

October 7, 2009

Mr. John Hill
U. S. Air Force Center for Engineering and the Environmental
HQ AFCEE/IWP
3300 Sydney Brooks
Brooks City-Base, TX 78235-5112

SUBJECT: Signed Final Record of Decision for the Old Construction Debris Landfill (SEAD-11) at Seneca Army Depot Activity; Contract FA8903-04-D-8675, Delivery Order 0031, CDRL A001C

Dear Mr. Hill:

Parsons Infrastructure & Technology Group Inc. (Parsons) is pleased to submit the signed Final Record of Decision for the Old Construction Debris Landfill (SEAD-11) at the Seneca Army Depot Activity (SEDA) in Seneca County, New York.

This work was performed in accordance with the Scope of Work (SOW) for Contract No. FA8903-04-D-8675, Task Order No. 0031.

Parsons appreciates the opportunity to provide you with the Record of Decision for this work. Should you have any questions, please do not hesitate to call me at (617) 449-1405 to discuss them.

Sincerely,



Todd Heino, P.E., Vice President
Project Manager

Enclosures

cc: J. Chavez, AFCEE
AFCEE CDL (letter only)
S. Absolom, SEDA
K. Hoddinott, USACHPPM
R. Walton, USAEC
R. Battaglia, USACE, NY District
T. Battaglia, USACE, NY District

PARSONS

100 High Street, 4th Floor • Boston, Massachusetts 02110 • (617) 946-9400 • Fax (617) 946-9777 • www.parsons.com

October 7, 2009

Mr. Julio Vazquez
U.S. Environmental Protection Agency, Region II
Superfund Federal Facilities Section
290 Broadway, 18th Floor
New York, NY 10007-1866

Mr. Kuldeep K. Gupta, P.E.
New York State Department of Environmental Conservation (NYSDEC)
Division of Environmental Remediation
Remedial Bureau A, Section C
625 Broadway
Albany, NY 12233-7015

Mr. Mark Sergott
New York State Department of Health
Bureau of Environmental Exposure Investigation, Room 300
547 River Street, Flanigan Square
Troy, NY 12180

SUBJECT: Signed Final Record of Decision for the Old Construction Debris Landfill (SEAD-11) at Seneca Army Depot Activity, Romulus, NY; EPA Site ID# NY0213820830 and NY Site ID# 8-50-006

Dear Mr. Vazquez/Mr. Gupta/Mr. Sergott:

Parsons Infrastructure & Technology Group Inc. (Parsons) is pleased to submit the signed Final Record of Decision for the Old Construction Debris Landfill (SEAD-11) located at the Seneca Army Depot Activity (SEDA) in Seneca County, New York (EPA Site ID# NY0213820830 and NY Site ID# 8-50-006).

An electronic copy of the complete Record of Decision is enclosed with this submittal.

Should you have any questions, please do not hesitate to call me at (617) 449-1405 to discuss them.

Sincerely,



Todd Heino, P.E., Vice President
Project Manager

Enclosures

cc:	J. Chavez, AFCEE	AFCEE CDL (letter only)
	S. Absolom, SEDA	K. Hoddinott, USACHPPM
	R. Walton, USAEC	R. Battaglia, USACE, NY District
	T. Battaglia, USACE, NY District	M. Heaney, TechLaw



US Army Corps of Engineers

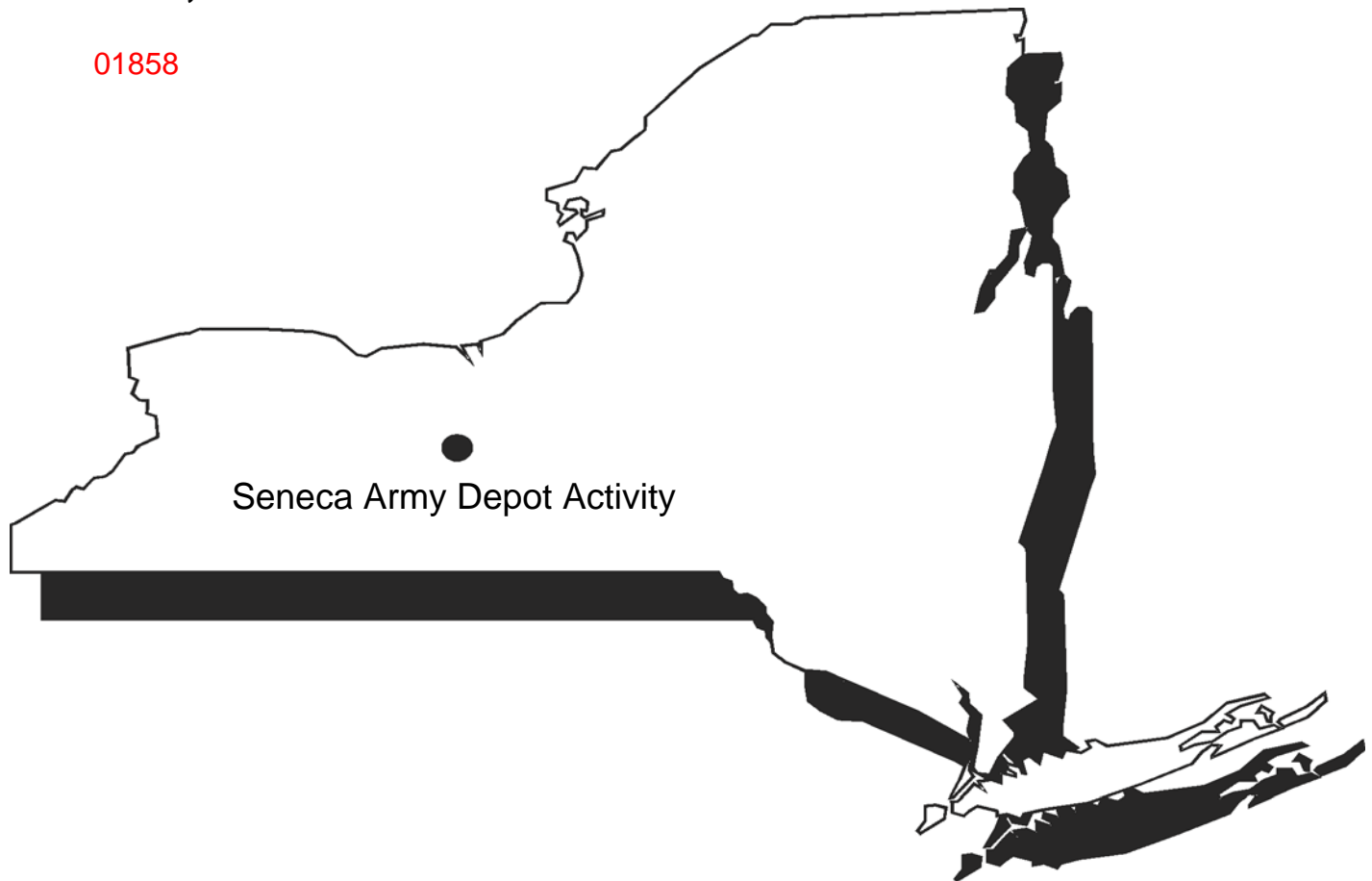


**Air Force Center for
Engineering and the Environment**



**Seneca Army Depot Activity
Romulus, New York**

01858



**FINAL
RECORD OF DECISION**
FOR THE OLD CONSTRUCTION DEBRIS LANDFILL (SEAD-11)
SENECA ARMY DEPOT ACTIVITY

AFCEE CONTRACT NO. FA8903-04-D-8675
TASK ORDER NO. 0031
CDRL A001C

EPA SITE ID# NY0213820830
NY SITE ID# 8-50-006

PARSONS
SEPTEMBER 2009

**FINAL
RECORD OF DECISION**

FOR

THE OLD CONSTRUCTION DEBRIS LANDFILL (SEAD-11)

**SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK**

Prepared for:

**SENECA ARMY DEPOT ACTIVITY
5786 STATE ROUTE 96
ROMULUS, NEW YORK 14541**

and

**AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT
3300 SIDNEY BROOKS, BUILDING 532
BROOKS CITY-BASE, TX 78235-5122**

Prepared By:

**PARSONS
100 High Street
Boston, Massachusetts 02110**

Contract Number: FA8903-04-D-8675

Task Order: 0031

CDRL: A001C

EPA Site ID: NY0213820830; NY Site ID: 8-50-006

September 2009

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ACRONYMS AND ABBREVIATIONS

AOC(s)	Area(s) of Concern
ARAR(s)	Applicable or Relevant and Appropriate Requirement(s)
AWQS	Ambient Water Quality Standard
BCT	Base Clean-up Team
bgs	below ground surface or below grade surface
BRA	Baseline Risk Assessment
BRAC	Base Realignment and Closure
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC(s)	Contaminant(s) of Concern
COPC(s)	Contaminant(s) of Potential Concern
DoD	Department of Defense
EBS	Environmental Baseline Survey
ECL	Environmental Conservation Law
EPA	U.S. Environmental Protection Agency
ESI	Expanded Site Investigation
FFA	Federal Facilities Agreement
FS	Feasibility Study
ft.	foot or feet (dependent on context)
GA	NYSDEC groundwater classification for a source that is suitable for drinking water
HI(s)	Hazard Index (Indices)
LORAN	LONG Range Aid to Navigation
LRA	Local Redevelopment Authority
LUC(s)	Land Use Control(s)
MCL	Maximum Contaminant Level
mg	milligrams
mg/kg	milligrams per kilogram
NCP	National Contingency Plan or National Oil and Hazardous Substances Pollution Contingency Plan

ACRONYMS AND ABBREVIATIONS (continued)

NGVD	National Geodetic Vertical Data
NPL	National Priorities List
NYCRR	New York Code of Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
OM&M	Operation, Maintenance, and Monitoring
PAH(s)	Polycyclic Aromatic Hydrocarbon(s)
PCB(s)	Polychlorinated Biphenyl(s)
PRG(s)	Preliminary Remediation Goal(s)
PVC	Polyvinyl Chloride
RAB	Restoration Advisory Board
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
ROD	Record of Decision
RSL(s)	Regional Screening Level(s)
SCIDA	Seneca County Industrial Development Agency
SCO(s)	Soil Cleanup Objective(s)
SEAD	Acronym for the Seneca Army Depot used to designate SWMU numbers
SEDA	Seneca Army Depot Activity
SLERA	Screening Level Ecological Risk Assessment
SVOC(s)	Semivolatile Organic Compound(s)
SWMU	Solid Waste Management Unit
TBC	To Be Considered
TCLP	Toxic Characteristic Leaching Procedure
TPH	Total Petroleum Hydrocarbons
TRC	Technical Review Committee
TSDf	Treatment, Storage and Disposal Facility
UCL	Upper Confidence Limit
µg/L	micrograms per liter
VOC(s)	Volatile Organic Compound(s)

REFERENCES

- Army, United States Environmental Protection Agency (EPA) Region 2, New York State Department of Environmental Conservation (NYSDEC). 1993. Federal Facilities Agreement under CERCLA Section 120 in the Matter of Seneca Army Depot, Romulus, New York, Docket Number: II-CERCLA-FFA-00202.
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- New York State Department of Environmental Conservation (NYSDEC). 2006. Superfund and Brownfield Law and Regulation 6 NYCRR Part 375 – General Remedial Program Requirements. June.
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- New York State Department of Environmental Conservation (NYSDEC). 1993 with 1998 and 1999 updates. Technical Guidance for Screening Contaminated Sediments.
- Parsons. 1994. Final SWMU Classification Report.
- Title 40 Code of Federal Regulations, Part 261, Identification and Listing of Hazardous Waste.
- Title 40 Code of Federal Regulations, Part 300, National Oil and Hazardous Substances Pollution Contingency Plan.
- Title 42 US Code Chapter 103, Comprehensive Environmental Response, Compensation, and Liability Act, Section 9620.
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- United States Environmental Protection Agency (EPA). 2003. National Primary Drinking Water Standards. EPA 816-F-03-016. June.
- United States Environmental Protection Agency (EPA). 1999. A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Decision Documents. EPA 540-R-980031. OSWER 9200.1-23P, PB98-963241. July.

1.0 DECLARATION OF THE RECORD OF DECISION

Name and Location of Area of Concern (AOC)

Old Construction Debris Landfill (SEAD-11)
Seneca Army Depot Activity
5786 State Route 96
Romulus, New York 14541
EPA Site ID: NY0213820830; NY Site ID: 8-50-006

Statement of Basis and Purpose

This Record of Decision (ROD) documents the U.S. Army's (Army's) and the U.S. Environmental Protection Agency's (EPA's) selection of a remedy for the Old Construction Debris Landfill (SEAD-11) located in the Seneca Army Depot Activity (SEDA), Seneca County, New York. The remedy selected for the Area of Concern (AOC) was chosen in accordance with the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA), 42 U.S.C. Section 9601, *et seq.* and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300. The Base Realignment and Closure (BRAC) Environmental Coordinator, the Chief of the Consolidations Branch, BRAC Division, and the Director of the Emergency and Remedial Response Division of EPA Region II have been delegated the authority to approve this ROD.

This ROD is based on the Administrative Record that has been developed in accordance with Section 113(k) of CERCLA. The Administrative Record is available for public review at the Seneca Army Depot Activity, 5786 State Route 96, Building 123, Romulus, NY 14541. The Administrative Record Index identifies each of the items considered during the selection of the remedial actions. This index is included in **Appendix A**.

AOC Assessment

When necessary, a ROD should select a response action that protects human health and the environment from actual or threatened releases of hazardous substances in the environment, or from actual or threatened releases of pollutants or contaminants, which may present an imminent and substantial endangerment to public health or welfare. In those instances when there does not exist a need for additional response to protect human health and the environment, a No Further Action determination is appropriate.

The response action selected in this ROD for SEAD-11, the former Old Construction Debris Landfill, is No Further Action. No Further Action is indicated because the Army conducted an Interim Removal Action (IRA) during which waste materials previously buried at the SEAD-11 landfill site were excavated, evaluated, characterized, and shipped off-site for disposal at a licensed solid waste landfill. Subsequent to the IRA, confirmatory samples were collected and analyzed, and the results of these samples indicate that No Further Action is necessary at SEAD-11 to protect human health and the environment from actual or threatened releases of hazardous substances, pollutants, or contaminants.

Description of the Selected Remedy

The selected remedy for SEAD-11, the Old Construction Debris Landfill, is No Further Action (NFA). The selection of the remedy is based on the determination that the AOC does not pose a significant threat to human health or the environment.

State Concurrence

The New York State Department of Environmental Conservation (NYSDEC) forwarded to EPA a letter of concurrence regarding the selected remedy for SEAD-11. This letter of concurrence has been placed in **Appendix B**.

Declaration

The selected remedy, No Further Action, is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. The remedy uses permanent solutions. Insofar as contamination does not remain at the AOC at concentrations above levels that provide for unrestricted use and unlimited exposure, institutional controls and five-year reviews are not necessary.

The foregoing represents the selection of a remedial action by the U.S. Department of the Army and the U.S. Environmental Protection Agency, with the concurrence of the New York State Department of Environmental Conservation.

Concur and recommend for immediate implementation:



STEPHEN M. ABSOLOM
BRAC Environmental Coordinator

09/16/09
Date

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The foregoing represents the selection of a remedial action by the U.S. Department of the Army and the U.S. Environmental Protection Agency, with the concurrence of the New York State Department of Environmental Conservation.

Concur and recommend for immediate implementation:



JOSEPH J. VIGNALI
Chief, Consolidations Branch
BRAC Division

18 Sep 09

Date

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The foregoing represents the selection of a remedial action by the U.S. Department of the Army and the U.S. Environmental Protection Agency, with the concurrence of the New York State Department of Environmental Conservation.

Concur and recommend for immediate implementation:



WALTER E. MUGDAN
Director, Emergency and Remedial Response Division
U.S. Environmental Protection Agency, Region II

9/25/09

Date

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2.0 SITE NAME, LOCATION, AND DESCRIPTION

The Seneca Army Depot Activity previously occupied approximately 10,600 acres of land in Seneca County in the Towns of Romulus and Varick, New York. The property was acquired by the United States Government in 1941, and was operated by the Department of the Army from that time until approximately September 2000 when the installation closed. Prior to the acquisition of the land and the construction of the Depot, the land was used for agriculture, farming, and residential purposes.

The location of SEDA is shown on **Figure 2-1**, which shows that SEDA is partially bordered by New York State Highway 96 on the east and New York State Highway 96A on the west. Abutting land surrounding the Depot is primarily used for agriculture, farming, and residential purposes, and Romulus center is located adjacent to the midway point of the SEDA's eastern border.

SEDA is located in an uplands area, which forms a divide that separates two of New York's Finger Lakes; Cayuga Lake on the east and Seneca Lake on the west. Ground surface elevations are generally higher along the eastern and southern borders of the Depot, and lower along the northern and western borders. The approximate elevation at the southeastern corner of SEDA is 740 feet (ft., National Geodetic Vertical Datum [NGVD] 1929), while the approximate elevation at the southwestern and northeastern corners is 650 ft. (NGVD, 1929). The approximate elevation at the southwestern corner of the Depot is 590 ft. (NGVD, 1929).

SEAD-11, the former Old Construction Debris Landfill, is located in the southwestern portion of the Seneca Army Depot Activity. The landfill reportedly operated in the 1940s and is currently vacant property. The future land use of this portion of the former Depot is defined by the Seneca County Industrial Development Agency (SCIDA), the owner of all non-Army retained property in this portion of the Depot, as Training. The focus of the training is further described as training for Homeland Security, training for first responders, and special warfare training.

The former Old Construction Debris Landfill measured approximately four acres in size. **Figure 2-2** presents the location of SEAD-11 and the predominant features. Prior to the interim removal action (IRA), which was conducted between October 2006 and January 2007, SEAD-11 was characterized as a terraced area of elevated topography that was located on the generally vacant, downwardly sloping terrain that predominated this portion of the Depot. The regional topography surrounding SEAD-11 slopes from higher ground on the east to lower elevations on the west.

SEAD-11 is bounded to the east by SEDA railroad tracks; beyond these tracks is an upward sloping field covered with grass and low brush. SEAD-4 is located east and southeast of the railroad tracks and SEAD-11. As shown in **Figure 2-2**, the AOC is bounded to the north by Indian Creek Road, beyond which is an open grass field which gives way to trees and low brush several hundred feet from the road. Indian Creek flows around the north and west sides of the former landfill. It approaches the vicinity of the former landfill from the north, before turning due west at a location roughly 2,000 feet north of the former landfill site. Subsequently, flow within Indian Creek curves from a westerly to a southerly path until it passes underneath West Patrol Road and Indian Creek Road at a point that is roughly 1,500 feet and topographically downgradient of the former landfill site.

A thicker fill layer was indicated in the southern and western portions of the landfill and resulted in steeper scarps on its southern and southwestern sides. The more gently sloping hills on the north and northwestern sides suggested a thinner layer of fill. The landfill had an average thickness of 4 feet. Assorted construction debris included metal, scrap wood, and several empty 55-gallon drums were observed on the southern and southwestern edges of the former landfill before the IRA. Upon completion of the IRA, the filled area overlying the native land was removed, and the associated waste and cover fill were transported off-site for disposal at a State licensed landfill.

Habitat and Ecological Community Characterization

The former Old Construction Debris Landfill is currently a vacant property. Prior to the IRA, the surface of the AOC was generally vegetated with brush, grasses, and weeds. There was prior evidence of debris on the surface of the former landfill, intermixed with the vegetation. Currently, the southern perimeter of the former landfill is vegetated with deciduous trees; the area further south of the AOC is covered with dense low brush. West of the AOC is an open, grass-covered field that ends at West Patrol Road and the perimeter security fence that constitutes the SEDA boundary. Since the IRA, a vegetative covering has been re-established over the top of AOC. There are no developed portions within SEAD-11.

The NYSDEC Natural Heritage Program Biological and Conservation Data System identifies no known occurrences of federal- or state-designated threatened or endangered plant or animal species within a 2-mile radius of the SEDA. No species of special concern are documented within the Depot property. No rare or endangered species have been observed during the SEAD-11 investigations.

Hydrology

Regionally, four distinct hydrologic units have been identified within Seneca County. These include two distinct shale formations, a series of limestone units, and unconsolidated beds of Pleistocene glacial drift. The geologic material that comprises the overburden is generally Pleistocene till.

Seismic profiles made for SEAD-11 prior to the IRA detected 4 to 17 feet of till overlying bedrock. The till material included layers of loose unsaturated till, compact unsaturated till, and saturated till. The bedrock surface slopes downwards to the west following the slope of the surface topography. Groundwater flow at SEAD-11 in the till / weathered shale aquifer is generally to the west. The distribution of groundwater in the till portion of the aquifer is characterized by moist soil with coarse-grained lenses of water-saturated soil. Some more saturated zones were noted at the base of the upper, less dense till suggesting that in some locations the water may be perched on the upper surface of the dense till. Recharge of groundwater to the wells during sampling events was generally poor.

The primary direction of surface water flow throughout the SEDA is to the west towards Seneca Lake. Isolated portions of the Depot drain to the northeast (Seneca-Cayuga Canal) and east (Cayuga Lake). Primary surface water flow conduits to Seneca Lake are Reeder, Kendaia, Indian, and Silver Creeks, while Kendig Creek flows to the northeast and an unnamed creek flows away from the southeast corner of the Depot towards the east. Prior to the IRA, the surface of the landfill sloped to the northwest, back towards the intersection of Indian Creek Road and the railroad tracks. A historic plan, showing SEAD-11's topography before the IRA, is presented in **Figure 2-3**. Given the slope of the landfill cover prior to

the IRA, surface water flow over the former landfill probably was captured in the east-west trending swale that was located between the landfill surface and the southern edge of Indian Creek Road. Flow captured in the swale subsequently drained towards the west and Indian Creek. After the IRA, the area of the former landfill generally slopes to the west and is less steep than before. Surface water flowing over the AOC is now likely to flow towards the west, and some may pool and infiltrate into the ground in a localized low spot that is located near the southeastern corner of the former landfill. No mapped wetlands are present within SEAD-11.

3.0 SITE HISTORY AND ENFORCEMENT ACTIVITIES

The SEDA was owned by the U.S. Government and operated by the Army between 1941 and approximately 2000, when the SEDA military mission ceased. The SEDA's historic military mission included receipt, storage, distribution, maintenance, and demilitarization of conventional ammunition, explosives, and special weapons. In addition, administrative and plant operational facilities were also established in support of the Depot's mission. Waste management was integrated with the SEDA mission. Subsequent to 1976, management of waste materials produced from these operations was completed in accordance with the requirements of the Resource Conservation and Recovery Act (RCRA).

The EPA nominated the Depot for inclusion on the National Priorities List (NPL) as a Federal Facility on July 14, 1989; SEDA was officially listed on the NPL on August 30, 1990. Once the SEDA was listed, the Army, EPA, and NYSDEC identified 57 SWMUs where historic data or information suggested, or evidence existed to support, that hazardous substances or hazardous wastes had been handled and may have possibly been released and migrated into the environment. Each of these sites was identified in the "Federal Facilities Agreement" (EPA, Army, and NYSDEC, 1993) signed by the three parties in 1993. This list was subsequently expanded to include 72 sites when the Army completed the "SWMU Classification Report, *Final*" (Parsons, 1994), which was required under the terms of the Federal Facilities Agreement (FFA). The SEDA was a Generator and a Treatment, Storage and Disposal Facility (TSDF) and thus subject to regulation under RCRA. Under this permit system, corrective action is required at all SWMUs, if warranted.

Remedial goals are considered equivalent for CERCLA and RCRA; thus when the 72 SWMUs were classified in the "SWMU Classification Report, *Final*" (Parsons, 1994), the Army recommended that they be listed either as No Action sites or Areas of Concern (AOCs). SWMUs listed as AOCs in the "SWMU Classification Report, *Final*" (Parsons, 1994) were then scheduled for further investigations based upon data and potential risks to the environment.

In 1995, the SEDA was designated for closure under the Department of Defense's (DoD's) Base Realignment and Closure (BRAC) process. With the SEDA's inclusion on the BRAC list, the Army's emphasis expanded from expediting necessary investigations and remedial actions at prioritized sites to include the conveyance of non-affected portions of the Depot to the surrounding community for their reuse for non-military purposes (e.g., industrial, municipal, and residential). To address employment and economic impacts associated with the SEDA's closure, the Seneca County Board of Supervisors established the Seneca Army Depot Local Redevelopment Authority (LRA) in October 1995. The primary responsibility assigned to the LRA was to prepare a plan for redevelopment of the SEDA property. Following a comprehensive planning process, a "Reuse Plan and Implementation Strategy for Seneca Army Depot" was completed and adopted by the LRA on October 8, 1996. The Seneca County Board of Supervisors subsequently approved this Reuse Plan on October 22, 1996. The designated reuse of the Depot was revised in 2005 by SCIDA and the current future use model for land at the Depot is reflected in **Figure 3-1**. As shown in **Figure 3-1**, the current future land use for SEAD-11 is designated as Training.

Since 1995, more than 8,000 acres of the former Depot has been released to the SCIDA. An additional 250 acres of land at the Depot has been transferred to the U.S. Coast Guard for continued operation of a LORAN Station.

When the "SWMU Classification Report, *Final*" (Parsons, 1994) was issued, SEAD-11 was classified as a "Moderately High Priority AOC". An Expanded Site Investigation (ESI) was completed at SEAD-11 in 1993 and 1994, and an Additional Sampling Program was conducted at the site in 2000 -2001.

Pre-IRA site investigations at SEAD-11 included geophysical surveys, including seismic refraction, electromagnetic, and ground penetrating radar surveys, and four test pits were performed during the ESI to identify burial sites at SEAD-11. Four monitoring wells were installed. Soil (surface, subsurface), soil gas, and groundwater were collected and analyzed as part of the investigation. Additional soil and groundwater sampling, and test pitting operations were performed in 2000 and 2001 during the Additional Sampling Program. Ten test pits were excavated and three additional monitoring wells were installed during the field program. Two rounds of groundwater sampling were conducted in November 2000 and February 2001. The review of the Pre-IRA historic soil gas, soil and groundwater quality data is summarized below.

Soil Gas Survey (1993-1994)

Soil gas samples were collected at 31 of 39 sample locations developed at the site during the ESI on a rough six line by six point, 100 foot grid-wise pattern. One additional point was set approximately 100 feet due east and upgradient to the landfill in the center of the eastern face, while the other two were advanced in the middle of the landfill to further define and delineate one of the identified soil gas anomalies.

Results of this survey identified two areas where elevated concentrations of volatile organic compounds (VOCs), 1,2-dichloroethene (DCE), TCE, toluene, and ethylbenzene, were detected.

Soil – ESI (1993-1994) and Additional Sampling Program (2000-2001) Results

One soil boring was drilled at an upgradient location and three soil samples were collected from the soil boring. Four test pits were excavated to the base of the landfill debris and three samples were obtained from each test pit. Four monitoring wells were installed and one groundwater sample was collected from each well. Soil and groundwater samples were analyzed for Target Compound List (TCL) VOCs, semi-volatile organic compounds (SVOCs), pesticides/polychlorinated biphenyls (PCBs), explosives, herbicides, and Target Analyte List (TAL) metals.

During the Additional Sampling Program, conducted in 2000 to investigate the geophysical anomalies detected during the ESI, ten test pits were excavated. The test pits were sampled twice during November 2000 and February 2001 and analyzed for VOCs and metals. As predicted by the EM in-phase response, much of the excavated material was metallic debris, including various scrap metal, metallic rods, and metallic webbing. In addition, crushed 55-gallon drums and other metal containers were found in the landfill. Although abundant metallic material was encountered, the dominant type of fill was nonmetallic, including soil, large concrete slabs and fragments, ash material, and asphalt. The predominant fill materials

were construction debris (concrete, glass, and nails), dark brown soil, gravel, and boulders. The test pits dug above the soil gas anomalies did not identify sources of the observed soil gas concentration.

The results of the soil sampling completed during the ESI and the Additional Sampling Program indicate that soil at the site had been impacted above relevant cleanup goals by VOCs, cPAHs, and metals. Five nitroaromatics and three herbicides were detected in the soil, and the detected concentrations were all below the NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046 criteria and EPA Region IX Preliminary Remediation Goals (PRGs) for residential soil. PCBs were not detected in any of the soil samples. Ten pesticides were detected, and one pesticide, 4,4'-DDT, exceeded the TAGM criteria.

Soil analytical results showed that two VOCs, acetone and TCE, were detected at concentrations above their respective TAGM criteria. Sixteen (16) SVOCs were found at concentrations above their TAGM values in the soil samples analyzed. Of the 24 metals reported in the soil samples analyzed, 23 of these were found in one or more samples at concentrations above their associated TAGM values. Soil concentrations of particular note in the soil at the landfill include TCE (up to 42 ppm) and lead (up to 7,210 ppm).

All of the soils located within the bounds of the Old Construction Debris Landfill at the time when the ESI or the Additional Sampling Program was performed were subsequently excavated from the site and removed during the IRA. Therefore, the results summarized above are provided only to document the conditions present prior to the IRA

Groundwater –ESI (1993-1994) and Additional Sampling Program (2000-2001) Results

During the ESI, four monitoring wells (MW11-1 through MW11-4) were installed and one groundwater sample was collected from each well. Groundwater samples were analyzed for TCL VOCs, SVOCs, pesticides/PCBs, explosives, herbicides, and TAL metals.

Three additional monitoring wells, MW11-5 through MW11-7, were installed as part of the Additional Sampling Program. All seven wells (MW11-1 through MW11-7) were sampled in 2000 and again in 2001 and analyzed for TCL VOCs, SVOCs, pesticides/PCBs, explosives, and TAL metals. Results indicated groundwater at the site appeared to have been impacted by metals and possibly VOCs. A summary of the groundwater results are presented in **Tables 3-1** and **3-2**. PCE and TCE were detected in groundwater samples at concentrations below their respective NYS Class GA standard. The results of the Pre-IRA groundwater sampling program at SEAD-11 indicate that antimony, iron, manganese, sodium, and thallium were present in individual wells at concentrations above groundwater standard values; however, these metals were found at levels generally consistent with background concentrations historically observed at SEDA.

Based on the Pre-IRA sampling results, the Army determined that the disposed materials placed at the landfill represented a potential human health and environmental risk due to the presence of volatile organic carbons (VOCs), carcinogenic polycyclic aromatic hydrocarbons (cPAHs), and metals which were found in the collected soil and groundwater samples. In response to these findings and conclusions, the Army prepared the “Action Memorandum for Removal Action at SWMU SEAD-11, *Revised Final*” (Parsons,

2004). The Removal Action was conducted between October 2006 and January 2007, and the final report (“Final Construction Completion Report at Old Construction Debris Landfill (SEAD-11)”) was issued in 2008. The IRA was conducted to remove the landfilled materials and associated contaminated soils to eliminate potential source materials that might have posed human health and environmental risks. The objectives of the IRA at SEAD-11 were documented in the Work Plan as follows:

- Remove the landfilled materials and contaminated soils to eliminate the potential threat that they represent to surrounding populations and to the environment;
- Remove the potential source of trichloroethylene (TCE) and metals detected in the groundwater immediately downgradient of the landfill, and
- Provide documentation to support a NFA finding for SEAD-11 upon completion of the IRA.

A total of 32,900 cubic yards (42,188 tons) of material was excavated during the IRA. The Army prepared and submitted a Construction Completion Report (CCR) to provide record documentation of the IRA construction activities and to provide documentation that all landfill material and soil exceeding cleanup goals were removed. The CCR also presented the results of post-excavation confirmation sampling and analyses that were performed for soil and groundwater at SEAD-11 to document the conditions that remained at the site after the removal of the old construction debris landfill. The CCR concluded that no further action (NFA) was required at SEAD-11.

Within this ROD, the Army is recommending NFA at SEAD-11 as the final step in the CERCLA process required for the AOC. Since the listing of SEDA on the NPL in 1990, the Army has worked to develop and prepare the information and data needed to support determinations of what remedial actions are needed at each of the identified SWMUs to ensure that site conditions are protective of human health and the environment, comply with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practical, and are cost effective. Data and information developed and evaluated by the Army that serves as the basis for the final recommendations for SEAD-11 are summarized in this ROD. More complete presentation of the data and information that form the basis of the Army’s final recommendation for SEAD-11 are provided in the CCR submitted per the requirements of the FFA listed in the Administrative Record provided as **Appendix A**. This ROD is submitted to fulfill the requirements of the FFA for the Seneca Army Depot Activity.

