclor-1248	UG/L	0	0%	0.09	0	0	4	1 U	1.1 U	l UJ	1.1 U
Aroclor-1254	UG/L	0	0%	0.09	0	0	4	1 U	1.1 U	1 UJ	1.1 U
Aroclor-1260	UG/L	0	0%	0.09	0	0	4	1 U	1.1 U	1 UJ	1.1 U
Beta-BHC	UG/L	0	0%	0.04	0	0	4	0.051 U	0.054 U	0.052 UJ	0.054 U
Delta-BHC	UG/L	0	0%	0.04	0	0	4	0.051 U	0.054 U	0.052 UJ	0.054 U
Dieldrin	UG/L	0	0%	0.004	0	0	4	0.1 U	0.11 U	0.1 UJ	0.11 U
Endosulfan I	UG/L	0	0%		0	0	4	0.051 U 0.1 U	0.054 U	0.052 UJ 0.1 UJ	0.054 U 0.11 U
Endosulfan II	UG/L	0	0%		0	0	4	0.1 U	0.11 U 0.11 U	0.1 UJ	0.11 U
Endosulfan sulfate	UG/L	0	0%		0	0	4	0.1 U	0.11 U	0.1 UJ	0.11 U
Endrin	UG/L	0	0%	0		0				0.1 UJ	0.11 U
Endrin aldehyde	UG/L	0	0%	5	0		4	0.1 U	0.11 U		0.11 U
Endrin ketone	UG/L	0	0%	5	0	0	4	0.1 U	0.11 U	0.1 UJ 0.052 UJ	0.054 U
Gamma-BHC/Lindane	UG/L	0	0%	0.05	0	0	4	0.051 U 0.051 U	0.054 U 0.054 U	0.052 UJ	0.054 U
Gamma-Chlordane	UG/L	0	0%	0.04	0	0	4	0.051 U	0.054 U	0.052 UJ	0.054 U
Heptachlor	UG/L	0	0%	0.04	-		4			0.052 UJ	0.054 U
Heptachlor epoxide	UG/L	0	0%	0.03	0	0	4	0.051 U	0.054 U		0.034 U 0.54 U
Methoxychlor	UG/L	0	0%	35	0	0	4	0.51 U	0.54 U	0.52 UJ	0.34 U

TABLE 2 SEAD-70 GROUNDWATER SAMPLE RESULTS SENECA ARMY DEPOT ACTIVITY

		Maximum	Frequency of	Criteria	Number of	Number of Times	Number of Samples	SEAD-70 MW70-1 GW MW70-1 3.7 9.6 7/7/2094 SA ESI	SEAD-70 MW70-2 GW MW70-2 4 10.7 7/7/2094 SA ESI	SEAD-70 MW70-3 GW MW70-3 4.3 8.3 7/8/2094 SA ESI	SEAD-70 MW70-4 GW MW70-4 3.4 9.3 7/8/2094 SA ESI
Parameter	Units	Value	Detection	Level	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Toxaphene	UG/L	0	0%	0.06	0	0	4	5.1 U	5.4 U	5.2 UJ	5.4 U
Metals											
Aluminum	UG/L	1260	100%		0	4	4	88.2 J	1260	229	32.1 J
Antimony	UG/L	0	0%	3	0	0	4	1.3 U	1.3 U	1.3 U	1.3 U
Arsenic	UG/L	0	0%	10	0	0	4	2 U	2 U	2 U	2 U
Barium	UG/L	165	100%	1000	0	4	4	86.5 J	165 J	130 J	152 J
Beryllium	UG/L	0	0%	4	0	0	4	0.1 U	0.1 U	0.1 U	0.1 U
Cadmium	UG/L	0	0%	5	0	0	4	0.2 U	0.2 U	0.2 U	0.2 U
Calcium	UG/L	213000	100%		0	4	4	119000	213000	180000	171000
Chromium	UG/L	2.9	25%	50	0	1	4	0.4 U	2.9 J	0.4 U	0.4 U
Cobalt	UG/L	1.7	75%		0	3	4	0.5 U	1.7 Ј	0.79 J	1.6 J
Copper	UG/L	4.1	25%	200	0	1	4	0.5 U	4.1 J	0.5 U	0.5 U
Cyanide	UG/L	0	0%		0	0	4	5 U	5_U	5 U	5 U
Iron	UG/L	2140	100%	300	1	4	4	213	2140	284	
Iron+Manganese	UG/L	2332	100%	500	2	4	4	320	2332	344.2	<b>597.7</b> J
Lead	UG/L	0	0%	15	0	0	4	0.9 U	0.9 U	0.9 U	0.89 U
Magnesium	UG/L	51400	100%		0	4	4	28100	51400	40800	41000
Manganese	UG/L	519	100%	300	1	4	4	107	192	60.2	519
Mercury	UG/L	0.09	100%	0.7	0	4	4	0.06 J	0.07 J	0.09 J	0.04 J
Nickel	UG/L	4.5	100%	100	0	4	4	1.5 J	4.5 J	0.82 J	1.8 J
Potassium	UG/L	6380	100%		0	4	4	1540 J	2330 J	1250 J	6380
Selenium	UG/L	0	0%	10	0	0	4	2.7 U	2.7 U	2.7 U	2.7 U
Silver	UG/L	0	0%	50	0	0	4	0.5 U	0.5 U	0.5 U	0.5 U
Sodium	UG/L	17800	100%	20000	0	4	4	5220	13700	8700	17800
Thallium	UG/L	2	25%	2	0	1	4	1.9 U	1.9 U	2 J	1.9 U
Vanadium	UG/L	2.6	75%		0	3	4	0.5 U	2.6 J	0.73 J	0.6 J
Zinc	UG/L	16.5	100%		0	4	4	3.5 J	16.5 Ј	5.6 J	4.2 J

## Notes:

<sup>(1)</sup> GA = NYSDEC Class GA Groundwater Standard (TOGS 1.1.1, June 1998)

MCL = Maximum Contaminant Level - Drinking Water Standards and Health Advisory (EPA 822-B-00-001)

<sup>(2)</sup> Shading indicates a concentration above the groundwater standard.

U = compound was not detected

J = the reported value is an estimated concentration

R = the analytical result was rejected during data validation.

# TABLE 3A OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN IN SEAD-70 SOIL SENECA ARMY DEPOT ACTIVITY

Scenario Time frame: Current/Future
Medium: Soil
Exposure Medium: Soil
Exposure Point: SEAD-70

CAS Number	Chemical	Minimum Detected Concentration <sup>1</sup> (mg/kg)	Q	Maximum Detected  Concentration <sup>1</sup> (mg/kg)	Q	Location of Maximum Concentration		ection		Li	of Reimits		Concentration Used for Screening <sup>2</sup> (mg/kg)	Background Value <sup>3</sup> (mg/kg)			COPC Flag	Rationale for Contaminant Deletion or Selection <sup>6</sup>	
VOC			_					T			TT								
67-64-1	Acetone	0.079		0.079		SB70-1	1	/ 1	1	0.011	-	0.035	0.079		6,100	NYSDEC Subpart 375-6	0.05	NO	BSL
78-93-3	Methyl ethyl ketone	0.036		0.036		SB70-1	-1	/	11	0.011	-	0.017	0.036		2,800	NYSDEC Subpart 375-6	0.12	NO	BSL
108-88-3	Toluene	0.003	J	0.003	J	SB70-1	_1	/	11-	0.011	[-]	0.014	0.003		500	NYSDEC Subpart 375-6	0.7	NO	BSL
SVOC											$\Box$								
117-81-7	Bis(2-Ethylhexyl)phthalate	0.021	J	0.61		MW70-1	11	/	11	0	-	0	0.61		35			NO	BSL
84-74-2	Di-n-butylphthalate	0.025	J	0.051	J	SB70-3	6	/	11	0.36	-	0.49	0.051		610			NO	BSL
117-84-0	Di-n-octylphthalate	0.03	J	0.03	J	SB70-1	1	/ 1	11	0.36	-	0.49	0.03						NSV
Metals																			
7429-90-5	Aluminum	9,340		16,600		SB70-1	11	/	11	0	-	0	16,600	20,500	7,700			YES	ASL
7440-36-0	Antimony	0.19	J	0.47	J	SB70-2	8	/	11	0.19	-	0.23	0.47	6.55	3.1			NO	BSL
7440-38-2	Arsenic	2.4	J	15.2	J	70EXPR10046	46	1 -	46	0	-	0	15.2	21.5	0.39	NYSDEC Subpart 375-6	13	YES	ASL
7440-39-3	Barium	40.5		170		SB70-1	11	1	11	0	1-1	0	170	159	1,500	NYSDEC Subpart 375-6	350	NO	BSL
7440-41-7	Beryllium	0.41	J	0.81	J	SB70-1	11	/	11	0	-	0	0.81	1.4	16	NYSDEC Subpart 375-6	7.2	NO	BSL
7440-43-9	Cadmium	0.05	J	0.8	3	MW70-1	11	/	11	0	1-1	0	0.8	2.9	7	NYSDEC Subpart 375-6	2.5	NO	BSL
7440-70-2	Calcium	3,600		59,100		SB70-3	11	1	11	0	-	0	59,100	293,000					NUT
7440-47-3	Chromium	13.7		26.2		SB70-I	11	1	11	0	-	0	26.2	32.7	280	NYSDEC Subpart 375-6	30	NO	BSL
7440-48-4	Cobalt	5.5	J	21		MW70-1	11	/	11	0	-	0	21	29.1	2.3			YES	ASL
7440-50-8	Copper	12.4		35.2		SB70-1	11	/	11	0	-	0	35.2	62.8	310	NYSDEC Subpart 375-6	50	NO	BSL
7439-89-6	Iron	16,000		32,200		SB70-1	11	1	11	0	-	0	32,200	381,600	5,500			YES	ASL
7439-92-1	Lead	4.2	J	22.1	J	SB70-1	11	1	11	0	-	0	22.1	266	40	NYSDEC Subpart 375-6	63	NO	BSL
7439-95-4	Magnesium	2,830		13,600		MW70-1	11	1	11	0	-	0	13,600	29,100					NUT
7439-96-5	Manganese	233		1,040		MW70-1	11	1	11	0	-	0	1,040	2,380	180	NYSDEC Subpart 375-6	1,600	YES	ASL
7439-97-6	Mercury	0.02	J	0.1		MW70-1	10	1	11	0.02	-	0.02	0.1	0.13	0.43	NYSDEC Subpart 375-6	0.18	NO	BSL
7440-02-0	Nicke!	12.3		52.4		MW70-1	11	1	11	0	-	0	52.4	62.3	150	NYSDEC Subpart 375-6	30	NO	BSL
7440-09-7	Potassium	982	J	1,750		SB70-2	11	1	11	0	-	0	1,750	3,160					NUT
7782-49-2	Selenium	0.32	J	1	J	MW70-1	7	1	11	0.24	-	0.32	1	1.7	39	NYSDEC Subpart 375-6	3.9	NO	BSL
122-34-9	Sodium	30.3	J	165	J	MW70-1	9	/	11	34.9	-	36.4	165	269	4			YES	NUT
7440-62-2	Vanadium	13.9		26.9		SB70-1	11	1	11	0	-	0	26.9	32.7	55			NO	BSL
7440-66-6	Zinc	42.4		116		MW70-1	11	1	11	0	1.	0	116	126	2,300	NYSDEC Subpart 375-6	109	NO	BSL

## Note

- 1. Field duplicate pairs were not averaged and were presented as discrete samples. Laboratory duplicates were not included in the assessment. Range of reporting limits were presented for nondetects only.
- 2. The maximum detected concentration was used for screening.
- 3. Background value is the maximum Seneca background concentration.
- 4. EPA Regional Screening Levels for residential soil. On-line resources available at http://www.epa.gov/region09/superfund/prg/index.html. Last updated April 2009.

Region 9 PRGs were derived based on Direct contact exposure (ingestion and dermal contact) and a target Cancer Risk of 1E-6 or a Target Hazard Quotient of 0.1.

Screening values for calcium, magnesium, potassium, and sodium were calculated based on an assumption of 200 mg/day soil ingestion and recommended dietary allowances and adequate intakes for 1-3 yr children

(500 mg/day and 80 mg/day for calcium and magnesium) and minimum requirements for 1 yr children (225 mg/day and 1000 mg/day for sodium and potassium) from Marilyn Wright (2001) Dietary Reference Intakes.

PRG for total chromium (1:6 ratio Cr VI: Cr III) was used as screening value for chromium.

PRG for nickel (soluble salts) was used as screening value for nickel.

5. Potential ARAR/TBC values are from NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives, http://www.dec.state.ny.us/website/regs/subpart375\_6.html

6. Rationale codes Selection Reason: Above Screening Levels (ASL)

Chemicals in the Same Group were retained as COPC (CSG)
Essential Nutrient (NUT)

Below Screening Level (BSL)
No Screening Value (NSV)

Definitions: COPC = Chemical of Potential Concern

ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered

Q = Qualifier
J = Estimated Value

Deletion Reason:

#### TABLE 3B

## OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN IN SEAD-70 GROUNDWATER SENECA ARMY DEPOT ACTIVITY

Scenario Time frame: Current/Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Aquifer -- Tap Water

CAS Number	Chemical	Minimum Detected Concentration 1 (ug/L)	Q	Maximum Detected Concentration (ug/L)	Q	Location of Maximum Concentration	Detec Freque		Range Report Limit (ug/I	ing s	Concentration Used for Screening <sup>2</sup> (ug/L)	Background Valuc <sup>3</sup> (ug/L)	Sereening Value <sup>4</sup> (ug/L)	Potential ARAR /TBC Value (ug/L)	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection <sup>5</sup>
VOC																	
67-64-1	Acctone	11		11		MW70-2	1 /	4	10 -	10	11		22,000			NO	BSL
Metals					11												
7429-90-5	Aluminum	32.1	J	1,260		MW70-2	4 /	4	0 -	0	1,260	2,730	37,000			NO	BSL
7440-39-3	Barium	86.5	J	165	J	MW70-2	4 /	4	0 -	0	165	78.2	7,300	1,000	GA	NO	BSL
7440-70-2	Calcium	0		213,000		MW70-2	4 /	4	0 -	0	213,000	116,000				YES	NUT
7440-47-3	Chromium	2.9	J	2.9	J	MW70-2	1 /	4	0.4 -	0.4	3	4.7		50	GA	NO	NSV
7440-48-4	Cobalt	0.79	J	1.7	J	MW70-2	3 /	4	0.5 -	0.5	2	3.7	11			NO	BSL
7440-50-8	Copper	4.1	J	4.1	J	MW70-2	1 /	4	0.5 -	0.5	4	3.3	1,500	200	GA	NO	BSL
7439-92-1	Iron	78.7	J	2,140		MW70-2	4 /	4	0 -	0	2,140	4,480	0	300	GA	YES	ASL
	Iron+Manganese	320		2,332		MW70-2	4 /	4	0 -	0	2,332			500	GA	YES	NSV
7439-95-4	Magnesium	28,100		51,400		MW70-2	4/	4	0 -	0	51,400	28,600				YES	NUT
7439-96-5	Manganese	60.2		519		MW70-4	4/	4	0 -	0	519	224	880	300	GA	NO	BSL
7439-97-6	Mercury	0.04	J	0.09	J	MW70-3	4/	4	0 -	0	0.09	0.04	0.57	0.7	GA	NO	BSL
7440-02-0	Nickel	0.82	J	4.5	J	MW70-2	4/	4	0 -	0	5	7.3	730	100	GA	NO	BSL
7440-09-7	Potassium	1,250	J	6,380		MW70-4	4/	4	0 -	)	6,380	3,830				YES	NUT
122-34-9	Sodium	5,220		17,800		MW70-4	4 /	4	0 -	0	17,800	14,600	1	20,000	GA	YES	NUT
7440-28-0	Thallium	2	J	2	J	MW70-3	1 /	4	1.9 -	1.9	2	2	2	2	MCL	NO	BSL
7440-62-2	Vanadium	0.6	J	2.6	J	MW70-2	3 /	4	0.5 -	0.5	3	5.2	260			NO	BSL
7440-66-6	Zinc	3.5	J	16.5	J	MW70-2	4 /	4	0 -	0	16.5	23.1	11,000			NO	BSL

#### Notes:

- 1. Analytical results are from the 1994 ESI sampling event.
- Laboratory duplicates were not included in the assessment. Range of reporting limits were presented for nondetects only.
- 2. The maximum detected concentration was used for screening.
- 3. Background values are average concentrations of background sample results.
- 4. EPA Regional Screening Levels for tap water. On-line resources available at

http://www.epa.gov/region09/superfund/prg/index.html. Last updated April 2009.

Target Cancer Risk = 1E-6; Target Hazard Quotient =0.1. Ingestion from drinking and inhalation of volatiles during showering are evaluated to derive the PRGs.

Screening values for calcium, magnesium, potassium, and sodium were calculated based on an assumption of 2L/day water intake

and recommended dietary allowances and adequate intakes for 1-3 yr children (500 mg/day and 80 mg/day for calcium and magnesium) and

minimum requirements for 2-5 yr children (1400 mg/day for potassium) from Marilyn Wright (2001) Dietary Reference Intakes.

For sodium, an upper limit intake of 2,400 mg/day (http://www.mealformation.com/dailyval.html) was used.

PRG for chromium (VI) was used as screening value for chromium.

5. Rationale codes Selection Reason: Above Screening Levels (ASL) No Screening Value (NSV)

Deletion Reason: Essential Nutrient (NUT)

Below Screening Level (BSL)

Definitions: COPC = Chemical of Potential Concern

ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered

MCL = Federal Maximum Contaminant Level

GA = New York State Class GA Groundwater Standard (TOGS 1.1.1, June 1998 with updates)

NA = Not Applicable Q = Qualifier J = Estimated Value

# TABLE 4A SEAD-70 SOIL EXPOSURE POINT CONCENTRATION SUMMARY SENECA ARMY DEPOT ACTIVITY

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Soil
Exposure Point:	SEAD-70

	Chemical	Units	Arithmetic	EPA ProUCL	Maximum	Q	EPC	Res	asonable Maximum Exposure (2)	)
CAS#	of		Mean	Student-t 95th	Detected		Units	EPA ProUCL	Medium	Medium
	Potential		(1)	UCL Value	Concentration			Recommended	EPC	EPC
	Concern			(1, 2, 4)	(1)			UCL Value	Statistic	Rationale
117-84-0	Di-n-octylphthalate	mg/kg	0.437	-(3)	0.490	J	mg/kg	0.49	-	-
7429-90-5	Aluminum	mg/kg	11,313	-(3)	12400		mg/kg	12400	-	-
7440-38-2	Arsenic	mg/kg	7.43	8.49	15.2	J	mg/kg	8.49	95% Student's-t UCL	Normal
7440-48-4	Cobalt	mg/kg	8.6	-(3)	12		mg/kg	11.90	-	
7439-89-6	Iron	mg/kg	20,967	-(3)	26300		mg/kg	26300	-	<u>-</u>
7439-96-5	Manganese	mg/kg	332	-(3)	465		mg/kg	465	-	

#### Notes:

- Field duplicates were not averaged and presented as discreet samples. Laboratory duplicates were not included in the assessment.
   Non-detectes were included in the dataset and 95% UCL analysis was performed as 'With ND' in ProUCL.
- 2. The EPCs were calculated using the ProUCL (Version 4.00.02) and the EPCs were selected in accordance with the ProUCL Version 4.0 User Guide (USEPA, 2004) and the Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites (USEPA, 2002).
  - Q qualifier
  - J = Estimated Value
  - KM = Kaplan-Meier statistical method
- 3. Insufficient number of detects in the dataset to perform 95th UCL analysis in ProUCL. This typical means there was a single detect in the dataset for this compound.

# TABLE 4B SEAD-70 GROUNDWATER EXPOSURE POINT CONCENTRATION SUMMARY SENECA ARMY DEPOT ACTIVITY

Scenario Time frame: Current/Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Aquifer--Tap Water

	Chemical	Units	Arithmetic	Maximum			Reasonable Maximum Exposi	ure (2)
CAC#	of		Mean	Detected	Q	Medium	Medium	Medium
CAS#	Potential			Concentration		EPC	EPC	EPC
	Concern			(mg/L)		Value (mg/L)	Statistic	Rationale
7439-89-6	Iron	mg/L	0.68	2.14		2.1E+00	MDC	See note

#### Notes:

1. Laboratory duplicates were not included in the assessment.

Concentrations for nondetects were excluded from the arithmetic mean calculation.

2. The maximum detected concentration was used as EPC for the RME scenario.

As residential use of groundwater has been based on the assumption that a single private well can be placed anywhere in the contaminated plume, the MDC across several rounds of monitoring was used as the EPC for groundwater as a conservative step for both the RME scenario.

EPC = Exposure Point Concentration

MDC = Maximum Detected Concentration

RME = Reasonable Maximum Exposure

#### TABLE 4C

# AMBIENT AIR EXPOSURE POINT CONCENTRATIONS FOR PARK WORKERS, VISITORS, & RESIDENTS AT SEAD-70 SENECA ARMY DEPOT ACTIVITY

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Air
Exposure Point:	SEAD-70

Equation for Air EPC from Surface Soil (mg/m³) = CSsurf x PM10 x CF

Variables:

CSsurf = Chemical Concentration in Surface Soil, from EPC data (mg/kg)

PM10 = Average Measured PM10 Concentration = 32.58 ug/m<sup>3</sup>

CF = Conversion Factor = 1E-9 kg/ug

	Reasonable M	aximum Exposure
Analyte	EPC Data for Surface Soil	Calculated Air EPC Surface Soil
	(mg/kg)	(mg/m³)
Di-n-octylphthalate	4.9E-01	1.6E-08
Aluminum	1.2E+04	4.0E-04
Arsenic	8.5E+00	2.8E-07
Cobalt	1.2E+01	3.9E-07
Iron	2.6E+04	8.6E-04
Manganese	4.7E+02	1.5E-05

#### **TABLE 4D**

#### AMBIENT AIR EXPOSURE POINT CONCENTRATIONS FOR CONSTRUCTION WORKER AT SEAD-70 SENECA ARMY DEPOT ACTIVITY

Scenario Timeframe: Current/Future

Medium: Soil Exposure Medium: Air

Exposure Point: SEAD-70

Equation for Air EPC from Total Soils (mg/m<sup>3</sup>) = CStot x PM10 x CF

Variables:

CStot = Chemical Concentration in Total Soils, from EPC data (mg/kg)

PM10 = PM10 Concentration Calculated for Construction Worker= 282 ug/m<sup>3</sup>

CF = Conversion Factor = 1E-9 kg/ug

	Reasonable Ma	aximum Exposure
	EPC Data for	Calculated Air EPC
Analyte	Surface and	Surface
	Subsurface Soil	and Subsurface Soil
	(mg/kg)	(mg/m³)
Di-n-octylphthalate	4.9E-01	1.6E-08
Aluminum	1.2E+04	4.0E-04
Arsenic	8.5E+00	2.8E-07
Cobalt	1.2E+01	3.9E-07
Iron	2.6E+04	8.6E-04
Manganese	4.7E+02	1.5E-05

# TABLE 4E CALCULATION OF AIR CONCENTRATION IN SHOWER FROM VOLATILIZATION OF GROUNDWATER (DAILY) IN SEAD-70 SENECA ARMY DEPOT ACTIVITY

Scenario Time frame: Current/Future
Medium: Groundwater
Exposure Medium: Air
Exposure Point: SEAD-70

	Residential Adult	Residential Adult	Residential Child											
Analyte	Time of	EPC Air	Time of	EPC Air		EPC	Flow Rate of Air	Volume of	Henry Laws	Asymptotic Air	Rate	Efficiency of	Efficiency of	Henry Laws
	Shower -Tevent		Shower -T <sub>event</sub>		Shower - Fw	Groundwater		Bathroom-	Constant-H	ConcCinf	Constant-K	Release-E	Release for	Constant- H-TCE
	(min)	(mg/m³)	(min)	(mg/m³)_	(L/min)	(mg/l)	(m³/min)	(m³)	(m³-atm/mol)	(mg/m³)	(1/min)	(unitless)	TCE - E-TCE	(m³-atm/mol)
Iron	35	1.55E+01	60	1.55E+01	19	2.14E+00	2.4	12	1.77E-02	1.69E+01	0.20	1.00E+00	0.6	0.0091
Concentration in Air (mg/m³) = Cinf[1+(1/(kTs)(e  Asymptotic Air Conc Cinf (mg/m²) = [(E)(Fw)(I						•	Variables: CA = Chemic	al Concentrat	tion in Air (mg/		Assumptions:	vater Data - R	ме	
Rate Constant - k (l/min) = Fa/Vb  Efficiency of Release - E (unitless) = (E-tce)(H)/(H-tce)							ite of Shower te of Air in Sl	(L/min) hower (m³/min)		2.4 (Average A	ir Flow)	nd child, respecti	ively	
		Efficiency of I	Release - E (unit	less) = (E-tce)(less)	H)/(H-tce)		Vb = Volume	of Bathroom	(m <sup>3</sup> )		12 (Average Ba	ithroom Volun	<u>1e)</u>	

#### Note:

Henry's law constants not available for the inorganic COPC.

#### TABLE 5 CALCULATION OF INTAKE AND RISK FROM THE INGESTION OF SOIL REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-70 SENECA ARMY DEPOT ACTIVITY

EPC x IR x CF x F1 x EF x ED x B Equation for Intake (mg/kg-day) =

BW x AT

Variables (Assumptions for Each Receptor are Listed at the Bottom): EPC = Exposure Point Concentration in Soil, mg/kg

EF = Exposure Frequency

IR = Ingestion Rate

ED = Exposure Duration

CF = Conversion Factor

B = Bioavailability BW = Bodyweight

FI = Fraction Ingested

AT = Averaging Time

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Oral	Carc. Slope		EPC		Park V	Vorker			Constructi	on Worker		Recreational Child Visitor			
Analyte	RfD	Oral	Bioavailability	Surface Soil	Int	ake	Hazard	Cancer	Int	ake	Hazard	Cancer	Int	ake	Hazard	Cancer
					(mg/k	g-day)	Quotient	Risk	(mg/k	g-day)	Quotient	Risk	(mg/k	g-day)	Quotient	Risk
	(mg/kg-day)	(mg/kg-day)-1	(unitless)	(mg/kg)	(Nc)	(Car)			(Nc)	(Car)			(Nc)	(Car)		
Di-n-octylphthalate	N/A	N/A	1	4.9E-01												i
Aluminum	1.00E+00	N/A	1	1.2E+04	8.49E-03		8E-03		4.00E-02		4E-02		6.34E-03		6E-03	i
Arsenic	3.00E-04	1.5E+00	1	8.5E+00	5.81E-06	2.08E-06	2E-02	3E-06	2.74E-05	3.91E-07	9E-02	6E-07	4.34E-06	3.10E-07	1E-02	5E-07
Cobalt	3.00E-04	N/A	1	1.2E+01	8.15E-06		3E-02		3.84E-05		1E-01		6.09E-06		2E-02	i
Iron	3.00E-01	N/A	1	2.6E+04	1.80E-02		6E-02		8.49E-02		3E-01		1.35E-02	ļ	4E-02	i
Manganese	2.40E-02	N/A	1	4.7E+02	3.18E-04		1E-02		1.50E-03		6E-02		2.38E-04		1E-02	
Total Hazard Quotien	otal Hazard Quotient and Cancer Risk:					1E-01	3E-06			6E-01	6E-07			1E-01	5E-07	

	Assumptions for Park Worker	Assur	nptions for Construction Worker	Assum	options for Recreational Child Visitor
CF =	1E-06 kg/mg	CF =	1E-06 kg/mg	CF =	1E-06 kg/mg
EPC=	EPC Surface Only	EPC=	EPC Surface and Subsurface	EPC=	EPC Surface Only
BW =	70 kg	BW -	70 kg	BW =	15 kg
IR =	100 mg/day	IR =	330 mg/day	1R =	200 mg/day
F1 -	1 unitless	F1 =	1 unitless	F1 =	1 unitless
EF =	175 days/year	EF =	250 days/year	EF =	14 days/year
ED =	25 years	ED =	1 years	ED =	5 years
AT (Nc) =	9,125 days	AT (Nc) =	365 days	AT (Nc) =	1,825 days
AT (Car) =	25,550 days	AT (Car) =	25,550 days	AT (Car) =	25,550 days

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

## CALCULATION OF INTAKE AND RISK FROM THE INGESTION OF SOIL REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-70

SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) =

EPC x IR x CF x FI x EF x ED x B

BW x AT

Variables (Assumptions for Each Receptor are Listed at the Bottom):

EPC = Exposure Point Concentration in Soil, mg/kg

EF = Exposure Frequency ED = Exposure Duration

IR = Ingestion Rate

ED = Exposure

CF = Conversion Factor

B = Bioavailability BW = Bodyweight

FI = Fraction Ingested

AT = Averaging Time

\_\_\_\_\_

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Oral	Carc. Slope		EPC		Residen	t (Adult)				Resident		
Analyte	RfD	Oral	Bioavailability	Surface Soil	(mg/kg-day) Quotient Risk		Cancer Risk	Intake (mg/kg-day)		Hazard Quotient	Cancer Risk	Total Lifetime	
	(mg/kg-day)	(mg/kg-day)-1	(unitless)	(mg/kg)	(Nc)	(Car)			(Nc)	(Car)			Cancer Risk
Di-n-octylphthalate	N/A	N/A	1	4.9E-01									
Aluminum	1.00E+00	N/A	1	1.2E+04	1.70E-02		2E-02		1.59E-01		2E-01		
Arsenic	3.00E-04	1.5E+00	1	8.5E+00	1.16E-05	3.99E-06	4E-02	6E-06	1.08E-04	9.30E-06	4E-01	1E-05	2E-05
Cobalt	3.00E-04	N/A	1	1.2E+01	1.63E-05		5E-02		1.52E-04		5E-01		
Iron	3.00E-01	N/A	1	2.6E+04	3.60E-02		1E-01		3.36E-01		1E+00		
Manganese	2.40E-02	N/A	1	4.7E+02	6.37E-04		3E-02		5.95E-03		2E-01		
Total Hazard Ouotie	tal Hazard Quotient and Cancer Risk:						3E-01	6E-06			2E+00	1E-05	2E-05

	Assumptions for Resident (Adult)	As	sumptions for Resident (Child)
CF =	1E-06 kg/mg	CF =	1E-06 kg/mg
EPC=	EPC Surface Only	EPC=	EPC Surface Only
BW=	70 kg	BW =	15 kg
IR =	100 mg/day	IR =	200 mg/day
FI =	1 unitless	F1 =	1 unitless
EF =	350 days/year	EF =	350 days/year
ED =	24 years	ED =	6 years
AT (Nc) =	8,760 days	AT (Nc) =	2,190 days
AT (Car) =	25,550 days	AT (Car) =	25,550 days

Note: Cells in this table were intentionally left blank due to a lack of toxicity data. NA= Information not available.

# TABLE 6 CALCULATION OF INTAKE AND RISK FROM THE INTAKE OF GROUNDWATER REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-46 SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) =  $\frac{EPC \times IR \times EF \times ED}{BW \times AT}$ Variables (Assumptions for Each Receptor are Listed at the Bottom): EPC = Exposure Point Concentration in Groundwater (mg/L) IR = Intake Rate EF = Exposure Frequency ED = Exposure Duration BW = Bodyweight AT = Averaging Time

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Oral	Carc. Slope	EPC		Park	Worker		(	Construc	tion Worke	r	Red	creationa	d Child Vis	tor
Analyte	RfD	Oral	Groundwater	Inta	ike	Hazard	Cancer	Inta	ike	Hazard	Cancer	Inta	ıke	Hazard	Cancer
				(mg/kg	g-day)	Quotient	Risk	(mg/kg	g-day)	Quotient	Risk	(mg/kg	g-day)	Quotient	Risk
	(mg/kg-day)	(mg/kg-day)-1	(mg/liter)	(Nc)	(Car)	<u> </u>		(Nc)	(Car)			(Nc)	(Car)		
Iron	3.E-01	N/A	2.14	1.5E-02	5.2E-03	5E-02		2.1E-02	3.0E-04	7E-02		8.2E-03	5.9E-04	3E-02	
<b>Total Hazard Quotient</b>	and Cancer Risk:					5E-02				7E-02				3E-02	
				Assı	umptions	for Park Wo	rker	Assump	tions for (	Construction	Worker	Assumptio	ns for Rec	creational Cl	ild Visitor
				BW =	70	kg		BW =	70	kg		BW=	15	kg	
				IR =	I	liters/day		IR =	1	liters/day		1R =	1.5	liters/day	
				EF =	175	days/year		EF =	250	days/year		EF =	14	days/year	
				ED =	25	years		ED =	1	years		ED =	5	years	
				AT (Nc) =	9,125	days		AT (Nc) =	365	days		AT (Nc) =	1,825	days	
				AT (Car) =	25,550	davs		AT (Car) =	25.550	days		AT (Car) =	25.550	days	

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

#### CALCULATION OF INTAKE AND RISK FROM THE INTAKE OF GROUNDWATER REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-46 SENECA ARMY DEPOT ACTIVITY

EPC x IR x EF x ED Equation for Intake (mg/kg-day) = BW x AT Variables (Assumptions for Each Receptor are Listed at the Bottom): ED=Exposure Duration EPC = Exposure Point Concentration in Groundwater (mg/L) BW=Bodyweight IR = Intake Rate AT=Averaging Time EF = Exposure Frequency

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Oral	Carc. Slope	EPC		Resider	nt (Adult)			Reside	nt (Child)		Resident
Analyte	RfD	Oral	Groundwater	Into	ke	Hazard	Cancer	Inte	ke	Hazard	Cancer	Total
				(mg/kg	(-day)	Quotient	Risk	(mg/kg	g-day)	Quotient	Risk	Lifetime
	(mg/kg-day)	(mg/kg-day)-1	(mg/liter)	(Nc)	(Car)			(Nc)	(Car)			Cancer Risk
Iron	3.E-01	N/A	2.14	5.9E-02	2.0E-02	2E-01		2.1E-01	1.8E-02	7E-01		
Total Hazard Quotie	nt and Cancer Risk:					2E-01				7E-01	1	
				BW =	70	kg		BW=	15	kg		
				Assu	mptions f	or Resident	Adult	Assu	mptions f	or Resident	Child	
				IR =		liters/day		IR =		liters/day		
				EF =	350	days/year		EF=	350	days/year		
				ED =	24	years		ED =	6	years		
				AT (Nc) =	8,760	days		AT (Nc) =	2,190	days		1
				AT (Car) =	25,550	days		AT (Car) =	25,550	days		