4.0 COMMUNITY PARTICIPATION

The Army relies on public input to ensure that the concerns of the community are considered in selecting an effective remedy for each Superfund site. To this end, the ESI Report, the Action Memorandum, the Interim Removal Action Work Plan, the Construction Completion Report, the Proposed Plan, and other supporting documentation have been made available to the public during a public comment period, which began on May 8, 2009 and concluded on June 6, 2009. All findings of the previously conducted investigations at SEAD-11 are presented in the above-referenced documents. The Army's and EPA's preferred remedy and the basis for that preference was identified in the Proposed Plan. NYSDEC's concurrence with the preferred remedy is documented in **Appendix B** of this ROD. These documents were made available to the public at the SEDA repository (location provided below).

Seneca Army Depot Activity

Building 123

5786 State Route 96

Romulus, New York 14541-0009

(607) 869-1309

Hours: Mon – Thurs. 8:30 a.m. – 4:30 p.m.

A public meeting was held during the public comment period at the Seneca County Office Building on May 20, 2009 to present the conclusions of the Construction Completion Report, to elaborate further on the reasons for recommending the preferred remedy, and to receive public comments. No comments were received during the public meeting or during the public comment period. Efforts undertaken to date to promote community involvement in the remedy selection process are documented in the Responsiveness Summary and Public Comments Section of the ROD, **Appendix C**.

During the BRAC process there have been, and continue to be, periodic presentations to the Restoration Advisory Board (RAB) regarding the progress of SEAD-11 and other investigations related to the closure of SEDA. In addition, the SEDA RAB was established to facilitate the exchange of information between SEDA and the community. RAB members include representatives from the Army, EPA, NYSDEC, New York State Department of Health (NYSDOH), and the community.

5.0 SCOPE AND ROLE

The Army's ultimate goal for SEDA is to transfer the entire site to other private or public parties for beneficial reuse. Prior to the transfer of any property at the Depot, the Army is required to ensure that the property is suitable for release and reuse at a level that is consistent with its intended foreseeable future use. If information or evidence exists to indicate that hazardous substances may be present at any location slated for transfer, the Army is obligated to conduct investigations needed to verify the presence/absence of hazardous substances, and assess the potential risks that may exist due to the presence of hazardous substances at the site. These investigations and assessments are conducted under the oversight of, and subject to the review and concurrence of the EPA and the NYSDEC. The findings, results, and the conclusions of the investigations and assessments, and the subsequent land use decisions that are made based on the Army's investigations and assessments are also made available to the public for review and comment.

If the results and conclusions of the investigations and assessments of property at the SEDA indicate that unacceptable risks to human health or the environment exist due to the continuing presence of hazardous substances, the Army is obligated to propose, design, implement, monitor, inspect, and report on the remedial actions used to eliminate, mitigate or control the threat. The remedial actions are also subject to review and approval by all parties.

Once the Army is able to demonstrate, and gain oversight agency concurrence, that a site is suitable for transfer, such transfer may be approved and allowed.

Based on the available data and information contained in the Administrative Record for SEAD-11, the former Old Construction Debris Landfill, the Army and the EPA have selected NFA as the remedy for SEAD-11. The selected remedy is based on the Army's and the EPA's determination that SEAD-11 does not pose a significant threat to human health or the environment

6.0 SUMMARY OF AOC CHARACTERISTICS

Due to the performance of the IRA at SEAD-11, environmental conditions previously identified for the soil were removed from the site and transported off-site to a licensed landfill. Information and data provided below describing results of historic site investigations conducted prior to 2007 are summarized to document the basis for the performance of the IRA.

The purpose of the IRA was to remove the historic landfilled materials including construction and demolition (C&D) debris, other materials (e.g., drums and metal container, etc.), and contaminated soils to eliminate the potential threat that they represented to surrounding populations and to the environment; to remove the potential source of TCE and metals detected in the groundwater immediately downgradient of the landfill; and, to provide documentation to support a NFA finding for SEAD-11 upon completion of the IRA. The contaminants of potential concern (COPCs) identified at SEAD-11 included VOCs, cPAHs, and metals in soil. In addition, metals and VOCs were identified as COPCs in groundwater.

Pertinent information about the environmental conditions remaining at SEAD-11 at the completion of the IRA are provided below; a historic overview of the site prior to 2007 is provided in **Section 3**.

Current (Post IRA) Conditions

Soil - Interim Removal Action (2006-2008) Results

Excavation of the landfill, conducted as part of the IRA, began on November 1, 2006 at the southern edge of the former landfill, and proceeded to the north. A total of 32,900 cubic yards (cy) of material were excavated from the landfill and a total of 42,188 tons of material, comprised of soil and debris, were hauled off-site and disposed at Ontario County Landfill.

Before initiating the IRA, the Army defined project-specific cleanup goals for targeted VOCs, cPAHs, and metals. A listing of the defined cleanup goals is provided as **Table 6-1** and this listing shows that NYSDEC TAGMs were set as the cleanup goals for targeted VOCs, a value of 10 parts per million (ppm) benzo(a)pyrene toxicity equivalents (BTE)¹ was set for the cPAHs' cleanup goal, and EPA Region IX Preliminary Remediation Goals (PRGs) for residential soil were set as the cleanup goal for metals, except for selected metals² where SEDA background soil concentrations exceeded the PRGs, respectively. The acceptable completion of the IRA was then assessed by the collection, analysis, and evaluation of excavation base and perimeter confirmatory soil sample results versus the pre-defined cleanup goals.

Eighty (80) final grid confirmatory samples and 38 final perimeter samples, in addition to the appropriate number of quality assurance and quality control (QA/QC) samples, were collected, analyzed for the targeted hazardous constituents (VOCs, cPAHs, and metals), and compared to the established cleanup goals. Confirmatory samples were collected at a frequency of one sample per every 2,500 square feet (sf) or less from the base of the excavation and one sample per every 50 linear feet (ft) or less along the

¹ The Benzo(a)pyrene Toxicity Equivalent (BTE) is a screening tool previously used by the NYSDEC to estimate the potential carcinogenic toxicity of seven specific PAH compounds at sites. A reference value of 10 mg/Kg (ppm) of BTE was established by the Army as the SEAD 11 clean up goal prior to the IRA. BTE is computed by summing the concentrations of benzo(a)pyrene and dibenzo(a,h)anthracene at full value; the concentrations of benzo(a)anthracene, benzo(b)fluoranthene, and indeno(1,2,3-cd)pyrene at one-tenth (0.1 times) their reported value; and, benzo(k)fluoranthene and chrysene at one-one hundredth (0.01 times) their reported value.

² SEDA specific maximum background concentrations were set as the cleanup goals for arsenic and iron.

perimeter. A summary of the final results of the confirmatory analyses is presented in **Table 6-2**. Data for the individual confirmatory samples is provided in **Appendix D Table 1**. The results displayed in **Table 6-2** indicate that with the exception of iron, all final confirmatory sample results were less than the defined cleanup goals. Two samples of soil exhibited iron levels in excess of the SEDA background level of 38,600 mg/Kg. Based on this comparison, the Army concluded that no further removal was needed, and that the pre-defined cleanup goals of the IRA had been achieved.

After completion of the IRA, NYSDEC and the EPA announced new guidelines for evaluating the acceptability of interim removal action and site cleanups. NYSDEC implemented the use of soil cleanup objectives (SCOs) to replace TAGMs. The EPA implemented Regional Screening Levels (RSLs) to replace Region IX PRGs as guidelines for acceptable residual chemical concentrations. Therefore, subsequent to the completion of the IRA, the Army also compared the available analytical data from the soil confirmatory samples to NYSDEC Unrestricted Use SCOs³ and to the EPA RSLs⁴ for residential soil. The results of these comparisons are summarized in **Table 6-3**. The results of this comparison indicate that one VOC (acetone), seven cPAHs, and eight metals were found one or more times in individual samples at concentrations in excess of their respective NYSDEC Unrestricted Use SCO levels. Acetone, one cPAH compound [i.e., benzo(b)fluoranthene], and one metal (zinc) exhibited a 95th upper confidence limit of the arithmetic mean (95th UCL)⁵ value that was in excess of the State's Unrestricted Use SCO value. Six cPAH compounds and one metal were found one or more times in individual samples at concentrations in excess of their respective EPA RSL. The 95th UCL value computed for five of the cPAH compounds and arsenic were above their respective RSL value.

Groundwater

Groundwater – Interim Removal Action (2006-2008) Results

Monitoring wells MW11-1 through MW11-7 were sampled once during the IRA to confirm that the groundwater has not been impacted since prior sampling events, and the groundwater is either meeting the GA standard or consistent with background concentrations. A summary of the groundwater data is presented in **Table 6-4**. A complete listing of groundwater sampling results collected after the IRA is provided in **Appendix D Table 2**.

Three VOCs (1,1,2-trichloro-1,2,2-trifluoroethane, tetrachloroethene, and trichloroethene) were detected below their respective groundwater action levels. Fourteen metals were detected in groundwater samples collected after the IRA, but of these 14 only two (iron, manganese, and the combined iron+manganese level) were detected at concentrations above their respective groundwater standard levels. However the

³ Title 6 NYCRR Part 375-6 Remedial Soil Program Cleanup Objectives, Table 375-6.8(a).

⁴ Source: http://www.epa.gov/region09/superfund/prg/pdf/composite_sl_table_run_APRIL2009.pdf

⁵ Confidence limits for the mean ([Snedecor and Cochran, 1989](#)) are an interval estimate for the mean. Interval estimates are often desirable because the estimate of the mean varies from sample to sample. Instead of a single estimate for the mean, a confidence interval generates a lower and upper limit for the mean. The interval estimate gives an indication of how much uncertainty there is in our estimate of the true mean. The narrower the interval, the more precise is our estimate. The 95th upper confidence limit is the highest estimate for the mean that is expected to exist with 95 percent confidence for a particular set of data.

maximum detection of both of the metals was significantly below their respective SEDA site-wide background concentrations, as shown below:

Parameter	Maximum Detection (µg/L)	Average / Max. SEDA Background (µg/L)
Iron	727	4,480 / 69,400
Manganese	341	224 / 1,120

Based on the post-IRA groundwater and soil sampling results, a human health risk assessment was conducted to assess potential risks and hazards to future users or occupants of the site. The risk assessment process is described and the results of the analysis are discussed in **Section 7**, below.

7.0 SUMMARY OF SEAD-11 RISKS

A human health risk assessment was performed at SEAD-11 to estimate potential human health risks that remain at the AOC after the IRA. Results of the IRA confirmatory soil sampling, and the groundwater sampling performed in 2000 – 2001 (for SVOCs, pesticides/PCBs, herbicides and explosives) and post-IRA groundwater monitoring (for VOCs and metals) were used as the basis of the risk assessment.

The risk assessment was conducted in accordance with the EPA's "Risk Assessment Guidance for Superfund (RAGS)" and the supplemental guidance and updates to the RAGS. The human health risk estimates summarized in this section are based on reasonable maximum exposure (RME) scenarios. Risk assessment assumptions, findings, and conclusions are presented in detail in the SEAD-11 Post Remediation Risk Assessment Memorandum (Parsons, 2007), which is included as **Appendix E** to this ROD.

SEAD-11 is currently vacant property. The designated future use of the land in the AOC is Training, based on SCIDA's (2005) future land use plan. Under the Training scenario, potential current and future threats to three human receptors were estimated: current and future construction worker, future industrial worker, and current adolescent trespasser/future visitor (ages 11-16 yrs). In addition, potential threats to a future resident were also estimated to evaluate the Unrestricted Use scenario.

Exposure pathways evaluated for soil exposure by human receptors included inhalation of ambient dusts caused by soil resuspension, ingestion of soil, and dermal contact with soil. In addition, groundwater exposure pathways assessed included: intake of groundwater, inhalation of groundwater (for future residents only), and dermal contact with groundwater (for construction workers and residential receptors only).

Table 7-1 summarizes potential risks calculated for exposures to SEAD-11 soil and groundwater, respectively.

Risk Characterization Results for Receptors under Training Scenario

The potential cancer risks and non-cancer hazard indices (HIs) for the industrial worker and the adolescent trespasser are within the EPA limits. The cancer risk for the construction worker is within the EPA limit (1×10^{-6} vs. 1×10^{-4}), but the non-cancer HI for the construction worker is above the EPA limit of 1 (4E+00).

Dust inhalation, soil ingestion, and groundwater intake contribute approximately 80%, 14%, and 6%, respectively, to the construction worker's total non-cancer HI. The largest components of the construction worker's HI are hazards that are associated with inhalation of dusts (i.e., 3E+00), followed by the construction worker's ingestion of soil. Almost all (> 99.9%) of the non-cancer HI via inhalation of ambient air dust is caused by the presence of aluminum (~15%) and manganese (~85%) in the post-IRA on-site soils. **Table 7-2** compares SEAD-11 on-site, post-IRA aluminum and manganese soil concentrations to the State's unrestricted use SCOs and the EPA's RSLs for residential soil.

As is shown, neither aluminum nor manganese are present in SEAD-11 soil samples at levels that are above the State of New York Unrestricted Use SCOs or EPA RSLs. Further, the construction worker's

HI derived for manganese is predicated on exposure to manganese dioxide, which is but one of the many forms in which manganese may be present in the soil. The inhalation reference dose (RfC) associated with manganese dioxide is 4,000 times lower than the American Conference of Governmental and Industrial Hygienist's (ACGIH's) threshold limit value⁶ for manganese exposure in the workplace, and thus the HI resulting from the use of manganese dioxide's RfC is considered to represent a maximum or ceiling level for the HI that might exist at SEAD-11. Therefore, the levels of aluminum and manganese remaining at SEAD-11 individually are not considered to represent a potential concern via inhalation.

Similarly, the presence of aluminum, arsenic, iron, manganese, and vanadium in the SEAD-11 post-IRA on-site soils contribute to the majority of the construction worker's non-cancer hazard index via soil ingestion, but again in each case levels found are below the levels that the State and the EPA consider to be acceptable for residential exposures

If aluminum, arsenic, iron, manganese, and vanadium in SEAD-11 soil were not considered as COPCs for the risk assessment, the non-cancer hazard index for the construction worker is below the EPA limit of 1. Therefore, soils left on-site at SEAD-11 do not pose an undue level of risk to the likely future receptors (industrial worker, construction worker, and adolescent trespasser).

Risk Characterization Results for Residential Receptors

The potential cancer risks for the adult resident and the child resident at SEAD-11 are 4×10^{-5} and 5×10^{-5} , respectively, both below the EPA's limit for cancer risk (i.e., 1×10^{-4}). The total life-time cancer risk for the resident (sum of cancer risk for the adult resident and the child resident) is 9×10^{-5} , below the EPA limit.

The non-cancer hazard indices for the adult resident and child resident are 1 and 5, respectively, at or above the EPA threshold of 1. Groundwater intake is the predominant exposure pathway that contributes to the non-cancer hazard indices for the adult resident (55%) and the child resident (47%), respectively. Manganese and TCE in groundwater are the largest contributors (i.e., $HQ \geq 0.1$) to the total HI computed for the adult resident.

The elevated HI computed for manganese is associated with the maximum concentration detected at the AOC, and the only sample that was found to contain manganese at a level that exceeded the State's GA groundwater standard. The measured concentration of manganese in the groundwater is below the EPA's RSL for Tap Water. Manganese is frequently identified as a contaminant in the groundwater at all AOCs at the Depot, and is associated with the interaction of the shallow groundwater with the soils that are indigenous to the area. As is shown in **Table 7-3**, the measured concentration of manganese in the groundwater is below the EPA's RSL for Tap Water. Manganese is found in the groundwater at all AOCs at the Site, and is associated with the interaction of the shallow groundwater with the soils that are indigenous to the area. The levels of manganese at SEAD 11 are consistent with that found in groundwater that has been identified as background at other AOC at the sites. At these other AOCs background samples were designated in the approved work plans. Therefore, manganese is not considered to be a COC in SEAD-11 groundwater.

⁶ The concentration of a substance to which most workers can be exposed without adverse effects.

TCE in groundwater is also a significant component of the adult and child resident's overall elevated HI. The elevated HI results even though the maximum measured concentration for TCE is below the State's GA standard and the EPA's maximum contaminant limit (MCL) for drinking water.

For the child resident, potential effects of soil ingestion results in an elevated HI component of 2. The predominant risk contributors for this exposure pathway include aluminum, arsenic, iron, manganese, and vanadium, all with associated HQs greater than 0.1. As shown above in **Table 7-2** and as was previously discussed for the construction worker, the aluminum, arsenic, iron, manganese, and vanadium concentrations in SEAD-11 soil are below State and Federal guidance values that are considered acceptable for residential or unrestricted use; therefore, none of these metals were identified as COCs in SEAD-11 soil.

Potential effects associated with TCE in groundwater also result in a non-cancer hazard index equal to the EPA limit of 1 for the child resident. As is explained above for the adult resident, the level of TCE found in the groundwater at SEAD-11 is below State and Federal guidance values.

Based on the results of the risk assessment, No Further Action (NFA) is needed at SEAD-11.

8.0 SELECTED REMEDY

The Army and the EPA have selected “No Further Action” as the final remedy for SEAD-11, the former Old Construction Debris Landfill. No Further Action is needed at SEAD-11 because the contents of the former landfill have been excavated and transported off-site for disposal at licensed state landfills. While the results of post-IRA sampling and analysis indicate that some residual concentrations of hazardous substances remain in the soil and groundwater at the site, the results of a risk assessment indicate that they are not present at levels that pose a significant risk to human health or the environment.

9.0 DOCUMENTATION OF SIGNIFICANT CHANGES

(Reserved)

10.0 STATE ROLE

The State of New York, through the New York State Department of Environmental Conservation (NYSDEC), has concurred with the selected remedies documented in this ROD. The NYSDEC Declaration of Concurrence is provided in **Appendix B** of this ROD.

TABLES

<u>NUMBER</u>	<u>TITLE</u>
3-1	Summary Statistics of Compounds Detected in Groundwater – November 2000
3-2	Summary Statistics of Compounds Detected in Groundwater – February 2001
6-1	Site-Specific Cleanup Goals for Soil
6-2	Summary of Final Confirmatory Soil Samples versus Cleanup Goals
6-3	Summary of Final Confirmatory Soil Samples versus Guidance Values
6-4	Summary of Post-IRA Groundwater Data
7-1	Calculation of Total Non-carcinogenic and Carcinogenic Risk – Reasonable Maximum Exposure (RME)
7-2	Comparison of SEAD-11 Metal Concentrations in Soil with Guidance Level Concentrations
7-3	Comparison of SEAD-11 Manganese Concentration in Groundwater with Guidance Level Concentrations

Table 3-1
Summary Statistics of Compounds Detected in Groundwater
November 2000
SEAD-11 Record of Decision
Seneca Army Depot Activity

PARAMETER	UNIT	MAXIMUM	FREQUENCY OF DETECTION	LOWEST GW STANDARD	APPLICABLE GW STANDARD1	NUMBER ABOVE STANDARD	NUMBER OF DETECTS	NUMBER OF ANALYSES
Volatile Organic Compounds								
Tetrachloroethene	UG/L	2	25%	5	GA	0	2	8
Trichloroethene	UG/L	2	25%	5	GA	0	2	8
Semivolatile Organic Compounds								
2,4,5-Trichlorophenol	UG/L	0.073	13%			0	1	8
2,4,6-Trichlorophenol	UG/L	0.098	13%			0	1	8
Butylbenzylphthalate	UG/L	0.16	25%			0	2	8
Dimethylphthalate	UG/L	3.3	38%			0	3	8
Pyrene	UG/L	0.082	13%			0	1	8
Pesticides/PCBs								
4,4'-DDT	UG/L	0.006	13%	0.2	GA	0	1	8
Metals								
Aluminum	UG/L	184	75%			0	6	8
Antimony	UG/L	8	13%	3	GA	1	1	8
Barium	UG/L	68.9	100%	1000	GA	0	8	8
Beryllium	UG/L	0.27	25%	4	MCL	0	2	8
Cadmium	UG/L	0.35	13%	5	GA	0	1	8
Calcium	UG/L	236000	100%			0	8	8
Cobalt	UG/L	1.8	13%			0	1	8
Copper	UG/L	19.2	25%	200	GA	0	2	8
Iron	UG/L	302	75%	300	GA	1	6	8
Magnesium	UG/L	41000	100%			0	8	8
Manganese	UG/L	772	100%	50	SEC	3	8	8
Nickel	UG/L	2.5	13%	100	GA	0	1	8
Potassium	UG/L	6750	100%			0	8	8
Sodium	UG/L	36800	100%	20000	GA	3	8	8
Zinc	UG/L	9.2	25%			0	2	8

Notes:

- GA = New York State GA Groundwater Standards
MCL = Federal Maximum Contaminant Level

Table 3-2
Summary Statistics of Compounds Detected in Groundwater
February 2001
SEAD-11 Record of Decision
Seneca Army Depot Activity

PARAMETER	UNIT	MAXIMUM	FREQUENCY OF DETECTION	LOWEST GW STANDARD	APPLICABLE GW STANDARD 1	NUMBER ABOVE STANDARD	NUMBER OF DETECTS	NUMBER OF ANALYSES
Volatile Organic Compounds								
Tetrachloroethene	UG/L	2	38%	5	GA	0	3	8
Trichloroethene	UG/L	2.2	38%	5	GA	0	3	8
Semivolatile Organic Compounds								
Di-n-octylphthalate	UG/L	0.072	25%			0	2	8
Metals								
Aluminum	UG/L	284	88%			0	7	8
Arsenic	UG/L	3.9	88%	5	MCL	0	7	8
Barium	UG/L	71.2	100%	1000	GA	0	8	8
Cadmium	UG/L	0.32	13%	5	GA	0	1	8
Calcium	UG/L	193000	100%			0	8	8
Chromium	UG/L	1.8	50%	50	GA	0	4	8
Copper	UG/L	2	25%	200	GA	0	2	8
Iron	UG/L	533	100%	300	GA	1	8	8
Lead	UG/L	2.1	13%	15	MCL	0	1	8
Magnesium	UG/L	35800	100%			0	8	8
Manganese	UG/L	294	100%	50	SEC	3	8	8
Nickel	UG/L	1.9	38%	100	GA	0	3	8
Potassium	UG/L	6500	100%			0	8	8
Silver	UG/L	1.6	50%	50	GA	0	4	8
Sodium	UG/L	28900	100%	20000	GA	2	8	8
Thallium	UG/L	4.2	50%	2	MCL	4	4	8
Vanadium	UG/L	1.3	13%			0	1	8
Zinc	UG/L	33.4	88%			0	7	8

Notes:

1. GA = New York State GA Groundwater Standards
MCL = Federal Maximum Contaminant Level

**Table 6-1
Site-Specific Cleanup Goals for Soil
SEAD-11 Record of Decision
Seneca Army Depot Activity**

	Units	Cleanup Goals	Source
TCL Volatile Organic Compounds¹			
Acetone	UG/KG	200	NYSDEC TAGMs
Methylene chloride	UG/KG	100	NYSDEC TAGMs
Tetrachloroethene	UG/KG	1,400	NYSDEC TAGMs
Trichloroethene	UG/KG	700	NYSDEC TAGMs
Total Carcinogenic PAHs²	MG/KG	10 ppm benzo(a)pyrene Toxicity Equivalence	NYSDEC BTE Value
TAL Metals⁴			
Aluminum	MG/KG	76,100	USEPA Region IX PRGs - residential
Antimony	MG/KG	31	USEPA Region IX PRGs - residential
Arsenic	MG/KG	21.5 ³	USEPA Region IX PRGs - residential
Barium	MG/KG	5,370	USEPA Region IX PRGs - residential
Beryllium	MG/KG	150	USEPA Region IX PRGs - residential
Cadmium	MG/KG	37	USEPA Region IX PRGs - residential
Cobalt	MG/KG	903	USEPA Region IX PRGs - residential
Copper	MG/KG	3,130	USEPA Region IX PRGs - residential
Iron	MG/KG	38,600 ³	USEPA Region IX PRGs - residential
Lead	MG/KG	400	USEPA Region IX PRGs - residential
Manganese	MG/KG	1,760	USEPA Region IX PRGs - residential
Mercury	MG/KG	23.0	USEPA Region IX PRGs - residential
Nickel	MG/KG	1,560	USEPA Region IX PRGs - residential
Selenium	MG/KG	390	USEPA Region IX PRGs - residential
Silver	MG/KG	390	USEPA Region IX PRGs - residential
Thallium	MG/KG	5.2	USEPA Region IX PRGs - residential
Vanadium	MG/KG	78.2	USEPA Region IX PRGs - residential
Zinc	MG/KG	23,500	USEPA Region IX PRGs - residential

Notes:

1. The cleanup goal for VOCs are NYSDEC Technical and Administrative Guidance Memorandum (TAGM) values (HWR-94-4046, Revised January 24, 1994.)
2. Carcinogenic PAHs include benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene.
3. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
4. Calcium, chromium, magnesium, potassium, and sodium were omitted from this table since a Region IX PRG value is not available.

**Table 6-2
Summary of Final Confirmatory Soil Samples
versus Cleanup Goals
SEAD-11 Record of Decision
Seneca Army Depot Activity**

Parameter	Units	Maximum Detect	95th UCL Value ¹	Frequency of Detection	Cleanup Goal Value ²	Number of Exceedances	Number of Detects	Number of Analyses ³
Volatile Organic Compounds								
Acetone	UG/KG	67	22	2%	200	0	2	106
Cis-1,2-Dichloroethene	UG/KG	2.0	2.0 ⁵	1%	--	0	1	114
Dichlorodifluoromethane	UG/KG	2	2.1 ^{4,5}	4%	--	0	5	114
Methylene chloride	UG/KG	49	14	89%	100	0	103	114
Tetrachloroethene	UG/KG	2.0	2.0 ⁵	2%	1,400	0	2	114
Trichloroethene	UG/KG	77	5.0	19%	700	0	22	114
Carcinogenic PAHs								
BTE (calculated)	MG/KG	8.1	1.2	100%	10	0	119	119
Metals								
Aluminum	MG/KG	17,500	11,132	100%	76,100	0	114	114
Antimony	MG/KG	11.3	1.4	18%	31	0	21	114
Arsenic	MG/KG	19.5	5.8	100%	21.5 ⁶	0	114	114
Barium	MG/KG	248	89.1	100%	5,370	0	114	114
Beryllium	MG/KG	1.0	0.59	100%	150	0	114	114
Cadmium	MG/KG	2.5	0.42	94%	37	0	107	114
Calcium	MG/KG	216,000	31,196	100%	--	0	114	114
Chromium	MG/KG	44.5	17.4	100%	--	0	113	113
Cobalt	MG/KG	16.8	9.28	100%	903	0	114	114
Copper	MG/KG	131	24.7	100%	3,130	0	114	114
Iron	MG/KG	51,100	23,289	100%	38,600 ⁶	2	114	114
Lead	MG/KG	400	54.3	100%	400	0	113	113
Magnesium	MG/KG	25,200 ⁴	5,756	100%	--	0	114	114
Manganese	MG/KG	1,540	623	100%	1,760	0	114	114
Mercury	MG/KG	0.327	0.050	99%	23.0	0	113	114
Nickel	MG/KG	38.6	24.6	100%	1,560	0	114	114
Potassium	MG/KG	1,750	1,158	100%	--	0	114	114
Selenium	MG/KG	3.4	1.40	25%	390	0	28	114
Silver	MG/KG	2.2	0.30	5%	390	0	6	114
Sodium	MG/KG	164	58.9	75%	--	0	86	114
Thallium	MG/KG	2.1	1.0	25%	5.2	0	28	114
Vanadium	MG/KG	31.6	19.9	100%	78.2	0	114	114
Zinc	MG/KG	591	114	100%	23,500	0	114	114

NOTES:

-- = No cleanup goal or soil objective available

1. 95th Upper Confidence Limit was calculated from USEPA program, ProUCL Ver 3.00.2, <http://www.epa.gov/esd/tsc/download.htm>

2. The cleanup goal (CUG) values were based on the following criteria:
a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.

b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
c. Metals: USEPA Region IX PRGs for soil for a residential scenario.

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

4. The maximum detected concentration was obtained from the average of the sample and its duplicate.

5. The calculated 95th UCL value is greater than maximum value detected in samples, and therefore has been replaced with the maximum value.

6. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.