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

#### CALCULATION OF ABSORBED DOSE AND RISK FROM DERMAL CONTACT TO SOIL REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-70 SOIL SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) =

EPC x CF x SA x AF x ABS x EV x EF x ED

BW x AT

Variables (Assumptions for Each Receptor are Listed at the Bottom):

EPC = Chemical Concentration in Soil, mg/kg CF = Conversion Factor

EV = Event Frequency EF = Exposure Frequency ED = Exposure Duration

SA = Surface Area Contact

BW = Bodyweight

AF = Adherence Factor ABS = Absorption Factor

AT = Averaging Time

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Dermal	Carc. Slope	Absorbtion	EPC	EPC from		Park V	Vorker			Constructi	on Worker		Re	ecreational	Child Visit	or
Analyte	RfD	Dermal	Fraction*	Surface Soil	Total Soils	Absorb (mg/k		Hazard Quotient	Cancer Risk	Absorbe (mg/kg		Hazard Quotient	Cancer Risk	Absorb (mg/k		Hazard Quotient	Cancer Risk
	(mg/kg-day)	(mg/kg-day)-1	(unitless)	(mg/kg)	(mg/kg)	(Nc)	(Car)			(Nc)	(Car)			(Nc)	(Car)		
Di-n-octylphthalate	N/A	N/A	1.0E-01	4.9E-01	4.9E-01												1
Aluminum	1.00E+00	N/A	1E-03	1.2E+04	1.2E+04	5.61E-05	l i	6E-05		1.20E-04		1E-04		1.78E-05		1.78E-05	1
Arsenic	3.00E-04	1.5E+00	3.0E-02	8.5E+00	8.5E+00	1.15E-06	4.11E-07	4E-03	6E-07	2.47E-06	3.52E-08	8E-03	5E-08	3.65E-07	2.60E-08	1.22E-03	3.91E-08
Cobalt	3.00E-04	N/A	1.0E-03	1.2E+01	1.2E+01	5.38E-08		2E-04		1.15E-07		4E-04		1.70E-08		5.68E-05	f
Iron	3.00E-01	N/A	1.0E-03	2.6E+04	2.6E+04	1.19E-04		4E-04		2.55E-04		8E-04		3.77E-05		1.26E-04	1
Manganese	9.60E-04	N/A	1.0E-03	4.7E+02	4.7E+02	2.10E-06		2E-03		4.50E-06		5E-03		6.66E-07		6.94E-04	
Total Hazard Ouotien	t and Cancer I	Risk:						7E-03	6E-07			1E-02	5E-08			2E-03	4E-08

	Assumptions for Park Worker	A	ssnmptions for Construction Worker	Assump	tions for Recreational Child Visitor
CF-	1E-06 kg/mg	CF -	1E-06 kg/mg	C.E	1E-06 kg/mg
cs -	EPC Surface Only	Ebc	EPC Surface and Subsurface	EPC -	EPC Surface Only
BW -	70 kg	BW -	70 kg	BW -	15 kg
SA -	3,300 cm <sup>2</sup>	SA -	3,300 cm <sup>2</sup>	SA -	2.800 cm <sup>2</sup>
AF -	0.2 mg/cm <sup>2</sup> -event	AF -	0.3 mg/cm <sup>2</sup> -event	AF -	0.2 mg/cin2-event
EV -	1 event/day	EV-	1 event/day	EV -	I event/day
EF-	175 days/year	EF-	250 days/year	EF -	14 days year
ED -	25 years	ED -	l years	ED -	5 years
AT (Nc) -	9,125 days	AT (Nc) -	365 days	AT (Ne) -	1.825 days
AT (Car) -	25,550 days	AT (Car) -	25,550 days	AT (Car) -	25,550 days

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

NA= Information not available.

\* Absorption factors from Exhibit 3-4 of USEPA (2004) Supplemental Guidance for Dermal Risk Assessment, Part E of Risk Assessment Guidance for Superfund, Human Health Evaluation Manual (Volume I).

Absorption factor for VOC was assumed to be 0.01 and metals not presented in the EPA (2004) document, assumed to be 0.001 in accordance with the USEPA Region 4 (2000)

Supplemental Guidance to RAGS: Region 4 Bulletins, Human Health Risk Assessment Bulletins (http://www.epa.gov/region4/waste/ots/healtbul.htm).

Absorption factor for pesticides was assumed to be 0.037 in accordance with the average absorption factor of chlordane (0.03), DDT (0.04), and lindane (0.04) in accordance with USEPA Region 4 (2000).

#### CALCULATION OF ABSORBED DOSE AND RISK FROM DERMAL CONTACT TO SOIL REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-70 SOIL

SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) =

EPC x CF x SA x AF x ABS x EV x EF x ED

BW x AT

Variables (Assumptions for Each Receptor are Listed at the Bottom):

EPC = Chemical Concentration in Soil, mg/kg

CF = Conversion Factor SA = Surface Area Contact

AF = Adherence Factor ABS = Absorption Factor EV = Event Frequency

EF = Exposure Frequency ED = Exposure Duration

BW = Bodyweight

AT = Averaging Time

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Dermal	Carc. Slope	Absorbtion	EPC EPC from			Residen	t (Adult)			Residen	t (Child)		Resident	
Analyte	RfD	Dermal	Fraction*	Surface Soil	Total Soils	Absorbed Dose Hazard Cancer (mg/kg-day) Quotient Risk				Hazard Quotient	Cancer Risk	Total Lifetime			
	(mg/kg-day)	(mg/kg-day)-1	(unitless)	(mg/kg)	(mg/kg)	(Nc)	(Car)			(Nc)	(Car)			Cancer Risk	
Di-n-octylphthalate	N/A	N/A	1.0E-01	4.9E-01	4.9E-01										
Aluminum	1.00E+00	N/A	1E-03	1.2E+04	1.2E+04	6.78E-05		7E-05		4.44E-04		4.44E-04			
Arsenic	3.00E-04	1.5E+00	3.0E-02	8.5E+00	8.5E+00	1.39E-06	4.77E-07	5E-03	7E-07	9.11E-06	7.81E-07	3.04E-02	1.17E-06	2E-06	
Cobalt	3.00E-04	N/A	1.0E-03	1.2E+01	1.2E+01	6.50E-08		2E-04		4.26E-07		1.42E-03			
Iron	3.00E-01	N/A	1.0E-03	2.6E+04	2.6E+04	1.44E-04		5E-04		9.42E-04		3.14E-03			
Manganese	9.60E-04	N/A	1.0E-03	4.7E+02	4.7E+02	2.54E-06		3E-03		1.66E-05		1.73E-02			
Total Hazard Quoti	ent and Cancer I	Risk:						8E-03	7E-07			5E-02	1E-06	2E-06	

As	sumptions for Resident (Adult)	Ass	sumptions for Resident (Child)	
CF =	1E-06 kg/mg	CF -	1E-06 kg/mg	
EPC -	EPC Surface Only	EPC =	EPC Surface Only	
BW =	70 kg	BW-	15 kg	
SA =	5,700 cm <sup>2</sup>	SA -	2,800 cm <sup>2</sup>	
AF =	0.07 mg/cm <sup>2</sup> -event	AF =	0.2 mg/cm <sup>2</sup> -event	
EV-	1 event/day	EV =	1 event/day	
EF -	350 days/year	EF =	350 days/year	
ED-	24 years	ED -	6 years	
AT (Nc) =	8,760 days	AT (Nc) =	2,190 days	
AT (Car) -	25,550 days	AT (Car) =	25,550 days	

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

NA= Information not available.

\* Absorption factors from Exhibit 3-4 of USEPA (2004) Supplemental Guidance for Dermal Risk Assessment, Part E of Risk Assessment Guidance for Superfund, Human Health Evaluation Manual (Volume I).

Absorption factor for VOC was assumed to be 0.01 and metals not presented in the EPA (2004) document, assumed to be 0.001 in accordance with the USEPA Region 4 (2000)

Supplemental Guidance to RAGS: Region 4 Bulletins, Human Health Risk Assessment Bulletins (http://www.epa.gov/region4/waste/ots/healtbul.htm).

Absorption factor for pesticides was assumed to be 0.037 in accordance with the average absorption factor of chlordane (0.03), DDT (0.04), and lindane (0.04) in accordance with USEPA Region 4 (2000).

## CALCULATION OF ABSORBED DOSE AND RISK FROM DERMAL CONTACT TO GROUNDWATER REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-70 SENECA ARMY DEPOT ACTIVITY

Equation for Dermal (mg/kg-day) – DA x SA x EF x ED x EV B W x AT	l l	C <sub>p</sub> = Permeability Coefficient, en/hr EPC = EPC in Groundwater, mg/L
	For inorgani DA = Kp x EPC x $t_{event}$ x C For organies If $t_{event} \sim = t^*$ , then: DA $e_{event} = 2$ FA x $K_p$ x EP	$C = Conversion Factor, 10^{-3} L/cm^{3}$ $C \times C ((6 t_{event} \times t_{event}) / p)^{1/2}$
Variables (Assumptions for Each Receptor are Listed at the Bottom):	if $t_{event} > t^*$ , then: $DA_{event} = FA \times K_p \times EPC \times t^*$	$C [(t_{event}/1 + B) + 2 t_{event} ((1 + 3 B + 3 B^2)/(1 + B)^2)]$
DA = Absorbed Dose per Event, mg/cm <sup>2</sup> -event ED = Exposure Duration  SA = Surface Area Contact BW = Bodyweight  EF = Exposure Frequency AT = Averaging Time		oefficient of a compound through the stratum corneum oss the viable epidermis (ve) (dimensionless)
EV = Event Frequency	$B = Kp (MW)^{1/2} / 2.6$	If $B = 0.6$ , then $t^* = 2.4 t_{event}$
	t <sub>event</sub> is Lag Time per event (hr/event) = 0.105 x 10 <sup>(0.0056M)</sup>	If B > 0.6, then $t^* = 6t_{event} (b-SQRT(b^2-c^2))$
	t* is time to reach steady-state (hr) t <sub>event</sub> = duration of event, hr/event	$b = ((2(1+B)^{2})/p) - c$ $c = (1+3B+3B^{2})/3(1+B)$

Equation for Hazard Quotient =  $\frac{Chronic Daily Intake(A_P)}{Reference Dose}$ Equation for Caneer Risk =  $\frac{Chronic Daily Intake(Car)}{x Slope Factor}$ 

	Dermal	Carc, Slope	Permeability		Fraction			EPC	Absorbed	Parl	Worker			Constru	ction Worker		Recreation	onal Child V	isitor
Analyte	RID	Dermal	Coefficient	tevent	Absorbed	В	t*	Ground	Dose/Event	Intake	Hazard	Cancer	Inta		Hazard	Cancer	Intake	Hazard	Cancer
			Кp	l com	Water			Water		(mg/kg-day)	Quotient	Risk	(mg/kg		Quotient	Risk	(mg/kg-day)	Quotient	Risk
	(mg/kg-day)	(mg/kg-day)-1	(cni/hr)	(hr/event)			(hour)	(mg/L)	(mg/cm <sup>2</sup> -event)	(Nc) (Car)	<u></u>		(Nc)	(Car)			(Nc) (Car)		
Iron	3.E-01	N/A	1.00E-03	8.9.E-01	1.00E+00	5.0.E-03	2.1.E+00	2.E+00	3.9.E-06				4E-05		1E-04				
Total Hazard Quotient an	d Cancer Ri	sk:													1E-04	0E+00			
													Assum BW = SA = EV= EF = ED = t <sub>event</sub> = AT (Nc) = AT (Car) =	70 2,490 1 100 1 0.5	event/day days/year years hr/event days	Vorker			

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

NA- Information not available.

Kp value from Exhibit B1 or B-2 of "Supplemental Guidance for Dermal Risk Assessment", Part E of Risk Assessment Guidance for Superfund, Human Health E valuation Manual (Volume 1), August 16, 2004. For chemicals that did not have a Kρ value listed in Exhibit B-1 or B-2, Kρ was calculated using: Kρ = 10^(-2.80+0.66(logKow)-0.0056(MW))

## CALCULATION OF ABSORBED DOSE AND RISK FROM DERMAL CONTACT TO GROUNDWATER REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-70

SENECA ARMY	DEPOT	ACTIVITY

Equation for Dermal (mg/kg-day) =	DA x SA x EF x ED x EV BW x AT		p = Permeability Coefficient, cm/hr PC = EPC in Groundwater, mg/L
	2		= Conversion Factor, 10 <sup>-3</sup> L/cm <sup>3</sup>
		For organics If t <sub>event</sub> <= t*, then: DA <sub>event</sub> = 2 FA x K <sub>p</sub> x EPC	$C \times C ((6 t_{event} \times t_{event}) / p)^{1/2}$
Variables (Assumptions for Each Receptor are Listed a	t the Bottom):	if $t_{event} > t^*$ , then: $DA_{event} = FA \times K_p \times EPC \times t$	$C[(t_{event}/1+B)+2t_{event}((1+3B+3B^2)/(1+B)^2)]$
DA = Absorbed Dose per Event, mg/cm²-event SA = Surface Area Contact EF = Exposure Frequency	ED = Exposure Duration BW = Bodyweight AT = Averaging Time		reflicient of a compound through the stratum corneum ss the viable epidermis (ve) (dimensionless)
EV = Event Frequency		$B = Kp (MW)^{1/2} / 2.6$	If B<= 0.6, then $t^*=2.4 t_{event}$
		t <sub>event</sub> is Lag Time per event (hr/event) = 0.105 x 10 <sup>(0.0056MW)</sup>	If B > 0.6, then $t^* = 6t_{event} (b-SQRT(b^2-c^2))$
		t* is time to reach steady-state (hr) t <sub>everal</sub> = duration of event, hr/event	$b = ((2(1+B)^2)/p) - c$ $c = (1+3B+3B^2)/3(1+B)$

Equation for Hazard Quotient = <u>Chronic Daily Intake (Nc)</u>
Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x

	Dermal	Carc. Slope	Permeability		Fraction			EPC	Absorbed		Reside	nt Adult			Resid	ent Child		Resident
Analyte	RfD	Dermal	Coefficient Kp	t <sub>event</sub>	Absorbed Water	В	t*	Ground Water	Dose/Event	Inte (mg/kg		Hazard Quotient	Cancer Risk	Inta (mg/kg		Hazard Quotient	Cancer Risk	Total Lifetime
	(mg/kg-day)	(mg/kg-day)-1	(cm/hr)	(hr/event)			(hour)	(mg/L)	(mg/cm2-event)	(Nc)	(Car)			(Nc)	(Car)			Cancer Risk
Iron	3.E-01	N/A	1.00E-03	8.9.E-01	1.00E+00	5.0.E-03	2.1.E+00	2.E+00	5.6.E-06	1E-03		5E-03		2E-03		8E-03		0E+00
Total Hazard Quotien	at and Cancer	Risk:										5E-03	0E+00			8E-03	0E+00	0E+00

Assun	nptions fo	r Resident Adult	Assumptions for Resident Child						
BW=	70	kg	BW=	15	kg				
SA =	18,000	cm2	SA =	6,600	cm2				
EV=	1	event/day	EV=	1	event/day				
EF =	350	days/year	EF =	350	days/year				
ED =	24	years	ED =	6	years				
t <sub>event</sub> =	0.58	hr/event	t <sub>event</sub> =	1	hr/event				
AT (Nc) =	8,760	days	AT (Nc) =	2,190	days				
AT(Car) =	25,550	days	AT(Car) =	25,550	days				

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

Kp value from Exhibit B1 or B-2 of "Supplemental Guidance for Dermal Risk Assessment", Part E of Risk Assessment Guidance for Superfund, Human Health Evaluation Manual (Volume 1), August 16, 2004. For chemicals that did not have a Kp value listed in Exibit B-1 or B-2, Kp was calculated using: Kp = 10^(-2.80+0.66(logKow)-0.0056(MW))

# TABLE 9 CALCULATION OF INTAKE AND RISK FROM INHALATION OF GROUNDWATER (WHILE SHOWERING) REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-70 SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) =	EPC x IR x t <sub>event</sub> x EV x EF x ED
	BWxAT
Variables (Assumptions for Each Receptor are Listed at the Bottom):	
EPC =Exposure Point Concentration in Air (mg/m <sup>3</sup> )	ED=Exposure Duration
$t_{\text{event}} = \text{Event Duration}$	EV = Event Frequency
IR = Inhalation Rate	BW=Body Weight
EF = Exposure Frequency	AT = Averaging Time

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Inhalation	Carc. Slope	EPC*	EPC*		Reside	ent Adult		Resident Child				Resident
Analyte	RſD	Inhalation	Air	Air	Int	ake	Hazard	Contribution	Int	ake	Hazard	Contribution	Total
			Adult	Child	(mg/k	g-day)	Quotient	to Lifetime	(mg/k	g-day)	Quotient	to Lifetime	Lifetime
L	(mg/kg-day)	(mg/kg-day)-1	(mg/m³)	(mg/m³)	(Nc)	(Car)		Cancer Risk	(Nc)	(Car)		Cancer Risk	Cancer Risk
Iron	N/A	N/A	1.55E+01	1.55E+01									
Total Hazard Quotient	and Cancer F	Risk:											
					Assu	mptions for Fi	iture Resident	(Adult)	Assu	mptions for F	uture Residen	t (Child)	
					BW =	70	kg		BW=	15	kg		
					IR =	1.0	m <sup>3</sup> /hr		IR =	1.0	m³/hr		
					t <sub>event</sub> =	0.58	hr/event		t <sub>event</sub> =	1.0	hr/event		
					EV =	1	event/day		EV =	1	event/day		
					EF =	350	days/year		EF=	350	days/year		
					ED =	24	years		ED =	6	years		
					AT (Nc) =	8,760	days		AT (Nc) =	2,190	days		
					AT (Car) =	25,550	days		AT (Car) =	25,550	days		

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

<sup>\*</sup> EPC air is the concentration of chemical available for inhalation after accounting for partitioning between the air and water in the shower.

# TABLE 10 CALCULATION OF INTAKE AND RISK FROM INHALATION OF DUST IN AMBIENT AIR REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-70 SOIL SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) =

EPC x IR x EF x ED

BW x AT

Variables (Assumptions for Each Receptor are Listed at the Bottom): EPC = EPC in Air, mg/m3

ED = Exposure Duration

IR = Inhalation Rate

BW = Bodyweight

EF = Exposure Frequency

AT = Averaging Time

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Inhalation	Carc. Slope	Air EPC from	Air EPC from		Park V	Vorker			Constructi	on Worker		Re	creational	Child Visit	or
Analyte	RfD	Inhalation	Surface Soil	Total Soils	Int	ake	Hazard	Cancer	Int	ake	Hazard	Cancer	Int	ake	Hazard	Cancer
		1			(mg/k	g-day)	Quotient	Risk	(mg/k	g-day)	Quotient	Risk	(mg/k	g-day)	Quotient	Risk
	(mg/kg-day)	(mg/kg-day)-1	(mg/m3)	(mg/m3)	(Nc)	(Car)			(Nc)	(Car)			(Nc)	(Car)		
Di-n-octylphthalate	N/A	N/A	1.6E-08	1.6E-08												
Aluminum	1.43E-03	N/A	4.0E-04	4.0E-04	2.21E-05		2É-02		4.11E-05		3E-02		8.99E-06		6E-03	
Arsenic	N/A	1.51E+01	2.8E-07	2.8E-07	ĺ	5.41E-09		8E-08		4.02E-10		6E-09		4.39E-10		7E-09
Cobalt	1.71E-06	3.15E+01	3.9E-07	3.9E-07	2.12E-08	7.59E-09	l E-02	2E-07	3.95E-08	5.64E-10	2E-02	2E-08	8.62E-09	6.16E-10	5E-03	2E-08
Iron	N/A	N/A	8.6E-04	8.6E-04												
Manganese	1.43E-05	N/A	1.5E-05	1.5E-05	8.30E-07		6E-02		1.54E-06		1E-01		3.37E-07		2E-02	
Total Hazard Quotient	and Cancer I	Risk:					9E-02	3E-07			2E-01	2E-08			3E-02	3E-08

As	Assumptions for Park Worker		tions for Construction Worker	Assumptio	Assumptions for Recreational Child Visitor		
CA =	EPC Surface Only	CA =	EPC Surface and Sub-Surface	CA =	EPC Surface Only		
BW =	70 kg	BW =	70 kg	BW =	15 kg		
IR =	8 m3/day	IR =	10.4 m3/day	IR =	8.7 m3/day		
EF =	175 days/year	EF =	250 days/year	EF =	14 days/year		
ED =	25 years	ED =	1 year	ED =	5 years		
AT (Nc) =	9,125 days	AT (Nc) =	365 days	AT (Nc) =	1,825 days		
AT (Car) =	25,550 days	AT (Car) =	25,550 days	AT (Car) =	25,550 days		

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

# CALCULATION OF INTAKE AND RISK FROM INHALATION OF DUST IN AMBIENT AIR REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-70 SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) = CA x IR x EF x ED

B W x AT

Variables (Assumptions for Each Receptor are Listed at the Bottom):

CA = Chemical Concentration in Air from Stockpile Soil, mg/m

IR = Inhalation Rate, m³/day

ED = Exposure Duration, year

BW = Bodyweight, kg

EF = Exposure Frequency, day/year

AT = Averaging Time, day

Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose

Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

	Inhalation	Carc. Slope	Air EPC		Resid	ent Adult			Resid	dent Child		Resident
Analyte	RfD	Inhalation			ake g-day)	Hazard Quotient	Contribution to Lifetime	Inta (mg/kg		Hazard Quotient	Contribution to Lifetime	Total Lifetime
	(mg/kg-day)	(mg/kg-day)-1	$(mg/m^3)$	(Nc)	(Car)		Cancer Risk	(Nc)	(Car)		Cancer Risk	Cancer Risk
Di-n-octylphthalate	N/A	N/A	1.6E-08									
Aluminum	1.43E-03	N/A	4.0E-04	1.11E-04		8E-02		2.25E-04		2E-01		
Arsenic	N/A	1.51E+01	2.8E-07		2.60E-08		4E-07		1.32E-08		2E-07	6E-07
Cobalt	1.71E-06	3.15E+01	3.9E-07	1.06E-07	3.64E-08	6E-02	1E-06	2.16E-07	1.85E-08	1E-01	6E-07	2E-06
Iron	N/A	N/A	8.6E-04									
Manganese	1.43E-05	N/A	1.5E-05	4.15E-06		3E-01		8.43E-06		6E-01		
Total Hazard Ouo	tient and Ca	ncer Risk:				4E-01	2E-06			9E-01	8E-07	2E-06

1	Assumptions for Resident Adult	Assumptions for Resident Child					
CA =	EPC Surface Only	CA =	EPC Surface Only				
BW=	70 kg	BW =	15 kg				
IR =	20 m3/day	IR =	8.7 m3/day				
EF=	350 days/year	EF=	350 days/year				
ED =	24 years	ED =	6 years				
AT (Nc) =	8,760 days	AT(Nc) =	2,190 days				
AT (Car) =	25,550 days	AT (Car) =	25,550 days				

Note: Cells in this table were intentionally left blank due to a lack of toxicity data.

#### TABLE I I CALCULATION OF TOTAL NONCARCINOGENIC AND CARCINOGENIC RISKS - SEAD-70 REASONABLE MAXIMUM EXPOSURE (RME) SENECA ARMY DEPOT ACTIVITY

			ASONABLE MAXIM		
RECEPTOR	EXPOSURE ROUTE		AZARD INDEX	(	CANCER RISK
THE DITTOR			Percent Contribution	Cancer Risk	
PARK WORKER	Inhalation of Dust in Ambient Air	9E-02	32%	3E-07	8%
	Ingestion of Soil	1E-01	48%	3E-06	77%
	Intake of Groundwater	5E-02	18%	NA	
	Dermal Contact to Soil	7E-03	2%	6E-07	15%
	Dermal Contact to Groundwater	NA		NA	
	TOTAL RECEPTOR RISK (Nc & Car)	3E-01	109%	4E-06	100%
CONSTRUCTION WORKER	Inhalation of Dust in Ambient Air	2E-01	19%	2E-08	4%
	Ingestion of Soil	6E-01	71%	6E-07	88%
	Intake of Groundwater	7E-02	8%	NA	
	Dermal Contact to Soil	1E-02	2%	5E-08	8%
	Dermal Contact to Groundwater	1E-04	0%	0E+00	0%
	TOTAL RECEPTOR RISK (Nc & Car)	8E-01	100%	7E-07	100%
RECREATIONAL CHILD VISITOR	Inhalation of Dust in Ambient Air	3E-02	22%	3E-08	5%
	Ingestion of Soil	1E-01	60%	5E-07	88%
	Intake of Groundwater	3E-02	17%	BA	
	Dermal Contact to Soil	2E-03	1%	4E-08	7%
	Dermal Contact to Groundwater	NA		NA	
	TOTAL RECEPTOR RISK (Nc & Car)	2E-01	100%	5E-07	100%
RESIDENT (ADULT)	Inhalation of Dust in Ambient Air	4E-01	48%	2E-06	19%
	Ingestion of Soil	3E-01	29%	6E-06	73%
	Intake of Groundwater	2E-01	22%	NA	
	Dermal Contact to Soil	8E-03	1%	7E-07	9%
	Dermal Contact to Gronndwater	5E-03	1%	0E+00	0%
	TOTAL RECEPTOR RISK (Nc & Car)	9E-01	100%	<u>8E-06</u>	100%
RESIDENT (CHILD)	Inhalation of Dust in Ambient Air	9E-01	22%	8E-07	5%
	Ingestion of Soil	2E+00	60%	1E-05	88%
	Intake of Groundwater	7E-01	17%	NA	
	Dermal Contact to Soil	5E-02	1%	1 E-06	7%
	Dermal Contact to Groundwater	8E-03	0%	0E+00	0%
	TOTAL RECEPTOR RISK (Nc & Car)	4E+00	100%	2E-05	100%
RESIDENT (TOTAL)	Inhalation of Dust in Ambient Air			2E-06	10%
	Ingestion of Soil			2E-05	83%
	Intake Groundwater			NA	
	Dermal Contact to Soil			2E-06	8%
	Dermal Contact to Groundwater			0E+00	0%
NA - Not Applicable	TOTAL RECEPTOR CANCER RISK			2E-05	100%

NA - Not Applicable

# Attachment G

#### Derivation of EPC in Air for Construction Worker

The EPC in air was calculated based on the soil EPC and  $PM_{10}$  concentration.  $PM_{10}$  represents smaller particles which can be inhaled (particles larger than  $10\mu m$  diameter typically cannot enter the narrow airways in the lung). Ambient  $PM_{10}$  concentrations for a construction worker were estimated using an emission and dispersion model.

During construction activities, fugitive dusts may be generated from soil by wind erosion, construction vehicle traffic on temporary unpaved roads, excavation, and other construction activities. The dusts would contain the chemicals present in the soil. Construction workers in the construction area would breathe this PM in the ambient air and therefore may be exposed to chemicals in site soils via inhalation. A model presented in the USEPA (2002a) Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites, which evaluates the fugitive dust emission by truck traffic on unpaved roads during construction was used to estimate the EPC in ambient air during the construction. This model was selected as truck traffic on unpaved road is a common activity and occurs frequently at a construction site and therefore is considered a significant mechanism to cause dust. According to USEPA (2002a), "emissions from truck traffic on unpaved roads, which typically contribute the majority of dust emissions during construction...". "In the case of particulate matter, traffic on contaminated unpaved roads typically accounts for the majority of emissions, with wind erosion, excavation soil dumping, dozing, grading, and tilling operations contributing lesser emissions." Based on the above discussion, the emissions from truck traffic on unpaved roads were modeled to represent PM<sub>10</sub> produced by the construction activity.

$$EPC_{air} = EPC_{soil} \times \frac{1}{PEF}$$

Where:

EPC<sub>air</sub> = Exposure Point Concentration of chemicals in air associated with fugitive dust (mg/m<sup>3</sup>);

EPC<sub>soil</sub> = Exposure Point Concentration of chemicals in soil (mg/kg);

PEF<sub>sc</sub> = Subchronic road particulate emission factor (m³/kg).

$$PEF_{sc} = Q/C_{sr} \times \frac{1}{F_{D}} \times \left[ \frac{T \times A_{R}}{556 \times (W/3)^{0.4} \times \frac{365d/yr - p}{365d/yr} \times \sum VKT} \right]$$

Where:

 $Q/C_{sr}$  = Inverse of the ratio of the 1-h geometric mean air concentration to the emission flux along a straight road segment bisecting a square site  $(g/m^2$ -s per  $kg/m^3)$ 

 $F_D$  = Dispersion correction factor (unitless), 0.185

T = Total time over which construction occurs (s)

 $A_R$  = Surface area of contaminated road segment (m<sup>2</sup>)

 $A_R = L_R x W_R x 0.092903 m^2 / ft^2$ 

 $L_R$  = Length of road segment (ft), see Attachment H Table 1 for length

 $W_R$  = Width of road segment (ft), assumed 20 ft

W = Mean vehicle weight (tons)

p = Number of days with at least 0.01 inches of precipitation (days/year), 150 days/year

based on Exhibit 5-2 of the USEPA (2002a) document

 $\Sigma VKT = Sum \text{ of fleet vehicle kilometers traveled during the exposure duration (km)}$ 

$$Q/C_{sr} = A \times \exp\left[\frac{(\ln A_s - B)^2}{C}\right]$$

Where:

A = Constant (unitless), 12.9351

A<sub>s</sub> = Area extent of site surface soil contamination (acres), see Attachment H Table 1 for

individual site areas

B = Constant (unitless), 5.7383

C = Constant (unitless), 71.7711

Mean vehicle weight (W) can be estimated by assuming the numbers and weights of different types of vehicles. For the sites, assuming that the daily unpaved road traffic consists of 10 two-ton cars and 2 twenty-ton trucks, the mean vehicle weight would be:

$$W = [(10cars \times 2tons / car) + (2trucks \times 20tons / truck)]/12vehicles = 5tons$$

The sum of the fleet vehicle kilometers traveled during construction ( $\Sigma VKT$ ) can be estimated based on the size of the area of soil contamination, assuming the configuration of the unpaved road, and the amount of vehicle traffic on the road. Table 1 in Attachment H presents the assumed area of contaminated soil at the sites. It was assumed that this area would be configured as a square with the unpaved road segment dividing the square evenly, the road length would be equal to the square root of the site area; or based on existing access road within the site. Assuming that each vehicle travels the length of the road once per day, 5 days per week for a total of 3 months, the total fleet vehicle kilometers traveled would be:

$$\sum VKT = 12 vehicles \times 0.129 km / day \times 12 wks / yr \times 5 days / wk = 93 km$$

The PM<sub>10</sub> concentration estimated for the construction scenario is based on the above assumptions. The ambient air exposure point concentrations for construction workers are presented in:

- SEAD-46 in Attachment A in Tables 3A and 3B;
- SEAD-57 in Attachment B in Tables 3A and 3B;
- SEAD-002-R-01 (EOD 2) in Attachment C in Tables 2A and 2B;
- SEAD-002-R-01 (EOD 3) in Attachment D in Tables 2A and 2B;
- SEAD-007-R-01 (Grenade Range) in Attachment E in Tables 2A and 2B;
- SEAD-70 in Attachment F in Tables 3A and 3B;

# TABLE 1A EXPOSURE FACTOR ASSUMPTIONS FOR PARK WORKER Munitions Response

#### Seneca Army Depot Activity

Scenario Timeframe:	Future		
Medium:	Soil		
Exposure Medium:	Soil		
Exposure Point: SEAD-46/57/EOD2/EOD3/Grenade Range			
Receptor Population:	Park Worker		
Receptor Age:	Adult		

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE	CT VALUE	CT RATIONALE	CT REFERENCE
Ingestion of	EPC	Soil EPC	mg/kg	Table 2/3	Surface soils.	Table 2/3	Table ?	Surface soils.	Table ?
Soil	BW	Body Weight	kg	70	Default value for park worker.	USEPA, 2002.	70	Default value for park worker.	USEPA, 2002.
	IR	Ingestion Rate	mg/day	100	Default value for outdoor worker.	USEPA, 2002.	50	Mean adult soil ingestion rate.	USEPA, 1997.
	FI	Fraction Ingested	unitless	1	Assumng 100% ingestion from site.	BPJ.	1	Assuming 100% ingestion from site.	BPJ.
	EF	_			Default value for park worker.			Default value for park worker.	
	ED	Exposure Frequency	days/yr	175	Default value for park worker.	USEPA, 2002, 2004.	153	Default value for park worker.	USEPA, 2004.
	CF	Exposure Duration	year	25		USEPA, 2002, 2004.	7		USEPA, 2004.
	AT(Nc)	Conversion Factor	kg/mg	1E-6	25 years.		1E-6	7 years.	
	AT(Cair)	Averaging Time - No		9,125	70 years, default value for park	USEPA, 2002.	2,555	70 years, default value for park	
		Averaging Time - Car	days	25,550	worker.		25,550	worker.	USEPA, 2002.
Dermai	EPC	Soil EPC	mg/kg	Table 2/3	Surface soils.	Table 2/3	Table ?	Surface soils.	Table ?
Contact of Soil	вw	Body Weight	kg	70	Default value for park worker.	USEPA, 2002.	70	Default value for park worker.	USEPA, 2002.
	SA	Skin Contact Surface Area	cm <sup>2</sup>	5,800	Hands, legs, arms, neck, and head	USEPA, 1992.	5,000	Hands, legs, arms, neck, and head	USEPA, 1992.
	AF			'	exposed, 25% of upper bound body			exposed, 25% of average body skin	1
	ABS				skin area of adult.			area of adult.	
	EV EF	Soil/Skin Adherence Factor	mg/cm <sup>2</sup> -event	1	Default value for adherence factor.	USEPA, 2002, 2004.	0.2	Default value for adherence factor.	USEPA, 2004.
	ED	Dermal Absorption Fraction	unitless		Chemical-specific	USEPA, 2004.	]	Chemical-specific	USEPA, 2004.
	CF	Event Frequency	events/day	1	Default value for park worker.	USEPA, 2004.	1	Default value for park worker.	USEPA, 2002, 2004
	AT(Nc)	Exposure Frequency	days/yr	175	Default value for park worker.	USEPA, 2002, 2004.	153	Default value for park worker.	USEPA, 2004.
	AT(Cair)	Exposure Duration	year	25	Default value for park worker.	USEPA, 2002, 2004.	7	Default value for park worker.	USEPA, 2004.
	l (Can)	Conversion Factor	kg/mg	1E-6			1E-6	,	
		Averaging Time - No	days	9,125	25 year.	USEPA, 2002.	2,555	7 years.	
		Averaging Time - Car	days	25,550	70 years, default value for park		25,550	70 years, default value for park	USEPA, 2002.