Table 6-3
Summary of Final Confirmatory Sample Results versus Guidance Values
SEAD-11 Record of Decision
Seneca Army Depot Activity

Parameter	Units	95th UCL Value	Maximum Value	Frequency of Detection	Number of Times Detected	Number of Samples Analyses	NYSDEC Unrestricted Use SCO	Number of Exceedances	Does 95th UCL Exceed Unrestricted Use SCO?	USEPA Regional Screening Levels	Number of Exceedances	Does 95th UCL Exceed RSL
Acetone	UG/KG	67	67	2%	2	106	50	1	Yes	6.1E+07	0	No
Cis-1,2-Dichloroethene	UG/KG		2	1%	1	114	250	0	No	7.8E+05	0	No
Dichlorodifluoromethane	UG/KG		2	4%	5	114		0	--	1.9E+05	0	No
Methylene chloride	UG/KG		49	90%	103	114	50	0	No	1.1E+04	0	No
Tetrachloroethene	UG/KG		2	2%	2	114	1300	0	No	5.7E+02	0	No
Trichloroethene	UG/KG	5.1	77	19%	22	114	470	0	No	2.8E+03	0	No
Benzo(a)anthracene	UG/KG	730.1	4800	49%	58	119	1000	11	No	1.5E+02	33	Yes
Benzo(a)pyrene	UG/KG	505.8	4500	45%	54	119	1000	11	No	1.5E+01	54	Yes
Benzo(b)fluoranthene	UG/KG	1090	7400	48%	57	119	1000	17	Yes	1.5E+02	36	Yes
Benzo(k)fluoranthene	UG/KG	191.7	2100	19%	23	119	800	4	No	1.5E+03	2	No
Chrysene	UG/KG	550.7	5500	47%	56	119	1000	12	No	1.5E+04	0	No
Dibenz(a,h)anthracene	UG/KG	164.5	850	30%	36	119	330	7	No	1.5E+01	34	Yes
Indeno(1,2,3-cd)pyrene	UG/KG	337.7	2800	42%	50	119	500	15	No	1.5E+02	27	Yes
BTE (calculated)	MG/KG		6.6	100%	119	119		0	--		0	--
Aluminum	MG/KG		17500	100%	114	114		0	--	7.7E+04	0	No
Antimony	MG/KG		11.3	18%	21	114		0	--	3.1E+01	0	No
Arsenic	MG/KG	5.8	19.5	100%	114	114	13	1	No	3.9E-01	114	Yes
Barium	MG/KG		248	100%	114	114	350	0	No	1.5E+04	0	No
Beryllium	MG/KG		1	100%	114	114	7.2	0	No	1.6E+02	0	No
Cadmium	MG/KG		2.5	94%	107	114	2.5	0	No	7.0E+01	0	No
Calcium	MG/KG		216000	100%	114	114		0	--		0	--
Chromium	MG/KG	17.4	44.5	100%	113	113	30	2	No	1.2E+05	0	No
Cobalt	MG/KG		16.8	100%	114	114		0	--	2.3E+01	0	No
Copper	MG/KG	24.9	131	100%	114	114	50	3	No	3.1E+03	0	No
Iron	MG/KG		51100	100%	114	114		0	--	5.5E+04	0	No
Lead	MG/KG	54.3	400	100%	113	113	63	8	No	4.0E+02	0	No
Magnesium	MG/KG		25200	100%	114	114		0	--		0	--
Manganese	MG/KG		1540	100%	114	114	1600	0	No	1.8E+03	0	No
Mercury	MG/KG	0.05	0.327	99%	113	114	0.18	2	No	2.3E+01	0	No
Nickel	MG/KG	24.6	38.6	100%	114	114	30	6	No	1.6E+03	0	No
Potassium	MG/KG		1750	100%	114	114		0	--		0	--
Selenium	MG/KG		3.4	25%	28	114	3.9	0	No	3.9E+02	0	No
Silver	MG/KG	0.49	2.2	5%	6	114	2	1	No	3.9E+02	0	No
Sodium	MG/KG		164	75%	86	114		0	--		0	--
Thallium	MG/KG		2.1	25%	28	114		0	--	5.1E+00	0	No
Vanadium	MG/KG		31.6	100%	114	114		0	--	5.5E+02	0	No
Zinc	MG/KG	114.4	591	100%	114	114	109	20	Yes	2.3E+04	0	No

**Table 6-4
Summary of Post-IRA Groundwater Data at SEAD-11
SEAD-11 Record of Decision
Seneca Army Depot Activity**

Facility	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11				
Location ID	MW11-1	MW11-2	MW11-3	MW11-4	MW11-5	MW11-6	MW11-6	MW11-7	MW11-7	MW11-7	MW11-7	MW11-7				
Matrix	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW				
Sample ID	11RA20000	11RA20001	11RA20007	11RA20002	11RA20003	11RA20005	11RA20004	11RA20006	11RA20006	11RA20006	11RA20006	11RA20006				
Sample Date	2/22/2007	2/21/2007	2/21/2007	2/20/2007	2/20/2007	2/21/2007	2/21/2007	2/21/2007	2/21/2007	2/21/2007	2/21/2007	2/21/2007				
QC Code	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA				
Study ID	LTM	LTM	LTM	LTM	LTM	LTM	LTM	LTM	LTM	LTM	LTM	LTM				
Sampling Round	1	1	1	1	1	1	1	1	1	1	1	1				
Parameter	Units	Maximum Value	Frequency of Detection	Action Level	Action Source 1	Number of Exceedances	Number of Times Detected	Number of Samples Collected	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds																
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	1.8	13%	5	GA	0	1	8	1.8	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	UG/L	2.1	25%	5	GA	0	2	8	1 U	1 U	1 U	1 U	1 U	2.1	2	1 U
Trichloroethene	UG/L	3.2	38%	5	GA	0	3	8	1 U	1 U	1 U	1 U	1.4	3.2	3	1 U
Metals																
Aluminum	UG/L	340	13%	50	SEC	1	1	8	340	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Barium	UG/L	68.6	100%	1000	GA	0	8	8	36.4	57.8	29.4	68.6	64.8	32	32	30.9
Calcium	UG/L	169000	100%			0	8	8	80300	102000	134000	134000	124000	140000	140000	169000
Chromium	UG/L	3.5	25%	50	GA	0	2	8	3.5 J	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.53 J
Cobalt	UG/L	2	25%			0	2	8	0.79 U	0.79 U	2 J	0.79 U	0.79 U	0.79 U	0.79 U	1.4 J
Copper	UG/L	2.2	13%	200	GA	0	1	8	2.2 J	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Iron	UG/L	727	88%	300	GA	3	7	8	427	85.8	727	17 U	59.7	33.6 J	58.8	374
Magnesium	UG/L	30300	100%			0	8	8	23800	22100	23100	21000	20700	23900	23900	30300
Manganese	UG/L	341	100%	300	GA	1	8	8	40.8	11.5	341	8.5	10.8	5.9	6.4	230
Nickel	UG/L	3.2	38%	100	GA	0	3	8	3.2 J	1.4 U	2 J	1.4 U	1.4 U	1.4 U	1.4 U	1.4 J
Potassium	UG/L	4520	100%			0	8	8	1880	1200	1210	1590	2270	4450	4520	2070
Sodium	UG/L	14400	100%	20000	GA	0	8	8	4410 J	14400	6540 J	8070 J	9190 J	6970 J	7050 J	7220 J
Vanadium	UG/L	1.6	13%			0	1	8	0.98 U	0.98 U	0.98 U	1.6 J	0.98 U	0.98 U	0.98 U	0.98 U
Zinc	UG/L	10.8	63%	5000	SEC	0	5	8	10.8	3.6 U	5.2 J	8.7 J	3.6 U	3.6 U	3.7 J	4.2 J

Note(s):
U = compound was not detected
J = the reported value is an estimated concentration

Shading indicates concentration above action level

- 1. GA = NYSDEC Class GA Groundwater Standard (TOGS 1.1.1, June 1998)
- SEC = Secondary Drinking Water Regulations - Drinking Water Standards and Health Advisory (EPA 82-B-00-001)

Table 7-1
Calculation of Total Noncarcinogenic And Carcinogenic Risks
Reasonable Maximum Exposure (RME)
SEAD-11 Record of Decision
Seneca Army Depot Activity

RECEPTOR	EXPOSURE ROUTE	REASONABLE MAXIMUM EXPOSURE (RME)				
		HAZARD INDEX		CANCER RISK		
		Hazard Index	Percent	Cancer Risk	Percent	
<u>INDUSTRIAL WORKER</u>	Inhalation of Dust in Ambient Air	2E-01	29%	1E-07	1%	
	Ingestion of Soil	2E-01	27%	5E-06	33%	
	Intake of Groundwater	2E-01	42%	8E-06	51%	
	Dermal Contact to Soil	1E-02	2%	3E-06	16%	
	Dermal Contact to Groundwater	NA		NA		
	<i>TOTAL RECEPTOR RISK (Nc & Car)</i>	<i>6E-01</i>	100%	<i>2E-05</i>	100%	
<u>CONSTRUCTION WORKER</u>	Inhalation of Dust in Ambient Air	3E+00	80%	8E-08	6%	
	Ingestion of Soil	5E-01	14%	7E-07	56%	
	Intake of Groundwater	2E-01	6%	3E-07	26%	
	Dermal Contact to Soil	2E-02	1%	2E-07	12%	
	Dermal Contact to Groundwater	2E-03	0%	1E-08	1%	
	<i>TOTAL RECEPTOR RISK (Nc & Car)</i>	<i>4E+00</i>	100%	<i>1E-06</i>	100%	
<u>ADOLESCENT TRESPASSER</u>	Inhalation of Dust in Ambient Air	1E-03	2%	1E-10	0%	
	Ingestion of Soil	1E-02	23%	8E-08	23%	
	Intake of Groundwater	4E-02	73%	3E-07	70%	
	Dermal Contact to Soil	7E-04	1%	2E-08	7%	
	Dermal Contact to Groundwater	NA		NA		
	<i>TOTAL RECEPTOR RISK (Nc & Car)</i>	<i>5E-02</i>	100%	<i>4E-07</i>	100%	
<u>RESIDENT (ADULT)</u>	Inhalation of Dust in Ambient Air	2E-01	19%	1E-07	0%	
	Inhalation of Groundwater	2E-04	0%	3E-10	0%	
	Ingestion of Soil	2E-01	18%	7E-06	17%	
	Intake of Groundwater	7E-01	55%	2E-05	52%	
	Dermal Contact to Soil	1E-02	1%	2E-06	5%	
	Dermal Contact to Groundwater	9E-02	7%	1E-05	25%	
	<i>TOTAL RECEPTOR RISK (Nc & Car)</i>	<i>1E+00</i>	100%	<i>4E-05</i>	100%	
	<u>RESIDENT (CHILD)</u>	Inhalation of Dust in Ambient Air	4E-01	8%	6E-08	0%
		Inhalation of Groundwater	1E-03	0%	5E-10	0%
Ingestion of Soil		2E+00	40%	2E-05	38%	
Intake of Groundwater		2E+00	47%	2E-05	44%	
Dermal Contact to Soil		8E-02	2%	3E-06	8%	
Dermal Contact to Groundwater		2E-01	3%	5E-06	10%	
<i>TOTAL RECEPTOR RISK (Nc & Car)</i>		<i>5E+00</i>	100%	<i>4E-05</i>	100%	
<u>RESIDENT (TOTAL)</u>	Inhalation of Dust in Ambient Air			2E-07	0%	
	Inhalation of Groundwater			8E-10	0%	
	Ingestion of Soil			2E-05	28%	
	Intake Groundwater			4E-05	48%	
	Dermal Contact to Soil			5E-06	6%	
	Dermal Contact to Groundwater			2E-05	18%	
	<i>TOTAL RECEPTOR CANCER RISK</i>			<i>9E-05</i>	100%	

NA - Not Applicable

Table 7-2
Comparison of SEAD-11 Metal Concentrations in Soil with Guidance Level Concentrations
SEAD-11 Record of Decision
Seneca Army Depot Activity

COPC	Post-IRA SEAD-11 Soil Concentration (mg/Kg)			NYSDEC Unrestricted Use SCO (mg/Kg)	EPA RSLs for Residential Soil (mg/Kg)
	Maximum	Average	95% UCL ¹		
Aluminum	17,500	10,769	11,132	NA	77,000
Arsenic	19.5	5.57	5.85	13	0.39
Iron	51,100	22,456	23,305	NA	55,000
Manganese	1,540	583	623	1,600	1,800
Vanadium	32	19.25	19.9	NA	390

Notes:

1. 95% UCL based on normal distribution

NA - Not Available

UCL - upper confidence limit

mg/Kg - milligrams per kilogram

Table 7-3
Comparison of Manganese Concentration in SEAD-11 Groundwater with Guidance Level
Concentrations
SEAD-11 Record of Decision
Seneca Army Depot Activity

SEAD-11 Groundwater (Post-IRA Samples)	NYSDEC GA Standard (µg/L)	EPA Regional Screening Level for Tap Water (µg/L)
Maximum: 341 ug/L Average: 101.3 ug/L	300	800

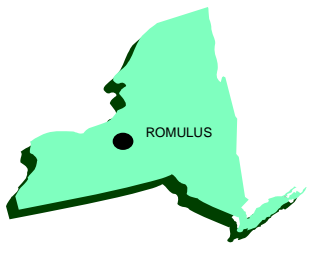
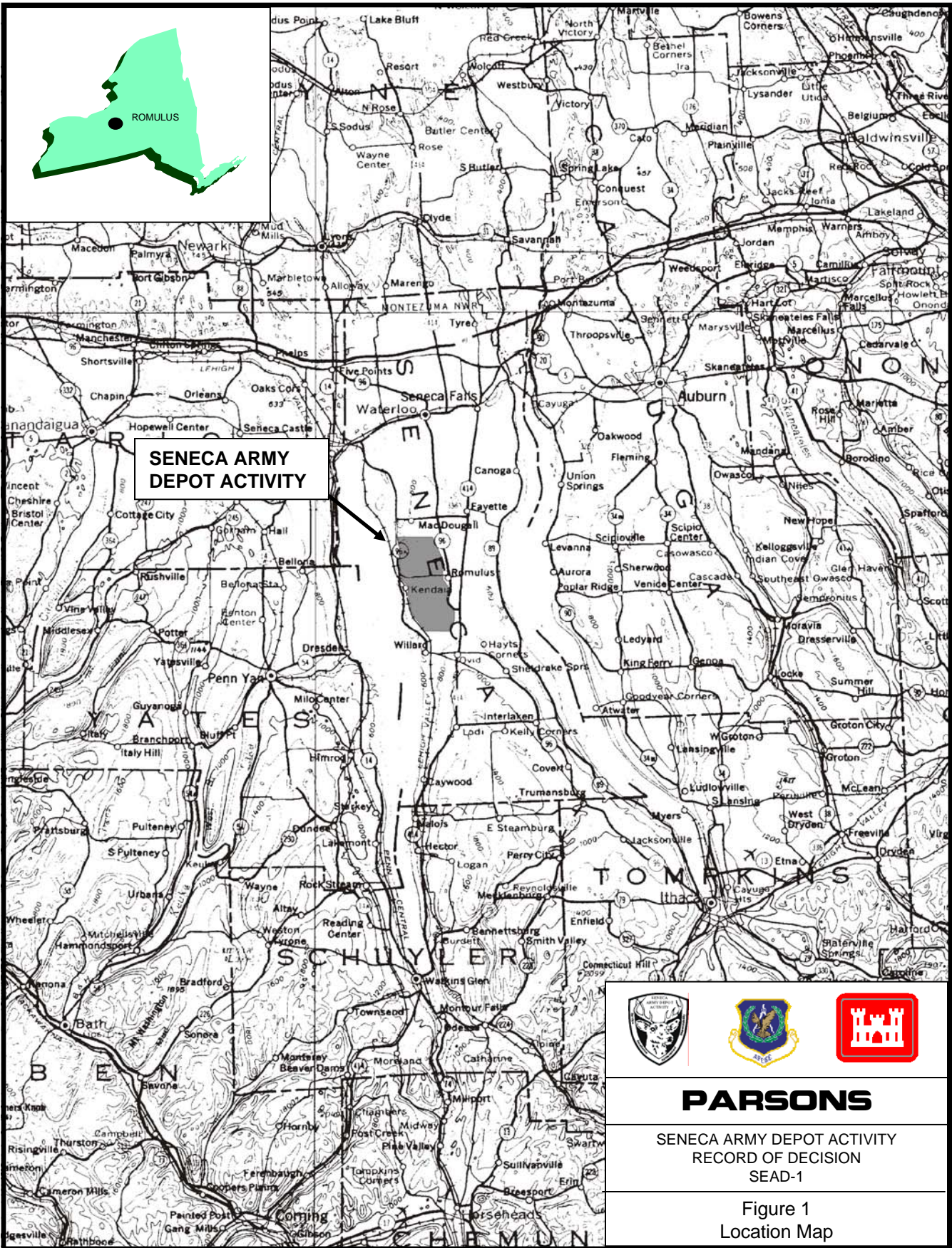
Notes:

ug/L - micrograms per liter

IRA - Interim Removal Action

FIGURES

<u>NUMBER</u>	<u>TITLE</u>
2-1	Seneca Army Depot Activity Location
2-2	Location of SEAD-11
2-3	Historic Topography of SEAD-11
3-1	Future Land Use and Site Locations



**SENECA ARMY
DEPOT ACTIVITY**

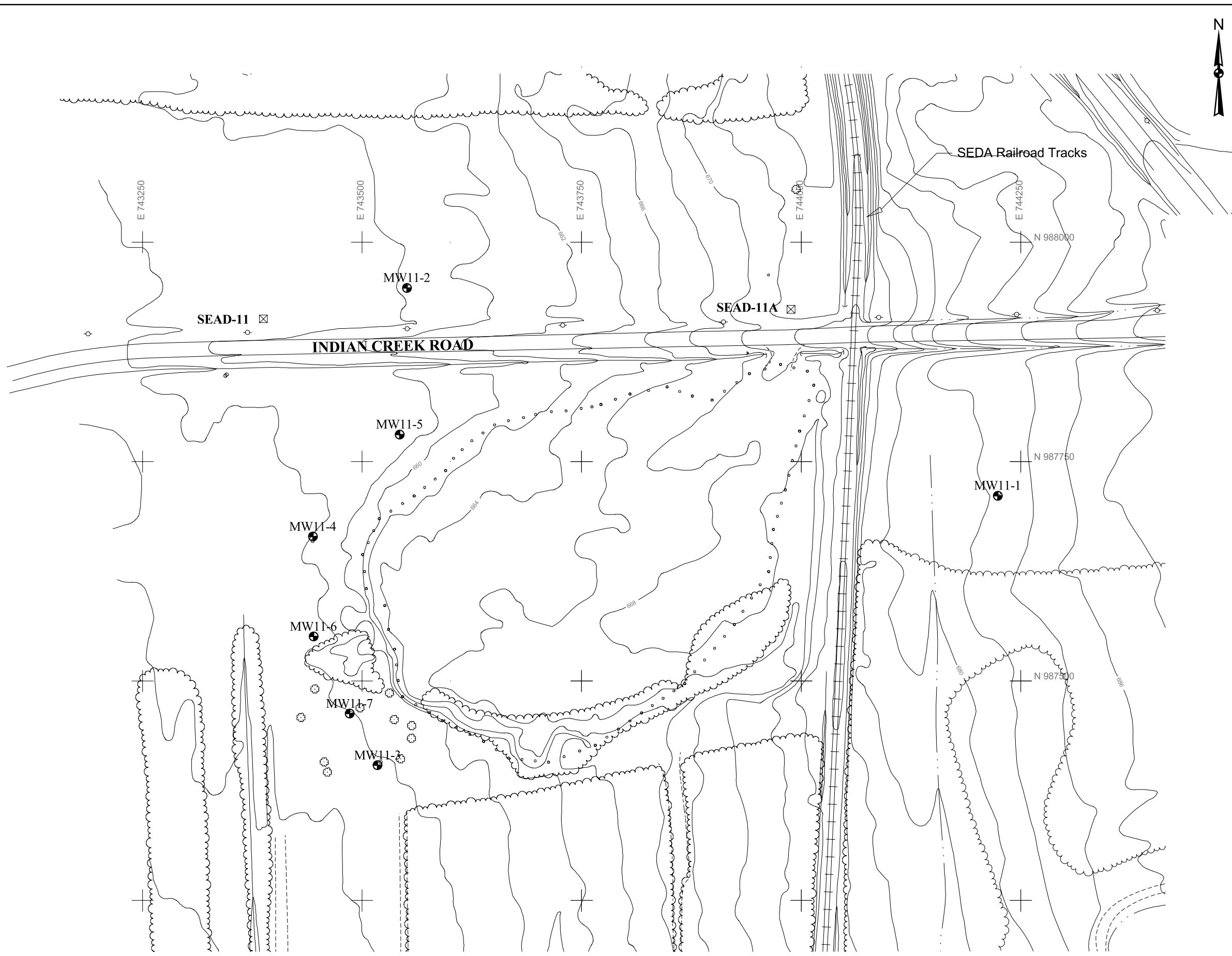


PARSONS

SENECA ARMY DEPOT ACTIVITY
RECORD OF DECISION
SEAD-1

Figure 1
Location Map

o:\seneca\sead-11\sead11.apr\Pre Construction



- ### LEGEND
- RAILROAD TRACK
 - EDGE OF WATER
 - PROPERTY LINE
 - ROAD
 - FENCE
 - CONTOUR ELEVATION
 - TREELINE
 - SURVEY MONUMENT
 - UTILITY POLE
 - DECIDUOUS TREE
 - LANDFILL EXTENT
 - MW11-1 MONITORING WELL WITH WATER TABLE ELEVATION
682.33
 - 670 GROUNDWATER ELEVATION CONTOUR ARROW INDICATES DIRECTION OF FLOW



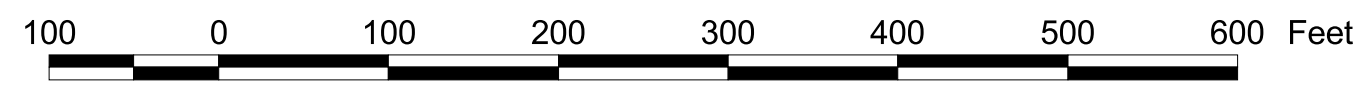
PARSONS

SENECA ARMY DEPOT

RECORD OF DECISION - SEAD-11

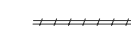

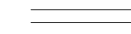
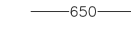



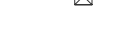



FIGURE 2-2
SEAD-11
Pre-Removal Action Condition

DATE: NOV 2008



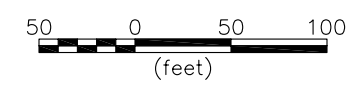


LEGEND:

-  RAILROAD TRACKS
-  PROPERTY LINE
-  ROAD
-  POST EXCAVATION CONTOUR ELEVATION
-  TREELINE
-  FENCE
-  UTILITY POLE
-  SURVEY MONUMENT
-  EXTENT OF EXCAVATION
-  DECIDUOUS TREE
-  MW11-6 MONITORING WELL

NOTES:

1. ALL DISTURBED AREAS WERE SEED AND STABILIZED WITH STRAW MULCH TO PREVENT EROSION.



PARSONS

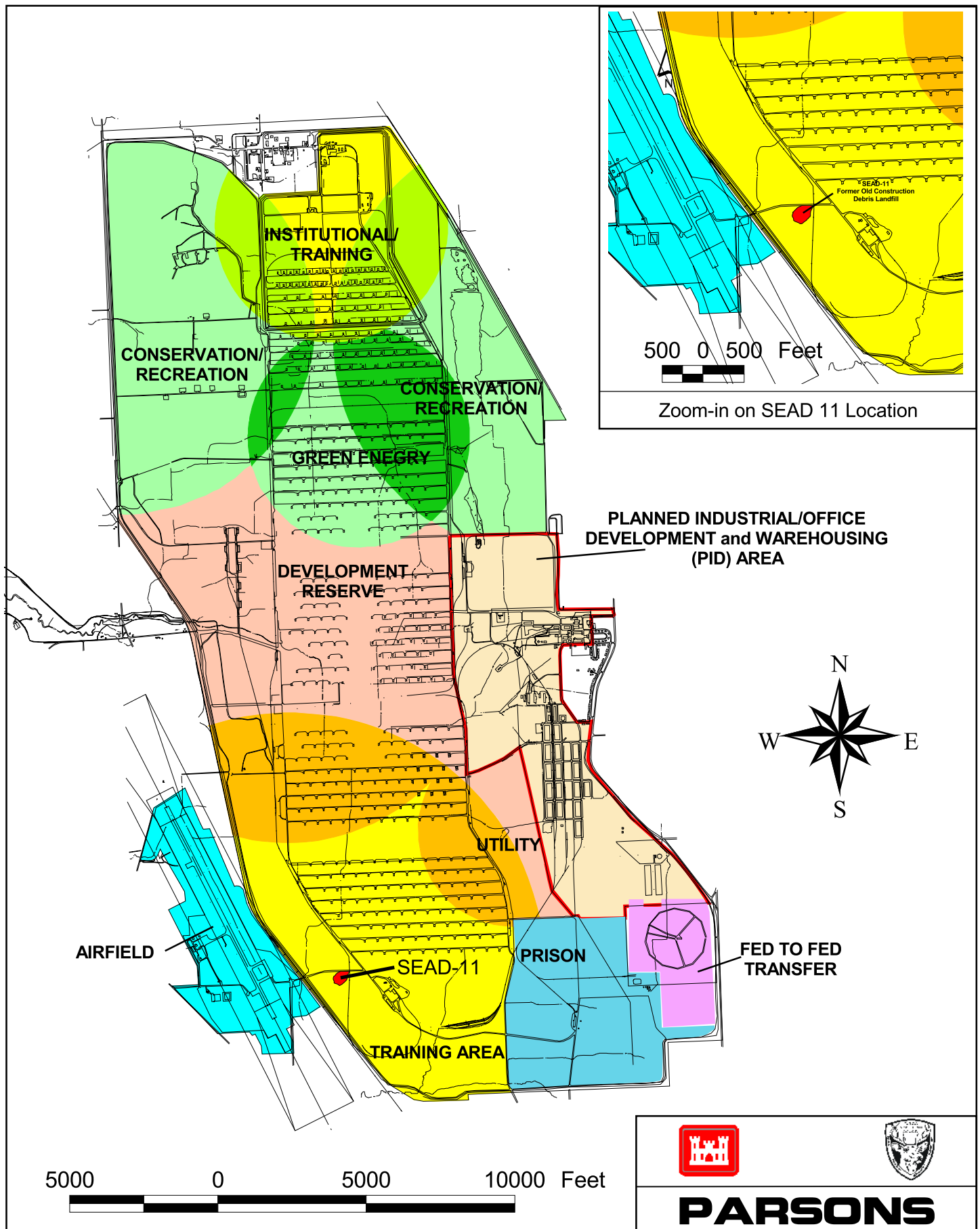


CLIENT/PROJECT TITLE
**SENECA ARMY DEPOT
 CONSTRUCTION COMPLETION REPORT
 SEAD-11**

DEPT. ENVIRONMENTAL ENGINEERING Dwg. No. 734543-01000

**C-4
 SEAD-11
 FINAL GRADING PLAN**

SCALE 1" = 100' DATE MARCH 2007 REV -



5000 0 5000 10000 Feet

 SWMU Location and Approximate Extent



PARSONS

SENECA ARMY DEPOT ACTIVITY
Record of Decision: SEAD 11

Figure 3-1
SEDA Future Land Use and
SEAD 11 Location

November 2008

APPENDICES

<u>NUMBER</u>	<u>TITLE</u>
Appendix A:	Administrative Record
Appendix B:	State Letter of Concurrence
Appendix C:	Responsiveness Summary and Public Comments
Appendix D:	Final Confirmatory Soil and Groundwater Data from Interim Removal Action
Appendix E:	Risk Memo and EPA Comments
Appendix F:	Applicable or Relevant and Appropriate Requirements (ARARs)

APPENDIX A

ADMINISTRATIVE RECORD

ADMINISTRATIVE RECORD**Old Construction Debris Landfill (SEAD-11)**

- OCDL-01-001** Data from the Additional Sampling Program Conducted at the Old Construction Debris Landfill (SEAD-11) at Seneca Army Depot Activity (SEDA), April 2001
- OCDL-01-002** Cost Estimate Low Permeability Capping Alternative, October 2001
- OCDL-01-003** Action Memorandum for Removal Action at SWMU SEAD-11, Seneca Army Depot Activity, (DRAFT), July 2001
- OCDL-01-003** Action Memorandum for Removal Action at SWMU SEAD-11, Seneca Army Depot Activity, (DRAFT-FINAL), July 2002
- OCDL-01-003** Final Action Memorandum for Removal Action at SWMU SEAD-11, Seneca Army Depot Activity, [CD], April 2003
- OCDL-01-003** Revised Final Action Memorandum for Removal Action at SWMU SEAD-11, Seneca Army Depot Activity, [CD], June 2004
- OCDL-01-004** Draft Interim Removal Action at Old Construction Debris Landfill (SEAD-11), Seneca Army Depot Activity PBC II, [CD], August 2006
- OCDL-01-004** Final Interim Removal Action at Old Construction Debris Landfill (SEAD-11), Seneca Army Depot Activity PBC II, [CD], October 2006
- OCDL-01-005** Draft Construction Completion Report at Old Construction Debris Landfill (SEAD-11), [CD], March 2007
- OCDL-01-005** Final Construction Completion Report at Old Construction Debris Landfill (SEAD-11), [CD], February 2008
- OCDL-03-001** Draft Proposed Plan, Old Construction Debris Landfill (SEAD-11), & CD, May 2008
- OCDL-03-001** Draft Final Proposed Plan, Old Construction Debris Landfill (SEAD-11), & CD, October 2008
- OCDL-03-001** Revised Draft Final Proposed Plan, Old Construction Debris Landfill (SEAD-11), & CD, March 2009
- OCDL-03-001** Final Proposed Plan, Old Construction Debris Landfill (SEAD-11), & CD, May 2009
- OCDL-05-001** Draft Record of Decision, Old Construction Debris Landfill (SEAD-11), Seneca Army Depot Activity, June 10, 2009.

- SEAD-01-007** Engineering Evaluation/Cost Analysis (EE/CA) Approval Memorandum Construction Debris Landfill (SEAD-11) and Garbage Disposal Areas (SEAD-64A and SEAD-64D), December 1998
- SEAD-01-008** SEAD-11, SEAD-64A, SEAD-64D Project Scoping Plan for Performing a CERCLA RI/FS at the Construction Debris Landfill (SEAD 11), Garbage Disposal Areas (SEAD 64A and 64D) (Draft-Final), February 1997
- SEAD-01-008** SEAD-11, SEAD-64A, SEAD-64D Project Scoping Plan for Performing a CERCLA RI/FS at the Construction Debris Landfill (SEAD 11), Garbage Disposal Areas (SEAD 64A and 64D) (Final), September 1997
- SEAD-01-009** Expanded Site Inspection Three Moderate Priority SWMUs - SEADs 11, 13, and 57 (Draft-Final), May 1995
- SEAD-01-009** Expanded Site Inspection Three Moderate Priority SWMUs - SEADs 11, 13, and 57 (Final), December 1995
- SEAD-01-020** Draft Contract-Specific Sampling and Analysis Plan, Remedial Actions at Seven Sites (SEADs-4, 11, 16, 17, 38, 70, and 121C), Seneca Army Depot Activity, [CD], July 2006
- SEAD-01-020** Final Contract-Specific Sampling and Analysis Plan for Remedial Actions at Seven Sites (SEADs-4, 11, 16, 17, 38, 70, and 121C), Seneca Army Depot Activity, [CD], October 2006
- SEAD-01-022** Project Safety Plan and Site-Specific Health and Safety Plan for Seneca Army Depot Activity PBC II, SEAD-4, SEAD-11, SEAD-16 (SEAD-001-R), SEAD-17 (SEAD-001-R), SEAD-38, SEAD-70, SEAD-121C, and Building Demolition, [CD], July 2006
- SEAD-05-002** Decision Document for Removal Actions at SWMUs SEAD-11, SEAD-25, SEAD-26, SEAD-38, SEAD-39, SEAD-40, SEAD-41, Seneca Depot Activity (Draft Final), August 1995
- Six Sites (SEADs-4, 11, 16, 17, 38, and 121C), Seneca Army Depot Activity PCB II, July 2006

APPENDIX B

LETTER OF CONCURRENCE

New York State Department of Environmental Conservation
Division of Environmental Remediation, 12th Floor
625 Broadway, Albany, New York 12233-7011
Phone: (518) 402-9706 • FAX: (518) 402-9020
Website: www.dec.ny.gov



Alexander B. Grannis
Commissioner

AUG 10 2009

Mr. Walter Mugdan
Director
Emergency & Remedial Response Division
US Environmental Protection Agency
Floor 19-#E38
290 Broadway
New York, NY 10007-1866

Re: Seneca Army Depot Activity
Site No. 850006
ROD for SEAD 11

Dear Mr. Mugdan:

The New York State Department of Environmental Conservation and the New York State Department of Health have reviewed the ROD for SEAD 11 dated June 2009. The State concurs with this selected remedy as stated in the June 2009 ROD which is no further action.

If you have any questions, please contact Mr. John Swartwout at (518) 402-9620.

Sincerely,

Dale A. Desnoyers
Director

Division of Environmental Remediation

cc: S. Absolom, SEADA
J. Swartwout, NYSDEC
J. Vasquez, USEPA
A. Carpenter, USEPA

APPENDIX C

PUBLIC COMMENTS AND RESPONSIVENESS SUMMARY

PUBLIC COMMENTS AND RESPONSIVENESS SUMMARY**FORMER OLD CONSTRUCTION LANDFILL SITE, SEAD-11
SENECA ARMY DEPOT SUPERFUND SITE****INTRODUCTION**

A responsiveness summary is required by Superfund policy. It provides a summary of citizen's comments and concerns received during the public comment period, and the Army's responses to those comments and concerns.

OVERVIEW

Since the inception of this project, the Army has implemented an active policy of involvement with the local community. This involvement has occurred through the public forum provided by regular meetings of the Base Clean-up Team (BCT). During these meetings, representatives of the community, the Army and the regulators are brought together in a forum where ideas and concerns are voiced and addressed. The BCT has been routinely briefed by the Army in regards to the progress and the results obtained during both the investigation and remedial alternative selection process. In addition to regular project specific briefings, the Army has provided experts in various fields related to the CERCLA program that have provided lectures intended to educate the general public in the various technical aspects of the CERCLA program at SEDA. Lectures have been conducted on risk assessments, both human health and ecological, remedial alternatives, such as bioventing and natural attenuation, institutional controls, and the feasibility study process.

BACKGROUND ON COMMUNITY INVOLVEMENT

Initially, during the years from 1991 through 1995 the Army formed and solicited community involvement through quarterly meetings with the Technical Review Committee (TRC). The TRC was comprised of community leaders with an active interest in the on-goings of the CERCLA process at the depot. These meetings were open to the public and were announced in the local newspaper and the radio. Following inclusion of the depot on the final BRAC closure list in late 1995, the Army transitioned from the TRC and formed the Base Clean-up Team (BCT). The BCT was comprised of several of the TRC members with the addition of additional Army and regulatory representatives. The BCT increased the frequency of the meetings to a monthly basis. Since the formation of the TRC and the BCT, the Army has met with the local community members on a regular basis and has discussed the finding of both the site investigations and the Interim Removal Action performed at SEAD-11. In addition, the proposed plan has been presented to the BCT.