Source References:

RME = Reasonable Maximum Exposure

CT = Central Tendency Exposure

· BPJ: Best Professional Judgement.

· USEPA, 1992: Dermal Exposure Assessment, Principles and Applications

· USEPA, 1997: Exposure Factors Handbook

USEPA, 2002: Supplemental Guidance For Developing Soil Screening Levels For Superfund Sites. December.

· USEPA, 2004: Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual

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#### Intake Equations

## TABLE 1A EXPOSURE FACTOR ASSUMPTIONS FOR PARK WORKER

#### Munitions Response Seneca Army Depot Activity

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Air

Exposure Point: SEAD-46/57/EOD2/EOD3/Grenade Range

Receptor Population: Industrial Worker

Receptor Age: Adult

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE	CT VALUE	CT RATIONALE	CT REFERENCE
Inhalation of		Air EPC	mg/m <sup>3</sup>	1	Surface soils.	Table 2/3		Surface soils.	Table ?
Dust in		Body Weight	kg	70	Default value for park worker.	1	1	Default value for park worker.	USEPA, 1991.
Ambient Air	IR	Inhalation Rate	m <sup>3</sup> /day	8	Default value for park worker.	USEPA, 2002.		Assumes average inhalation rate of 1 m <sup>3</sup> /hr for outdoor worker for 8 hrs/day.	USEPA, 1997 & BPJ.
1 !	EF	Exposure Frequency	days/yr	175	Default value for park worker.		1_	Default value for park worker.	USEPA, 2004.
		Exposure Duration Averaging Time - No	year	25 9,125	Default value for park worker.  25 years.	USEPA, 2002, 2004.	2,555	Default value for park worker.	USEPA, 2004.
	, ,	Averaging Time - Car	days days	25,550	70 years, default value for park worker.	USEPA, 2002.	1	7 years. 70 years, default value for park worker.	USEPA, 2002.

Notes:

RME = Reasonable Maximum Exposure CT = Central Tendency Exposure Source References:

BPJ: Best Professional Judgement.
 USEPA, 1991: Human Health Evaluation Manual. OSWER Directive 9285.6-03. Jun 25.

· USEPA, 1997: Exposure Factors Handbook

· USEPA, 2002: Supplemental Guidance For Developing Soil Screening Levels For Superfund Sites. December.

USEPA, 2004: Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual

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Intake Equation

Inhalation Daily Intake (DI) (mg/kg-day) = EPC x IR x EF x ED / (BW x AT)

## TABLE 1A EXPOSURE FACTOR ASSUMPTIONS FOR PARK WORKER

#### Munitions Response Seneca Army Depot Activity

Scenario Timeframe:	Future	
Medium:	Groundwater	
Exposure Medium:	Groundwater	- 1
Exposure Point:	SEAD-46 and SEAD-57	li
Receptor Population:	Park Worker	
Receptor Age:	Adult	

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE	CT VALUE	CT RATIONALE	CT REFERENCE
Intake of	EPC	Groundwater EPC	mg/L		Table 3B	Table 3B		Table ?	Table ?
Groundwater	BW	Body Weight	kg	70	Default value for park worker.	USEPA, 2002.	70	Default value for park worker.	USEPA, 1991.
	IR	Intake Rate	L/day	1	Default intake rate for park worker.	USEPA, 1991.	1	Standard occupational ingestion rate	USEPA, 1997 &
			'		Default value for park worker.			Default value for park worker.	BPJ.
	EF	Exposure Frequency	days/yr	175	Default value for park worker.	USEPA, 2002, 2004.	153	Default value for park worker.	USEPA, 2004.
	ED	Exposure Duration	year	25	25 years.	USEPA, 2002, 2004.	7	7 years.	USEPA, 2004.
	AT(Nc)	Averaging Time - Nc	days	9,125	70 years, default value for park		2,555	70 years, default value for park worker.	
	AT(Cair)	Averaging Time - Car	days	25,550	worker.	USEPA, 2002.	25,550		USEPA, 2002.
	. ,								

Notes:

RME = Reasonable Maximum Exposure CT = Central Tendency Exposure Source References:

- · BPJ: Best Professional Judgement.
- · USEPA, 1991: Human Health Evaluation Manual. OSWER Directive 9285.6-03. Jun 25.
- · USEPA, 1997: Exposure Factors Handbook
- USEPA, 2002: Supplemental Guidance For Developing Soil Screening Levels For Superfund Sites. December.
- · USEPA, 2004: Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual

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#### Intake Equation:

Daily Intake (DI) (mg/kg-day) = EPC x IR x EF x ED/(BW x AT)

#### TABLE 1B

#### EXPOSURE FACTOR ASSUMPTIONS FOR CONSTRUCTION WORKER

#### Munitions Response Seneca Army Depot Activity

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Soil
Exposure Point:	SEAD-46/57/EOD2/EOD3/Grenade Range
Receptor Population:	Construction Worker
Receptor Age:	Adult

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE
Ingestion of	EPC	Soil EPC	mg/kg	Table 2/3 70	Surface and subsurface soils.	See Table 2/3
Soil	BW	Body Weight	kg		Default value for construction worker.	USEPA, 2002.
	IR .	Ingestion Rate	mg/day	330	Default value for construction worker.	USEPA, 2002.
l i	FI	Fraction Ingested	unitless	1	Assuming 100% ingestion from site.	BPJ.
	EF -	Exposure Frequency	days/yr	250	Default value for construction worker.	USEPA, 2002.
	ED	Exposure Duration	year	1	Default value for construction worker.	USEPA, 2002.
	CF	Conversion Factor	kg/mg	1E-6	l.	
	AT(Nc)	Averaging Time - No	days	365	1 year.	
	AT(Cair)	Averaging Time - Car	days	25,550	70 years, default value for	USEPA, 2002.
					construction worker.	
Dermal	EPC	Soil EPC	mg/kg	Table 2/3	Surface and subsurface soils.	See Table 2/3
Contact of Soil	BW	Body Weight	kg	70	Default value for construction worker.	USEPA, 2002.
	SA	Skin Contact Surface Area	cm <sup>2</sup>	3,300	Default value for construction worker.	USEPA, 2002.
	AF	Soil/Skin Adherence Factor	mg/cm <sup>2</sup> -event	0.3	Default value for construction worker.	USEPA, 2002.
	ABS	Dermal Absorption Fraction	unitless		Chemical-specific	USEPA, 2004.
	EV	Event Frequency	events/day	1	Default value for construction worker.	USEPA, 2002.
	EF	Exposure Frequency	days/yr	250	Default value for construction worker.	USEPA, 2002.
	ED	Exposure Duration	year	1	Default value for construction worker.	USEPA, 2002.
ĺ	CF	Conversion Factor	kg/mg	1E-6		
	AT(Nc)	Averaging Time - Nc	days	365	1 year.	
	AT(Cair)	Averaging Time - Car	days	25,550	70 years, default value for	USEPA, 2002.
			23,0		construction worker.	

#### Notes:

RME = Reasonable Maximum Exposure

#### Intake Equations:

Ingestion
Dermal
Daily Intake (DI) (mg/kg-day) = EPC x IR x EF x ED x CF x FI / (BW x AT)
DI (mg/kg-day) = EPC x SA x AF x ABS x EV x EF x ED x CF/(BW x AT)

#### Source References:

- · BPJ: Best Professional Judgement.
- · USEPA, 2002: Supplemental Guidance For Developing Soil Screening Levels For Superfund Sites. December.
- USEPA, 2004: Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual

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#### TABLE 1B

#### EXPOSURE FACTOR ASSUMPTIONS FOR CONSTRUCTION WORKER

#### Munitions Response Seneca Army Depot Activity

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Air
Exposure Point:	SEAD-46/57/EOD2/EOD3/Grenade Range
Receptor Population:	Construction Worker
Receptor Age:	Adult

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE
Inhalation of Dust in Ambient Air	EPC BW IR	Air FPC Body Weight Inhalation Rate	mg/m <sup>3</sup> kg m³/day	Table 2/3 70 10.4	Surface and subsurface soils. Default value for construction worker. Average inhalation rate for outdoor work 1.3 m3/hr, 8hr work day	See Table 2/3 USEPA, 2002. USEPA, 1997.
	EF ED AT(Nc) AT(Cair)	Exposure Frequency Exposure Duration Averaging Time - Nc Averaging Time - Car	days/yr year days days	250 1 365 25,550	Default value for construction worker. Default value for construction worker. 1 year. 70 years, default value for	USEPA, 2002. USEPA, 2002. USEPA, 2002.
					construction worker.	

#### Notes:

RME = Reasonable Maximum Exposure

#### Intake Equation:

Inhalation Daily Intake (DI) (mg/kg-day) = EPC x IR x EF x ED / (BW x AT)

#### Source References:

- · USEPA, 2002: Supplemental Guidance For Developing Soil Screening Levels For Superfund Sites. December.
- USEPA, 2004: Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment) Final.

#### TABLE 1B EXPOSURE FACTOR ASSUMPTIONS FOR CONSTRUCTION WORKER Munitions Response

#### Seneca Army Depot Activity

Scenario Timeframe:	Future
Medium:	Groundwater
Exposure Medium:	Groundwater
Exposure Point:	SEAD-46 and SEAD-57
Receptor Population:	Construction Worker
Recentor Age	Adult

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE
Intake of	EPC	Groundwater EPC	mg/L		Table 3B	Table 3B
Groundwater	BW	Body Weight	kg	70	Default value for park worker.	USEPA, 2002.
	!R	Intake Rate	L/day	1	Default intake rate for park worker. Default value for park worker.	USEPA, 1991.
	EF	Exposure Frequency	days/yr	250	Default value for park worker.	USEPA, 2002, 2004.
	ED	Exposure Duration	year	1	25 years.	USEPA, 2002, 2004.
	AT(Nc)	Averaging Time - No	days	365	70 years, default value for park worker.	
	AT(Cair)	Averaging Time - Car	days	25,550		USEPA, 2002.
Dermal of	EPC	Groundwater EPC	mg/L		Table 3B	Table 3B
Groundwater	BW	Body Weight	kg	70	Default value for construction worker.	USEPA, 2002.
	SA	Skin Surface Area	cm <sup>2</sup>	2,490	Maximum surface area for adult male (including hands and forearms).	USEPA, 1997
	ED	Exposure Duration	years	1	Default value for construction worker.	USEPA, 2002, 2004.
	EF	Exposure Frequency	days/yr	100	Assumes contact with groundwater 2 workdays each week for 50 weeks.	BPJ.
	EV	Event Frequency	events/day	1	Assumption.	BPJ.
	t <sub>event</sub>	Event duration (hr/event)	hr/event	0.5	Assumes half hour to assemble or disassemble a pumping system.	BPJ.
	AT(Nc)	Averaging Time - No	days	365	1 year.	
	AT(Cair)	Averaging Time - Car	days	25,550	70 years, default value for construction worker	USEPA, 2002.

#### Notes:

Dermal

RME = Reasonable Maximum Exposure

#### Intake Equation:

Ingestion Daily Intake (DI) (mg/kg-day) = EPC x IR x EF x ED/(BW x AT)

Dermai Absorbed Dose (DAD) (mg/kg-day) = (DA<sub>event</sub> x EV x ED x EF x SA ) / (BW x AT)

For Inorganics, DA<sub>event</sub> = K<sub>p</sub> x EPC x t<sub>event</sub>

For Organics, If  $t_{event} \le t^*$ , then: DA<sub>event</sub> = 2 FA x K<sub>p</sub> x EPC ( (6  $t_{event}$  x  $t_{event}$ ) /  $\pi$  ) 1/2

if  $t_{event} > t^*$ , then: DA<sub>event</sub> = FA x K<sub>p</sub> x EPC {  $(t_{event} / 1 + B) + 2 \tau_{event} ( (1 + 3 B + 3 B^2) / (1 + B)^2 ) }$ 

Where:

t\* = Time to reach steady - state (hr)

r\_man = Lag Time per event(hr/event)

B = Dimensionless ratio of the permeability coefficient of a compound through the stratum corneum relative to its permeability coefficient across the viable epidermis (ve) (dimensionless)

FA = Fraction absorbed water (dimensionless)

#### Source References:

BPJ: Best Professional Judgement.

USEPA, 1991: Human Health Evaluation Manual. OSWER Directive 9285.6-03. Jun 25.

USEPA, 1997: Exposure Factors Handbook

USEPA, 2002: Supplemental Guidance For Developing Soil Screening Levels For Superfund Sites. December.
 USEPA, 2004: Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual

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### TABLE 1C EXPOSURE FACTOR ASSUMPTIONS FOR RECREATIONAL CHILD VISITOR

#### Munitions Response Seneca Army Depot Activity

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Soil
Exposure Point:	SEAD-46/57/EOD2/EOD3/Grenade Range
Receptor Population:	Recreational Child Visitor
Receptor Age:	Child (1-10 yr)

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE
Ingestion of Soil	EPC	Soil EPC	mg/kg	Table 2/3	Surface soils.	See Table 2/3
Soil	BW	Body Weight	kg	15	Average weight for child (Exhibit 1-2).	USEPA, 2002.
	IR	Ingestion Rate	mg/day	200	Max soil ingestion rate for child.	USEPA, 2002.
	FI	Fraction Ingested	unitless	1	Assuming 100% ingestion from site.	BPJ.
	EF	Exposure Frequency	days/yr	14	Assumption.	BPJ.
	ED	Exposure Duration	year	5	Assumption.	BPJ.
	CF	Conversion Factor	kg/mg	1.E-06		
	AT(Nc)	Averaging Time - Nc	days	1,825	5 years.	
	AT(Car)	Averaging Time - Car	days	25,550	70 years, default value for human life span.	USEPA, 2002.
Dermal Contact	EPC	Soil EPC	mg/kg	Table 2/3	Surface soils.	See Table 2/3
of Soil	BW	Body Weight	kg	15	Average weight for child (Exhibit 1-2).	USEPA, 2002.
	SA	Skin Contact Surface Area	cm <sup>2</sup>	2,800	Default value for child	USEPA, 2002.
	AF	Soil/Skin Adherence Factor	mg/cm <sup>2</sup> -event	0.2	Default value for child.	USEPA, 2002.
	ABS	Dermal Absorption Fraction	unitless		Chemical-specific	USEPA, 2004.
	EV	Event Frequency	events/day	1	Default value for residential child.	USEPA, 2004.
	EF	Exposure Frequency	days/yr	14	Assumption.	BPJ.
	ED	Exposure Duration	year	5	Assumption.	BPJ.
	CF	Conversion Factor	kg/mg	1E-06		
	AT(Nc)	Averaging Time - Nc	days	1,825	5 years.	
	AT(Car)	Averaging Time - Car	days	25,550	70 years, default value for human life span.	USEPA, 2002.

Source References:

Notes:

RME = Reasonable Maximum Exposure

· BPJ: Best Professional Judgment.

· USEPA, 1997: Exposure Factors Handbook

· USEPA, 2002: Supplemental Guidance For Developing Soil Screening Levels For Superfund Sites. December.

· USEPA, 2004: Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual

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Intake Equations:

 $\begin{array}{ll} \mbox{Ingestion} & \mbox{Daily Intake (DI) (mg/kg-day)} = \mbox{EPC x IR x EF x ED x CF x FI / (BW x AT)} \\ \mbox{Dermal} & \mbox{DI (mg/kg-day)} = \mbox{EPC x SA x AF x ABS x EV x EF x ED x CF/(BW x AT)} \\ \end{array}$ 

# TABLE 1C EXPOSURE FACTOR ASSUMPTIONS FOR RECREATIONAL CHILD VISITOR Munitions Response

#### Seneca Army Depot Activity

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Air
Exposure Point:	SEAD-46/57/EOD2/EOD3/Grenade Range
Receptor Population:	Recreational Child Visitor
Receptor Age:	Child (1-10 yr)

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE
Inhalation of	EPC	Air EPC	mg/m³	Table 2/3	Surface soils.	See Table 2/3
Dust in Ambient Air	BW IR	Body Weight Inhalation Rate	1-0	1	Average weight for child (Exhibit 1-2). Average inhalation rate for child ages 0-12 yr.	USEPA, 2002. USEPA, 1997.
	EF ED	Exposure Frequency Exposure Duration	days/yr year	5	Assumption. Assumption.	BPJ. BPJ.
	AT(Nc) AT(Car)	Averaging Time - Nc Averaging Time - Car	days days	1 '	6 years. 70 years, default value for human life span.	USEPA, 2002.

#### Source References:

Notes:

RME = Reasonable Maximum Exposure

· BPJ: Best Professional Judgment.

· USEPA, 1997: Exposure Factors Handbook

· USEPA, 2002: Supplemental Guidance For Developing Soil Screening Levels For Superfund Sites. December.