SUMMARY OF COMMUNITY RELATIONS ACTIVITIES

The investigation reports, the Completion Report for the Interim Removal Action and the Proposed Plan for SEAD-11 were released to the public for comment. These documents were made available to the

public in the administrative record file at the information repositories at Building 123 within the Seneca Army Depot Activity, 5786 State Route 96, Romulus, New York, 14541-0009. The public comment period on these documents was held from May 8, 2009 to June 6, 2009. The notice of availability for the above-referenced documents was published in the Finger Lake Times during this time period.

On May 20, 2009, the Army, the EPA and the NYSDEC conducted a public meeting at the Seneca County Board of Supervisors Room, located at the Seneca County Office Building in Waterloo, NY to inform local officials and interested citizens about the Superfund process, to review current and planned remedial activities at SEAD-11, and to respond to any questions from area residents and other attendees. The meeting included poster board presentations and provided an opportunity for the public to speak to Army, EPA, and NYSDEC representatives involved in the process. The public was given the opportunity to provide formal comments that would be documented and become part of the official record for the selected remedy.

SUMMARY OF COMMENTS AND RESPONSES

No formal comments were received from the community during the public meeting. There is no official transcript since no comments were provided. There were also no written comments received by the Army from a private citizen during the public comment period.

APPENDIX D

FINAL CONFIRMATORY SOIL DATA FROM INTERIM REMOVAL ACTION

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXFLA501	11EXFLA601	11EXFLA701	11EXFLB301	11EXFLB301
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXFLA501	11EXFLA601	11EXFLA701	11EXFLB301	11EXFLB301V
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								11/6/2006	11/6/2006	11/6/2006	11/17/2006	11/22/2006
QC CODE								SA	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds												
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	5 U	5 U	5 U		8 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	5 U	5 U	5 U		8 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U		8 U
1,1,2-Trichloroethane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U		8 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	5 U	5 U	5 U		8 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	5 U	5 U	5 U		8 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U		8 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	5 U	5 U	5 U		8 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U		8 U
1,2-Dibromoethane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U		8 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	5 U	5 U	5 U		8 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	5 U	5 U	5 U		8 U
1,2-Dichloropropane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U		8 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	5 U	5 U	5 U		8 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	5 U	5 U	5 U		8 U
Acetone	UG/KG	67	2%	200	0	2	106	24 UJ	26 UJ	27 UJ		40 U
Benzene	UG/KG	0	0%	60	0	0	114	5 U	5 U	5 U		8 U
Bromochloromethane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U		8 U
Bromodichloromethane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U		8 U
Bromoform	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U		8 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	5 U	5 U	5 U		8 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	5 U	5 U	5 U		8 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	5 U	5 U	5 U		8 U
Chlorodibromomethane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U		8 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	10 U	10 U	11 U		16 U
Chloroform	UG/KG	0	0%	300	0	0	114	5 U	5 U	5 U		8 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		NA	1	114	5 U	5 U	5 U		8 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U		8 U
Cyclohexane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U		8 U
Dichlorodifluoromethane	UG/KG	2.25 ¹	4%		NA	5	114	5 U	5 U	5 U		8 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	5 U	5 U	5 U		8 U
Isopropylbenzene	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U		8 U
Methyl Acetate	UG/KG	0	0%		NA	0	114	5 UJ	5 UJ	5 UJ		8 UJ
Methyl Tertbutyl Ether	UG/KG	0	0%		NA	0	114	5 UJ	5 UJ	5 UJ		8 UJ
Methyl bromide	UG/KG	0	0%		NA	0	89	10 UJ	10 UJ	11 UJ		16 UR
Methyl butyl ketone	UG/KG	0	0%		NA	0	114	24 U	26 U	27 U		40 U
Methyl chloride	UG/KG	0	0%		NA	0	114	10 U	10 U	11 U		16 U
Methyl cyclohexane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U		8 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	24 U	26 U	27 U		40 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXFLA501	11EXFLA601	11EXFLA701	11EXFLB301	11EXFLB301
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXFLA501	11EXFLA601	11EXFLA701	11EXFLB301	11EXFLB301V
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								11/6/2006	11/6/2006	11/6/2006	11/17/2006	11/22/2006
QC CODE								SA	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA
	Maximum	Frequency of	Cleanup	Number of	Number of	Number of						
Parameter	Units	Value	Detection	Goal ²	Exceedances ³	Detected	Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	24 U	26 U	27 U		40 U
Methylene chloride	UG/KG	49	89%	100	0	102	114	10 U	19 U	22 U		26 J
Styrene	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U		8 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	5 U	2 J	2 J		8 U
Toluene	UG/KG	0	0%	1,500	0	0	114	5 U	5 U	5 U		8 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	15 U	15 U	16 U		24 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	5 UJ	5 UJ	5 UJ		8 UJ
Trans-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U		8 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	5 U	5 U	5 U		8 U
Trichlorofluoromethane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U		8 UJ
Vinyl chloride	UG/KG	0	0%	200	0	0	114	10 U	10 U	11 U		16 U
Carcinogenic PAHs												
Benzo(a)anthracene	UG/KG	260,000	52%		NA	66	127	200 J	23 J	2800	400 U	
Benzo(a)pyrene	UG/KG	240,000	49%		NA	62	127	200 J	400 U	2900	400 U	
Benzo(b)fluoranthene	UG/KG	310,000	51%		NA	65	127	340 J	24 J	5300 J	400 U	
Benzo(k)fluoranthene	UG/KG	59,000	24%		NA	30	127	380 UJ	400 U	2000 UJ	400 U	
Chrysene	UG/KG	240,000	50%		NA	64	127	180 J	400 U	2800	400 U	
Dibenz(a,h)anthracene	UG/KG	40,000	35%		NA	44	127	41 J	400 UJ	540 J	400 U	
Indeno(1,2,3-cd)pyrene	UG/KG	150,000	46%		NA	58	127	120 J	400 UJ	2000 J	400 U	
BTE (calculated)	MG/KG	355	94%	10 ^b	8	127	135	0.31	0.43	4.5	0.46	
Metals												
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	10400 J	10000 J	10500 J	13400	
Antimony	MG/KG	11.3	18%	31	0	21	114	0.82 UJ	0.83 UJ	0.84 UJ	0.8 U	
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	4.8 J	5 J	5.4 J	6.2	
Barium	MG/KG	248	100%	5,370	0	114	114	94.8 J	89.1 J	101 J	94.3 J	
Beryllium	MG/KG	1	100%	150	0	114	114	0.56 J	0.57 J	0.63 J	0.66	
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.26 J	0.54 J	0.6 J	0.27	
Calcium	MG/KG	216,000	100%		NA	114	114	2250 J	2540 J	2770 J	2710	
Chromium	MG/KG	44.5	100%		NA	113	113	15.1 J	14.9 J	15 J	19	
Cobalt	MG/KG	16.8	100%	903	0	114	114	8.1 J	8.7 J	8.6 J	10.4	
Copper	MG/KG	131	100%	3,130	0	114	114	14.5 J	16.4 J	16.1 J	24.9	
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	20100 J	20500 J	21200 J	26200	
Lead	MG/KG	469	100%	400	1	114	114	15.2 J	13.1 J	14.1 J	14.5	
Magnesium	MG/KG	25200 ¹	100%		NA	114	114	3070 J	3150 J	2880 J	3960 J	
Manganese	MG/KG	1,540	100%	1,760	0	114	114	478 J	776 J	921 J	666	
Mercury	MG/KG	0.327	99%	23	0	113	114	0.035	0.04	0.051	0.049	
Nickel	MG/KG	38.6	100%	1,560	0	114	114	18.4 J	22 J	19.9 J	28.4 J	
Potassium	MG/KG	1,750	100%		NA	114	114	910 J	891 J	1070 J	1220 J	
Selenium	MG/KG	3.4	25%	390	0	28	114	1.7 J	1.8 J	1.5 J	0.69 U	

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.18 UJ	0.18 UJ	0.18 UJ	0.17 U	
Sodium	MG/KG	164	75%		NA	86	114	71.9 J	34.9 UJ	35.2 UJ	56.1 J	
Thallium	MG/KG	2.1	25%	5.2	0	28	114	1.3 J	2.1 J	1.6 J	0.77 U	
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	21.5 J	17.4 J	18.7 J	23.5	
Zinc	MG/KG	591	100%	23,500	0	114	114	67.8 J	75.6 J	76.6 J	95.4 J	

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.
- (6) A shaded, boxed sample indicates that the soil represented by the sample has been removed from the site. Therefore, the analytical results for the shaded sample are not characteristic of current site conditions.

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.

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY		SEAD-11					SEAD-11					
LOCATION ID		11EXFLB401		11EXFLB501		11EXFLB601		11EXFLB701		11EXFLB801		
MATRIX		SOIL					SOIL					
SAMPLE ID		11EXFLB401		11EXFLB502		11EXFLB601		11EXFLB702		11EXFLB801		
SAMPLE DEPTH TO TOP OF SAMPLE		0					0					
SAMPLE DEPTH TO BOTTOM OF SAMPLE		0.2					0.2					
SAMPLE DATE		11/10/2006		11/22/2006		11/6/2006		11/22/2006		11/6/2006		
QC CODE		SA					SA					
STUDY ID		IRA					IRA					
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds												
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	5 U		4 U		5 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	5 U		4 U		5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		NA	0	114	5 U		4 U		5 U
1,1,2-Trichloroethane	UG/KG	0	0%		NA	0	114	5 U		4 U		5 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	5 U		4 U		5 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	5 U		4 U		5 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		NA	0	114	5 U		4 U		5 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	5 U		4 U		5 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		NA	0	114	5 U		4 U		5 U
1,2-Dibromoethane	UG/KG	0	0%		NA	0	114	5 U		4 U		5 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	5 U		4 U		5 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	5 U		4 U		5 U
1,2-Dichloropropane	UG/KG	0	0%		NA	0	114	5 U		4 U		5 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	5 U		4 U		5 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	5 U		4 U		5 U
Acetone	UG/KG	67	2%	200	0	2	106	26 U		22 UJ		24 UJ
Benzene	UG/KG	0	0%	60	0	0	114	5 U		4 U		5 U
Bromochloromethane	UG/KG	0	0%		NA	0	114	5 U		4 U		5 U
Bromodichloromethane	UG/KG	0	0%		NA	0	114	5 U		4 U		5 U
Bromoform	UG/KG	0	0%		NA	0	114	5 U		4 U		5 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	5 U		4 U		5 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	5 U		4 U		5 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	5 U		4 U		5 U
Chlorodibromomethane	UG/KG	0	0%		NA	0	114	5 U		4 U		5 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	10 U		9 U		10 U
Chloroform	UG/KG	0	0%	300	0	0	114	5 U		4 U		5 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		NA	1	114	5 U		4 U		5 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	5 U		4 U		5 U
Cyclohexane	UG/KG	0	0%		NA	0	114	5 U		4 U		5 U
Dichlorodifluoromethane	UG/KG	2.25 ¹	4%		NA	5	114	5 U		4 U		5 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	5 U		4 U		5 U
Isopropylbenzene	UG/KG	0	0%		NA	0	114	5 U		4 U		5 U
Methyl Acetate	UG/KG	0	0%		NA	0	114	5 U		4 UJ		5 UJ
Methyl Tertbutyl Ether	UG/KG	0	0%		NA	0	114	5 U		4 UJ		5 UJ
Methyl bromide	UG/KG	0	0%		NA	0	89	10 U		9 UJ		10 UJ
Methyl butyl ketone	UG/KG	0	0%		NA	0	114	26 U		22 U		24 U
Methyl chloride	UG/KG	0	0%		NA	0	114	10 U		9 U		10 U
Methyl cyclohexane	UG/KG	0	0%		NA	0	114	5 U		4 U		5 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	26 U		22 U		24 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11						
FACILITY								11EXFLB401	11EXFLB501	11EXFLB601	11EXFLB701	11EXFLB801						
LOCATION ID								SOIL	SOIL	SOIL	SOIL	SOIL						
MATRIX								11EXFLB401	11EXFLB502	11EXFLB601	11EXFLB702	11EXFLB801						
SAMPLE ID								0	0	0	0	0						
SAMPLE DEPTH TO TOP OF SAMPLE								0.2	0.2	0.2	0.2	0.2						
SAMPLE DEPTH TO BOTTOM OF SAMPLE								11/10/2006	11/22/2006	11/6/2006	11/22/2006	11/6/2006						
SAMPLE DATE								SA	SA	SA	SA	SA						
QC CODE								IRA	IRA	IRA	IRA	IRA						
STUDY ID								Maximum	Frequency of	Cleanup	Number of	Number of	Number of	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Parameter	Units	Value	Detection	Goal ²	Exceedances ³	Detected	Analyzed ⁴											
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	26 U		22 U							24 U	
Methylene chloride	UG/KG	49	89%	100	0	102	114			9 U							12 U	
Styrene	UG/KG	0	0%		NA	0	114	5 U		4 U							5 U	
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	5 U		4 U							5 U	
Toluene	UG/KG	0	0%	1,500	0	0	114	5 U		4 U							5 U	
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	15 U		13 U							14 U	
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	5 U		4 UJ							5 UJ	
Trans-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	5 U		4 U							5 U	
Trichloroethene	UG/KG	77	19%	700	0	22	114	5 U		4 U							5 U	
Trichlorofluoromethane	UG/KG	0	0%		NA	0	114	5 U		4 U							5 U	
Vinyl chloride	UG/KG	0	0%	200	0	0	114	10 U		9 U							10 U	
Carcinogenic PAHs																		
Benzo(a)anthracene	UG/KG	260,000	52%		NA	66	127	400 U		390 U		1300 J		390 U			1400	
Benzo(a)pyrene	UG/KG	240,000	49%		NA	62	127	400 U		390 U		1200 J		390 U			1200	
Benzo(b)fluoranthene	UG/KG	310,000	51%		NA	65	127	400 U		390 U		2100 J		390 U			2200 J	
Benzo(k)fluoranthene	UG/KG	59,000	24%		NA	30	127	400 U		390 U		1900 UJ		390 U			370 UJ	
Chrysene	UG/KG	240,000	50%		NA	64	127	400 U		390 U		1200 J		390 U			1300	
Dibenz(a,h)anthracene	UG/KG	40,000	35%		NA	44	127	400 U		390 U		240 J		390 U			230 J	
Indeno(1,2,3-cd)pyrene	UG/KG	150,000	46%		NA	58	127	400 U		390 U		780 J		390 U			820 J	
BTE (calculated)	MG/KG	355	94%	10 ^b	8	127	135	0.46		0.45		1.9		0.45			1.9	
Metals																		
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	13200				8810 J					7400 J	
Antimony	MG/KG	11.3	18%	31	0	21	114	0.78 UJ				0.8 UJ					0.79 UJ	
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	6.8				5.3 J					3.7 J	
Barium	MG/KG	248	100%	5,370	0	114	114	96.5 J				68.8 J					37.8 J	
Beryllium	MG/KG	1	100%	150	0	114	114	0.64				0.47 J					0.38 J	
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.31				0.35 J					0.42 J	
Calcium	MG/KG	216,000	100%		NA	114	114	2140				2750 J					30600 J	
Chromium	MG/KG	44.5	100%		NA	113	113	19				13.1 J					12.5 J	
Cobalt	MG/KG	16.8	100%	903	0	114	114	11.3 J				7.9 J					7 J	
Copper	MG/KG	131	100%	3,130	0	114	114	19.3				20.1 J					18.3 J	
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	27200				18700 J					16800 J	
Lead	MG/KG	469	100%	400	1	114	114	15				12.6 J					10.3 J	
Magnesium	MG/KG	25200 ¹	100%		NA	114	114	3560				3320 J					7620 J	
Manganese	MG/KG	1,540	100%	1,760	0	114	114	900 J				600 J					315 J	
Mercury	MG/KG	0.327	99%	23	0	113	114	0.044				0.034					0.012	
Nickel	MG/KG	38.6	100%	1,560	0	114	114	24.8 J				21.5 J					19.8 J	
Potassium	MG/KG	1,750	100%		NA	114	114	1470 J				930 J					764 J	
Selenium	MG/KG	3.4	25%	390	0	28	114	2.1 J				2.2 J					1.4 J	

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.17 U		0.17 UJ		0.17 UJ
Sodium	MG/KG	164	75%		NA	86	114	66 J		36.6 J		59.6 UJ
Thallium	MG/KG	2.1	25%	5.2	0	28	114	1.5 J		1.3 J		0.82 J
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	31.6		16.1 J		12.5 J
Zinc	MG/KG	591	100%	23,500	0	114	114	77.3 J		81.8 J		81.4 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.
- (6) A shaded, boxed sample indicates that the soil represented by the sample has been removed from the site. Therefore, the analytical results for the shaded sample are not characteristic of current site conditions.

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.

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY		SEAD-11					SEAD-11					
LOCATION ID		11EXFLC001					11EXFLC1001					
MATRIX		SOIL					SOIL					
SAMPLE ID		11EXFLC001					11EXFLC1002					
SAMPLE DEPTH TO TOP OF SAMPLE		0					0					
SAMPLE DEPTH TO BOTTOM OF SAMPLE		0.2					0.2					
SAMPLE DATE		12/15/2006					11/30/2006					
QC CODE		SA					DU					
STUDY ID		IRA					IRA					
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds												
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114		4 U	4 U		10 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114		4 U	4 U		10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		NA	0	114		4 U	4 U		10 U
1,1,2-Trichloroethane	UG/KG	0	0%		NA	0	114		4 U	4 U		10 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114		4 U	4 U		10 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114		4 U	4 U		10 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		NA	0	114		4 U	4 U		10 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114		4 U	4 U		10 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		NA	0	114		4 U	4 U		10 U
1,2-Dibromoethane	UG/KG	0	0%		NA	0	114		4 U	4 U		10 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114		4 U	4 U		10 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114		4 U	4 U		10 U
1,2-Dichloropropane	UG/KG	0	0%		NA	0	114		4 U	4 U		10 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114		4 U	4 U		10 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114		4 U	4 U		10 U
Acetone	UG/KG	67	2%	200	0	2	106		20 U	20 U		49 U
Benzene	UG/KG	0	0%	60	0	0	114		4 U	4 U		10 U
Bromochloromethane	UG/KG	0	0%		NA	0	114		4 U	4 U		10 U
Bromodichloromethane	UG/KG	0	0%		NA	0	114		4 U	4 U		10 U
Bromoform	UG/KG	0	0%		NA	0	114		4 U	4 U		10 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114		4 U	4 U		10 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114		4 U	4 U		10 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114		4 U	4 U		10 U
Chlorodibromomethane	UG/KG	0	0%		NA	0	114		4 U	4 U		10 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114		8 U	8 U		20 U
Chloroform	UG/KG	0	0%	300	0	0	114		4 U	4 U		10 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		NA	1	114		4 U	4 U		10 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114		4 U	4 U		10 U
Cyclohexane	UG/KG	0	0%		NA	0	114		4 U	4 U		10 U
Dichlorodifluoromethane	UG/KG	2.25 ¹	4%		NA	5	114		4 U	4 U		10 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114		4 U	4 U		10 U
Isopropylbenzene	UG/KG	0	0%		NA	0	114		4 U	4 U		10 U
Methyl Acetate	UG/KG	0	0%		NA	0	114		4 U	4 U		10 UJ
Methyl Tertbutyl Ether	UG/KG	0	0%		NA	0	114		4 U	4 U		10 UJ
Methyl bromide	UG/KG	0	0%		NA	0	89		8 UJ	8 UJ		20 UR
Methyl butyl ketone	UG/KG	0	0%		NA	0	114		20 U	20 U		49 U
Methyl chloride	UG/KG	0	0%		NA	0	114		8 U	8 U		20 U
Methyl cyclohexane	UG/KG	0	0%		NA	0	114		4 U	4 U		10 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114		20 U	20 U		49 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXFLC001	11EXFLC1001	11EXFLC1001	11EXFLC101	11EXFLC101
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXFLC001	11EXFLC1002	11EXFLC1001	11EXFLC101	11EXFLC101V
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								12/15/2006	11/30/2006	11/30/2006	11/17/2006	11/22/2006
QC CODE								SA	DU	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA
	Maximum	Frequency	Cleanup	Number	Number	Number						
Parameter	Units	Value	of Detection	Goal ²	of Exceedances ³	of Times Detected	of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114		20 U	20 U		49 U
Methylene chloride	UG/KG	49	89%	100	0	102	114		8 J	8 J		26 J
Styrene	UG/KG	0	0%		NA	0	114		4 U	4 U		10 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114		4 U	4 U		10 U
Toluene	UG/KG	0	0%	1,500	0	0	114		4 U	4 U		10 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114		12 U	12 U		29 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114		4 U	4 U		10 UJ
Trans-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114		4 U	4 U		10 U
Trichloroethene	UG/KG	77	19%	700	0	22	114		4 U	4 U		10 U
Trichlorofluoromethane	UG/KG	0	0%		NA	0	114		4 UJ	4 UJ		10 UJ
Vinyl chloride	UG/KG	0	0%	200	0	0	114		8 U	8 U		20 U
Carcinogenic PAHs												
Benzo(a)anthracene	UG/KG	260,000	52%		NA	66	127	410 U	170 J	240 J		28 J
Benzo(a)pyrene	UG/KG	240,000	49%		NA	62	127	410 U	140 J	220 J		24 J
Benzo(b)fluoranthene	UG/KG	310,000	51%		NA	65	127	410 U	210 J	320 J		33 J
Benzo(k)fluoranthene	UG/KG	59,000	24%		NA	30	127	410 U	61 J	97 J		400 U
Chrysene	UG/KG	240,000	50%		NA	64	127	410 U	160 J	240 J		28 J
Dibenz(a,h)anthracene	UG/KG	40,000	35%		NA	44	127	410 U	27 J	40 J		400 U
Indeno(1,2,3-cd)pyrene	UG/KG	150,000	46%		NA	58	127	410 U	96 J	150 J		400 U
BTE (calculated)	MG/KG	355	94%	10 ^b	8	127	135	0.48	0.22	0.33		0.25
Metals												
Aluminum	MG/KG	17,500	100%	76,100	0	114	114		9620 J	7170 J		12700
Antimony	MG/KG	11.3	18%	31	0	21	114		0.58 U	0.53 U		0.83 U
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114		5.4	4.8		6
Barium	MG/KG	248	100%	5,370	0	114	114		76.6 J	51.4 J		116 J
Beryllium	MG/KG	1	100%	150	0	114	114		0.53	0.4		0.62
Cadmium	MG/KG	2.5	94%	37	0	107	114		0.33	0.19 U		0.29
Calcium	MG/KG	216,000	100%		NA	114	114		49400 J	36200 J		3130
Chromium	MG/KG	44.5	100%		NA	113	113		53 R	11.2 R		17.9
Cobalt	MG/KG	16.8	100%	903	0	114	114		11.7	9.7		10.3
Copper	MG/KG	131	100%	3,130	0	114	114		21.1	16.8		18.1
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114		22100	17300		24600
Lead	MG/KG	469	100%	400	1	114	114		134 R	10.6 R		12.4
Magnesium	MG/KG	25200 ¹	100%		NA	114	114		9730	8760		3410 J
Manganese	MG/KG	1,540	100%	1,760	0	114	114		541	483		803
Mercury	MG/KG	0.327	99%	23	0	113	114		0.011 J	0.02		0.037
Nickel	MG/KG	38.6	100%	1,560	0	114	114		28.6	22.2		24.1 J
Potassium	MG/KG	1,750	100%		NA	114	114		1060	894		1130 J
Selenium	MG/KG	3.4	25%	390	0	28	114		0.41 U	0.38 U		0.71 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	SEAD-11 11EXFLC001 SOIL 11EXFLC001 0 0.2 12/15/2006 SA IRA	SEAD-11 11EXFLC1001 SOIL 11EXFLC1002 0 0.2 11/30/2006 DU IRA	SEAD-11 11EXFLC1001 SOIL 11EXFLC1001 0 0.2 11/30/2006 SA IRA	SEAD-11 11EXFLC101 SOIL 11EXFLC101 0 0.2 11/17/2006 SA IRA	SEAD-11 11EXFLC101 SOIL 11EXFLC101V 0 0.2 11/22/2006 SA IRA
Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)								
Silver	MG/KG	2.2	5%	390	0	6	114	0.52 U	0.48 U	0.18 U		
Sodium	MG/KG	164	75%		NA	86	114	95.5 J	61.7 J	34.7 U		
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.51 U	0.47 U	0.79 U		
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	14.4 J	11.4 J	21.9		
Zinc	MG/KG	591	100%	23,500	0	114	114	98.8 J	70.8 J	86.6 J		

- Notes:
- (1) Maximum value came from sample-duplicate pair averaged value.
 - (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
 - (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
 - (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
 - (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.
 - (6) A shaded, boxed sample indicates that the soil represented by the sample has been removed from the site. Therefore, the analytical results for the shaded sample are not characteristic of current site conditions.

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.

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXFLC201	11EXFLC201	11EXFLC301	11EXFLC301	11EXFLC401
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXFLC202	11EXFLC201	11EXFLC301	11EXFLC301V	11EXFLC402
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								11/10/2006	11/10/2006	11/17/2006	11/22/2006	11/17/2006
QC CODE								DU	SA	SA	SA	DU
STUDY ID								IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds												
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	5 U	5 U			14 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	5 U	5 U			14 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		NA	0	114	5 U	5 U			14 U
1,1,2-Trichloroethane	UG/KG	0	0%		NA	0	114	5 U	5 U			14 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	5 U	5 U			14 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	5 U	5 U			14 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		NA	0	114	5 U	5 U			14 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	5 U	5 U			14 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		NA	0	114	5 U	5 U			14 U
1,2-Dibromoethane	UG/KG	0	0%		NA	0	114	5 U	5 U			14 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	5 U	5 U			14 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	5 U	5 U			14 U
1,2-Dichloropropane	UG/KG	0	0%		NA	0	114	5 U	5 U			14 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	5 U	5 U			14 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	5 U	5 U			14 U
Acetone	UG/KG	67	2%	200	0	2	106	23 U	25 U			70 U
Benzene	UG/KG	0	0%	60	0	0	114	5 U	5 U			14 U
Bromochloromethane	UG/KG	0	0%		NA	0	114	5 U	5 U			14 U
Bromodichloromethane	UG/KG	0	0%		NA	0	114	5 U	5 U			14 U
Bromoform	UG/KG	0	0%		NA	0	114	5 U	5 U			14 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	5 U	5 U			14 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	5 U	5 U			14 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	5 U	5 U			14 U
Chlorodibromomethane	UG/KG	0	0%		NA	0	114	5 U	5 U			14 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	9 U	10 U			28 U
Chloroform	UG/KG	0	0%	300	0	0	114	5 U	5 U			14 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		NA	1	114	5 U	5 U			14 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	5 U	5 U			14 U
Cyclohexane	UG/KG	0	0%		NA	0	114	5 U	5 U			14 U
Dichlorodifluoromethane	UG/KG	2.25 ¹	4%		NA	5	114	5 U	5 U			14 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	5 U	5 U			14 U
Isopropylbenzene	UG/KG	0	0%		NA	0	114	5 U	5 U			14 U
Methyl Acetate	UG/KG	0	0%		NA	0	114	5 U	5 U			14 UJ
Methyl Tertbutyl Ether	UG/KG	0	0%		NA	0	114	5 U	5 U			14 UJ
Methyl bromide	UG/KG	0	0%		NA	0	89	9 U	10 U			28 UR
Methyl butyl ketone	UG/KG	0	0%		NA	0	114	23 U	25 U			70 U
Methyl chloride	UG/KG	0	0%		NA	0	114	9 U	10 U			28 U
Methyl cyclohexane	UG/KG	0	0%		NA	0	114	5 U	5 U			14 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	23 U	25 U			70 U

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Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXFLC201	11EXFLC201	11EXFLC301	11EXFLC301	11EXFLC401
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXFLC202	11EXFLC201	11EXFLC301	11EXFLC301V	11EXFLC402
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								11/10/2006	11/10/2006	11/17/2006	11/22/2006	11/17/2006
QC CODE								DU	SA	SA	SA	DU
STUDY ID								IRA	IRA	IRA	IRA	IRA
	Maximum	Frequency	Cleanup	Number	Number	Number						
Parameter	Units	Value	of Detection	Goal ²	of Exceedances ³	of Times Detected	of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	23 U	25 U		70 U	
Methylene chloride	UG/KG	49	89%	100	0	102	114	4 J	7 J		42 J	
Styrene	UG/KG	0	0%		NA	0	114	5 U	5 U		14 U	
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	5 U	5 U		14 U	
Toluene	UG/KG	0	0%	1,500	0	0	114	5 U	5 U		14 U	
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	14 U	15 U		42 U	
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	5 U	5 U		14 UJ	
Trans-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	5 U	5 U		14 U	
Trichloroethene	UG/KG	77	19%	700	0	22	114	5 U	5 U		14 U	
Trichlorofluoromethane	UG/KG	0	0%		NA	0	114	5 U	5 U		14 UJ	
Vinyl chloride	UG/KG	0	0%	200	0	0	114	9 U	10 U		28 U	
Carcinogenic PAHs												
Benzo(a)anthracene	UG/KG	260,000	52%		NA	66	127	54 J	180 J	79 J		380 U
Benzo(a)pyrene	UG/KG	240,000	49%		NA	62	127	40 J	190 J	64 J		380 U
Benzo(b)fluoranthene	UG/KG	310,000	51%		NA	65	127	59 J	380	120 J		380 U
Benzo(k)fluoranthene	UG/KG	59,000	24%		NA	30	127	390 U	370 U	400 U		380 U
Chrysene	UG/KG	240,000	50%		NA	64	127	53 J	260 J	77 J		380 U
Dibenz(a,h)anthracene	UG/KG	40,000	35%		NA	44	127	390 U	37 J	400 U		380 U
Indeno(1,2,3-cd)pyrene	UG/KG	150,000	46%		NA	58	127	29 J	150 J	38 J		380 U
BTE (calculated)	MG/KG	355	94%	10 ^b	8	127	135	0.25	0.30	0.29		0.44
Metals												
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	12200	12900	17500		13100
Antimony	MG/KG	11.3	18%	31	0	21	114	0.77 UJ	0.8 UJ	0.79 U		0.72 U
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	5.9	5.6	6.8		6.4
Barium	MG/KG	248	100%	5,370	0	114	114	92.4 J	78.3 J	182 J		62.8 J
Beryllium	MG/KG	1	100%	150	0	114	114	0.65	0.49	1		0.56
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.17 J	0.3	0.36		0.18 J
Calcium	MG/KG	216,000	100%		NA	114	114	2480	2080	5710		1460
Chromium	MG/KG	44.5	100%		NA	113	113	17.5	20	21.8		18.4
Cobalt	MG/KG	16.8	100%	903	0	114	114	10.8 J	7.9 J	12.3		10.9
Copper	MG/KG	131	100%	3,130	0	114	114	19.1	22.3	23.7		20.4
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	23400	25500	29200		26600
Lead	MG/KG	469	100%	400	1	114	114	93.1 J	11.4 J	16.3		16
Magnesium	MG/KG	25200 ¹	100%		NA	114	114	3820	3900	5750 J		3540 J
Manganese	MG/KG	1,540	100%	1,760	0	114	114	813 J	252 J	1140		584
Mercury	MG/KG	0.327	99%	23	0	113	114	0.047	0.031	0.036		0.052
Nickel	MG/KG	38.6	100%	1,560	0	114	114	27.3 J	23.1 J	29.9 J		24.5 J
Potassium	MG/KG	1,750	100%		NA	114	114	1060 J	1320 J	1520 J		1210 J
Selenium	MG/KG	3.4	25%	390	0	28	114	1.6 J	1.8 J	0.67 U		0.61 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.17 U	0.17 U	0.17 U		0.16 U
Sodium	MG/KG	164	75%		NA	86	114	49.2 J	45.9 J	62.9 J		41.5 J
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.95 J	1.5 J	0.75 U		0.69 U
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	21.8	23.4	31.2		23.7
Zinc	MG/KG	591	100%	23,500	0	114	114	82.5 J	82.7 J	92.1 J		92.3 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.
- (6) A shaded, boxed sample indicates that the soil represented by the sample has been removed from the site. Therefore, the analytical results for the shaded sample are not characteristic of current site conditions.

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.

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXFLC401	11EXFLC401	11EXFLC401	11EXFLC501	11EXFLC601
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXFLC402V	11EXFLC401	11EXFLC401V	11EXFLC501	11EXFLC602
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								11/22/2006	11/17/2006	11/22/2006	11/10/2006	11/22/2006
QC CODE								DU	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds												
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	6 U		9 U		5 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	6 U		9 U		5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		NA	0	114	6 U		9 U		5 U
1,1,2-Trichloroethane	UG/KG	0	0%		NA	0	114	6 U		9 U		5 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	6 U		9 U		5 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	6 U		9 U		5 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		NA	0	114	6 U		9 U		5 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	6 U		9 U		5 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		NA	0	114	6 U		9 U		5 U
1,2-Dibromoethane	UG/KG	0	0%		NA	0	114	6 U		9 U		5 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	6 U		9 U		5 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	6 U		9 U		5 U
1,2-Dichloropropane	UG/KG	0	0%		NA	0	114	6 U		9 U		5 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	6 U		9 U		5 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	6 U		9 U		5 U
Acetone	UG/KG	67	2%	200	0	2	106	33 U		44 U		27 U
Benzene	UG/KG	0	0%	60	0	0	114	6 U		9 U		5 U
Bromochloromethane	UG/KG	0	0%		NA	0	114	6 U		9 U		5 U
Bromodichloromethane	UG/KG	0	0%		NA	0	114	6 U		9 U		5 U
Bromoform	UG/KG	0	0%		NA	0	114	6 U		9 U		5 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	6 U		9 U		5 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	6 U		9 U		5 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	6 U		9 U		5 U
Chlorodibromomethane	UG/KG	0	0%		NA	0	114	6 U		9 U		5 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	13 U		18 U		11 U
Chloroform	UG/KG	0	0%	300	0	0	114	6 U		9 U		5 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		NA	1	114	6 U		9 U		5 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	6 U		9 U		5 U
Cyclohexane	UG/KG	0	0%		NA	0	114	6 U		9 U		5 U
Dichlorodifluoromethane	UG/KG	2.25 ¹	4%		NA	5	114	6 U		9 U		5 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	6 U		9 U		5 U
Isopropylbenzene	UG/KG	0	0%		NA	0	114	6 U		9 U		5 U
Methyl Acetate	UG/KG	0	0%		NA	0	114	6 UJ		9 UJ		5 U
Methyl Tertbutyl Ether	UG/KG	0	0%		NA	0	114	6 UJ		9 UJ		5 U
Methyl bromide	UG/KG	0	0%		NA	0	89	13 UR		18 UR		11 U
Methyl butyl ketone	UG/KG	0	0%		NA	0	114	33 U		44 U		27 U
Methyl chloride	UG/KG	0	0%		NA	0	114	13 U		18 U		11 U
Methyl cyclohexane	UG/KG	0	0%		NA	0	114	6 U		9 U		5 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	33 U		44 U		27 U

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Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXFLC401	11EXFLC401	11EXFLC401	11EXFLC501	11EXFLC601
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXFLC402V	11EXFLC401	11EXFLC401V	11EXFLC501	11EXFLC602
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								11/22/2006	11/17/2006	11/22/2006	11/10/2006	11/22/2006
QC CODE								DU	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	33 U		44 U		27 U
Methylene chloride	UG/KG	49	89%	100	0	102	114	16 J		17 J		12 J
Styrene	UG/KG	0	0%		NA	0	114	6 U		9 U		5 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	6 U		9 U		5 U
Toluene	UG/KG	0	0%	1,500	0	0	114	6 U		9 U		5 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	20 U		26 U		16 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	6 UJ		9 UJ		5 U
Trans-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	6 U		9 U		5 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	6 U		9 U		5 U
Trichlorofluoromethane	UG/KG	0	0%		NA	0	114	6 UJ		9 UJ		5 U
Vinyl chloride	UG/KG	0	0%	200	0	0	114	13 U		18 U		11 U
Carcinogenic PAHs												
Benzo(a)anthracene	UG/KG	260,000	52%		NA	66	127		380 U		150 J	380 U
Benzo(a)pyrene	UG/KG	240,000	49%		NA	62	127		380 U		110 J	380 U
Benzo(b)fluoranthene	UG/KG	310,000	51%		NA	65	127		380 U		140 J	380 U
Benzo(k)fluoranthene	UG/KG	59,000	24%		NA	30	127		380 U		39 J	380 U
Chrysene	UG/KG	240,000	50%		NA	64	127		380 U		140 J	380 U
Dibenz(a,h)anthracene	UG/KG	40,000	35%		NA	44	127		380 U		23 J	380 U
Indeno(1,2,3-cd)pyrene	UG/KG	150,000	46%		NA	58	127		380 U		62 J	380 U
BTE (calculated)	MG/KG	355	94%	10 ^b	8	127	135	0.44			0.17	0.44
Metals												
Aluminum	MG/KG	17,500	100%	76,100	0	114	114		13200		12400	
Antimony	MG/KG	11.3	18%	31	0	21	114	0.72 U			0.81 UJ	
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	6.4			5.4	
Barium	MG/KG	248	100%	5,370	0	114	114	68.3 J			114 J	
Beryllium	MG/KG	1	100%	150	0	114	114	0.56			0.7	
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.17 J			0.32	
Calcium	MG/KG	216,000	100%		NA	114	114	1460			2920	
Chromium	MG/KG	44.5	100%		NA	113	113	19.1			16.8	
Cobalt	MG/KG	16.8	100%	903	0	114	114	9			9 J	
Copper	MG/KG	131	100%	3,130	0	114	114	18.6			15.5	
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	26800			21100	
Lead	MG/KG	469	100%	400	1	114	114	15			13.6	
Magnesium	MG/KG	25200 ¹	100%		NA	114	114	3590 J			2830	
Manganese	MG/KG	1,540	100%	1,760	0	114	114	451			862 J	
Mercury	MG/KG	0.327	99%	23	0	113	114	0.04			0.039	
Nickel	MG/KG	38.6	100%	1,560	0	114	114	23.7 J			20.5 J	
Potassium	MG/KG	1,750	100%		NA	114	114	1290 J			1660 J	
Selenium	MG/KG	3.4	25%	390	0	28	114	0.62 U			2.1 J	

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.16 U			0.18 U	
Sodium	MG/KG	164	75%		NA	86	114	48.1 J			67.9 J	
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.69 U			1.2 J	
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	23.5			21.8	
Zinc	MG/KG	591	100%	23,500	0	114	114	86.3 J			85.9 J	

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.
- (6) A shaded, boxed sample indicates that the soil represented by the sample has been removed from the site. Therefore, the analytical results for the shaded sample are not characteristic of current site conditions.

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.

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXFLC701	11EXFLC801	11EXFLC901	11EXFLD001	11EXFLD1001
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXFLC702	11EXFLC802	11EXFLC901	11EXFLD001	11EXFLD1001
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								11/22/2006	11/22/2006	11/6/2006	12/15/2006	11/9/2006
QC CODE								SA	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds												
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114			6 U		4 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114			6 U		4 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		NA	0	114			6 U		4 U
1,1,2-Trichloroethane	UG/KG	0	0%		NA	0	114			6 U		4 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114			6 U		4 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114			6 U		4 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		NA	0	114			6 U		4 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114			6 U		4 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		NA	0	114			6 U		4 U
1,2-Dibromoethane	UG/KG	0	0%		NA	0	114			6 U		4 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114			6 U		4 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114			6 U		4 U
1,2-Dichloropropane	UG/KG	0	0%		NA	0	114			6 U		4 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114			6 U		4 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114			6 U		4 U
Acetone	UG/KG	67	2%	200	0	2	106			30 UJ		22 UR
Benzene	UG/KG	0	0%	60	0	0	114			6 U		4 U
Bromochloromethane	UG/KG	0	0%		NA	0	114			6 U		4 U
Bromodichloromethane	UG/KG	0	0%		NA	0	114			6 U		4 U
Bromoform	UG/KG	0	0%		NA	0	114			6 U		4 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114			6 U		4 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114			6 U		4 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114			6 U		4 U
Chlorodibromomethane	UG/KG	0	0%		NA	0	114			6 U		4 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114			12 U		9 U
Chloroform	UG/KG	0	0%	300	0	0	114			6 U		4 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		NA	1	114			6 U		4 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114			6 U		4 U
Cyclohexane	UG/KG	0	0%		NA	0	114			6 U		4 U
Dichlorodifluoromethane	UG/KG	2.25 ¹	4%		NA	5	114			6 U		4 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114			6 U		4 U
Isopropylbenzene	UG/KG	0	0%		NA	0	114			6 U		4 U
Methyl Acetate	UG/KG	0	0%		NA	0	114			6 UJ		4 UJ
Methyl Tertbutyl Ether	UG/KG	0	0%		NA	0	114			6 UJ		4 UJ
Methyl bromide	UG/KG	0	0%		NA	0	89			12 UJ		9 UR
Methyl butyl ketone	UG/KG	0	0%		NA	0	114			30 U		22 U
Methyl chloride	UG/KG	0	0%		NA	0	114			12 U		9 U
Methyl cyclohexane	UG/KG	0	0%		NA	0	114			6 U		4 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114			30 U		22 UJ

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
								11EXFLC701	11EXFLC801	11EXFLC901	11EXFLD001	11EXFLD1001
								SOIL	SOIL	SOIL	SOIL	SOIL
								11EXFLC702	11EXFLC802	11EXFLC901	11EXFLD001	11EXFLD1001
								0	0	0	0	0
								0.2	0.2	0.2	0.2	0.2
								11/22/2006	11/22/2006	11/6/2006	12/15/2006	11/9/2006
								SA	SA	SA	SA	SA
								IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal²	Number of Exceedances³	Number of Times Detected	Number of Samples Analyzed⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114			30 U		22 U
Methylene chloride	UG/KG	49	89%	100	0	102	114			11 U		12
Styrene	UG/KG	0	0%		NA	0	114			6 U		4 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114			6 U		4 U
Toluene	UG/KG	0	0%	1,500	0	0	114			6 U		4 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114			18 U		13 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114			6 UJ		4 UJ
Trans-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114			6 U		4 U
Trichloroethene	UG/KG	77	19%	700	0	22	114			6 U		4 U
Trichlorofluoromethane	UG/KG	0	0%		NA	0	114			6 U		4 U
Vinyl chloride	UG/KG	0	0%	200	0	0	114			12 U		9 U
Carcinogenic PAHs												
Benzo(a)anthracene	UG/KG	260,000	52%		NA	66	127	390 U	400 U	1300 J	410 U	370 U
Benzo(a)pyrene	UG/KG	240,000	49%		NA	62	127	390 U	400 U	1200 J	410 U	370 U
Benzo(b)fluoranthene	UG/KG	310,000	51%		NA	65	127	390 U	400 U	2000 J	410 U	370 U
Benzo(k)fluoranthene	UG/KG	59,000	24%		NA	30	127	390 U	400 U	2100 UJ	410 U	370 U
Chrysene	UG/KG	240,000	50%		NA	64	127	390 U	400 U	1100 J	410 U	370 U
Dibenz(a,h)anthracene	UG/KG	40,000	35%		NA	44	127	390 U	400 U	2100 UJ	410 U	370 U
Indeno(1,2,3-cd)pyrene	UG/KG	150,000	46%		NA	58	127	390 U	400 U	770 J	410 U	370 U
BTE (calculated)	MG/KG	355	94%	10 ^b	8	127	135	0.45	0.46	2.7	0.48	0.43
Metals												
Aluminum	MG/KG	17,500	100%	76,100	0	114	114			11500 J		11100
Antimony	MG/KG	11.3	18%	31	0	21	114			0.82 UJ		0.76 U
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114			5.1 J		5.2
Barium	MG/KG	248	100%	5,370	0	114	114			95.6 J		60.3
Beryllium	MG/KG	1	100%	150	0	114	114			0.65 J		0.59
Cadmium	MG/KG	2.5	94%	37	0	107	114			0.46 J		0.54
Calcium	MG/KG	216,000	100%		NA	114	114			4170 J		23800
Chromium	MG/KG	44.5	100%		NA	113	113			16.5 J		17.4 J
Cobalt	MG/KG	16.8	100%	903	0	114	114			9 J		9.3
Copper	MG/KG	131	100%	3,130	0	114	114			17.7 J		20.5
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114			20900 J		22400
Lead	MG/KG	469	100%	400	1	114	114	13.3 J		14.2 J		12.7 J
Magnesium	MG/KG	25200 ¹	100%		NA	114	114			3410 J		7290
Manganese	MG/KG	1,540	100%	1,760	0	114	114			573 J		489
Mercury	MG/KG	0.327	99%	23	0	113	114			0.037		0.03
Nickel	MG/KG	38.6	100%	1,560	0	114	114			21.8 J		26.3 J
Potassium	MG/KG	1,750	100%		NA	114	114			1080 J		1040 J
Selenium	MG/KG	3.4	25%	390	0	28	114			1.9 J		0.65 U

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Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	SEAD-11 11EXFLC701 SOIL 11EXFLC702 0 0.2 11/22/2006 SA IRA	SEAD-11 11EXFLC801 SOIL 11EXFLC802 0 0.2 11/22/2006 SA IRA	SEAD-11 11EXFLC901 SOIL 11EXFLC901 0 0.2 11/6/2006 SA IRA	SEAD-11 11EXFLD001 SOIL 11EXFLD001 0 0.2 12/15/2006 SA IRA	SEAD-11 11EXFLD1001 SOIL 11EXFLD1001 0 0.2 11/9/2006 SA IRA
								Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114			0.18 UJ		0.17 U
Sodium	MG/KG	164	75%		NA	86	114			167 UJ		73.5 J
Thallium	MG/KG	2.1	25%	5.2	0	28	114			1.6 J		0.73 U
Vanadium	MG/KG	31.6	100%	78.2	0	114	114			19.3 J		18.6
Zinc	MG/KG	591	100%	23,500	0	114	114			74.9 J		85.1 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.
- (6) A shaded, boxed sample indicates that the soil represented by the sample has been removed from the site. Therefore, the analytical results for the shaded sample are not characteristic of current site conditions.

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.

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY						SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11		
LOCATION ID						11EXFLD101	11EXFLD1101	11EXFLD201	11EXFLD201	11EXFLD301		
MATRIX						SOIL	SOIL	SOIL	SOIL	SOIL		
SAMPLE ID						11EXFLD102	11EXFLD1101	11EXFLD201	11EXFLD201V	11EXFLD301		
SAMPLE DEPTH TO TOP OF SAMPLE						0	0	0	0	0		
SAMPLE DEPTH TO BOTTOM OF SAMPLE						0.2	0.2	0.2	0.2	0.2		
SAMPLE DATE						12/21/2006	11/9/2006	11/17/2006	11/22/2006	11/17/2006		
QC CODE						SA	SA	SA	SA	SA		
STUDY ID						IRA	IRA	IRA	IRA	IRA		
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds												
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114		6 U		10 U	
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114		6 U		10 U	
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		NA	0	114		6 U		10 U	
1,1,2-Trichloroethane	UG/KG	0	0%		NA	0	114		6 U		10 U	
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114		6 U		10 U	
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114		6 U		10 U	
1,2,3-Trichlorobenzene	UG/KG	0	0%		NA	0	114		6 U		10 U	
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114		6 U		10 U	
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		NA	0	114		6 U		10 U	
1,2-Dibromoethane	UG/KG	0	0%		NA	0	114		6 U		10 U	
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114		6 U		10 U	
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114		6 U		10 U	
1,2-Dichloropropane	UG/KG	0	0%		NA	0	114		6 U		10 U	
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114		6 U		10 U	
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114		6 U		10 U	
Acetone	UG/KG	67	2%	200	0	2	106		28 UR		50 U	
Benzene	UG/KG	0	0%	60	0	0	114		6 U		10 U	
Bromochloromethane	UG/KG	0	0%		NA	0	114		6 U		10 U	
Bromodichloromethane	UG/KG	0	0%		NA	0	114		6 U		10 U	
Bromoform	UG/KG	0	0%		NA	0	114		6 U		10 U	
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114		6 U		10 U	
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114		6 U		10 U	
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114		6 U		10 U	
Chlorodibromomethane	UG/KG	0	0%		NA	0	114		6 U		10 U	
Chloroethane	UG/KG	0	0%	1,900	0	0	114		11 U		20 U	
Chloroform	UG/KG	0	0%	300	0	0	114		6 U		10 U	
Cis-1,2-Dichloroethene	UG/KG	2	1%		NA	1	114		6 U		10 U	
Cis-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114		6 U		10 U	
Cyclohexane	UG/KG	0	0%		NA	0	114		6 U		10 U	
Dichlorodifluoromethane	UG/KG	2.25 ¹	4%		NA	5	114		6 U		10 U	
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114		6 U		10 U	
Isopropylbenzene	UG/KG	0	0%		NA	0	114		6 U		10 U	
Methyl Acetate	UG/KG	0	0%		NA	0	114		6 UJ		10 UJ	
Methyl Tertbutyl Ether	UG/KG	0	0%		NA	0	114		6 UJ		10 UJ	
Methyl bromide	UG/KG	0	0%		NA	0	89		11 UR		20 UR	
Methyl butyl ketone	UG/KG	0	0%		NA	0	114		28 U		50 U	
Methyl chloride	UG/KG	0	0%		NA	0	114		11 U		20 U	
Methyl cyclohexane	UG/KG	0	0%		NA	0	114		6 U		10 U	
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114		28 UJ		50 U	

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Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXFLD101	11EXFLD1101	11EXFLD201	11EXFLD201	11EXFLD301
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXFLD102	11EXFLD1101	11EXFLD201	11EXFLD201V	11EXFLD301
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								12/21/2006	11/9/2006	11/17/2006	11/22/2006	11/17/2006
QC CODE								SA	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA
	Maximum	Frequency	Cleanup	Number	Number	Number						
Parameter	Units	Value	of	of	of	of	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
			Detection	Goal ²	Exceedances ³	Detected	Analyzed ⁴					
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	28 U			50 U	
Methylene chloride	UG/KG	49	89%	100	0	102	114	11			30 J	
Styrene	UG/KG	0	0%		NA	0	114	6 U			10 U	
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	6 U			10 U	
Toluene	UG/KG	0	0%	1,500	0	0	114	6 U			10 U	
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	17 U			30 U	
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	6 UJ			10 UJ	
Trans-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	6 U			10 U	
Trichloroethene	UG/KG	77	19%	700	0	22	114	6 U			10 U	
Trichlorofluoromethane	UG/KG	0	0%		NA	0	114	6 U			10 UJ	
Vinyl chloride	UG/KG	0	0%	200	0	0	114	11 U			20 U	
Carcinogenic PAHs												
Benzo(a)anthracene	UG/KG	260,000	52%		NA	66	127	77 J	4800	980		31 J
Benzo(a)pyrene	UG/KG	240,000	49%		NA	62	127	67 J	3700 J	1000		400 U
Benzo(b)fluoranthene	UG/KG	310,000	51%		NA	65	127	99 J	7400	2100		25 J
Benzo(k)fluoranthene	UG/KG	59,000	24%		NA	30	127	41 J	1700 J	400 U		400 U
Chrysene	UG/KG	240,000	50%		NA	64	127	85 J	5500	1300		25 J
Dibenz(a,h)anthracene	UG/KG	40,000	35%		NA	44	127	380 U	850 J	180 J		400 U
Indeno(1,2,3-cd)pyrene	UG/KG	150,000	46%		NA	58	127	52 J	2800 J	800		400 U
BTE (calculated)	MG/KG	355	94%	10 ^b	8	127	135	0.28	6.1	1.6		0.43
Metals												
Aluminum	MG/KG	17,500	100%	76,100	0	114	114		10400	12400		15900
Antimony	MG/KG	11.3	18%	31	0	21	114	5.5 J		0.75 U		0.77 U
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	7.2		6		5.3
Barium	MG/KG	248	100%	5,370	0	114	114	79.3		100 J		144 J
Beryllium	MG/KG	1	100%	150	0	114	114	0.54		0.59		0.92
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.86		0.23		0.34
Calcium	MG/KG	216,000	100%		NA	114	114	18100		2540		2090
Chromium	MG/KG	44.5	100%		NA	113	113	18.7 J		18.4		19.7
Cobalt	MG/KG	16.8	100%	903	0	114	114	10		10.4		10.4
Copper	MG/KG	131	100%	3,130	0	114	114	35.5		22		18.6
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114		23200	24700		24500
Lead	MG/KG	469	100%	400	1	114	114	162 J		12.7		14.5
Magnesium	MG/KG	25200 ¹	100%		NA	114	114	6080		4380 J		3340 J
Manganese	MG/KG	1,540	100%	1,760	0	114	114	1210		396		1290
Mercury	MG/KG	0.327	99%	23	0	113	114	0.058		0.036		0.044
Nickel	MG/KG	38.6	100%	1,560	0	114	114	28.6 J		26.9 J		23.1 J
Potassium	MG/KG	1,750	100%		NA	114	114	1110 J		1270 J		1320 J
Selenium	MG/KG	3.4	25%	390	0	28	114	0.72 U		0.64 U		0.66 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	SEAD-11 11EXFLD101	SEAD-11 11EXFLD1101	SEAD-11 11EXFLD201	SEAD-11 11EXFLD201V	SEAD-11 11EXFLD301
Silver	MG/KG	2.2	5%	390	0	6	114	0.18 U	0.16 U			0.17 U
Sodium	MG/KG	164	75%		NA	86	114	42.7 J	48.2 J			63.5 J
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.8 U	0.71 U			0.74 U
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	19.3	30.1			25.4
Zinc	MG/KG	591	100%	23,500	0	114	114	130 J	111 J			87.1 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.
- (6) A shaded, boxed sample indicates that the soil represented by the sample has been removed from the site. Therefore, the analytical results for the shaded sample are not characteristic of current site conditions.

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.

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY		SEAD-11					SEAD-11					
LOCATION ID		11EXFLD301		11EXFLD401		11EXFLD401		11EXFLD501		11EXFLD501		
MATRIX		SOIL					SOIL					
SAMPLE ID		11EXFLD301V		11EXFLD401		11EXFLD401V		11EXFLD501		11EXFLD501V		
SAMPLE DEPTH TO TOP OF SAMPLE		0					0					
SAMPLE DEPTH TO BOTTOM OF SAMPLE		0.2					0.2					
SAMPLE DATE		11/22/2006		11/17/2006		11/22/2006		11/17/2006		11/22/2006		
QC CODE		SA					SA					
STUDY ID		IRA					IRA					
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds												
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	8 U		9 U		6 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	8 U		9 U		6 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		NA	0	114	8 U		9 U		6 U
1,1,2-Trichloroethane	UG/KG	0	0%		NA	0	114	8 U		9 U		6 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	8 U		9 U		6 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	8 U		9 U		6 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		NA	0	114	8 U		9 U		6 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	8 U		9 U		6 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		NA	0	114	8 U		9 U		6 U
1,2-Dibromoethane	UG/KG	0	0%		NA	0	114	8 U		9 U		6 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	8 U		9 U		6 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	8 U		9 U		6 U
1,2-Dichloropropane	UG/KG	0	0%		NA	0	114	8 U		9 U		6 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	8 U		9 U		6 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	8 U		9 U		6 U
Acetone	UG/KG	67	2%	200	0	2	106	43 U		45 U		32 U
Benzene	UG/KG	0	0%	60	0	0	114	8 U		9 U		6 U
Bromochloromethane	UG/KG	0	0%		NA	0	114	8 U		9 U		6 U
Bromodichloromethane	UG/KG	0	0%		NA	0	114	8 U		9 U		6 U
Bromoform	UG/KG	0	0%		NA	0	114	8 U		9 U		6 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	8 U		9 U		6 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	8 U		9 U		6 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	8 U		9 U		6 U
Chlorodibromomethane	UG/KG	0	0%		NA	0	114	8 U		9 U		6 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	17 U		18 U		13 U
Chloroform	UG/KG	0	0%	300	0	0	114	8 U		9 U		6 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		NA	1	114	8 U		9 U		6 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	8 U		9 U		6 U
Cyclohexane	UG/KG	0	0%		NA	0	114	8 U		9 U		6 U
Dichlorodifluoromethane	UG/KG	2.25 ¹	4%		NA	5	114	8 U		9 U		6 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	8 U		9 U		6 U
Isopropylbenzene	UG/KG	0	0%		NA	0	114	8 U		9 U		6 U
Methyl Acetate	UG/KG	0	0%		NA	0	114	8 UJ		9 UJ		6 U
Methyl Tertbutyl Ether	UG/KG	0	0%		NA	0	114	8 UJ		9 UJ		6 U
Methyl bromide	UG/KG	0	0%		NA	0	89	17 UR		18 UR		13 U
Methyl butyl ketone	UG/KG	0	0%		NA	0	114	43 U		45 U		32 U
Methyl chloride	UG/KG	0	0%		NA	0	114	17 U		18 U		13 U
Methyl cyclohexane	UG/KG	0	0%		NA	0	114	8 U		9 U		6 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	43 U		45 U		32 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXFLD301	11EXFLD401	11EXFLD401	11EXFLD501	11EXFLD501
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXFLD301V	11EXFLD401	11EXFLD401V	11EXFLD501	11EXFLD501V
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								11/22/2006	11/17/2006	11/22/2006	11/17/2006	11/22/2006
QC CODE								SA	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA
	Maximum	Frequency	Cleanup	Number	Number	Number						
Parameter	Units	Value	of Detection	Goal ²	of Exceedances ³	of Times Detected	of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	43 U		45 U		32 U
Methylene chloride	UG/KG	49	89%	100	0	102	114	24 J		22 J		20 J
Styrene	UG/KG	0	0%		NA	0	114	8 U		9 U		6 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	8 U		9 U		6 U
Toluene	UG/KG	0	0%	1,500	0	0	114	8 U		9 U		6 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	26 U		27 U		19 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	8 UJ		9 UJ		6 U
Trans-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	8 U		9 U		6 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	8 U		9 U		6 U
Trichlorofluoromethane	UG/KG	0	0%		NA	0	114	8 UJ		9 UJ		6 U
Vinyl chloride	UG/KG	0	0%	200	0	0	114	17 U		18 U		13 U
Carcinogenic PAHs												
Benzo(a)anthracene	UG/KG	260,000	52%		NA	66	127		410 U		390 U	
Benzo(a)pyrene	UG/KG	240,000	49%		NA	62	127		410 U		390 U	
Benzo(b)fluoranthene	UG/KG	310,000	51%		NA	65	127		410 U		390 U	
Benzo(k)fluoranthene	UG/KG	59,000	24%		NA	30	127		410 U		390 U	
Chrysene	UG/KG	240,000	50%		NA	64	127		410 U		390 U	
Dibenz(a,h)anthracene	UG/KG	40,000	35%		NA	44	127		410 U		390 U	
Indeno(1,2,3-cd)pyrene	UG/KG	150,000	46%		NA	58	127		410 U		390 U	
BTE (calculated)	MG/KG	355	94%	10 ^b	8	127	135	0.48			0.45	
Metals												
Aluminum	MG/KG	17,500	100%	76,100	0	114	114		10400		16100	
Antimony	MG/KG	11.3	18%	31	0	21	114		0.76 U		0.84 U	
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114		5.9		7.5	
Barium	MG/KG	248	100%	5,370	0	114	114		72.4 J		169 J	
Beryllium	MG/KG	1	100%	150	0	114	114		0.51		0.83	
Cadmium	MG/KG	2.5	94%	37	0	107	114		0.26		0.36	
Calcium	MG/KG	216,000	100%		NA	114	114		2140		3250	
Chromium	MG/KG	44.5	100%		NA	113	113		15		21.6	
Cobalt	MG/KG	16.8	100%	903	0	114	114		9.1		11.7	
Copper	MG/KG	131	100%	3,130	0	114	114		23.8		19.6	
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114		21900		30700	
Lead	MG/KG	469	100%	400	1	114	114		14.2		28.4	
Magnesium	MG/KG	25200 ¹	100%		NA	114	114		3350 J		3860 J	
Manganese	MG/KG	1,540	100%	1,760	0	114	114		639		1540	
Mercury	MG/KG	0.327	99%	23	0	113	114		0.043		0.048	
Nickel	MG/KG	38.6	100%	1,560	0	114	114		24.9 J		28.1 J	
Potassium	MG/KG	1,750	100%		NA	114	114		1200 J		1710 J	
Selenium	MG/KG	3.4	25%	390	0	28	114		0.65 U		0.72 U	

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114		0.16 U		0.18 U	
Sodium	MG/KG	164	75%		NA	86	114		50.4 J		56.4 J	
Thallium	MG/KG	2.1	25%	5.2	0	28	114		0.72 U		0.81 U	
Vanadium	MG/KG	31.6	100%	78.2	0	114	114		19		27.2	
Zinc	MG/KG	591	100%	23,500	0	114	114		87.6 J		160 J	

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.
- (6) A shaded, boxed sample indicates that the soil represented by the sample has been removed from the site. Therefore, the analytical results for the shaded sample are not characteristic of current site conditions.

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.