USEPA, 2004: Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual

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Intake Equation:

Inhalation Daily Intake (DI) (mg/kg-day) = EPC x IR x EF x ED / (BW x AT)

#### **TABLE 1C**

#### **EXPOSURE FACTOR ASSUMPTIONS FOR RECREATIONAL CHILD VISITOR**

#### Munitions Response Seneca Army Depot Activity

Scenario Timeframe:	Current/Future	
Medium:	Groundwater	
Exposure Medium:	Groundwater	
Exposure Point:	SEAD-46 and SEAD-57	
Receptor Population:	Recreational Child Visitor	
Receptor Age:	Child (1-10 yr)	

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE
Intake of	EPC	Groundwater EPC	mg/L	Table 3B	See Table 3B	See Table 3B
Groundwater	BW	Body Weight	kg	15	Average weight for child (Exhibit 1-2).	USEPA, 2002.
	IR	Intake Rate	L/day	1.5	95th percentile for children ages 1-10 yr.	USEPA, 1997.
	EF	Exposure Frequency	days/yr	14	Assumption.	BPJ.
	ED	Exposure Duration	year	5	Assumption.	BPJ.
	AT(Nc)	Averaging Time - No	days	1,825	5 years.	
	AT(Car)	Averaging Time - Car	days	25,550	70 years, default value for human life span.	USEPA, 2002.
Dermal	EPC	Groundwater EPC	mg/L	Table 3B	See Table 3B	See Table 3B
Contact of	Kp	Permeability Constant	cm/hr	İ	Chemical-specific.	USEPA, 2004.
Groundwater	BW	Body Weight	kg	15	Default value for child (ages 0-6r).	USEPA, 2002.
	SA	Skin Contact Surface Area	cm <sup>2</sup>	6,600	Default RME for child showering/bathing.	USEPA, 2004.
	EV	Event Frequency	events/day	1	Default RME for child showering/bathing.	USEPA, 2004.
	tevent	Event Duration	hr/event	1.0	Default RME for child showering/bathing.	USEPA, 2004.
	EF	Exposure Frequency	days/yr	350	Default exposure frequency for residential receptor.	USEPA, 2004, 2002.
					Default exposure duration.	USEPA, 2002.
	ED	Exposure Duration	year	6	6 years.	1
	AT(Nc)	Averaging Time - Nc	days	2,190	70 years, default value for human life span.	USEPA, 2002.
	AT(Cair)	Averaging Time - Car	days	25,550		

Source References:

Notes:

RME = Reasonable Maximum Exposure

· BPJ: Best Professional Judgment.

· USEPA, 1997: Exposure Factors Handbook

· USEPA, 2002: Supplemental Guidance For Developing Soil Screening Levels For Superfund Sites. December.

· USEPA, 2004: Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual

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Intake Equation:

 $\begin{array}{ll} \text{Intake} & \text{Daily Intake (DI) (mg/kg-day)} = \text{EPC} \times \text{IR} \times \text{EF} \times \text{ED/(BW} \times \text{AT)} \\ \text{Dermal} & \text{DI (mg/kg-day)} = \text{DA}_{\text{event}} \times \text{EV} \times \text{EF} \times \text{ED} \times \text{SA/(BW} \times \text{AT)} \\ \end{array}$ 

Where: DA<sub>event</sub> = Absorbed dose per event (mg/cm<sup>2</sup>-event)

For organic compounds:

If  $t_{even} \leq t^*$ , ther  $D_{even} = 2FA \cdot K_p \times EP\left(\frac{6\tau_{even} \cdot k(t_{even})}{\pi}\right)$ If  $t_{even} \geq t^*$ , then  $D_{even} = FA \cdot K_p \times EP\left(\frac{t_{even}}{t_{even}} + 2\tau_{even} \cdot k(t_{even})^2\right)$ 

Where:

t\* =Time to reach steady-state(hr)

 $\tau_{event} = Lag \ Time \ per \ event(hr/event)$ 

B = Dimensionless ratio of the permeability coefficient of a compound through the stratum corneum relative

# TABLE 1C EXPOSURE FACTOR ASSUMPTIONS FOR RECREATIONAL CHILD VISITOR Munitions Response

# Seneca Army Depot Activity

Scenario Timeframe:	Current/Future	$\neg$
Medium:	Groundwater	
Exposure Medium:	Groundwater	
Exposure Point:	SEAD-46 and SEAD-57	
Receptor Population:	Recreational Child Visitor	
Receptor Age:	Child (1-10 yr)	

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE
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to its permeability coefficient across the viable epidermis (ve) (dimensionless)

FA = Fraction absorbed water (dimensionless)

For inorganic compounds: DA<sub>event</sub> = K<sub>p</sub> x EPC x t<sub>event</sub>

Inhalation DI (mg/kg-day) = EPC x IR x  $t_{event}$  x EV x EF x ED / (BW x AT)

# TABLE 1D **EXPOSURE FACTOR ASSUMPTIONS FOR RESIDENTIAL ADULT Munitions Response**

# Seneca Army Depot Activity

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Soil
Exposure Point:	SEAD-46/57/EOD2/EOD3/Grenade Range

Receptor Population: Residential Adult

Receptor Age:

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE	CT VALUE	CT RATIONALE	CT REFERENCE
Ingestion of	EPC	Soil EPC	mg/kg	Table 2/3	See Table 2/3	See Table 2/3	Table ?	See Table ?	See Table ?
Soil	BW	Body Weight	kg	70	Default value for adult.	USEPA, 2002.	70	Default value for adult.	USEPA, 2002.
	IR	Ingestion Rate	mg/day	100	Default soil ingestion rate for residential adult.	USEPA, 2002.	50	Central estimate of adult soil ingestion.	USEPA, 1997.
	FI	Fraction Ingested	unitless	1	Assuming 100% ingestion from site.	BPJ.	1	Assuming 100% ingestion from site.	BPJ.
	EF	Exposure Frequency	days/yr	350	Default exposure frequency for residential receptor.	USEPA, 2004, 2002.	350	Default exposure frequency for residential receptor.	USEPA, 2002, 2004.
	ED CF	Exposure Duration Conversion Factor	year kg/mg	24 1E-6	Default RME exposure duration.	USEPA, 2002.	9 1E-6	Default CT exposure duration.	USEPA, 2004.
	AT(Nc) AT(Cair)	Averaging Time - Nc Averaging Time - Car	days days	8,760 25,550	24 years. 70 years, default value for human life span.	USEPA, 2002.	3,285 25,550	9 years. 70 years, default value for human life span.	USEPA, 2002.
Dermai	EPC	Soil EPC	mg/kg	Table 2/3	See Table 2/3	See Table 2/3	Table ?	See Table ?	See Table ?
Contact of Soil	BW	Body Weight	kg	70	Default value for adult.	USEPA, 2002.	70	Default value for adult.	USEPA, 2002.
	SA	Skin Contact Surface Area	cm <sup>2</sup>	5,700	Default value for adult.	USEPA, 2004.	5,700	Default value for adult.	USEPA, 2004.
	AF	Soil/Skin Adherence Factor	mg/cm <sup>2</sup> -event	0.07	Default RME for adult.	USEPA, 2004.	0.01	Default CT value for adult.	USEPA, 2004.
	ABS	Derma! Absorption Fraction	unitless		Chemical-specific	USEPA, 2004.		Chemical-specific	USEPA, 2004.
	EV	Event Frequency	events/day	1	Default value for residential receptor.	USEPA, 2004.	1	Default value for residential receptor.	USEPA, 2004.
	EF	Exposure Frequency	days/yr	350	Default exposure frequency for residential receptor.	USEPA, 2004, 2002.	350	Default exposure frequency for residential receptor.	USEPA, 2004, 2002.
	ED CF	Exposure Duration Conversion Factor	year kg/mg	24 1E-6	Default RME exposure duration.	USEPA, 2004.	9 1E-6	Default CT exposure duration.	USEPA, 2004.
	AT(Nc)	Averaging Time - No	days	8,760	24 years.		3,285	9 years.	
	AT(Cair)	Averaging Time - Car	days	25,550	70 years, default value for human life span.	USEPA, 2002.	25,550	70 years, default value for human life span.	USEPA, 2002.

Source References:

· BPJ: Best Professional Judgment. RME = Reasonable Maximum Exposure

· USEPA, 1997: Exposure Factors Handbook

· USEPA, 2002: Supplemental Guidance For Developing Soil Screening Levels For Superfund Sites. December.

USEPA, 2004: Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual

(Part E, Supplemental Guidance for Dermal Risk Assessment) Final.

Intake Equations:

CT = Central Tendency Exposure

Notes:

Daily Intake (DI) (mg/kg-day) = EPC x IR x EF x ED x CF x FI / (BW x AT) Ingestion Dermal  $DI (mg/kg-day) = EPC \times SA \times AF \times ABS \times EV \times EF \times ED \times CF/(BW \times AT)$ 

# **TABLE 1D EXPOSURE FACTOR ASSUMPTIONS FOR RESIDENTIAL ADULT Munitions Response** Seneca Army Depot Activity

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Air
Exposure Point:	SEAD-46/57/EOD2/EOD3/Grenade Range
Receptor Population:	Residential Adult

Receptor Population:

Receptor Age: Adult

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE	CT VALUE	CT RATIONALE	CT REFERENCE
Inhalation of	EPC	Air EPC	mg/m <sup>3</sup>	Table 2/3	See Table 2/3	See Table 2/3	Table?	See Table ?	See Table ?
Dust in	BW	Body Weight	ka	70	Default value for adult.	USEPA, 2002.	70	Default value for adult.	USEPA, 2002.
Ambient Air	IR	Inhalation Rate	m <sup>3</sup> /day	20	Default value for adult.	USEPA, 1997.		Average long term exposure for men and women.	USEPA, 1997.
İ	EF	Exposure Frequency	days/yr	350	Default exposure frequency for residential receptor.	USEPA, 2004, 2002.	350		USEPA, 2002, 2004.
		Exposure Duration Averaging Time - No	year	24 8,760	Default RME exposure duration. 24 years.	USEPA, 2002.	1	Default CT exposure duration.  9 years.	USEPA, 2004.
		Averaging Time - Car	days days	25,550	70 years, default value for human life span.	USEPA, 2002.	25,550	70 years, default value for human life span.	USEPA, 2002.
									ĺ

Source References:

Notes:

RME = Reasonable Maximum Exposure

CT = Central Tendency Exposure

· USEPA, 1997: Exposure Factors Handbook

USEPA, 2002: Supplemental Guidance For Developing Soil Screening Levels For Superfund Sites. December.

· USEPA, 2004: Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual

(Part E, Supplemental Guidance for Dermal Risk Assessment) Final.

Intake Equation

Inhalation Daily Intake (DI) (mg/kg-day) = EPC x IR x EF x ED / (BW x AT)

# TABLE 1D EXPOSURE FACTOR ASSUMPTIONS FOR RESIDENTIAL ADULT Munitions Response Seneca Army Depot Activity

Scenario Timeframe: Future Medium:

Groundwater Groundwater

Exposure Medium: Exposure Point: Receptor Population: SEAD-46 and SEAD-57 Residential Adult

Receptor Age: Adult

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE	CT VALUE	CT RATIONALE	CT REFERENCE
Intake of	EPC	Groundwater EPC	mg/L	Table 3B	See Table 3B	See Table 3B	Table ?	See Table ?.	See Table ?.
Groundwater	BW	Body Weight	kg	70	Default value for adult.	USEPA, 2002.	70	Default value for adult.	USEPA, 2002.
	IŘ	Intake Rate	L/day	2	Default value for adult.	USEPA, 2002.	1.41	Recommended average tapwater intake.	USEPA, 1997.
	EF	Exposure Frequency	days/yr	350	Default exposure frequency for residential receptor.	USEPA, 2004, 2002.	350	Default exposure frequency for residential receptor.	USEPA, 2004, 2002.
	ED	Exposure Duration	year	24	Default RME exposure duration.	USEPA, 2002.	9	Default CT exposure duration.	USEPA, 2002.
	AT(Nc)	Averaging Time - Nc	days	8,760	24 years.		3,285	9 years.	
	AT(Cair)	Averaging Time - Car	days	25,550	70 years, default value for human life span.	USEPA, 2002.	25,550	70 years, default value for human life span.	USEPA, 2002.
Dermal	EPC	Groundwater EPC	mg/L	Table 3B	See Table 3B	See Table 3B	Table ?	See Table ?.	See Table ?.
Contact of	Кр	Permeability Constant	cm/hr		Chemical-specific.	USEPA, 2004.		Chemical-specific.	USEPA, 2004.
Groundwater	BW	Body Weight	kg	70	Default value for adult.	USEPA, 2002.	70	Default value for adult.	USEPA, 2002.
	SA	Skin Contact Surface Area	cm <sup>2</sup>	18,000	Default RME for adult showering/bathing.	USEPA, 2004.	18,000	Default CT for adult showering/bathing.	USEPA, 2004.
	EV	Event Frequency	events/day	1	Default RME for adult showering/bathing.	USEPA, 2004.	1	Default CT for adult showering/bathing.	USEPA, 2004.
	tevent	Event Duration	hr/event	0.58	Default RME for adult showering/bathing.	USEPA, 2004.	0.25	Default CT for adult showering/bathing.	USEPA, 2004.
	EF	Exposure Frequency	days/yr	350	Default exposure frequency for residential receptor.	USEPA, 2004, 2002.	350	Default exposure frequency for residential receptor.	USEPA, 2004, 2002.
	ED	Exposure Duration	year	24	Default RME exposure duration.	USEPA, 2002.	9	Default CT exposure duration.	USEPA, 2002.
i .	AT(Nc)	Averaging Time - Nc	days	8,760	24 years.		3,285	9 years.	
:	AT(Cair)	Averaging Time - Car	days	25,550	70 years, default value for human life span.	USEPA, 2002.	25,550	70 years, default value for human life span.	USEPA, 2002.
Inhalation of	EPC	Air EPC	mg/m³	Table 3B	See Table 3B	See Table 3B	Table ?	See Table ?.	See Table ?.
Groundwater	BW	Body Weight	kg	70	Default value for adult.	USEPA, 2002.	70	Default value for adult.	USEPA, 2002.
	IR	Inhalation Rate	m <sup>3</sup> /hr	1.0	Average rate for light activities.	USEPA, 1997.	1.0	Average rate for light activities.	USEPA, 1997.
	EV	Event Frequency	event/day	1	Default RME for adult showering/bathing.	USEPA, 2004.	1	Default CT for adult showering/bathing.	USEPA, 2004.
	t <sub>event</sub>	Event Duration	hr/event	0.58	Default RME for adult showering/bathing.	USEPA, 2004.	0.25	Default CT for adult showering/bathing.	USEPA, 2004.
	EF	Exposure Frequency	days/yr	350	Default exposure frequency for residential receptor.	USEPA, 2004, 2002.	350	Default exposure frequency for residential receptor.	USEPA, 2004, 2002.
]	ED	Exposure Duration	year	24	Default RME exposure duration.	USEPA, 2002.	9	Default CT exposure duration.	USEPA, 2002.
	AT(Nc)	Averaging Time - Nc	davs	8,760	24 years.		3,285	9 years.	
	AT(Cair)	Averaging Time - Car	days	25,550	70 years, default value for human life span.	USEPA, 2002.	25,550	70 years, default value for human life span.	USEPA, 2002.

# TABLE 1D

#### **EXPOSURE FACTOR ASSUMPTIONS FOR RESIDENTIAL ADULT**

### **Munitions Response** Seneca Army Depot Activity

Scenario Timeframe:	Future	
Medium:	Groundwater	
Exposure Medium:	Groundwater	
Exposure Point:	SEAD-46 and SEAD-57	
Receptor Population:	Residential Adult	
Receptor Age:	Adult	

#### Source References:

Notes: · USEPA, 1997: Exposure Factors Handbook

RME = Reasonable Maximum Exposure · USEPA, 2002: Supplemental Guidance For Developing Soil Screening Levels For Superfund Sites. December.

CT = Central Tendency Exposure · USEPA, 2004: Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual

(Part E, Supplemental Guidance for Dermal Risk Assessment) Final.