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Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
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FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXFLD601	11EXFLD701	11EXFLD801	11EXFLD901	11EXFLE1001
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXFLD601	11EXFLD701	11EXFLD801	11EXFLD901	11EXFLE1002
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								11/27/2006	11/9/2006	11/9/2006	11/9/2006	11/9/2006
QC CODE								SA	SA	SA	SA	DU
STUDY ID								IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds												
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	4 U	6 U	4 U	5 U	4 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	4 U	6 U	4 U	5 U	4 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		NA	0	114	4 U	6 U	4 U	5 U	4 U
1,1,2-Trichloroethane	UG/KG	0	0%		NA	0	114	4 U	6 U	4 U	5 U	4 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	4 U	6 U	4 U	5 U	4 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	4 U	6 U	4 U	5 U	4 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		NA	0	114	4 U	6 U	4 U	5 U	4 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	4 U	6 U	4 U	5 U	4 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		NA	0	114	4 U	6 U	4 U	5 U	4 U
1,2-Dibromoethane	UG/KG	0	0%		NA	0	114	4 U	6 U	4 U	5 U	4 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	4 U	6 U	4 U	5 U	4 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	4 U	6 U	4 U	5 U	4 U
1,2-Dichloropropane	UG/KG	0	0%		NA	0	114	4 U	6 U	4 U	5 U	4 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	4 U	6 U	4 U	5 U	4 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	4 U	6 U	4 U	5 U	4 U
Acetone	UG/KG	67	2%	200	0	2	106	22 U	28 UR	22 UR	27 UR	19 UR
Benzene	UG/KG	0	0%	60	0	0	114	4 U	6 U	4 U	5 U	4 U
Bromochloromethane	UG/KG	0	0%		NA	0	114	4 U	6 U	4 U	5 U	4 U
Bromodichloromethane	UG/KG	0	0%		NA	0	114	4 U	6 U	4 U	5 U	4 U
Bromoform	UG/KG	0	0%		NA	0	114	4 U	6 U	4 U	5 U	4 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	4 U	6 U	4 U	5 U	4 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	4 U	6 U	4 U	5 U	4 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	4 U	6 U	4 U	5 U	4 U
Chlorodibromomethane	UG/KG	0	0%		NA	0	114	4 U	6 U	4 U	5 U	4 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	9 U	11 U	9 U	11 U	8 U
Chloroform	UG/KG	0	0%	300	0	0	114	4 U	6 U	4 U	5 U	4 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		NA	1	114	4 U	6 U	4 U	5 U	4 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	4 U	6 U	4 U	5 U	4 U
Cyclohexane	UG/KG	0	0%		NA	0	114	4 U	6 U	4 U	5 U	4 U
Dichlorodifluoromethane	UG/KG	2.25 ¹	4%		NA	5	114	4 U	2 J	4 U	2 J	1 J
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	4 U	6 U	4 U	5 U	4 U
Isopropylbenzene	UG/KG	0	0%		NA	0	114	4 U	6 U	4 U	5 U	4 U
Methyl Acetate	UG/KG	0	0%		NA	0	114	4 U	6 UJ	4 UJ	5 UJ	4 UJ
Methyl Tertbutyl Ether	UG/KG	0	0%		NA	0	114	4 U	6 UJ	4 UJ	5 UJ	4 UJ
Methyl bromide	UG/KG	0	0%		NA	0	89	9 UJ	11 UR	9 UR	11 UR	8 UR
Methyl butyl ketone	UG/KG	0	0%		NA	0	114	22 U	28 U	22 U	27 U	19 U
Methyl chloride	UG/KG	0	0%		NA	0	114	9 U	11 U	9 U	11 U	8 U
Methyl cyclohexane	UG/KG	0	0%		NA	0	114	4 U	6 U	4 U	5 U	4 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	22 U	28 UJ	22 UJ	27 UJ	19 UJ

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
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FACILITY						SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11		
LOCATION ID						11EXFLD601	11EXFLD701	11EXFLD801	11EXFLD901	11EXFLE1001		
MATRIX						SOIL	SOIL	SOIL	SOIL	SOIL		
SAMPLE ID						11EXFLD601	11EXFLD701	11EXFLD801	11EXFLD901	11EXFLE1002		
SAMPLE DEPTH TO TOP OF SAMPLE						0	0	0	0	0		
SAMPLE DEPTH TO BOTTOM OF SAMPLE						0.2	0.2	0.2	0.2	0.2		
SAMPLE DATE						11/27/2006	11/9/2006	11/9/2006	11/9/2006	11/9/2006		
QC CODE						SA	SA	SA	SA	DU		
STUDY ID						IRA	IRA	IRA	IRA	IRA		
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal²	Number of Exceedances³	Number of Times Detected	Number of Samples Analyzed⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	22 U	28 U	22 U	27 U	19 U
Methylene chloride	UG/KG	49	89%	100	0	102	114	6 J	16	12	16	14
Styrene	UG/KG	0	0%		NA	0	114	4 U	6 U	4 U	5 U	4 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	4 U	6 U	4 U	5 U	4 U
Toluene	UG/KG	0	0%	1,500	0	0	114	4 U	6 U	4 U	5 U	4 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	13 U	16 U	13 U	16 U	12 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	4 U	6 UJ	4 UJ	5 UJ	4 UJ
Trans-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	4 U	6 U	4 U	5 U	4 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	4 U	6 U	4 U	5 U	4 U
Trichlorofluoromethane	UG/KG	0	0%		NA	0	114	4 U	6 U	4 U	5 U	4 U
Vinyl chloride	UG/KG	0	0%	200	0	0	114	9 U	11 U	9 U	11 U	8 U
Carcinogenic PAHs												
Benzo(a)anthracene	UG/KG	260,000	52%		NA	66	127	360 U	380 J	20 J	420 U	350 U
Benzo(a)pyrene	UG/KG	240,000	49%		NA	62	127	360 U	350 J	360 U	420 U	350 U
Benzo(b)fluoranthene	UG/KG	310,000	51%		NA	65	127	360 U	400	20 J	420 U	350 U
Benzo(k)fluoranthene	UG/KG	59,000	24%		NA	30	127	360 U	130 J	360 U	420 U	350 U
Chrysene	UG/KG	240,000	50%		NA	64	127	360 U	350 J	21 J	420 U	350 U
Dibenz(a,h)anthracene	UG/KG	40,000	35%		NA	44	127	360 U	64 J	360 U	420 U	350 U
Indeno(1,2,3-cd)pyrene	UG/KG	150,000	46%		NA	58	127	360 U	170 J	360 U	420 U	350 U
BTE (calculated)	MG/KG	355	94%	10 ^b	8	127	135	0.42	0.51	0.38	0.49	0.41
Metals												
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	6770 J	12000	10100	11600	6700
Antimony	MG/KG	11.3	18%	31	0	21	114	0.66 UJ	0.85 U	0.77 U	0.87 U	0.67 U
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	3.5	5.4	5.2	5.2	5.2
Barium	MG/KG	248	100%	5,370	0	114	114	23.3 J	119	60	89.2	32.3
Beryllium	MG/KG	1	100%	150	0	114	114	0.32	0.74	0.53	0.64	0.42
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.39	0.62	0.48	1.1	0.42
Calcium	MG/KG	216,000	100%		NA	114	114	61800 J	3460	14700	3650	75300
Chromium	MG/KG	44.5	100%		NA	113	113	10.8 J	16 J	15.3 J	16.6 J	9.7 J
Cobalt	MG/KG	16.8	100%	903	0	114	114	6.1 J	9.7	9.9	9.3	7.8
Copper	MG/KG	131	100%	3,130	0	114	114	13.6	19.3	22.6	17.5	17.5
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	15200 J	21900	20200	19800 J	17900
Lead	MG/KG	469	100%	400	1	114	114	20.4 J	23.6 J	11.2 J	14.7 J	9 J
Magnesium	MG/KG	25200 ¹	100%		NA	114	114	7310 J	2870	6670	3300	26200
Manganese	MG/KG	1,540	100%	1,760	0	114	114	325 J	1120	394	278	410
Mercury	MG/KG	0.327	99%	23	0	113	114	0.01 J	0.041	0.104	0.066	0.004 U
Nickel	MG/KG	38.6	100%	1,560	0	114	114	18.3 J	21.8 J	27.5 J	21.5 J	19.2 J
Potassium	MG/KG	1,750	100%		NA	114	114	710 J	1070 J	1170 J	1250 J	760 J
Selenium	MG/KG	3.4	25%	390	0	28	114	0.57 U	0.73 U	0.65 U	0.75 U	0.58 U

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Table D-1
Complete Confirmatory Soil Sample Results
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Seneca Army Depot Activity

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.48 U	0.18 U	0.17 U	0.19 U	0.15 U
Sodium	MG/KG	164	75%		NA	86	114	90.6 J	35.7 U	53 J	73.4 J	107 J
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.63 U	0.81 U	0.73 U	0.84 U	0.65 U
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	11.1 J	20.2	17.5	19.9	12.4
Zinc	MG/KG	591	100%	23,500	0	114	114	354 J	84.1 J	78.1 J	85.3 J	84.2 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.
- (6) A shaded, boxed sample indicates that the soil represented by the sample has been removed from the site. Therefore, the analytical results for the shaded sample are not characteristic of current site conditions.

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.

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXFLE1001	11EXFLE101	11EXFLE1101	11EXFLE201	11EXFLE201
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXFLE1001	11EXFLE101	11EXFLE1101	11EXFLE201	11EXFLE201V
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								11/9/2006	11/27/2006	11/9/2006	11/17/2006	11/22/2006
QC CODE								SA	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds												
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	4 U	6 U	5 U		8 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	4 U	6 U	5 U		8 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		NA	0	114	4 U	6 U	5 U		8 U
1,1,2-Trichloroethane	UG/KG	0	0%		NA	0	114	4 U	6 U	5 U		8 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	4 U	6 U	5 U		8 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	4 U	6 U	5 U		8 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		NA	0	114	4 U	6 U	5 U		8 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	4 U	6 U	5 U		8 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		NA	0	114	4 U	6 U	5 U		8 U
1,2-Dibromoethane	UG/KG	0	0%		NA	0	114	4 U	6 U	5 U		8 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	4 U	6 U	5 U		8 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	4 U	6 U	5 U		8 U
1,2-Dichloropropane	UG/KG	0	0%		NA	0	114	4 U	6 U	5 U		8 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	4 U	6 U	5 U		8 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	4 U	6 U	5 U		8 U
Acetone	UG/KG	67	2%	200	0	2	106	20 UR	30 U	23 UR		39 U
Benzene	UG/KG	0	0%	60	0	0	114	4 U	6 U	5 U		8 U
Bromochloromethane	UG/KG	0	0%		NA	0	114	4 U	6 U	5 U		8 U
Bromodichloromethane	UG/KG	0	0%		NA	0	114	4 U	6 U	5 U		8 U
Bromoform	UG/KG	0	0%		NA	0	114	4 U	6 U	5 U		8 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	4 U	6 U	5 U		8 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	4 U	6 U	5 U		8 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	4 U	6 U	5 U		8 U
Chlorodibromomethane	UG/KG	0	0%		NA	0	114	4 U	6 U	5 U		8 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	8 U	12 U	9 U		16 U
Chloroform	UG/KG	0	0%	300	0	0	114	4 U	6 U	5 U		8 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		NA	1	114	4 U	6 U	5 U		8 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	4 U	6 U	5 U		8 U
Cyclohexane	UG/KG	0	0%		NA	0	114	4 U	6 U	5 U		8 U
Dichlorodifluoromethane	UG/KG	2.25 ¹	4%		NA	5	114	4 U	6 U	2 J		8 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	4 U	6 U	5 U		8 U
Isopropylbenzene	UG/KG	0	0%		NA	0	114	4 U	6 U	5 U		8 U
Methyl Acetate	UG/KG	0	0%		NA	0	114	4 UJ	6 U	5 UJ		8 UJ
Methyl Tertbutyl Ether	UG/KG	0	0%		NA	0	114	4 UJ	6 U	5 UJ		8 UJ
Methyl bromide	UG/KG	0	0%		NA	0	89	8 UR	12 UJ	9 UR		16 UR
Methyl butyl ketone	UG/KG	0	0%		NA	0	114	20 U	30 U	23 U		39 U
Methyl chloride	UG/KG	0	0%		NA	0	114	8 U	12 U	9 U		16 U
Methyl cyclohexane	UG/KG	0	0%		NA	0	114	4 U	6 U	5 U		8 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	20 UJ	30 U	23 UJ		39 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY	SEAD-11								SEAD-11	SEAD-11	SEAD-11	SEAD-11	
LOCATION ID	11EXFLE1001								11EXFLE101	11EXFLE101	11EXFLE101	11EXFLE201	11EXFLE201
MATRIX	SOIL								SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID	11EXFLE1001								11EXFLE101	11EXFLE101	11EXFLE101	11EXFLE201	11EXFLE201V
SAMPLE DEPTH TO TOP OF SAMPLE	0								0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE	0.2								0.2	0.2	0.2	0.2	0.2
SAMPLE DATE	11/9/2006								11/27/2006	11/9/2006	11/17/2006	11/22/2006	
QC CODE	SA								SA	SA	SA	SA	SA
STUDY ID	IRA								IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	20 U	30 U	23 U		39 U	
Methylene chloride	UG/KG	49	89%	100	0	102	114	12	9 J	13		22 J	
Styrene	UG/KG	0	0%		NA	0	114	4 U	6 U	5 U		8 U	
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	4 U	6 U	5 U		8 U	
Toluene	UG/KG	0	0%	1,500	0	0	114	4 U	6 U	5 U		8 U	
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	12 U	18 U	14 U		24 U	
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	4 UJ	6 U	5 UJ		8 UJ	
Trans-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	4 U	6 U	5 U		8 U	
Trichloroethene	UG/KG	77	19%	700	0	22	114	4 U	6 U	5 U		8 U	
Trichlorofluoromethane	UG/KG	0	0%		NA	0	114	4 U	6 U	5 U		8 UJ	
Vinyl chloride	UG/KG	0	0%	200	0	0	114	8 U	12 U	9 U		16 U	
Carcinogenic PAHs													
Benzo(a)anthracene	UG/KG	260,000	52%		NA	66	127	28 J	4700	370 U		390 U	
Benzo(a)pyrene	UG/KG	240,000	49%		NA	62	127	18 J	4500	370 U		390 U	
Benzo(b)fluoranthene	UG/KG	310,000	51%		NA	65	127	33 J	5800	370 U		390 U	
Benzo(k)fluoranthene	UG/KG	59,000	24%		NA	30	127	360 U	2100	370 U		390 U	
Chrysene	UG/KG	240,000	50%		NA	64	127	28 J	4900	370 U		390 U	
Dibenz(a,h)anthracene	UG/KG	40,000	35%		NA	44	127	360 U	700 J	370 U		390 U	
Indeno(1,2,3-cd)pyrene	UG/KG	150,000	46%		NA	58	127	360 U	2800	370 U		390 U	
BTE (calculated)	MG/KG	355	94%	10 ^b	8	127	135	0.22	6.6	0.43		0.45	
Metals													
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	7250	7260 J	10300		12300	
Antimony	MG/KG	11.3	18%	31	0	21	114	0.71 U	1.1 J	8.1 J		0.7 U	
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	4.4	3.6	5.5		5.7	
Barium	MG/KG	248	100%	5,370	0	114	114	38.8	62.2 J	78.6		139 J	
Beryllium	MG/KG	1	100%	150	0	114	114	0.43	0.35	0.57		0.62	
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.39	0.35	0.83		0.32	
Calcium	MG/KG	216,000	100%		NA	114	114	75400	2590 J	22600		2540	
Chromium	MG/KG	44.5	100%		NA	113	113	23.7 J	10.5 J	21.9 J		16.9	
Cobalt	MG/KG	16.8	100%	903	0	114	114	9.9	4.8 J	8.8		9.7	
Copper	MG/KG	131	100%	3,130	0	114	114	18.2	17.3	50.8		13.6	
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	16100	13400 J	22600		22500	
Lead	MG/KG	469	100%	400	1	114	114	68.3 J	16.8 J	400 J		11.3	
Magnesium	MG/KG	25200 ¹	100%		NA	114	114	24200	1930 J	7030		3100 J	
Manganese	MG/KG	1,540	100%	1,760	0	114	114	514	163 J	268		905	
Mercury	MG/KG	0.327	99%	23	0	113	114	0.009 J	0.072	0.049		0.043	
Nickel	MG/KG	38.6	100%	1,560	0	114	114	23.3 J	12.7 J	31.7 J		22.6 J	
Potassium	MG/KG	1,750	100%		NA	114	114	826 J	706 J	1040 J		1070 J	
Selenium	MG/KG	3.4	25%	390	0	28	114	0.6 U	0.67 U	0.65 U		0.6 U	

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.15 U	0.26 J	0.23 J	0.15 U	
Sodium	MG/KG	164	75%		NA	86	114	118 J	32.9 U	96.1 J	46.3 J	
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.68 U	1 J	0.73 U	0.67 U	
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	11.9	13.8 J	22.9	21.3	
Zinc	MG/KG	591	100%	23,500	0	114	114	87.7 J	66.9 J	256 J	82.7 J	

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.
- (6) A shaded, boxed sample indicates that the soil represented by the sample has been removed from the site. Therefore, the analytical results for the shaded sample are not characteristic of current site conditions.

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.

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXFLE301	11EXFLE401	11EXFLE501	11EXFLE601	11EXFLE701
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXFLE301	11EXFLE401	11EXFLE501	11EXFLE601	11EXFLE701
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								11/22/2006	11/22/2006	11/22/2006	11/22/2006	11/22/2006
QC CODE								SA	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds												
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	12 U	10 U	11 U	14 U	15 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	12 U	10 U	11 U	14 U	15 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		NA	0	114	12 U	10 U	11 U	14 U	15 U
1,1,2-Trichloroethane	UG/KG	0	0%		NA	0	114	12 U	10 U	11 U	14 U	15 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	12 U	10 U	11 U	14 U	15 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	12 U	10 U	11 U	14 U	15 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		NA	0	114	12 U	10 U	11 U	14 U	15 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	12 U	10 U	11 U	14 U	15 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		NA	0	114	12 U	10 U	11 U	14 U	15 U
1,2-Dibromoethane	UG/KG	0	0%		NA	0	114	12 U	10 U	11 U	14 U	15 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	12 U	10 U	11 U	14 U	15 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	12 U	10 U	11 U	14 U	15 U
1,2-Dichloropropane	UG/KG	0	0%		NA	0	114	12 U	10 U	11 U	14 U	15 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	12 U	10 U	11 U	14 U	15 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	12 U	10 U	11 U	14 U	15 U
Acetone	UG/KG	67	2%	200	0	2	106	60 U	49 U	53 U	68 U	74 U
Benzene	UG/KG	0	0%	60	0	0	114	12 U	10 U	11 U	14 U	15 U
Bromochloromethane	UG/KG	0	0%		NA	0	114	12 U	10 U	11 U	14 U	15 U
Bromodichloromethane	UG/KG	0	0%		NA	0	114	12 U	10 U	11 U	14 U	15 U
Bromoform	UG/KG	0	0%		NA	0	114	12 U	10 U	11 U	14 U	15 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	12 U	10 U	11 U	14 U	15 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	12 U	10 U	11 U	14 U	15 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	12 U	10 U	11 U	14 U	15 U
Chlorodibromomethane	UG/KG	0	0%		NA	0	114	12 U	10 U	11 U	14 U	15 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	24 U	20 U	21 U	27 U	30 U
Chloroform	UG/KG	0	0%	300	0	0	114	12 U	10 U	11 U	14 U	15 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		NA	1	114	12 U	10 U	11 U	14 U	15 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	12 U	10 U	11 U	14 U	15 U
Cyclohexane	UG/KG	0	0%		NA	0	114	12 U	10 U	11 U	14 U	15 U
Dichlorodifluoromethane	UG/KG	2.25 ¹	4%		NA	5	114	12 U	10 U	11 U	14 U	15 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	12 U	10 U	11 U	14 U	15 U
Isopropylbenzene	UG/KG	0	0%		NA	0	114	12 U	10 U	11 U	14 U	15 U
Methyl Acetate	UG/KG	0	0%		NA	0	114	12 U	10 U	11 U	14 U	15 U
Methyl Tertbutyl Ether	UG/KG	0	0%		NA	0	114	12 U	10 U	11 U	14 U	15 U
Methyl bromide	UG/KG	0	0%		NA	0	89	24 U	20 U	21 U	27 U	30 U
Methyl butyl ketone	UG/KG	0	0%		NA	0	114	60 U	49 U	53 U	68 U	74 U
Methyl chloride	UG/KG	0	0%		NA	0	114	24 U	20 U	21 U	27 U	30 U
Methyl cyclohexane	UG/KG	0	0%		NA	0	114	12 U	10 U	11 U	14 U	15 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	60 U	49 U	53 U	68 U	74 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXFLE301	11EXFLE401	11EXFLE501	11EXFLE601	11EXFLE701
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXFLE301	11EXFLE401	11EXFLE501	11EXFLE601	11EXFLE701
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								11/22/2006	11/22/2006	11/22/2006	11/22/2006	11/22/2006
QC CODE								SA	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA
	Maximum	Frequency	Cleanup	Number	Number	Number						
Parameter	Units	Value	of Detection	Goal ²	of Exceedances ³	of Times Detected	of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	60 U	49 U	53 U	68 U	74 U
Methylene chloride	UG/KG	49	89%	100	0	102	114	39 J	30 J	31 J	44 J	48 J
Styrene	UG/KG	0	0%		NA	0	114	12 U	10 U	11 U	14 U	15 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	12 U	10 U	11 U	14 U	15 U
Toluene	UG/KG	0	0%	1,500	0	0	114	12 U	10 U	11 U	14 U	15 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	36 U	29 U	32 U	41 U	44 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	12 U	10 U	11 U	14 U	15 U
Trans-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	12 U	10 U	11 U	14 U	15 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	12 U	10 U	11 U	14 U	15 U
Trichlorofluoromethane	UG/KG	0	0%		NA	0	114	12 U	10 U	11 U	14 U	15 U
Vinyl chloride	UG/KG	0	0%	200	0	0	114	24 U	20 U	21 U	27 U	30 U
Carcinogenic PAHs												
Benzo(a)anthracene	UG/KG	260,000	52%		NA	66	127	400 U	26 J	410 U	400 U	410 U
Benzo(a)pyrene	UG/KG	240,000	49%		NA	62	127	400 U	400 U	410 U	400 U	410 U
Benzo(b)fluoranthene	UG/KG	310,000	51%		NA	65	127	400 U	400 U	410 U	400 U	410 U
Benzo(k)fluoranthene	UG/KG	59,000	24%		NA	30	127	400 U	400 U	410 U	400 U	410 U
Chrysene	UG/KG	240,000	50%		NA	64	127	400 U	400 U	410 U	400 U	410 U
Dibenz(a,h)anthracene	UG/KG	40,000	35%		NA	44	127	400 U	400 U	410 U	400 U	410 U
Indeno(1,2,3-cd)pyrene	UG/KG	150,000	46%		NA	58	127	400 U	400 U	410 U	400 U	410 U
BTE (calculated)	MG/KG	355	94%	10 ^b	8	127	135	0.46	0.45	0.48	0.46	0.48
Metals												
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	13100 J	9580 J	10100 J	13500 J	13000 J
Antimony	MG/KG	11.3	18%	31	0	21	114	0.85 UJ	0.84 UJ	16.9 U	0.81 UJ	0.83 UJ
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	7.8 J	19.5 J	5.3 J	5.1 J	5.8 J
Barium	MG/KG	248	100%	5,370	0	114	114	87.6 J	105 J	72.7 J	91.2 J	127 J
Beryllium	MG/KG	1	100%	150	0	114	114	0.68 J	0.53 J	0.47 J	0.65 J	0.68 J
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.35 J	0.44 J	0.2 J	0.24 J	0.3 J
Calcium	MG/KG	216,000	100%		NA	114	114	2600 J	2200 J	2870 J	6750 J	3080 J
Chromium	MG/KG	44.5	100%		NA	113	113	20.7 J	17.1 J	15.5 J	20.2 J	17.9 J
Cobalt	MG/KG	16.8	100%	903	0	114	114	16.8 J	10.4 J	9.6 J	10.7 J	9.7 J
Copper	MG/KG	131	100%	3,130	0	114	114	22.3 J	26.2 J	19.1 J	18 J	18.7 J
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	30600 J	51100 J	21500 J	26100 J	24500 J
Lead	MG/KG	469	100%	400	1	114	114	18.8 J	64 J	11.2 J	16.1 J	13.6 J
Magnesium	MG/KG	25200 ¹	100%		NA	114	114	4710 J	3220 J	3790 J	4640 J	3580 J
Manganese	MG/KG	1,540	100%	1,760	0	114	114	1380 J	377 J	420 J	637 J	1010 J
Mercury	MG/KG	0.327	99%	23	0	113	114	0.041	0.041	0.035	0.042	0.032
Nickel	MG/KG	38.6	100%	1,560	0	114	114	38.6 J	28.7 J	26.5 J	27.9 J	25 J
Potassium	MG/KG	1,750	100%		NA	114	114	1020 J	859 J	973 J	1250 J	1220 J
Selenium	MG/KG	3.4	25%	390	0	28	114	0.73 UJ	0.72 UJ	0.66 UJ	0.69 UJ	0.71 UJ

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.19 UJ	0.64 J	0.17 UJ	0.18 UJ	0.18 UJ
Sodium	MG/KG	164	75%		NA	86	114	40.2 J	53.9 J	41.1 J	42.3 J	58.8 J
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.82 UJ	0.8 UJ	0.74 UJ	0.77 UJ	0.8 UJ
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	22.3 J	19.4 J	18.3 J	22.6 J	22.3 J
Zinc	MG/KG	591	100%	23,500	0	114	114	108 J	143 J	79.1 J	93.7 J	77.7 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.
- (6) A shaded, boxed sample indicates that the soil represented by the sample has been removed from the site. Therefore, the analytical results for the shaded sample are not characteristic of current site conditions.

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.

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY		SEAD-11		SEAD-11		SEAD-11		SEAD-11		SEAD-11		
LOCATION ID		11EXFLE801		11EXFLE802		11EXFLE901		11EXFLF1001		11EXFLF1101		
MATRIX		SOIL		SOIL		SOIL		SOIL		SOIL		
SAMPLE ID		11EXFLE801		11EXFLE802		11EXFLE901		11EXFLF1001		11EXFLF1101		
SAMPLE DEPTH TO TOP OF SAMPLE		0		0		0		0		0		
SAMPLE DEPTH TO BOTTOM OF SAMPLE		0.2		0.2		0.2		0.2		0.2		
SAMPLE DATE		11/10/2006		11/22/2006		11/9/2006		11/10/2006		11/10/2006		
QC CODE		SA		SA		SA		SA		SA		
STUDY ID		IRA		IRA		IRA		IRA		IRA		
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds												
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	4 U	15 U	5 U	4 U	4 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	4 U	15 U	5 U	4 U	4 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		NA	0	114	4 U	15 U	5 U	4 U	4 U
1,1,2-Trichloroethane	UG/KG	0	0%		NA	0	114	4 U	15 U	5 U	4 U	4 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	4 U	15 U	5 U	4 U	4 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	4 U	15 U	5 U	4 U	4 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		NA	0	114	4 U	15 U	5 U	4 U	4 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	4 U	15 U	5 U	4 U	4 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		NA	0	114	4 U	15 U	5 U	4 U	4 U
1,2-Dibromoethane	UG/KG	0	0%		NA	0	114	4 U	15 U	5 U	4 U	4 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	4 U	15 U	5 U	4 U	4 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	4 U	15 U	5 U	4 U	4 U
1,2-Dichloropropane	UG/KG	0	0%		NA	0	114	4 U	15 U	5 U	4 U	4 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	4 U	15 U	5 U	4 U	4 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	4 U	15 U	5 U	4 U	4 U
Acetone	UG/KG	67	2%	200	0	2	106	21 U	76 U	25 UR	23 U	21 U
Benzene	UG/KG	0	0%	60	0	0	114	4 U	15 U	5 U	4 U	4 U
Bromochloromethane	UG/KG	0	0%		NA	0	114	4 U	15 U	5 U	4 U	4 U
Bromodichloromethane	UG/KG	0	0%		NA	0	114	4 U	15 U	5 U	4 U	4 U
Bromoform	UG/KG	0	0%		NA	0	114	4 U	15 U	5 U	4 U	4 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	4 U	15 U	5 U	4 U	4 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	4 U	15 U	5 U	4 U	4 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	4 U	15 U	5 U	4 U	4 U
Chlorodibromomethane	UG/KG	0	0%		NA	0	114	4 U	15 U	5 U	4 U	4 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	8 U	30 U	10 U	9 U	8 U
Chloroform	UG/KG	0	0%	300	0	0	114	4 U	15 U	5 U	4 U	4 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		NA	1	114	2 J	15 U	5 U	4 U	4 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	4 U	15 U	5 U	4 U	4 U
Cyclohexane	UG/KG	0	0%		NA	0	114	4 U	15 U	5 U	4 U	4 U
Dichlorodifluoromethane	UG/KG	2.25 ¹	4%		NA	5	114	4 U	15 U	2 J	4 U	4 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	4 U	15 U	5 U	4 U	4 U
Isopropylbenzene	UG/KG	0	0%		NA	0	114	4 U	15 U	5 U	4 U	4 U
Methyl Acetate	UG/KG	0	0%		NA	0	114	4 U	15 U	5 UJ	4 U	4 U
Methyl Tertbutyl Ether	UG/KG	0	0%		NA	0	114	4 U	15 U	5 UJ	4 U	4 U
Methyl bromide	UG/KG	0	0%		NA	0	89	8 U	30 U	10 UR	9 U	8 U
Methyl butyl ketone	UG/KG	0	0%		NA	0	114	21 U	76 U	25 U	23 U	21 U
Methyl chloride	UG/KG	0	0%		NA	0	114	8 U	30 U	10 U	9 U	8 U
Methyl cyclohexane	UG/KG	0	0%		NA	0	114	4 U	15 U	5 U	4 U	4 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	21 U	76 U	25 UJ	23 U	21 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXFLE801	11EXFLE802	11EXFLE901	11EXFLF1001	11EXFLF1101
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXFLE801	11EXFLE802	11EXFLE901	11EXFLF1001	11EXFLF1101
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								11/10/2006	11/22/2006	11/9/2006	11/10/2006	11/10/2006
QC CODE								SA	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA
	Maximum	Frequency	Cleanup	Number	Number	Number						
Parameter	Units	Value	of Detection	Goal ²	of Exceedances ³	of Times Detected	of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	21 U	76 U	25 U	23 U	21 U
Methylene chloride	UG/KG	49	89%	100	0	102	114	6 J	49 J	16	11 J	10 J
Styrene	UG/KG	0	0%		NA	0	114	4 U	15 U	5 U	4 U	4 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	4 U	15 U	5 U	4 U	4 U
Toluene	UG/KG	0	0%	1,500	0	0	114	4 U	15 U	5 U	4 U	4 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	13 U	46 U	15 U	14 U	13 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	4 U	15 U	5 UJ	4 U	4 U
Trans-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	4 U	15 U	5 U	4 U	4 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	2 J	15 U	5 U	4 U	4 U
Trichlorofluoromethane	UG/KG	0	0%		NA	0	114	4 U	15 U	5 U	4 U	4 U
Vinyl chloride	UG/KG	0	0%	200	0	0	114	8 U	30 U	10 U	9 U	8 U
Carcinogenic PAHs												
Benzo(a)anthracene	UG/KG	260,000	52%		NA	66	127	390 U	400 U	73 J	69 J	44 J
Benzo(a)pyrene	UG/KG	240,000	49%		NA	62	127	390 U	400 U	56 J	58 J	33 J
Benzo(b)fluoranthene	UG/KG	310,000	51%		NA	65	127	390 U	400 U	74 J	99 J	46 J
Benzo(k)fluoranthene	UG/KG	59,000	24%		NA	30	127	390 U	400 U	30 J	34 J	360 U
Chrysene	UG/KG	240,000	50%		NA	64	127	390 U	400 U	68 J	78 J	41 J
Dibenz(a,h)anthracene	UG/KG	40,000	35%		NA	44	127	390 U	400 U	400 U	360 U	360 U
Indeno(1,2,3-cd)pyrene	UG/KG	150,000	46%		NA	58	127	390 U	400 U	38 J	46 J	23 J
BTE (calculated)	MG/KG	355	94%	10 ^b	8	127	135	0.45	0.46	0.28	0.26	0.23
Metals												
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	13700	9580 J	11400	9470	11400
Antimony	MG/KG	11.3	18%	31	0	21	114	0.7 UJ	0.81 UJ	0.82 U	0.78 UJ	0.76 UJ
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	5.5	4.5 J	5.5	5	6.8
Barium	MG/KG	248	100%	5,370	0	114	114	88.3 J	73.9 J	71.1	44.7 J	65.2 J
Beryllium	MG/KG	1	100%	150	0	114	114	0.66	0.46 J	0.66	0.47	0.54
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.22	0.18 J	0.51	0.26	0.23
Calcium	MG/KG	216,000	100%		NA	114	114	3670	2730 J	4320	53300	34500
Chromium	MG/KG	44.5	100%		NA	113	113	19.7	14.3 J	16.6 J	15.1	17
Cobalt	MG/KG	16.8	100%	903	0	114	114	9.2 J	8.6 J	8.9	8.9 J	10.4 J
Copper	MG/KG	131	100%	3,130	0	114	114	20.4	18 J	19.1	27.3	22
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	25700	20000 J	22500	19900	23000
Lead	MG/KG	469	100%	400	1	114	114	11.5	9.3 J	13.8 J	9.5	11.1
Magnesium	MG/KG	25200 ¹	100%		NA	114	114	4490	3440 J	3670	15700	9250
Manganese	MG/KG	1,540	100%	1,760	0	114	114	513 J	770 J	563	563 J	555 J
Mercury	MG/KG	0.327	99%	23	0	113	114	0.044	0.045	0.022	0.024	0.043
Nickel	MG/KG	38.6	100%	1,560	0	114	114	26.8 J	24.1 J	28.7 J	25.4 J	27.6 J
Potassium	MG/KG	1,750	100%		NA	114	114	1450 J	949 J	1100 J	1470 J	1640 J
Selenium	MG/KG	3.4	25%	390	0	28	114	1.6 J	0.69 UJ	0.7 U	1.2 J	1.8 J

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

		SEAD-11		SEAD-11		SEAD-11		SEAD-11		SEAD-11		
		11EXFLE801	11EXFLE802	11EXFLE901	11EXFLF1001	11EXFLF1001	11EXFLF1101	11EXFLF1101	11EXFLF1101	11EXFLF1101	11EXFLF1101	
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
		11EXFLE801	11EXFLE802	11EXFLE901	11EXFLF1001	11EXFLF1001	11EXFLF1101	11EXFLF1101	11EXFLF1101	11EXFLF1101	11EXFLF1101	
		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	
		11/10/2006	11/22/2006	11/9/2006	11/10/2006	11/10/2006	11/10/2006	11/10/2006	11/10/2006	11/10/2006	11/10/2006	
		SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	
		IRA	IRA	IRA	IRA	IRA	IRA	IRA	IRA	IRA	IRA	
		Maximum	Frequency of	Cleanup	Number of	Number of	Number of	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Parameter	Units	Value	Detection	Goal ²	Exceedances ³	Detected	Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.15 U	0.18 UJ	0.18 U	0.17 U	0.17 U
Sodium	MG/KG	164	75%		NA	86	114	53.7 J	54.3 J	34.5 J	115 J	106 J
Thallium	MG/KG	2.1	25%	5.2	0	28	114	1.2 J	0.77 UJ	0.78 U	1 J	1 J
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	23.6	17.1 J	18.9	16.7	18.6
Zinc	MG/KG	591	100%	23,500	0	114	114	84.7 J	74.7 J	95.7 J	133 J	81.9 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.
- (6) A shaded, boxed sample indicates that the soil represented by the sample has been removed from the site. Therefore, the analytical results for the shaded sample are not characteristic of current site conditions.