Intake Equations:

Intake

Dermal

Daily Intake (DI) (mg/kg-day) = EPC x IR x EF x ED/(BW x AT)  $DI (mg/kg-day) = DA_{event} \times EV \times EF \times ED \times SA/(BW \times AT)$ 

Where: DA<sub>event</sub> = Absorbed dose per event (mg/cm<sup>2</sup>-event)

For organic compounds:

If 
$$t_{even} < t^*$$
, then  $t_{even} = 2FAK_p \times EP \sqrt{\frac{6\pi_{even} + 6\pi_{even}}{\pi}}$   
If  $t_{even} > t^*$ , then  $t_{even} = FAK_p \times EP \left(\frac{t_{even}}{1+B} + 2t_{even} + \frac{(1+3B+3B^2)}{(1+B)^2}\right)$   
 $t^* = Time$  to reach steady - state (hr)

If 
$$t_{even} > t^*$$
, then  $DA_{ven} = FA \cdot K_p \times EPC \left( \frac{t_{even}}{1+B} + 2x_{even} \cdot \frac{t_{1+3B+3B^2}}{t_{1+B^2}} \right)$ 

Where:

$$\tau_{event} = Lag \ Time \ per \ event(hr/event)$$

B = Dimensionless ratio of the permeability coefficient of a compound through the stratum corneum relative to its permeability coefficient across the viable epidermis (ve) (dimensionless)

FA = Fraction absorbed water (dimensionless)

For inorganic compounds: DA<sub>event</sub> = K<sub>p</sub> x EPC x t<sub>event</sub>

DI (mg/kg-day) = EPC x IR x  $t_{event}$  x EV x EF x ED / (BW x AT) Inhalation

## TABLE 1E

### **EXPOSURE FACTOR ASSUMPTIONS FOR RESIDENTIAL CHILD**

### Munitions Response Seneca Army Depot Activity

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Soil
Exposure Point:	SEAD-46/57/EOD2/EOD3/Grenade Range
Receptor Population:	Residential Child
Receptor Age:	Child (0-6 yr)

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE	CT VALUE	CT RATIONALE	CT REFERENCE
Ingestion of	EPC	Soil EPC	mg/kg	Table 2/3	See Table 2/3	See Table 2/3	Table ?	See Table ?	Table ?
Soil	BW	Body Weight	kg	15	Default value for child (ages 0-6yr).	USEPA, 2002.	15	Default value for child.	USEPA, 2002.
- 1	IR	Ingestion Rate	mg/day	200	Default soil ingestion rate for child.	USEPA, 2002.	100	Mean soil ingestion rate for child.	USEPA, 1997.
	FI	Fraction Ingested	unitless	1	Assuming 100% ingestion from site.	BPJ.	1	Assuming 100% ingestion from site.	BPJ.
	EF	Exposure Frequency	days/yr	350	Default exposure frequency for	USEPA, 2004, 2002.	350	Default exposure frequency for	USEPA, 2002,
			' '		residential receptor.	USEPA, 2002.		residential receptor.	2004.
	ED	Exposure Duration	year	6	Default exposure duration.		6	Default exposure duration.	USEPA, 2002.
	CF	Conversion Factor	kg/mg	1E-6			1E-6		
1	AT(Nc)	Averaging Time - Nc	days	2,190	6 years.	USEPA, 2002.	2,190	6 years.	
	AT(Cair)	Averaging Time - Car	days	25,550	70 years, default value for human life		25,550	70 years, default value for human life	USEPA, 2002.
	, ,				span.			span.	
Dermal	EPC	Soil EPC	mg/kg	Table 2/3	See Table 2/3	See Table 2/3	Table ?	See Table ?	Table ?
Contact of Soil	BW	Body Weight	kg	15	Default value for child.	USEPA, 2002.	15	Default value for child.	USEPA, 2002.
	SA	Skin Contact Surface Area	cm <sup>2</sup>	2,800	Default value for child.	USEPA, 2002, 2004.	2,800	Default value for child.	USEPA, 2004.
	AF	Soil/Skin Adherence Factor	mg/cm <sup>2</sup> -event	0.2	Default RME value for child.	USEPA, 2002, 2004.	0.04	Default CT value for child.	USEPA, 2004.
	ABS	Dermal Absorption Fraction	unitless	l	Chemical-specific	USEPA, 2004.		Chemical-specific	USEPA, 2004.
	EV	Event Frequency	events/day	1	Default value for residential child.	USEPA, 2004, 2002.	1	Default value for residential child.	USEPA, 2004
	EF	Exposure Frequency	days/yr	350	Default exposure frequency for	USEPA, 2004, 2002.	350	Default exposure frequency for	USEPA, 2002,
			dayory		residential receptor.			residential receptor.	2004.
	ED	Exposure Duration	vear	6	Default exposure duration.	USEPA, 2002.	6	Default exposure duration.	USEPA, 2002.
	CF	Conversion Factor	kg/mg	1E-6			1E-6		
	AT(Nc)	Averaging Time - Nc	days	2,190	6 year.		2,190	6 years.	
	AT(Cair)	Averaging Time - Car	days	25,550	70 years, default value for human life	USEPA, 2002.	25,550	70 years, default value for human life	USEPA, 2002.
			100,0		span.	I	1	span.	

Source References:

· BPJ: Best Professional Judgment.

· USEPA, 1997: Exposure Factors Handbook

· USEPA, 2002: Supplemental Guidance For Developing Soil Screening Levels For Superfund Sites. December.

· USEPA, 2004: Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual

(Part E, Supplemental Guidance for Dermal Risk Assessment) Final.

# Intake Equations:

RME = Reasonable Maximum Exposure

CT = Central Tendency Exposure

Notes:

Ingestion Daily Intake (DI) (mg/kg-day) = EPC x IR x EF x ED x CF x FI / (BW x AT)

Dermal DI (mg/kg-day) = EPC x SA x AF x ABS x EV x EF x ED x CF/(BW x AT)

# TABLE 1E EXPOSURE FACTOR ASSUMPTIONS FOR RESIDENTIAL CHILD

# Munitions Response Seneca Army Depot Activity

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Air
Exposure Point:	SEAD-46/57/EOD2/EOD3/Grenade Range
Receptor Population:	Residential Child
Receptor Age:	Child (0-6 yr)

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE	CT VALUE	CT RATIONALE	CT REFERENCE
Inhalation of	EPC	Air EPC	mg/m <sup>3</sup>	Table 2/3	See Table 2/3	Table 2/3			See Table ?
Dust in	BW	Body Weight	kg	15	Default value for child (ages 0-6yr).	USEPA, 2002.	15	Default value for chid ages 0-6yr.	USEPA, 2002.
Ambient Air	IR	Inhalation Rate	m <sup>3</sup> /day	8.7	Average inhalation rate for child ages 0-12 yr.	USEPA, 1997.	8.7	Average inhalation rate for child ages 0-12.	USEPA, 1997.
	EF	Exposure Frequency	days/yr	350	Default exposure frequency for residential child.	USEPA, 2004, 2002.	350		USEPA, 2002, 2004.
	ED	Exposure Duration	vear	6	Default value for exposure duration.	USEPA, 2002.	6	Default value for exposure duration.	USEPA, 2002.
1	AT(Nc)	Averaging Time - Nc	days	2,190	6 years.		2,190	6 years.	
	AT(Cair)	Averaging Time - Car	days	25,550	70 years, default value for human life span.	USEPA, 2002.	25,550	70 years, default value for human life span.	USEPA, 2002.

Source References:

Notes:

RME = Reasonable Maximum Exposure CT = Central Tendency Exposure · USEPA, 1997: Exposure Factors Handbook

· USEPA, 2002: Supplemental Guidance For Developing Soil Screening Levels For Superfund Sites. December.

· USEPA, 2004: Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual

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Intake Equation:

Inhalation Daily Intake (DI) (mg/kg-day) = EPC x IR x EF x ED / (BW x AT)

# TABLE 1E EXPOSURE FACTOR ASSUMPTIONS FOR RESIDENTIAL CHILD Munitions Response

Seneca Army Depot Activity

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: SEAD-46 and SEAD-57
Receptor Population: Residential Child
Receptor Age: Child

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE	CT VALUE	CT RATIONALE	CT REFERENCE
Intake of	EPC	Groundwater EPC	mg/L	Table 3B	See Table 3B	See Table 3B	Table ?	See Table ?.	See Table ?.
Groundwater	BW	Body Weight	kg	15	Default value for child (ages 0-6r).	USEPA, 2002.	15	Default value for child ages (0-6yr).	USEPA, 2002.
		Intake Rate	L/day	1.5	95th percentile for children ages 1-10 yr.	USEPA, 1997.	0.74	Average for children ages 1-10 yr.	USEPA, 1997.
	EF	Exposure Frequency	days/yr	350	Default exposure frequency for residential receptor.	USEPA, 2004, 2002.	350	Default exposure frequency for residential receptor.	USEPA, 2002.
	ED	Exposure Duration	year	6	Default exposure duration.	USEPA, 2002.	6	Default exposure duration.	USEPA, 2002.
l	AT(Nc)	Averaging Time - Nc	days	2,190	6 years.		2,190	6 years.	
	AT(Cair)	Averaging Time - Car	days	25,550	70 years, default value for human life span.	USEPA, 2002.	25,550	70 years, default value for human life span.	USEPA, 2002.
Dermal	EPC	Groundwater EPC	mg/L	Table 3B	See Table 3B	See Table 3B	Table ?	See Table ?.	See Table ?.
Contact of	Кр	Permeability Constant	cm/hr		Chemical-specific.	USEPA, 2004.		Chemical-specific.	USEPA, 2004.
Groundwater	BW	Body Weight	kg	15	Default value for child (ages 0-6r).	USEPA, 2002.	15	Default value for child ages (0-6yr).	USEPA, 2002.
	SA	Skin Contact Surface Area	cm <sup>2</sup>	6,600	Default RME for child showering/bathing.	USEPA, 2004.	6,600	Default CT for child showering/bathing.	USEPA, 2004.
	EV	Event Frequency	events/day	1	Default RME for child showering/bathing.	USEPA, 2004.	1	Default CT for child showering/bathing.	USEPA, 2004.
	t <sub>event</sub>	Event Duration	hr/event	1.0	Default RME for child showering/bathing.	USEPA, 2004.	0.33	Default CT for child showering/bathing.	USEPA, 2004.
	EF	Exposure Frequency	days/yr	350	Default exposure frequency for residential	USEPA, 2004,	350	Default exposure frequency for residential	USEPA, 2002,
			, , ,		receptor.	2002.		receptor.	2004.
	ED	Exposure Duration	vear	6	Default exposure duration.	USEPA, 2002.	6	Default exposure duration.	USEPA, 2002.
	AT(Nc)	Averaging Time - Nc	days	2,190	6 years.		2,190	6 years.	
	AT(Cair)	Averaging Time - Car	days	25,550	70 years, default value for human life span.	USEPA, 2002.	25,550	70 years, default value for human life span.	USEPA, 2002.
Inhalation of	EPC	Air EPC	mg/m3	Table 3B	See Table 3B	See Table 3B	Table ?	See Table ?.	See Table ?.
Groundwater	BW	Body Weight	kg	15	Default value for child ages 0-6yr.	USEPA, 2002.	15	Default value for child ages 0-6yr.	USEPA, 2002.
	IR	Inhalation Rate	m <sup>3</sup> /hr	1.0	Average inhalation rate for children with light activities.	USEPA, 1997.	1.0	Average inhalation rate for children with light activities.	USEPA, 1997.
	EV	Event Frequency	event/day	1	Default RME for child showering/bathing.	USEPA, 2004.	1	Default CT value for child	USEPA, 2004.
	t <sub>event</sub>	Event Duration	hr/event	1.0	Default RME for child showering/bathing.	USEPA, 2004.	0.33	showering/bathing.	USEPA, 2004.
	EF	Exposure Frequency	days/yr	350	Default exposure frequency for residential	USEPA, 2004,	350	Default CT value for child	USEPA, 2004,
			, ,		receptor.	2002.		showering/bathing.	2002.
	ED	Exposure Duration	vear	6	Default exposure duration.	USEPA, 2002.	6	Default exposure frequency for residential	USEPA, 2002.
	AT(Nc)	Averaging Time - No		2,190	6 years.		2,190	receptor.	
	AT(Cair)	Averaging Time - Car		25,550	70 years, default value for human life span.	USEPA, 2002.	25,550	Default exposure duration. 6 years.	USEPA, 2002.

#### **TABLE 1E**

### **EXPOSURE FACTOR ASSUMPTIONS FOR RESIDENTIAL CHILD**

### **Munitions Response** Seneca Army Depot Activity

Scenario Timeframe:	Future
Medium:	Groundwater
Exposure Medium:	Groundwater
Exposure Point:	SEAD-46 and SEAD-57
Receptor Population:	Residential Child
Receptor Age:	Child

Source References:

Notes: · USEPA, 1997: Exposure Factors Handbook

RME = Reasonable Maximum Exposure · USEPA, 2002: Supplemental Guidance For Developing Soil Screening Levels For Superfund Sites. December.

CT = Central Tendency Exposure · USEPA, 2004: Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual

(Part E, Supplemental Guidance for Dermal Risk Assessment) Final.

Intake Equations:

Intake Daily Intake (DI) (mg/kg-day) = EPC x IR x EF x ED/(BW x AT)

 $DI (mg/kg-day) = DA_{event} \times EV \times EF \times ED \times SA/(BW \times AT)$ Dermal

Where: DA<sub>event</sub> = Absorbed dose per event (mg/cm<sup>2</sup>-event)

For organic compounds:

Where:

 $t^* = Time\ to\ reach\ steady-stat(hr)$ 

 $\tau_{event} = Lag \ Time \ per \ event(hr/event)$ 

B = Dimensionless ratio of the permeability coefficient of a compound through the stratum corneum relative to its permeability coefficient across the viable epidermis (ve) (dimensionless)

FA = Fraction absorbed water (dimensionless)

For inorganic compounds: DA<sub>event</sub> = K<sub>p</sub> x EPC x t<sub>event</sub>

DI (mg/kg-day) = EPC x IR x t<sub>event</sub> x EV x EF x ED / ( BW x AT) Inhalation

TABLE 2A

NON-CANCER TOXICITY DATA -- ORAL/DERMAL

MUNITIONS RESPONSE

Chemical of Potential Concern	CAS Number	Chronic/ Subchronic	Oral RfD Value	Oral RfD Units	Oral to Dermal Adjustment Factor (1)	Adjusted Dermal RfD (2)	Units	Primary Target Organ	Combined Uncertainty/Modifying Factors	Sources of RfD: Target Organ	Dates of RfD: Target Organ (3) (MM/DD/YY)
Methyl cyclohexane	108-87-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(a)anthracene	56-55-3	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(a)pyrene	50-32-8	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(b)fluoranthene	205-99-2	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(ghi)perylene	191-24-2	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(k)fluoranthene	207-08-9	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A
Bis(2-Ethylhexyl)phthalate	117-81-7	Chronic	2.00E-02	mg/kg-day	1	2.0E-02	mg/kg-day	Liver	1000	IRIS	7/30/2009
Chrysene	218-01-9	N/A	3.E-04	mg/kg-day	1	3.0E-04	mg/kg-day	N/A	N/A	N/A	N/A
Dibenz(a,h)anthracene	53-70-3	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A
Dibenzofuran	132-64-9	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A
Di-n-octylphthalate	117-84-0	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A
Indeno(1,2,3-cd)pyrene	193-39-5	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A
Phenanthrene	85-01-2	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A
Phenol	108-95-2	Chronic	3E-01	mg/kg-day	1	3.0E-01	mg/kg-day	Developmental	300	IRIS	7/21/2009
Dieldrin	60-57-1	Chronic	5.E-05	mg/kg-day	1	5.0E-05	mg/kg-day	Liver	100	IRIS	7/21/2009
Endosulfan I	115-29-7	Chronic	6.00E-03	mg/kg-day	1	6.0E-03	mg/kg-day	Body weight	100	IRIS	7/21/2009
Endosulfan II	891-86-1	Chronic	6.00E-03	mg/kg-day	1	6.0E-03	mg/kg-day	Body weight	100	IRIS	7/21/2009
Endrin aldehyde	7421-93-4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Endrin Ketone	53494-70-5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Heptachlor	76-44-8	Chronic	5.00E-04	mg/kg-day	1	5.0E-04	mg/kg-day	Liver	300	IRIS	7/21/2009
Heptachlor Epoxide	1024-57-3	Chronic	1.30E-05	mg/kg-day	1	1.3E-05	mg/kg-day	Liver	1000	IRIS	7/21/2009
Aluminum	7429-90-5	Chronic	1.0E+00	mg/kg-day	1	1.0E+00	mg/kg-day	N/A	N/A	NCEA	8/26/1996
Antimony	7440-36-0	Chronic	4E-04	mg/kg-day	0.15	6E-05	mg/kg-day	Whole Body Blood	1000	IRIS	8/16/2007
Arsenic	7440-38-2	Chronic	3E-04	mg/kg-day	1	3E-04	mg/kg-day	Skin	3	IRIS	8/16/2007
Cadmium	7440-43-9	Chronic	5E-04	mg/kg-day	0.025	5.0E-04	mg/kg-day	Kidney	10	IRIS	7/21/2009
Cadmium (food)	7440-43-9	Chronic	1E-03	mg/kg-day	0.025	1.0E-03	mg/kg-day	Kidney	N/A	N/A	N/A
Chromium (VI)	18540-29-9	Chronic	3E-03	mg/kg-day	0.025	8E-05	mg/kg-day	Weight, Blood, and Other Tissues	900	IRIS	8/16/2007
Cobalt	7440-48-4	Chronic	3E-04	mg/kg-day	1	3.0E-04	mg/kg-day	N/A	N/A	NCEA	4E+04
Copper	7440-50-8	Chronic	4E-02	mg/kg-day	1	4E-02	mg/kg-day	Liver, Kidney	N/A	USEPA MCL	2/28/2007
Iron	7439-89-6	Chronic	3E-01	mg/kg-day	1	3E-01	mg/kg-day	N/A	1	NCEA	07/23/96
Lead	7439-92-1	N/A	NA	N/A	0.15	N/A	N/A	N/A	N/A	N/A	N/A
Magnesium	7439-95-4	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A
Manganese	7439-96-5	Chronic	2.4E-02	mg/kg-day	0.04	1E-03	mg/kg-day	Central Nervous System	s 3	IRIS	8/16/2007

# TABLE 2A NON-CANCER TOXICITY DATA -- ORAL/DERMAL MUNITIONS RESPONSE

Chemical of Potential Concern	CAS Number	Chronic/ Subchronic	Oral RfD Value	Oral RfD Units	Oral to Dermal Adjustment Factor (1)	Adjusted Dermal RfD (2)	Units	Primary Target Organ	Combined Uncertainty/Modifying Factors	Sources of RfD: Target Organ	Dates of RfD: Target Organ (3) (MM/DD/YY)
Selenium	7782-49-2	Chronic	5.0E-03	mg/kg-day	1	5E-03	mg/kg-day	Hair/Nail	3	IRIS	7/30/2009
Silver	7440-22-4	Chronic	5.0E-03	mg/kg-day	1	5E-03	mg/kg-day	Skin	3	IRIS	7/30/2009
Thallium	7440-28-0	Chronic	6E-04	mg/kg-day	1	6E-04	mg/kg-day	Liver, Blood, Hair	3000	IRIS	8/16/2007
Vanadium	7440-62-2	Chronic	1.0E-03	mg/kg-day	0.026	3E-05	mg/kg-day	N/A	N/A	NCEA, quoted in Region 3 and Region 9	4/6/2007

N/A = Not Applicable

NCEA = National Center for Environmental Assessment

IRIS = Integrated Risk Information System

PPRTV = EPA's Provisional Peer Reviewed Toxicity Values

- (1) Source: Supplemental Guidance for Dermal Risk Assessment. Part E of Risk Assessment Guidance for Superfund, Human Health Evaluation Manual (Volume I). Final. USEPA. 2004. A default value of 1 was used if no value was available in the USEPA (2004) document.
- (2) Dermal RfD = Oral RfD x Adjustment Factor
- (3) For IRIS values, the date was the last time IRIS was checked.
  - For NCEA values, the date was the date of the article provided by NCEA.
  - For PPRTV values, the date was the date of the Region III RBC table, where the PPRTV was cited from.
- (4) The chronic oral RfD for manganese was adjusted by using a modifying factor of 3 in accordance with the IRIS recommendation.