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.

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY						SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11		
LOCATION ID						11EXFLF201	11EXFLF301	11EXFLF401	11EXFLF501	11EXFLF601		
MATRIX						SOIL	SOIL	SOIL	SOIL	SOIL		
SAMPLE ID						11EXFLF201	11EXFLF301	11EXFLF401	11EXFLF501	11EXFLF601		
SAMPLE DEPTH TO TOP OF SAMPLE						0	0	0	0	0		
SAMPLE DEPTH TO BOTTOM OF SAMPLE						0.2	0.2	0.2	0.2	0.2		
SAMPLE DATE						11/30/2006	11/27/2006	11/27/2006	11/27/2006	11/27/2006		
QC CODE						SA	SA	SA	SA	SA		
STUDY ID						IRA	IRA	IRA	IRA	IRA		
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds												
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	5 U	6 U	4 U	5 U	5 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	5 U	6 U	4 U	5 U	5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		NA	0	114	5 U	6 U	4 U	5 U	5 U
1,1,2-Trichloroethane	UG/KG	0	0%		NA	0	114	5 U	6 U	4 U	5 U	5 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	5 U	6 U	4 U	5 U	5 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	5 U	6 U	4 U	5 U	5 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		NA	0	114	5 U	6 U	4 U	5 U	5 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	5 U	6 U	4 U	5 U	5 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		NA	0	114	5 U	6 U	4 U	5 U	5 U
1,2-Dibromoethane	UG/KG	0	0%		NA	0	114	5 U	6 U	4 U	5 U	5 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	5 U	6 U	4 U	5 U	5 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	5 U	6 U	4 U	5 U	5 U
1,2-Dichloropropane	UG/KG	0	0%		NA	0	114	5 U	6 U	4 U	5 U	5 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	5 U	6 U	4 U	5 U	5 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	5 U	6 U	4 U	5 U	5 U
Acetone	UG/KG	67	2%	200	0	2	106	24 U	28 U	21 U	26 U	26 U
Benzene	UG/KG	0	0%	60	0	0	114	5 U	6 U	4 U	5 U	5 U
Bromochloromethane	UG/KG	0	0%		NA	0	114	5 U	6 U	4 U	5 U	5 U
Bromodichloromethane	UG/KG	0	0%		NA	0	114	5 U	6 U	4 U	5 U	5 U
Bromoform	UG/KG	0	0%		NA	0	114	5 U	6 U	4 U	5 U	5 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	5 U	6 U	4 U	5 U	5 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	5 U	6 U	4 U	5 U	5 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	5 U	6 U	4 U	5 U	5 U
Chlorodibromomethane	UG/KG	0	0%		NA	0	114	5 U	6 U	4 U	5 U	5 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	9 U	11 U	8 U	10 U	10 U
Chloroform	UG/KG	0	0%	300	0	0	114	5 U	6 U	4 U	5 U	5 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		NA	1	114	5 U	6 U	4 U	5 U	5 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	5 U	6 U	4 U	5 U	5 U
Cyclohexane	UG/KG	0	0%		NA	0	114	5 U	6 U	4 U	5 U	5 U
Dichlorodifluoromethane	UG/KG	2.25 ¹	4%		NA	5	114	5 U	6 U	4 U	5 U	5 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	5 U	6 U	4 U	5 U	5 U
Isopropylbenzene	UG/KG	0	0%		NA	0	114	5 U	6 U	4 U	5 U	5 U
Methyl Acetate	UG/KG	0	0%		NA	0	114	5 U	6 U	4 U	5 U	5 U
Methyl Tertbutyl Ether	UG/KG	0	0%		NA	0	114	5 U	6 U	4 U	5 U	5 U
Methyl bromide	UG/KG	0	0%		NA	0	89	9 UJ	11 UJ	8 UJ	10 UJ	10 UJ
Methyl butyl ketone	UG/KG	0	0%		NA	0	114	24 U	28 U	21 U	26 U	26 U
Methyl chloride	UG/KG	0	0%		NA	0	114	9 U	11 U	8 U	10 U	10 U
Methyl cyclohexane	UG/KG	0	0%		NA	0	114	5 U	6 U	4 U	5 U	5 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	24 U	28 U	21 U	26 U	26 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXFLF201	11EXFLF301	11EXFLF401	11EXFLF501	11EXFLF601
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXFLF201	11EXFLF301	11EXFLF401	11EXFLF501	11EXFLF601
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								11/30/2006	11/27/2006	11/27/2006	11/27/2006	11/27/2006
QC CODE								SA	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA
	Maximum	Frequency	Cleanup	Number	Number	Number						
Parameter	Units	Value	of Detection	Goal ²	of Exceedances ³	of Times Detected	of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	24 U	28 U	21 U	26 U	26 U
Methylene chloride	UG/KG	49	89%	100	0	102	114	9 J	7 J	5 J	6 J	6 J
Styrene	UG/KG	0	0%		NA	0	114	5 U	6 U	4 U	5 U	5 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	5 U	6 U	4 U	5 U	5 U
Toluene	UG/KG	0	0%	1,500	0	0	114	5 U	6 U	4 U	5 U	5 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	14 U	17 U	13 U	16 U	15 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	5 U	6 U	4 U	5 U	5 U
Trans-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	5 U	6 U	4 U	5 U	5 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	5 U	6 U	4 U	6	77
Trichlorofluoromethane	UG/KG	0	0%		NA	0	114	5 UJ	6 U	4 U	5 U	5 U
Vinyl chloride	UG/KG	0	0%	200	0	0	114	9 U	11 U	8 U	10 U	10 U
Carcinogenic PAHs												
Benzo(a)anthracene	UG/KG	260,000	52%		NA	66	127	390 U	400 U	370 U	400 U	400 U
Benzo(a)pyrene	UG/KG	240,000	49%		NA	62	127	390 U	400 U	370 U	400 U	400 U
Benzo(b)fluoranthene	UG/KG	310,000	51%		NA	65	127	390 U	400 U	370 U	400 U	400 U
Benzo(k)fluoranthene	UG/KG	59,000	24%		NA	30	127	390 U	400 U	370 U	400 U	400 U
Chrysene	UG/KG	240,000	50%		NA	64	127	390 U	400 U	370 U	400 U	400 U
Dibenz(a,h)anthracene	UG/KG	40,000	35%		NA	44	127	390 U	400 U	370 U	400 U	400 U
Indeno(1,2,3-cd)pyrene	UG/KG	150,000	46%		NA	58	127	390 U	400 U	370 U	400 U	400 U
BTE (calculated)	MG/KG	355	94%	10 ^b	8	127	135	0.45	0.46	0.43	0.46	0.46
Metals												
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	13600 J	7620 J	6780 J	10200 J	9070 J
Antimony	MG/KG	11.3	18%	31	0	21	114	0.65 U	0.79 UJ	0.77 UJ	0.76 UJ	0.78 UJ
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	6.4	4.1	4.1	5.1	4.7
Barium	MG/KG	248	100%	5,370	0	114	114	71.7 J	54.5 J	45.6 J	66.5 J	73.5 J
Beryllium	MG/KG	1	100%	150	0	114	114	0.6	0.37	0.4	0.42	0.44
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.23 U	0.27	0.37	0.32	0.25
Calcium	MG/KG	216,000	100%		NA	114	114	2010 J	2230 J	64100 J	1650 J	2430 J
Chromium	MG/KG	44.5	100%		NA	113	113	21 J	11.9 J	10.8 J	15.4 J	14 J
Cobalt	MG/KG	16.8	100%	903	0	114	114	10.2	6.6 J	7.4 J	9.3 J	8.1 J
Copper	MG/KG	131	100%	3,130	0	114	114	25.9	12	17.6	17.3	14.3
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	29300	16300 J	15000 J	21100 J	18800 J
Lead	MG/KG	469	100%	400	1	114	114	13.9	9.6 J	13.4 J	10.1 J	11.8 J
Magnesium	MG/KG	25200 ¹	100%		NA	114	114	4330	2760 J	12100 J	3370 J	3160 J
Manganese	MG/KG	1,540	100%	1,760	0	114	114	332	478 J	461 J	837 J	393 J
Mercury	MG/KG	0.327	99%	23	0	113	114	0.033	0.038	0.011 J	0.033	0.037
Nickel	MG/KG	38.6	100%	1,560	0	114	114	29.6	18.5 J	20.2 J	23.5 J	21.5 J
Potassium	MG/KG	1,750	100%		NA	114	114	1220	835 J	1040 J	982 J	899 J
Selenium	MG/KG	3.4	25%	390	0	28	114	0.47 U	0.67 U	0.66 U	0.65 U	0.66 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.58 U	0.17 U	0.17 U	0.17 U	0.17 U
Sodium	MG/KG	164	75%		NA	86	114	34.6 J	33.2 J	104 J	32.2 J	37.1 J
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.57 U	0.75 U	0.74 U	0.73 U	0.74 U
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	24 J	13.6 J	12.8 J	18 J	15.8 J
Zinc	MG/KG	591	100%	23,500	0	114	114	99.8 J	59.6 J	86.9 J	81.5 J	113 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.
- (6) A shaded, boxed sample indicates that the soil represented by the sample has been removed from the site. Therefore, the analytical results for the shaded sample are not characteristic of current site conditions.

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.

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXFLF701	11EXFLF801	11EXFLF901	11EXFLG1001	11EXFLG1101
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXFLF701	11EXFLF801	11EXFLF901	11EXFLG1001	11EXFLG1102
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								11/27/2006	12/7/2006	11/27/2006	11/28/2006	11/28/2006
QC CODE								SA	SA	SA	SA	DU
STUDY ID								IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds												
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	6 U	7 U	7 U	4 U	4 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	6 U	7 U	7 U	4 U	4 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		NA	0	114	6 U	7 U	7 U	4 U	4 U
1,1,2-Trichloroethane	UG/KG	0	0%		NA	0	114	6 U	7 U	7 U	4 U	4 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	6 U	7 U	7 U	4 U	4 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	6 U	7 U	7 U	4 U	4 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		NA	0	114	6 U	7 UJ	7 U	4 U	4 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	6 U	7 UJ	7 U	4 U	4 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		NA	0	114	6 U	7 U	7 U	4 U	4 U
1,2-Dibromoethane	UG/KG	0	0%		NA	0	114	6 U	7 U	7 U	4 U	4 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	6 U	7 U	7 U	4 U	4 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	6 U	7 U	7 U	4 U	4 U
1,2-Dichloropropane	UG/KG	0	0%		NA	0	114	6 U	7 U	7 U	4 U	4 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	6 U	7 U	7 U	4 U	4 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	6 U	7 U	7 U	4 U	4 U
Acetone	UG/KG	67	2%	200	0	2	106	28 U	34 U	37 U	22 U	22 U
Benzene	UG/KG	0	0%	60	0	0	114	6 U	7 U	7 U	4 U	4 U
Bromochloromethane	UG/KG	0	0%		NA	0	114	6 U	7 U	7 U	4 U	4 U
Bromodichloromethane	UG/KG	0	0%		NA	0	114	6 U	7 U	7 U	4 U	4 U
Bromoform	UG/KG	0	0%		NA	0	114	6 U	7 U	7 U	4 U	4 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	6 U	7 U	7 U	4 U	4 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	6 U	7 UJ	7 U	4 U	4 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	6 U	7 U	7 U	4 U	4 U
Chlorodibromomethane	UG/KG	0	0%		NA	0	114	6 U	7 U	7 U	4 U	4 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	11 U	13 U	15 U	9 U	9 U
Chloroform	UG/KG	0	0%	300	0	0	114	6 U	7 U	7 U	4 U	4 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		NA	1	114	6 U	7 U	7 U	4 U	4 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	6 U	7 U	7 U	4 U	4 U
Cyclohexane	UG/KG	0	0%		NA	0	114	6 U	7 U	7 U	4 U	4 U
Dichlorodifluoromethane	UG/KG	2.25 ¹	4%		NA	5	114	6 U	7 U	7 U	4 U	4 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	6 U	7 U	7 U	4 U	4 U
Isopropylbenzene	UG/KG	0	0%		NA	0	114	6 U	7 U	7 U	4 U	4 U
Methyl Acetate	UG/KG	0	0%		NA	0	114	6 U	7 U	7 U	4 U	4 U
Methyl Tertbutyl Ether	UG/KG	0	0%		NA	0	114	6 U	7 UJ	7 U	4 U	4 U
Methyl bromide	UG/KG	0	0%		NA	0	89	11 UJ	13 UJ	15 UJ	9 UJ	9 UJ
Methyl butyl ketone	UG/KG	0	0%		NA	0	114	28 U	34 U	37 U	22 U	22 U
Methyl chloride	UG/KG	0	0%		NA	0	114	11 U	13 U	15 U	9 U	9 U
Methyl cyclohexane	UG/KG	0	0%		NA	0	114	6 U	7 U	7 U	4 U	4 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	28 U	34 U	37 U	22 U	22 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY		SEAD-11		SEAD-11		SEAD-11		SEAD-11		SEAD-11		
LOCATION ID		11EXFLF701		11EXFLF801		11EXFLF901		11EXFLG1001		11EXFLG1101		
MATRIX		SOIL		SOIL		SOIL		SOIL		SOIL		
SAMPLE ID		11EXFLF701		11EXFLF801		11EXFLF901		11EXFLG1001		11EXFLG1102		
SAMPLE DEPTH TO TOP OF SAMPLE		0		0		0		0		0		
SAMPLE DEPTH TO BOTTOM OF SAMPLE		0.2		0.2		0.2		0.2		0.2		
SAMPLE DATE		11/27/2006		12/7/2006		11/27/2006		11/28/2006		11/28/2006		
QC CODE		SA		SA		SA		SA		DU		
STUDY ID		IRA		IRA		IRA		IRA		IRA		
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	28 U	34 U	37 U	22 U	22 U
Methylene chloride	UG/KG	49	89%	100	0	102	114	5 J	11 J	9 J	6 J	4 J
Styrene	UG/KG	0	0%		NA	0	114	6 U	7 U	7 U	4 U	4 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	6 U	7 U	7 U	4 U	4 U
Toluene	UG/KG	0	0%	1,500	0	0	114	6 U	7 U	7 U	4 U	4 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	16 U	20 U	22 U	14 U	13 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	6 U	7 UJ	7 U	4 U	4 U
Trans-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	6 U	7 U	7 U	4 U	4 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	6 U	7 U	8	30	10
Trichlorofluoromethane	UG/KG	0	0%		NA	0	114	6 U	7 U	7 U	4 U	4 U
Vinyl chloride	UG/KG	0	0%	200	0	0	114	11 U	13 U	15 U	9 U	9 U
Carcinogenic PAHs												
Benzo(a)anthracene	UG/KG	260,000	52%		NA	66	127	400 U	3600	110 J	360 U	33 J
Benzo(a)pyrene	UG/KG	240,000	49%		NA	62	127	400 U	3000	110 J	360 U	25 J
Benzo(b)fluoranthene	UG/KG	310,000	51%		NA	65	127	400 U	5000 J	210 J	360 U	26 J
Benzo(k)fluoranthene	UG/KG	59,000	24%		NA	30	127	400 U	2000 UJ	400 UJ	360 U	380 U
Chrysene	UG/KG	240,000	50%		NA	64	127	400 U	3500	140 J	360 U	38 J
Dibenz(a,h)anthracene	UG/KG	40,000	35%		NA	44	127	400 U	540 J	400 U	360 U	380 U
Indeno(1,2,3-cd)pyrene	UG/KG	150,000	46%		NA	58	127	400 U	1800 J	75 J	360 U	380 U
BTE (calculated)	MG/KG	355	94%	10 ^b	8	127	135	0.46	4.63	0.35	0.42	0.24
Metals												
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	12200 J	12500 J	8140 J	7800 J	9650 J
Antimony	MG/KG	11.3	18%	31	0	21	114	0.72 UJ	0.88 UJ	3.2 J	1.6 J	0.77 UJ
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	6	6.5	5.1	4.3	6.1
Barium	MG/KG	248	100%	5,370	0	114	114	77.2 J	85.2 J	78 J	62.9 J	49.4 J
Beryllium	MG/KG	1	100%	150	0	114	114	0.55	0.63	0.4	0.4	0.46
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.35	0.47	0.64	0.19 J	0.32
Calcium	MG/KG	216,000	100%		NA	114	114	2240 J	4220 J	31900 J	60600 J	48300 J
Chromium	MG/KG	44.5	100%		NA	113	113	18.1 J	18.7 J	22.4 J	13.6 J	15.4 J
Cobalt	MG/KG	16.8	100%	903	0	114	114	9.3 J	9.3 J	8.4 J	8.3 J	10.1 J
Copper	MG/KG	131	100%	3,130	0	114	114	16.9	22.1	39.1	18.2	19.9
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	24800 J	24800 J	28200 J	17500 J	22600 J
Lead	MG/KG	469	100%	400	1	114	114	12.4 J	16.9 J	141 J	8.3 J	10.9 J
Magnesium	MG/KG	25200 ¹	100%		NA	114	114	3780 J	4210 J	6630 J	12400 J	8880 J
Manganese	MG/KG	1,540	100%	1,760	0	114	114	533 J	612 J	530 J	478 J	493 J
Mercury	MG/KG	0.327	99%	23	0	113	114	0.028	0.051 J	0.039	0.01 J	0.016 J
Nickel	MG/KG	38.6	100%	1,560	0	114	114	25.9 J	26.7 J	22.7 J	21.6 J	26.8 J
Potassium	MG/KG	1,750	100%		NA	114	114	1130 J	1300 J	985 J	1110 J	1090 J
Selenium	MG/KG	3.4	25%	390	0	28	114	0.62 U	0.75 UJ	0.63 U	0.63 U	0.66 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.53 U	0.19 U	0.53 U	0.16 U	0.56 U
Sodium	MG/KG	164	75%		NA	86	114	43.5 J	59.2 J	74.1 J	105 J	99.8 J
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.69 U	0.84 U	0.7 U	0.7 U	0.73 U
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	20.9 J	21.5 J	15 J	13.9 J	16.1 J
Zinc	MG/KG	591	100%	23,500	0	114	114	103 J	97.5 J	196 J	62.2 J	83.7 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.
- (6) A shaded, boxed sample indicates that the soil represented by the sample has been removed from the site. Therefore, the analytical results for the shaded sample are not characteristic of current site conditions.

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.

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXFLG1101	11EXFLG201	11EXFLG301	11EXFLG401	11EXFLG501
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXFLG1101	11EXFLG201	11EXFLG301	11EXFLG401	11EXFLG501
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								11/28/2006	11/30/2006	12/4/2006	12/4/2006	12/4/2006
QC CODE								SA	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds												
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	4 U	5 U	6 U	5 U	4 UJ
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	4 U	5 U	6 U	5 U	4 UJ
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		NA	0	114	4 U	5 U	6 U	5 U	4 UJ
1,1,2-Trichloroethane	UG/KG	0	0%		NA	0	114	4 U	5 U	6 U	5 U	4 UJ
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	4 U	5 U	6 U	5 U	4 UJ
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	4 U	5 U	6 U	5 U	4 UJ
1,2,3-Trichlorobenzene	UG/KG	0	0%		NA	0	114	4 U	5 U	6 U	5 U	4 UJ
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	4 U	5 U	6 U	5 U	4 UJ
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		NA	0	114	4 U	5 U	6 U	5 U	4 UJ
1,2-Dibromoethane	UG/KG	0	0%		NA	0	114	4 U	5 U	6 U	5 U	4 UJ
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	4 U	5 U	6 U	5 U	4 UJ
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	4 U	5 U	6 U	5 U	4 UJ
1,2-Dichloropropane	UG/KG	0	0%		NA	0	114	4 U	5 U	6 U	5 U	4 UJ
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	4 U	5 U	6 U	5 U	4 UJ
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	4 U	5 U	6 U	5 U	4 UJ
Acetone	UG/KG	67	2%	200	0	2	106	21 U	25 U	32 U	24 U	20 UJ
Benzene	UG/KG	0	0%	60	0	0	114	4 U	5 U	6 U	5 U	4 UJ
Bromochloromethane	UG/KG	0	0%		NA	0	114	4 U	5 U	6 U	5 U	4 UJ
Bromodichloromethane	UG/KG	0	0%		NA	0	114	4 U	5 U	6 U	5 U	4 UJ
Bromoform	UG/KG	0	0%		NA	0	114	4 U	5 U	6 U	5 U	4 UJ
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	4 U	5 U	6 U	5 U	4 UJ
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	4 UJ	5 U	6 U	5 U	4 UJ
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	4 U	5 U	6 U	5 U	4 UJ
Chlorodibromomethane	UG/KG	0	0%		NA	0	114	4 U	5 U	6 U	5 U	4 UJ
Chloroethane	UG/KG	0	0%	1,900	0	0	114	8 UJ	10 U	13 U	10 U	8 UJ
Chloroform	UG/KG	0	0%	300	0	0	114	4 U	5 U	6 U	5 U	4 UJ
Cis-1,2-Dichloroethene	UG/KG	2	1%		NA	1	114	4 U	5 U	6 U	5 U	4 UJ
Cis-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	4 U	5 U	6 U	5 U	4 UJ
Cyclohexane	UG/KG	0	0%		NA	0	114	4 U	5 U	6 U	5 U	4 UJ
Dichlorodifluoromethane	UG/KG	2.25 ¹	4%		NA	5	114	4 U	5 U	6 U	5 U	4 UJ
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	4 U	5 U	6 U	5 U	4 UJ
Isopropylbenzene	UG/KG	0	0%		NA	0	114	4 U	5 U	6 U	5 U	4 UJ
Methyl Acetate	UG/KG	0	0%		NA	0	114	4 U	5 U	6 U	5 U	4 UJ
Methyl Tertbutyl Ether	UG/KG	0	0%		NA	0	114	4 UJ	5 U	6 U	5 U	4 UJ
Methyl bromide	UG/KG	0	0%		NA	0	89	8 U	10 UJ	13 UJ	10 UJ	8 UJ
Methyl butyl ketone	UG/KG	0	0%		NA	0	114	21 U	25 U	32 U	24 U	20 UJ
Methyl chloride	UG/KG	0	0%		NA	0	114	8 U	10 U	13 U	10 U	8 UJ
Methyl cyclohexane	UG/KG	0	0%		NA	0	114	4 U	5 U	6 U	5 U	4 UJ
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	21 U	25 U	32 U	24 U	20 UJ

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY						SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11		
LOCATION ID						11EXFLG1101	11EXFLG201	11EXFLG301	11EXFLG401	11EXFLG501		
MATRIX						SOIL	SOIL	SOIL	SOIL	SOIL		
SAMPLE ID						11EXFLG1101	11EXFLG201	11EXFLG301	11EXFLG401	11EXFLG501		
SAMPLE DEPTH TO TOP OF SAMPLE						0	0	0	0	0		
SAMPLE DEPTH TO BOTTOM OF SAMPLE						0.2	0.2	0.2	0.2	0.2		
SAMPLE DATE						11/28/2006	11/30/2006	12/4/2006	12/4/2006	12/4/2006		
QC CODE						SA	SA	SA	SA	SA		
STUDY ID						IRA	IRA	IRA	IRA	IRA		
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal²	Number of Exceedances³	Number of Times Detected	Number of Samples Analyzed⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	21 U	25 U	32 U	24 U	20 UJ
Methylene chloride	UG/KG	49	89%	100	0	102	114	12 J	12 J	8 J	8 J	6 J
Styrene	UG/KG	0	0%		NA	0	114	4 U	5 U	6 U	5 U	4 UJ
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	4 U	5 U	6 U	5 U	4 UJ
Toluene	UG/KG	0	0%	1,500	0	0	114	4 U	5 U	6 U	5 U	4 UJ
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	13 U	15 U	19 U	15 U	12 UJ
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	4 UJ	5 U	6 U	5 U	4 UJ
Trans-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	4 U	5 U	6 U	5 U	4 UJ
Trichloroethene	UG/KG	77	19%	700	0	22	114	13	5 U	6	4 J	2 J
Trichlorofluoromethane	UG/KG	0	0%		NA	0	114	4 U	5 UJ	6 U	5 U	4 UJ
Vinyl chloride	UG/KG	0	0%	200	0	0	114	8 U	10 U	13 U	10 U	8 UJ
Carcinogenic PAHs												
Benzo(a)anthracene	UG/KG	260,000	52%		NA	66	127	120 J	46 J	380 U	390 U	360 U
Benzo(a)pyrene	UG/KG	240,000	49%		NA	62	127	99 J	41 J	380 U	390 U	360 U
Benzo(b)fluoranthene	UG/KG	310,000	51%		NA	65	127	120 J	56 J	380 U	390 U	360 U
Benzo(k)fluoranthene	UG/KG	59,000	24%		NA	30	127	64 J	24 J	380 U	390 U	360 U
Chrysene	UG/KG	240,000	50%		NA	64	127	110 J	42 J	380 U	390 U	360 U
Dibenz(a,h)anthracene	UG/KG	40,000	35%		NA	44	127	370 U	390 U	380 U	390 U	360 U
Indeno(1,2,3-cd)pyrene	UG/KG	150,000	46%		NA	58	127	62 J	30 J	380 U	390 U	360 U
BTE (calculated)	MG/KG	355	94%	10 ^b	8	127	135	0.32	0.25	0.44	0.45	0.42
Metals												
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	10600 J	12200 J	8700 J	6690 J	3600 J
Antimony	MG/KG	11.3	18%	31	0	21	114	0.75 UJ	0.64 U	0.87 U	0.79 U	0.73 UJ
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	5.8	6.2	3.6	4.1	2.6
Barium	MG/KG	248	100%	5,370	0	114	114	57 J	68.7 J	59.1 J	43.5 J	23.3 J
Beryllium	MG/KG	1	100%	150	0	114	114	0.49	0.6	0.47	0.44	0.3
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.34	0.23 U	0.33	0.3	0.06 U
Calcium	MG/KG	216,000	100%		NA	114	114	54300 J	1810 J	2990 J	47900 J	51700 J
Chromium	MG/KG	44.5	100%		NA	113	113	17.1 J	19.1 J	13.9 J	10.2 J	5.5 J
Cobalt	MG/KG	16.8	100%	903	0	114	114	10.9 J	10.3	6 J	6 J	4.2 J
Copper	MG/KG	131	100%	3,130	0	114	114	22.4	23.1	12.9 J	16.3 J	10 J
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	22900 J	24600	17600 J	15100 J	8760 J
Lead	MG/KG	469	100%	400	1	114	114	14.1 J	12.8	9.9 J	7.5 J	4.7 J
Magnesium	MG/KG	25200 ¹	100%		NA	114	114	12000 J	4620	3210 J	6550 J	6630 J
Manganese	MG/KG	1,540	100%	1,760	0	114	114	655 J	538	233 J	334 J	212 J
Mercury	MG/KG	0.327	99%	23	0	113	114	0.014 J	0.042	0.031 J	0.016 J	0.005 UJ
Nickel	MG/KG	38.6	100%	1,560	0	114	114	28.6 J	27.9	19.4 J	18 J	10.2 J
Potassium	MG/KG	1,750	100%		NA	114	114	1130 J	1440	1020 J	913 J	656 J
Selenium	MG/KG	3.4	25%	390	0	28	114	0.64 U	0.45 U	0.74 U	0.67 U	0.62 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.54 U	0.09 U	0.63 U	0.57 U	0.53 U
Sodium	MG/KG	164	75%		NA	86	114	92.2 J	22.7 U	36.5 U	85.7 J	55.8 J
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.71 U	0.56 U	0.83 U	0.75 U	0.7 U
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	17.3 J	21.1 J	15.8 J	13.5 J	7.6 J
Zinc	MG/KG	591	100%	23,500	0	114	114	90.7 J	88.4 J	136 J	107 J	33.6 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.
- (6) A shaded, boxed sample indicates that the soil represented by the sample has been removed from the site. Therefore, the analytical results for the shaded sample are not characteristic of current site conditions.

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.