  In addition, dietary exposure (assumed 5 mg/day) was subtracted. Thus, the RfD used in this risk assessment is 1/6 of the value listed in the IRIS.
- (5) The chronic oral RfD for thallium was based on the chronic oral RfD of thallium sulfate adjusted for molecular weight differences.

### TABLE 2B NON-CANCER TOXICITY DATA -- INHALATION MUNITIONS RESPONSE

Chemical	CAS	Chronic/	Value	Units	Adjusted	Units	Primary	Combined	Sources of	Dates (2)
of Potential	Number	Subchronic	Inhalation		Inhalation		Target	Uncertainty/Modifyin	RfC:RfD:	(MM/DD/YY
Concern			RfC		RfD (1)		Organ	Factors	Target Organ	,
Methyl cyclohexane	108-87-2	Chronic	3.0	mg/m³	8.57E-01	mg/kg-day	Kıdney	100	OERL	8/3/2009
Benzo(a)anthracene	56-55-3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(a)pyrene	50-32-8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/Λ
Benzo(b)fluoranthene	205-99-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(ghi)perylene	191-24-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(k)fluoranthene	207-08-9	N/A	N/A	N/Λ	N/A	N, A	N/A	N/A	N/A	N/A
Bis(2-Ethylhexyl)phthalate	117-81-7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chrysene	218-01-9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dibenz(a,h)anthracene	53-70-3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dibenzofuran	132-64-9	N/A	N/A	N/A	N/A	N <sub>r</sub> Λ	N/A	N/A	N/A	N/A
D1-n-octylphthalate	117-84-0	N/A	N/A	N/A	N/A	N/A	N/Λ	N <sub>r</sub> A	N/A	N/A
Indeno(1,2,3-cd)pyrene	193-39-5	N/A	N/A	N/A	N/A	N/A	N/A	N <sub>r</sub> A	N/A	N/A
Phenanthrene	85-01-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/Λ	N <sub>r</sub> A
Phenol	108-95-2	Chronic	2.00E-01	mg/m³	5.71E-02	mg/kg-day	N/A	N/Λ	NCEA	4,1/2009
Dieldrin	60-57-1	N/A	N/A	N/A	N/A	N/A	N/Λ	N/A	N/A	N/A
Endosulfan I	115-29-7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N <sub>r</sub> A
Endosulfan II	891-86-1	N/A	N/A	N/A	N/A	N/A	N/A	N, A	N/A	N/A
Endrin aldehyde	7421-93-4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Endrin Ketone	53494-70-5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Heptachlor	76-44-8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Heptachlor Epoxide	1024-57-3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aluminum	7429-90-5	Chronic	5E-03	mg/m³	1.43E-03	mg/kg-day	N/A	N-A	NCEA	6,20,1997
Antimony	7440-36-0	N/A	N/A	N/A	N/A	N/A	N/A	N <sub>r</sub> A	N/A	N/A
Arsenic	7440-38-2	Chronic	1.50E-05	N/A	N/A	N/A	N/A	N/A	N <sub>r</sub> A	N/A
Cadmium	7440-43-9	Chronic	1.00E-05	mg/m³	2.86E-06	mg/kg-day	N/A	N/A	NCEA	4/1/2009
Chromium (VI)	18540-29-9	Chronic	1E-04	mg/m³	3E-05	mg/kg-day	Respiratory System	300	IRIS	7/21/2009
Cobalt	7440-48-4	Chronic	6E-06	mg/m³	1.71E-06	mg/kg-day	N/A	N/A	NCEA	4/1/2009
Copper	7440-50-8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Iron	7439-89-6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Lead	7439-92-1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Magnesium	7439-95-4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Manganese	7439-96-5	Chronic	5E-05	mg/m³	1E-05	mg/kg-day	Central Nervous System	1000	IRIS	8,16,2007
Selenium	7782-49-2	Chronic	2.00E-02	mg/m³	6E-03	mg/kg-day	N/A	N/A	NCEA	7,30/2009
Silver	7440-22-4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N. A	N/A
Thalium	7440-28-0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NιA	N/A
Vanadium	7440-62-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

#### Notes:

- (1) Inhalation RfD was adjusted based on the assumption of 70 kg body weight and 20 mday inhalation rate.
- (2) For IRIS values, the date was the last time IRIS was checked.
  For PPRTV values, the date was the date of the Region III RBC table, where the PPRTV was cited from.

 $N_r A = Not Applicable$ 

IRIS = Integrated Risk Information System

PPRTV = EPA's Provisional Peer Reviewed Toxicity Values

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TABLE 2C
CANCER TOXICITY DATA -- ORAL/DERMAL
MUNITIONS RESPONSE

Chemical of Potential Concern	CAS Number	Oral Cancer Slope Factor	Oral Cancer Slope Factor Source	Oral to Dermal Adjustment Factor (1)	Adjusted Dermal Cancer Slope Factor (2)	Units	Weight of Evidence/ Cancer Guideline Description	Weight of Evidence Source	Date (3) (MM/DD/YY)
Methyl cyclohexane	108-87-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(a)anthracene	56-55-3	0.73	NCEA	1	0.73	(mg/kg-day)	B2	IRIS	8/16/2007
Benzo(a)pyrene	50-32-8	7.3	IRIS	1	7.3	(mg/kg-day) <sup>-1</sup>	B2	IRIS	8/16/2007
Benzo(b)fluoranthene	205-99-2	0.73	NCEA	1	0.73	(mg/kg-day)	B2	IRIS	8/16/2007
Benzo(ghi)perylene	191-24-2	N/A	N/A	1	N/A	N/A	D	IRIS	7/21/2009
Benzo(k)fluoranthene	207-08-9	0.073	NCEA	1	0.073	(mg/kg-day)	B2	IRIS	8/16/2007
Bis(2-Ethylhexyl)phthalate	117-81-7	1.40E-02	IRIS	1	0.014	(mg/kg-day)	B2	IRIS	7/30/2009
Chrysene	218-01-9	0.0073	NCEA	1	0.0073	(mg/kg-day) <sup>-1</sup>	B2	IRIS	8/16/2007
Dibenz(a,h)anthracene	53-70-3	7.3	NCEA	1	7.3	(mg/kg-day)	B2	IRIS	8/16/2007
Dibenzofuran	132-64-9	N/A	N/A	N/A	N/A	N/A	D	IRIS	7/21/2009
Di-n-octylphthalate	117-84-0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Indeno(1,2,3-cd)pyrene	193-39-5	0.73	NCEA	1	0.73	(mg/kg-day) <sup>1</sup>	B2	IRIS	8/16/2007
Phenanthrene	85-01-2	N/A	N/A	1	N/A	N/A	D	IRIS	7/21/2009
Phenol	108-95-2	3.00E-01	IRIS	1	3.00E-01	(mg/kg-day)	D	IRIS	7/21/2009
Dieldrin	60-57-1	16	IRIS	1	16	(mg/kg-day) <sup>-1</sup>	B2	IRIS	7/21/2009
Endosulfan I	115-29-7	N/A	N/A	N/A	N/A	N/A	D	IRIS	7/21/2009
Endosulfan II	891-86-1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Endrin aldehyde	7421-93-4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Endrin Ketone	53494-70-5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Heptachlor	76-44-8	4.5	IRIS	1	4.5	(mg/kg-day) <sup>-1</sup>	B2	IRIS	7/21/2009
Heptachlor Epoxide	1024-57-3	9.1	IRIS	1	9.1	(mg/kg-day)	B2	IRIS	7/21/2009
Aluminum	7429-90-5	N/A	N/A	N/A	N/A	N/A	D	NCEA	6/20/1997
Antimony	7440-36-0	N/A	N/A	0.15	N/A	N/A	N/A	N/A	N/A
Arsenic	7440-38-2	1.5	IRIS	1	1.5	(mg/kg-day)	A	IRIS	8/16/2007
Cadmium	7440-43-9	N/A	N/A	N/A	N/A	N/A	B1	IRIS	2/13/2006
Chromium (VI)	18540-29-9	N/A	N/A	N/A	N/A	N/A	D	IRIS	8/16/2007
Cobalt	7440-48-4	N/A	N/A	N/A	N/A	N/A	B1	IRIS	8/3/2009
Copper	7440-50-8	N/A	N/A	N/A	N/A	N/A	D	IRIS	7/21/2009
Iron	7439-89-6	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A
Lead	7439-92-1	N/A	N/A	N/A	N/A	N/A	B2	IRIS	08/03/09
Magnesium	7439-95-4	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A
Manganese	7439-96-5	N/A	N/A	0.04	N/A	N/A	D	N/A	N/A
Selenium	7782-49-2	N/A	N/A	N/A	N/A	N/A	D	IRIS	7/30/2009
Silver	7440-22-4	N/A	N/A	N/A	N/A	N/A	D	IRIS	7/30/2009

# TABLE 2C CANCER TOXICITY DATA -- ORAL/DERMAL MUNITIONS RESPONSE

Chemical of Potential Concern	CAS Number	Oral Cancer Slope Factor	Oral Cancer Slope Factor Source	Oral to Dermal Adjustment Factor (1)	Adjusted Dermal Cancer Slope Factor (2)	Units	Weight of Evidence/ Cancer Guideline Description	Weight of Evidence Source	Date (3) (MM/DD/YY
Thallium	7440-28-0	N/A	N/A	1	N/A	N/A	D	N/A	N/A
/anadium	7440-62-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

IRIS = Integrated Risk Information System

HEAST= Health Effects Assessment Summary Tables

NCEA = National Center for Environmental Assessment

PPRTV = EPA's Provisional Peer Reviewed Toxicity Values

EPA Group:

- A Human carcinogen
- B1 Probable human carcinogen indicates that limited human data are available
- B2 Probable human carcinogen indicates sufficient evidence in animals and inadequate or no evidence in humans
- C Possible human carcinogen
- D Not classifiable as a human carcinogen
- E Evidence of noncarcinogenicity

#### Notes:

- (1) Source: USEPA (2004) Supplemental Guidance for Dermal Risk Assessment. Part E of Risk Assessment Guidance for Superfund, Human Health Evaluation Manual (Volume I). Final. A default value of 1 was used if no value was available in the USEPA (2004) document.
- (2) Dermal Cancer Slope Factor = Oral Cancer Slope Factor/Adjustment Factor
- (3) For IRIS values, the date was the last time IRIS was checked.

For PPRTV and NCEA values, the date was the date of the Region III RBC table, where the PPRTV and NCEA values were cited from.

# TABLE 2D CANCER TOXICITY DATA -- INHALATION MUNITIONS RESPONSE

Chemical of Potential Concern	CAS Number	Unit Risk	Units	Unit Risk Source	Adjustment (1)	Inhalation Cancer Slope Factor	Units	Weight of Evidence/ Cancer Guideline Description	Weight of Evidence Source	Datc (2) (MM/DD/YY)
Methyl cyclohexane	108-87-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(a)anthracene	56-55-3	N/A	N/A	N/A	N/A	N/A	N/A	B2	IRIS	8/16/2007
Benzo(a)pyrene	50-32-8	1.1E-03	(ug/m³)·1	NCEA	3500	3.85	(ug/m3)-1	B2	NCEA	4/1/2009
Benzo(b)fluoranthene	205-99-2	1.10E-04	(ug/m <sup>3</sup> ) <sup>-1</sup>	NCEA	3500	0.385	(ug/m3)-1	B2	NCEA	4/1/2009
Benzo(ghi)perylene	191-24-2	N/A	N/A	N/A	N/A	N/A	N/A	D	IRIS	7/21/2009
Benzo(k)fluoranthene	207-08-9	1.10E-04	(ug/m <sup>3</sup> )-1	NCEA	3500	0.385	(ug/m3)-1	B2	NCEA	4/1/2009
Bis(2-Ethylhexyl)phthalatc	117-81-7	N/A	N/A	N/A	N/A	N/A	N/A	B2	IRIS	7/30/2009
Chrysene	218-01-9	1.10E-05	(ug/m <sup>3</sup> ) <sup>-1</sup>	NCEA	3500	0.0385	(ug/m3)-1	B2	NCEA	4/1/2009
Dibenz(a,h)anthracene	53-70-3	0.0012	(ug/m <sup>3</sup> )-1	NCEA	3500	4.2	(ug/m3)-1	B2	NCEA	4/1/2009
Dibenzofuran	132-64-9	N/A	N/A	N/A	N/A	N/A	N/A	D	IRIS	7/21/2009
Di-n-octylphthalatc	117-84-0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Indeno(1,2,3-cd)pyrene	193-39-5	0.00011	(ug/m <sup>3</sup> ) <sup>-1</sup>	NCEA	3500	0.385	(ug/m3)-1	B2	NCEA	4/1/2009
Phenanthrene	85-01-2	N/A	N/A	N/A	N/A	N/A	N/A	D	IRIS	7/21/2009
Phenol	108-95-2	N/A	N/A	N/A	N/A	N/A	N/A	D	IRIS	7/21/2009
Dieldrin	60-57-1	4.60E-03	(ug/m <sup>3</sup> )-1	IRIS	3500	16.1	(ug/m3)-1	B2	IRIS	7/21/2009
Endosulfan I	115-29-7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Endosulfan II	891-86-1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Endrin aldehyde	7421-93-4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Endrin Ketone	53494-70-5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Heptachlor	76-44-8	1.30E-03	(ug/m³)-1	IRIS	3500	4.55	(ug/m3)-1	B2	IRIS	7/21/2009
Heptachlor Epoxide	1024-57-3	2.60E-03	(ug/m <sup>3</sup> ) <sup>-1</sup>	IRIS	3500	9.1	(ug/m3)-1	B2	IRIS	7/21/2009
Aluminum	7429-90-5	N/A	N/A	N/A	N/A	N/A	N/A	D	NCEA	6/20/1997
Antimony	7440-36-0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Arsenic	7440-38-2	4.3E-03	(ug/m <sup>3</sup> )-1	IRIS	3500	15.05	(ug/m3)-1	A	IRIS	8/16/2007
Cadmium	7440-43-9	1.8E-03	(ug/m <sup>3</sup> )-1	IRIS	3500	6.3	(ug/m3)-1	<u>B1</u>	IRIS	7/21/2009
Chromium (VI)	18540-29-9	1.2E-02	(ug/m <sup>3</sup> ) <sup>-1</sup>	IRIS	3500	42	(ug/m3)-1	A	IRIS	8/16/2007
Cobalt	7440-48-4	9.0E-03	(ug/m <sup>3</sup> )-1	NCEA	3500	31.5	(ug/m3)-1	BI	NCEA	8/3/2009
Copper	7440-50-8	N/A	N/A	N/A	N/A	N/A	N/A	D	IRIS	7/21/2009
Iron	7439-89-6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Lead	7439-92-1	N/A	N/A	N/A	N/A	N/A	N/A	B2	IRIS	08/03/09
Magnesium	7439-95-4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Manganese	7439-96-5	N/A	N/A	N/A	N/A	N/A	N/A	D	IRIS	8/16/2007
Selenium	7782-49-2	N/A	N/A	N/A	N/A	N/A	N/A	D	IRIS	7/30/2009
Silver	7440-22-4	N/A	N/A	N/A	N/A	N/A	N/A	D	IRIS	7/30/2009
Thallium	7440-28-0	N/A	N/A	N/A	N/A	N/A	N/A	D	IRIS	8/16/2007
Vanadium	7440-62-2	N/A	N/A	<u>N/A</u>	N/A	N/A	N/A	N/A	N/A	N/A_

IRIS = Integrated Risk Information System

HEAST= Health Effects Assessment Summary Table:

NCEA = National Center for Environmental Assessmen

#### Notes:

- (1) The adjustment was based on a 70 kg body weight and 20 m³/day inhalation rate.
- (2) For IRIS values, the date was the last time IRIS was checked. For NCEA values the date was the date of the Region III RBC, where the NCEA was cited from

### EPA Group:

- A Human carcinoger
- B1 Probable human carcinogen indicates that limited human data are availabl
- B2 Probable human carcinogen indicates sufficient evidence in animals and inadequate or no evidence in humans
- C Possible human carcinogen
- D Not classifiable as a human carcinoger
- E Evidence of noncarcinogenicity

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