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXFLG601	11EXFLG701	11EXFLG801	11EXFLG901	11EXFLH1001
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXFLG601	11EXFLG701	11EXFLG801	11EXFLG901	11EXFLH1001
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								12/4/2006	12/4/2006	11/27/2006	11/27/2006	11/27/2006
QC CODE								SA	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds												
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	4 UJ	6 UJ	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	4 UJ	6 UJ	5 U	5 U	5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		NA	0	114	4 UJ	6 UJ	5 U	5 U	5 U
1,1,2-Trichloroethane	UG/KG	0	0%		NA	0	114	4 UJ	6 UJ	5 U	5 U	5 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	4 UJ	6 UJ	5 U	5 U	5 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	4 UJ	6 UJ	5 U	5 U	5 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		NA	0	114	4 UJ	6 UJ	5 U	5 U	5 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	4 UJ	6 UJ	5 U	5 U	5 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		NA	0	114	4 UJ	6 UJ	5 U	5 U	5 U
1,2-Dibromoethane	UG/KG	0	0%		NA	0	114	4 UJ	6 UJ	5 U	5 U	5 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	4 UJ	6 UJ	5 U	5 U	5 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	4 UJ	6 UJ	5 U	5 U	5 U
1,2-Dichloropropane	UG/KG	0	0%		NA	0	114	4 UJ	6 UJ	5 U	5 U	5 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	4 UJ	6 UJ	5 U	5 U	5 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	4 UJ	6 UJ	5 U	5 U	5 U
Acetone	UG/KG	67	2%	200	0	2	106	21 UJ	28 UJ	26 U	25 U	26 U
Benzene	UG/KG	0	0%	60	0	0	114	4 UJ	6 UJ	5 U	5 U	5 U
Bromochloromethane	UG/KG	0	0%		NA	0	114	4 UJ	6 UJ	5 U	5 U	5 U
Bromodichloromethane	UG/KG	0	0%		NA	0	114	4 UJ	6 UJ	5 U	5 U	5 U
Bromoform	UG/KG	0	0%		NA	0	114	4 UJ	6 UJ	5 U	5 U	5 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	4 UJ	6 UJ	5 U	5 U	5 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	4 UJ	6 UJ	5 U	5 U	5 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	4 UJ	6 UJ	5 U	5 U	5 U
Chlorodibromomethane	UG/KG	0	0%		NA	0	114	4 UJ	6 UJ	5 U	5 U	5 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	8 UJ	11 UJ	10 U	10 U	10 U
Chloroform	UG/KG	0	0%	300	0	0	114	4 UJ	6 UJ	5 U	5 U	5 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		NA	1	114	4 UJ	6 UJ	5 U	5 U	5 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	4 UJ	6 UJ	5 U	5 U	5 U
Cyclohexane	UG/KG	0	0%		NA	0	114	4 UJ	6 UJ	5 U	5 U	5 U
Dichlorodifluoromethane	UG/KG	2.25 ¹	4%		NA	5	114	4 UJ	6 UJ	5 U	5 U	5 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	4 UJ	6 UJ	5 U	5 U	5 U
Isopropylbenzene	UG/KG	0	0%		NA	0	114	4 UJ	6 UJ	5 U	5 U	5 U
Methyl Acetate	UG/KG	0	0%		NA	0	114	4 UJ	6 UJ	5 U	5 U	5 U
Methyl Tertbutyl Ether	UG/KG	0	0%		NA	0	114	4 UJ	6 UJ	5 U	5 U	5 U
Methyl bromide	UG/KG	0	0%		NA	0	89	8 UJ	11 UJ	10 UJ	10 UJ	10 UJ
Methyl butyl ketone	UG/KG	0	0%		NA	0	114	21 UJ	28 UJ	26 U	25 U	26 U
Methyl chloride	UG/KG	0	0%		NA	0	114	8 UJ	11 UJ	10 U	10 U	10 U
Methyl cyclohexane	UG/KG	0	0%		NA	0	114	4 UJ	6 UJ	5 U	5 U	5 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	21 UJ	28 UJ	26 U	25 U	26 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY						SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11		
LOCATION ID						11EXFLG601	11EXFLG701	11EXFLG801	11EXFLG901	11EXFLH1001		
MATRIX						SOIL	SOIL	SOIL	SOIL	SOIL		
SAMPLE ID						11EXFLG601	11EXFLG701	11EXFLG801	11EXFLG901	11EXFLH1001		
SAMPLE DEPTH TO TOP OF SAMPLE						0	0	0	0	0		
SAMPLE DEPTH TO BOTTOM OF SAMPLE						0.2	0.2	0.2	0.2	0.2		
SAMPLE DATE						12/4/2006	12/4/2006	11/27/2006	11/27/2006	11/27/2006		
QC CODE						SA	SA	SA	SA	SA		
STUDY ID						IRA	IRA	IRA	IRA	IRA		
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	21 UJ	28 UJ	26 U	25 U	26 U
Methylene chloride	UG/KG	49	89%	100	0	102	114	6 J	7 J	6 J	6 J	7 J
Styrene	UG/KG	0	0%		NA	0	114	4 UJ	6 UJ	5 U	5 U	5 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	4 UJ	6 UJ	5 U	5 U	5 U
Toluene	UG/KG	0	0%	1,500	0	0	114	4 UJ	6 UJ	5 U	5 U	5 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	13 UJ	17 UJ	16 U	15 U	16 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	4 UJ	6 UJ	5 U	5 U	5 U
Trans-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	4 UJ	6 UJ	5 U	5 U	5 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	4 UJ	6 UJ	5 U	2 J	8
Trichlorofluoromethane	UG/KG	0	0%		NA	0	114	4 UJ	6 UJ	5 U	5 U	5 U
Vinyl chloride	UG/KG	0	0%	200	0	0	114	8 UJ	11 UJ	10 U	10 U	10 U
Carcinogenic PAHs												
Benzo(a)anthracene	UG/KG	260,000	52%		NA	66	127	380 U	410 U	27 J	390 U	380 U
Benzo(a)pyrene	UG/KG	240,000	49%		NA	62	127	380 U	410 U	20 J	390 U	380 U
Benzo(b)fluoranthene	UG/KG	310,000	51%		NA	65	127	380 U	410 U	24 J	390 U	380 U
Benzo(k)fluoranthene	UG/KG	59,000	24%		NA	30	127	380 U	410 U	380 U	390 U	380 U
Chrysene	UG/KG	240,000	50%		NA	64	127	380 U	410 U	24 J	390 U	380 U
Dibenz(a,h)anthracene	UG/KG	40,000	35%		NA	44	127	380 U	410 U	380 U	390 U	380 U
Indeno(1,2,3-cd)pyrene	UG/KG	150,000	46%		NA	58	127	380 U	410 U	380 U	390 U	380 U
BTE (calculated)	MG/KG	355	94%	10 ^b	8	127	135	0.44	0.48	0.24	0.45	0.44
Metals												
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	6900 J	12500 J	14300 J	7000 J	13400 J
Antimony	MG/KG	11.3	18%	31	0	21	114	0.83 U	0.85 U	0.7 UJ	0.72 UJ	6.8 J
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	7.4	6.4	6.7	4.3	4.1
Barium	MG/KG	248	100%	5,370	0	114	114	40 J	107 J	89.7 J	46.7 J	83.6 J
Beryllium	MG/KG	1	100%	150	0	114	114	0.48	0.73	0.62	0.35	0.58
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.07 U	0.23 J	0.35	0.26	0.19 J
Calcium	MG/KG	216,000	100%		NA	114	114	45500 J	4580 J	2430 J	30500 J	25500 J
Chromium	MG/KG	44.5	100%		NA	113	113	11 J	18.5 J	20.5 J	11.5 J	18.3 J
Cobalt	MG/KG	16.8	100%	903	0	114	114	8.2 J	10.8 J	10.7 J	6.8 J	8.5 J
Copper	MG/KG	131	100%	3,130	0	114	114	20.5 J	21.1 J	26.2	17	20
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	19900 J	26200 J	28100 J	14700 J	21800 J
Lead	MG/KG	469	100%	400	1	114	114	11.7 J	23.8 J	14.7 J	37.5 J	15.9 J
Magnesium	MG/KG	25200 ¹	100%		NA	114	114	9630 J	4090 J	4300 J	9050 J	6170 J
Manganese	MG/KG	1,540	100%	1,760	0	114	114	448 J	1280 J	596 J	391 J	319 J
Mercury	MG/KG	0.327	99%	23	0	113	114	0.011 J	0.07	0.045	0.023	0.027
Nickel	MG/KG	38.6	100%	1,560	0	114	114	21 J	30.1 J	27.7 J	17.6 J	26.7 J
Potassium	MG/KG	1,750	100%		NA	114	114	924 J	1080 J	1530 J	931 J	1500 J
Selenium	MG/KG	3.4	25%	390	0	28	114	0.71 U	0.73 U	0.6 U	0.61 U	0.68 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.6 U	0.61 U	0.51 U	0.52 U	0.57 U
Sodium	MG/KG	164	75%		NA	86	114	76.2 J	35.7 U	32.9 J	63.4 J	59.9 J
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.8 U	0.81 U	0.67 U	0.68 U	0.76 U
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	14.3 J	22.2 J	24.8 J	12.1 J	22 J
Zinc	MG/KG	591	100%	23,500	0	114	114	67.5 J	112 J	96.2 J	96.7 J	67.1 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.
- (6) A shaded, boxed sample indicates that the soil represented by the sample has been removed from the site. Therefore, the analytical results for the shaded sample are not characteristic of current site conditions.

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.

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXFLH1101	11EXFLH301	11EXFLH401	11EXPRH401	11EXFLH501
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXFLH1101	11EXFLH301	11EXFLH401	11EXFLH402	11EXFLH501
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								11/28/2006	12/4/2006	12/4/2006	1/5/2007	12/4/2006
QC CODE								SA	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds												
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	4 U	5 U	5 U		5 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	4 U	5 U	5 U		5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		NA	0	114	4 U	5 U	5 U		5 U
1,1,2-Trichloroethane	UG/KG	0	0%		NA	0	114	4 U	5 U	5 U		5 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	4 U	5 U	5 U		5 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	4 U	5 U	5 U		5 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		NA	0	114	4 U	5 U	5 U		5 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	4 U	5 U	5 U		5 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		NA	0	114	4 U	5 U	5 U		5 U
1,2-Dibromoethane	UG/KG	0	0%		NA	0	114	4 U	5 U	5 U		5 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	4 U	5 U	5 U		5 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	4 U	5 U	5 U		5 U
1,2-Dichloropropane	UG/KG	0	0%		NA	0	114	4 U	5 U	5 U		5 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	4 U	5 U	5 U		5 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	4 U	5 U	5 U		5 U
Acetone	UG/KG	67	2%	200	0	2	106	21 U	24 U	25 U		26 U
Benzene	UG/KG	0	0%	60	0	0	114	4 U	5 U	5 U		5 U
Bromochloromethane	UG/KG	0	0%		NA	0	114	4 U	5 U	5 U		5 U
Bromodichloromethane	UG/KG	0	0%		NA	0	114	4 U	5 U	5 U		5 U
Bromoform	UG/KG	0	0%		NA	0	114	4 U	5 U	5 U		5 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	4 U	5 U	5 U		5 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	4 U	5 U	5 U		5 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	4 U	5 U	5 U		5 U
Chlorodibromomethane	UG/KG	0	0%		NA	0	114	4 U	5 U	5 U		5 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	8 U	10 U	10 U		10 U
Chloroform	UG/KG	0	0%	300	0	0	114	4 U	5 U	5 U		5 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		NA	1	114	4 U	5 U	5 U		5 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	4 U	5 U	5 U		5 U
Cyclohexane	UG/KG	0	0%		NA	0	114	4 U	5 U	5 U		5 U
Dichlorodifluoromethane	UG/KG	2.25 ¹	4%		NA	5	114	4 U	5 U	5 U		5 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	4 U	5 U	5 U		5 U
Isopropylbenzene	UG/KG	0	0%		NA	0	114	4 U	5 U	5 U		5 U
Methyl Acetate	UG/KG	0	0%		NA	0	114	4 U	5 U	5 U		5 U
Methyl Tertbutyl Ether	UG/KG	0	0%		NA	0	114	4 U	5 U	5 U		5 U
Methyl bromide	UG/KG	0	0%		NA	0	89	8 UJ	10 UJ	10 UJ		10 UJ
Methyl butyl ketone	UG/KG	0	0%		NA	0	114	21 U	24 U	25 U		26 U
Methyl chloride	UG/KG	0	0%		NA	0	114	8 U	10 U	10 U		10 U
Methyl cyclohexane	UG/KG	0	0%		NA	0	114	4 U	5 U	5 U		5 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	21 U	24 U	25 U		26 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXFLH1101	11EXFLH301	11EXFLH401	11EXPRH401	11EXFLH501
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXFLH1101	11EXFLH301	11EXFLH401	11EXFLH402	11EXFLH501
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								11/28/2006	12/4/2006	12/4/2006	1/5/2007	12/4/2006
QC CODE								SA	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal²	Number of Exceedances³	Number of Times Detected	Number of Samples Analyzed⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	21 U	24 U	25 U		26 U
Methylene chloride	UG/KG	49	89%	100	0	102	114	5 J	6 J	6 J		6 J
Styrene	UG/KG	0	0%		NA	0	114	4 U	5 U	5 U		5 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	4 U	5 U	5 U		5 U
Toluene	UG/KG	0	0%	1,500	0	0	114	4 U	5 U	5 U		5 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	13 U	15 U	15 U		15 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	4 U	5 U	5 U		5 U
Trans-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	4 U	5 U	5 U		5 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	4 U	5 U	2 J		5 U
Trichlorofluoromethane	UG/KG	0	0%		NA	0	114	4 U	5 U	5 U		5 U
Vinyl chloride	UG/KG	0	0%	200	0	0	114	8 U	10 U	10 U		10 U
Carcinogenic PAHs												
Benzo(a)anthracene	UG/KG	260,000	52%		NA	66	127	340 U	410 U	380 U	180 J	390 U
Benzo(a)pyrene	UG/KG	240,000	49%		NA	62	127	340 U	410 U	380 U	140 J	390 U
Benzo(b)fluoranthene	UG/KG	310,000	51%		NA	65	127	340 U	410 U	380 U	240 J	390 U
Benzo(k)fluoranthene	UG/KG	59,000	24%		NA	30	127	340 U	410 U	380 U	360 UJ	390 U
Chrysene	UG/KG	240,000	50%		NA	64	127	340 U	410 U	380 U	140 J	390 U
Dibenz(a,h)anthracene	UG/KG	40,000	35%		NA	44	127	340 U	410 U	380 U	25 J	390 U
Indeno(1,2,3-cd)pyrene	UG/KG	150,000	46%		NA	58	127	340 U	410 U	380 U	80 J	390 U
BTE (calculated)	MG/KG	355	94%	10 ^b	8	127	135	0.39	0.48	0.44	0.22	0.45
Metals												
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	9560 J	13300 J	11600 J		11400 J
Antimony	MG/KG	11.3	18%	31	0	21	114	0.63 UJ	0.83 U	2.3 J		1 J
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	4.4	5.2	5.7		6.3
Barium	MG/KG	248	100%	5,370	0	114	114	51.4 J	111 J	78.7 J		67.7 J
Beryllium	MG/KG	1	100%	150	0	114	114	0.43	0.69	0.72		0.7
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.21	0.08 J	0.07 U		0.1 J
Calcium	MG/KG	216,000	100%		NA	114	114	30500 J	3970 J	13000 J		9730 J
Chromium	MG/KG	44.5	100%		NA	113	113	14.8 J	20.5 J	17.7 J		17.6 J
Cobalt	MG/KG	16.8	100%	903	0	114	114	7.9 J	9.1 J	10.5 J		10.9 J
Copper	MG/KG	131	100%	3,130	0	114	114	18.7	13.7 J	21.1		23.7
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	19400 J	25500 J	26400 J		26800 J
Lead	MG/KG	469	100%	400	1	114	114	9 J	12.4 J	15 J		13.3 J
Magnesium	MG/KG	25200 ¹	100%		NA	114	114	7440 J	4130 J	5620 J		7120 J
Manganese	MG/KG	1,540	100%	1,760	0	114	114	404 J	371 J	688 J		672 J
Mercury	MG/KG	0.327	99%	23	0	113	114	0.007 J	0.053	0.027 J		0.032 J
Nickel	MG/KG	38.6	100%	1,560	0	114	114	23.4 J	21.7 J	27.2 J		30.2 J
Potassium	MG/KG	1,750	100%		NA	114	114	1140 J	1220 J	998 J		1000 J
Selenium	MG/KG	3.4	25%	390	0	28	114	0.54 U	0.71 U	0.7 U		0.69 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.46 U	0.6 U	0.59 U		0.58 U
Sodium	MG/KG	164	75%		NA	86	114	68.4 J	41.3 J	34.4 U		42.5 J
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.6 U	0.79 U	0.78 U		0.77 U
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	15.4 J	23 J	19.8 J		19.6 J
Zinc	MG/KG	591	100%	23,500	0	114	114	61.7 J	94.4 J	90.3 J		93.3 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.
- (6) A shaded, boxed sample indicates that the soil represented by the sample has been removed from the site. Therefore, the analytical results for the shaded sample are not characteristic of current site conditions.

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.

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY				SEAD-11		SEAD-11		SEAD-11		SEAD-11		SEAD-11	
LOCATION ID				11EXFLH601		11EXFLH701		11EXFLH801		11EXFLH901		11EXFLI1001	
MATRIX				SOIL		SOIL		SOIL		SOIL		SOIL	
SAMPLE ID				11EXFLH601		11EXFLH701		11EXFLH801		11EXFLH901		11EXFLI1001	
SAMPLE DEPTH TO TOP OF SAMPLE				0		0		0		0		0	
SAMPLE DEPTH TO BOTTOM OF SAMPLE				0.2		0.2		0.2		0.2		0.2	
SAMPLE DATE				12/4/2006		12/4/2006		11/30/2006		11/27/2006		11/30/2006	
QC CODE				SA		SA		SA		SA		SA	
STUDY ID				IRA		IRA		IRA		IRA		IRA	
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	5 U	5 U	5 U	4 U	5 U	5 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	5 U	5 U	5 U	4 U	5 U	5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	4 U	5 U	5 U
1,1,2-Trichloroethane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	4 U	5 U	5 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	5 U	5 U	5 U	4 U	5 U	5 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	5 U	5 U	5 U	4 U	5 U	5 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	4 U	5 U	5 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	5 U	5 U	5 U	4 U	5 U	5 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	4 U	5 U	5 U
1,2-Dibromoethane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	4 U	5 U	5 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	5 U	5 U	5 U	4 U	5 U	5 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	5 U	5 U	5 U	4 U	5 U	5 U
1,2-Dichloropropane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	4 U	5 U	5 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	5 U	5 U	5 U	4 U	5 U	5 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	5 U	5 U	5 U	4 U	5 U	5 U
Acetone	UG/KG	67	2%	200	0	2	106	24 U	23 U	27 U	20 U	26 U	26 U
Benzene	UG/KG	0	0%	60	0	0	114	5 U	5 U	5 U	4 U	5 U	5 U
Bromochloromethane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	4 U	5 U	5 U
Bromodichloromethane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	4 U	5 U	5 U
Bromoform	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	4 U	5 U	5 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	5 U	5 U	5 U	4 U	5 U	5 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	5 U	5 U	5 U	4 U	5 U	5 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	5 U	5 U	5 U	4 U	5 U	5 U
Chlorodibromomethane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	4 U	5 U	5 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	10 U	9 U	11 U	8 U	10 U	10 U
Chloroform	UG/KG	0	0%	300	0	0	114	5 U	5 U	5 U	4 U	5 U	5 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		NA	1	114	5 U	5 U	5 U	4 U	5 U	5 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	4 U	5 U	5 U
Cyclohexane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	4 U	5 U	5 U
Dichlorodifluoromethane	UG/KG	2.25 ¹	4%		NA	5	114	5 U	5 U	5 U	4 U	5 U	5 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	5 U	5 U	5 U	4 U	5 U	5 U
Isopropylbenzene	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	4 U	5 U	5 U
Methyl Acetate	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	4 U	5 U	5 U
Methyl Tertbutyl Ether	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	4 U	5 U	5 U
Methyl bromide	UG/KG	0	0%		NA	0	89	10 UJ	9 UJ	11 UJ	8 UJ	10 UJ	10 UJ
Methyl butyl ketone	UG/KG	0	0%		NA	0	114	24 U	23 U	27 U	20 U	26 U	26 U
Methyl chloride	UG/KG	0	0%		NA	0	114	10 U	9 U	11 U	8 U	10 U	10 U
Methyl cyclohexane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	4 U	5 U	5 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	24 U	23 U	27 U	20 U	26 U	26 U

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Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY						SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11		
LOCATION ID						11EXFLH601	11EXFLH701	11EXFLH801	11EXFLH901	11EXFLI1001		
MATRIX						SOIL	SOIL	SOIL	SOIL	SOIL		
SAMPLE ID						11EXFLH601	11EXFLH701	11EXFLH801	11EXFLH901	11EXFLI1001		
SAMPLE DEPTH TO TOP OF SAMPLE						0	0	0	0	0		
SAMPLE DEPTH TO BOTTOM OF SAMPLE						0.2	0.2	0.2	0.2	0.2		
SAMPLE DATE						12/4/2006	12/4/2006	11/30/2006	11/27/2006	11/30/2006		
QC CODE						SA	SA	SA	SA	SA		
STUDY ID						IRA	IRA	IRA	IRA	IRA		
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	24 U	23 U	27 U	20 U	26 U
Methylene chloride	UG/KG	49	89%	100	0	102	114	6 J	6 J	12 J	5 J	11 J
Styrene	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	4 U	5 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	5 U	5 U	5 U	4 U	5 U
Toluene	UG/KG	0	0%	1,500	0	0	114	5 U	5 U	5 U	4 U	5 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	14 U	14 U	16 U	12 U	16 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	5 U	5 U	5 U	4 U	5 U
Trans-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	4 U	5 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	3 J	5 U	2 J	4	5 U
Trichlorofluoromethane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 UJ	4 U	5 UJ
Vinyl chloride	UG/KG	0	0%	200	0	0	114	10 U	9 U	11 U	8 U	10 U
Carcinogenic PAHs												
Benzo(a)anthracene	UG/KG	260,000	52%		NA	66	127	380 U	370 U	400 U	200 J	390 U
Benzo(a)pyrene	UG/KG	240,000	49%		NA	62	127	380 U	370 U	400 U	190 J	390 U
Benzo(b)fluoranthene	UG/KG	310,000	51%		NA	65	127	380 U	370 U	400 U	220 J	390 U
Benzo(k)fluoranthene	UG/KG	59,000	24%		NA	30	127	380 U	370 U	400 U	98 J	390 U
Chrysene	UG/KG	240,000	50%		NA	64	127	380 U	370 U	400 U	200 J	390 U
Dibenz(a,h)anthracene	UG/KG	40,000	35%		NA	44	127	380 U	370 U	400 U	31 J	390 U
Indeno(1,2,3-cd)pyrene	UG/KG	150,000	46%		NA	58	127	380 U	370 U	400 U	100 J	390 U
BTE (calculated)	MG/KG	355	94%	10 ^b	8	127	135	0.44	0.43	0.46	0.28	0.45
Metals												
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	11600 J	10300 J	13100 J	5370 J	9510 J
Antimony	MG/KG	11.3	18%	31	0	21	114	0.85 U	1.6 J	0.59 U	0.66 UJ	0.66 U
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	6.2	5.3	6.4	3.5	5
Barium	MG/KG	248	100%	5,370	0	114	114	89.8 J	64.7 J	112 J	32.1 J	75.7 J
Beryllium	MG/KG	1	100%	150	0	114	114	0.71	0.61	0.67	0.39	0.49
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.15 J	0.08 J	0.28	0.17 J	0.24 U
Calcium	MG/KG	216,000	100%		NA	114	114	8080 J	12700 J	2480 J	216000 J	1990 J
Chromium	MG/KG	44.5	100%		NA	113	113	18.2 J	16 J	18.8 J	9.1 J	13.9 J
Cobalt	MG/KG	16.8	100%	903	0	114	114	10.2 J	9.6 J	10.2	5.9 J	7.5
Copper	MG/KG	131	100%	3,130	0	114	114	19.9	21.8	21.8	13.7	15.5
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	26900 J	23900 J	26800	12500 J	20300
Lead	MG/KG	469	100%	400	1	114	114	15.5 J	11.6 J	14	8.2 J	10.1
Magnesium	MG/KG	25200 ¹	100%		NA	114	114	4880 J	5590 J	3370	7540 J	2730
Manganese	MG/KG	1,540	100%	1,760	0	114	114	698 J	485 J	622	348 J	514
Mercury	MG/KG	0.327	99%	23	0	113	114	0.033 J	0.029 J	0.047	0.019 J	0.032
Nickel	MG/KG	38.6	100%	1,560	0	114	114	26.7 J	26.4 J	24.3	15.7 J	19.9
Potassium	MG/KG	1,750	100%		NA	114	114	965 J	1010 J	1270	799 J	1000
Selenium	MG/KG	3.4	25%	390	0	28	114	0.72 U	0.7 U	0.42 U	0.57 U	0.47 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.61 U	0.59 U	0.52 U	0.48 U	0.59 U
Sodium	MG/KG	164	75%		NA	86	114	35.6 U	52.7 J	32.1 J	63.1 J	23.6 U
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.81 U	0.78 U	0.51 U	0.63 U	0.58 U
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	20.9 J	18.3 J	22.8 J	9.9 J	16.4 J
Zinc	MG/KG	591	100%	23,500	0	114	114	88.5 J	88.7 J	99.9 J	51.1 J	76.1 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.
- (6) A shaded, boxed sample indicates that the soil represented by the sample has been removed from the site. Therefore, the analytical results for the shaded sample are not characteristic of current site conditions.

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.

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY						SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11		
LOCATION ID						11EXFLI1101	11EXFLI601	11EXFLI701	11EXFLI801	11EXFLI901		
MATRIX						SOIL	SOIL	SOIL	SOIL	SOIL		
SAMPLE ID						11EXFLI1101	11EXFLI601	11EXFLI701	11EXFLI801	11EXFLI901		
SAMPLE DEPTH TO TOP OF SAMPLE						0	0	0	0	0		
SAMPLE DEPTH TO BOTTOM OF SAMPLE						0.2	0.2	0.2	0.2	0.2		
SAMPLE DATE						11/30/2006	12/4/2006	12/4/2006	11/30/2006	11/30/2006		
QC CODE						SA	SA	SA	SA	SA		
STUDY ID						IRA	IRA	IRA	IRA	IRA		
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds												
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	5 U	5 U	5 U	5 U	5 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	5 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	5 U	5 U	5 U	5 U	5 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	5 U
1,2-Dibromoethane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	5 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	5 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	5 U	5 U	5 U	5 U	5 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	5 U	5 U	5 U	5 U	5 U
Acetone	UG/KG	67	2%	200	0	2	106	25 U	24 U	24 U	27 U	25 U
Benzene	UG/KG	0	0%	60	0	0	114	5 U	5 U	5 U	5 U	5 U
Bromochloromethane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	5 U
Bromodichloromethane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	5 U
Bromoform	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	5 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	5 U	5 U	5 U	5 U	5 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	5 U	5 U	5 U	5 U	5 U
Chlorodibromomethane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	5 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	10 U	10 U	9 U	11 U	10 U
Chloroform	UG/KG	0	0%	300	0	0	114	5 U	5 U	5 U	5 U	5 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		NA	1	114	5 U	5 U	5 U	5 U	5 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	5 U
Cyclohexane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	5 U
Dichlorodifluoromethane	UG/KG	2.25 ¹	4%		NA	5	114	5 U	5 U	5 U	5 U	5 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	5 U	5 U	5 U	5 U	5 U
Isopropylbenzene	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	5 U
Methyl Acetate	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	5 U
Methyl Tertbutyl Ether	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	5 U
Methyl bromide	UG/KG	0	0%		NA	0	89	10 UJ	10 UJ	9 UJ	11 UJ	10 UJ
Methyl butyl ketone	UG/KG	0	0%		NA	0	114	25 U	24 U	24 U	27 U	25 U
Methyl chloride	UG/KG	0	0%		NA	0	114	10 U	10 U	9 U	11 U	10 U
Methyl cyclohexane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	5 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	25 U	24 U	24 U	27 U	25 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY						SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11		
LOCATION ID						11EXFLI1101	11EXFLI601	11EXFLI701	11EXFLI801	11EXFLI901		
MATRIX						SOIL	SOIL	SOIL	SOIL	SOIL		
SAMPLE ID						11EXFLI1101	11EXFLI601	11EXFLI701	11EXFLI801	11EXFLI901		
SAMPLE DEPTH TO TOP OF SAMPLE						0	0	0	0	0		
SAMPLE DEPTH TO BOTTOM OF SAMPLE						0.2	0.2	0.2	0.2	0.2		
SAMPLE DATE						11/30/2006	12/4/2006	12/4/2006	11/30/2006	11/30/2006		
QC CODE						SA	SA	SA	SA	SA		
STUDY ID						IRA	IRA	IRA	IRA	IRA		
	Maximum	Frequency of	Cleanup	Number of	Number of	Number of						
Parameter	Units	Value	Detection	Goal ²	Exceedances ³	Detected	Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	25 U	24 U	24 U	27 U	25 U
Methylene chloride	UG/KG	49	89%	100	0	102	114	10 J	6 J	6 J	13 J	10 J
Styrene	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	5 U	5 U	5 U	5 U	5 U
Toluene	UG/KG	0	0%	1,500	0	0	114	5 U	5 U	5 U	5 U	5 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	15 U	14 U	14 U	16 U	15 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	5 U	5 U	5 U	5 U	5 U
Trans-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	5 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	2 J	2 J	2 J	5 U	5 U
Trichlorofluoromethane	UG/KG	0	0%		NA	0	114	5 UJ	5 U	5 U	5 UJ	5 UJ
Vinyl chloride	UG/KG	0	0%	200	0	0	114	10 U	10 U	9 U	11 U	10 U
Carcinogenic PAHs												
Benzo(a)anthracene	UG/KG	260,000	52%		NA	66	127	400 U	390 U	390 U	390 U	400 U
Benzo(a)pyrene	UG/KG	240,000	49%		NA	62	127	400 U	390 U	390 U	390 U	400 U
Benzo(b)fluoranthene	UG/KG	310,000	51%		NA	65	127	400 U	390 U	390 U	390 U	400 U
Benzo(k)fluoranthene	UG/KG	59,000	24%		NA	30	127	400 U	390 U	390 U	390 U	400 U
Chrysene	UG/KG	240,000	50%		NA	64	127	400 U	390 U	390 U	390 U	400 U
Dibenz(a,h)anthracene	UG/KG	40,000	35%		NA	44	127	400 U	390 U	390 U	390 U	400 U
Indeno(1,2,3-cd)pyrene	UG/KG	150,000	46%		NA	58	127	400 U	390 U	390 U	390 U	400 U
BTE (calculated)	MG/KG	355	94%	10 ^b	8	127	135	0.46	0.45	0.45	0.45	0.46
Metals												
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	13200 J	9490 J	11200 J	9780 J	13200 J
Antimony	MG/KG	11.3	18%	31	0	21	114	0.64 U	1.8 J	0.94 J	0.63 U	0.66 U
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	6.4	5.5	6	5	6.6
Barium	MG/KG	248	100%	5,370	0	114	114	111 J	80.4 J	74 J	81.9 J	108 J
Beryllium	MG/KG	1	100%	150	0	114	114	0.67	0.58	0.63	0.52	0.68
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.28	0.13 J	0.11 J	0.22 U	0.29
Calcium	MG/KG	216,000	100%		NA	114	114	2690 J	29400 J	9790 J	1910 J	2520 J
Chromium	MG/KG	44.5	100%		NA	113	113	18.4 J	14.1 J	16.5 J	14.3 J	19 J
Cobalt	MG/KG	16.8	100%	903	0	114	114	9.1	9.3 J	10.4 J	7.4	8.9
Copper	MG/KG	131	100%	3,130	0	114	114	21.4	22.4	23	15.9	20.9
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	25800	21200 J	25400 J	21000	26900
Lead	MG/KG	469	100%	400	1	114	114	12.6	11.3 J	13.2 J	10.4	12.8
Magnesium	MG/KG	25200 ¹	100%		NA	114	114	3350	11300 J	6040 J	2630	3600
Manganese	MG/KG	1,540	100%	1,760	0	114	114	623	592 J	599 J	445	665
Mercury	MG/KG	0.327	99%	23	0	113	114	0.04	0.029 J	0.031 J	0.041	0.041
Nickel	MG/KG	38.6	100%	1,560	0	114	114	23.8	24.3 J	27.8 J	19.3	26.5
Potassium	MG/KG	1,750	100%		NA	114	114	1340	1010 J	992 J	979	1360
Selenium	MG/KG	3.4	25%	390	0	28	114	0.46 U	0.68 U	0.69 U	0.45 U	0.47 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.57 U	0.58 U	0.58 U	0.09 U	0.59 U
Sodium	MG/KG	164	75%		NA	86	114	28.4 J	71.9 J	41.8 J	22.4 U	23.4 U
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.56 U	0.77 U	0.77 U	0.55 U	0.57 U
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	23 J	16.9 J	19.7 J	17 J	22.9 J
Zinc	MG/KG	591	100%	23,500	0	114	114	97.9 J	78.4 J	90.4 J	77.6 J	107 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.
- (6) A shaded, boxed sample indicates that the soil represented by the sample has been removed from the site. Therefore, the analytical results for the shaded sample are not characteristic of current site conditions.

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.

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY						SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11		
LOCATION ID						11EXPRA401	11EXPRA501	11EXPRA601	11EXPRA701	11EXPRA702		
MATRIX						SOIL	SOIL	SOIL	SOIL	SOIL		
SAMPLE ID						11EXPRA401	11EXPRA501	11EXPRA601	11EXPRA701	11EXPRA702		
SAMPLE DEPTH TO TOP OF SAMPLE						0	0	0	0	0		
SAMPLE DEPTH TO BOTTOM OF SAMPLE						0.2	0.2	0.2	0.2	0.2		
SAMPLE DATE						11/15/2006	11/15/2006	11/15/2006	11/15/2006	11/15/2006		
QC CODE						SA	SA	SA	SA	SA		
STUDY ID						IRA	IRA	IRA	IRA	IRA		
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds												
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	6 U	6 U	6 U	6 U	6 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	6 U	6 U	6 U	6 U	6 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		NA	0	114	6 UJ	6 UJ	6 UJ	6 UJ	6 UJ
1,1,2-Trichloroethane	UG/KG	0	0%		NA	0	114	6 U	6 U	6 U	6 U	6 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	6 U	6 U	6 U	6 U	6 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	6 U	6 U	6 U	6 U	6 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		NA	0	114	6 U	6 U	6 U	6 U	6 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	6 U	6 U	6 U	6 U	6 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		NA	0	114	6 U	6 U	6 U	6 U	6 U
1,2-Dibromoethane	UG/KG	0	0%		NA	0	114	6 U	6 U	6 U	6 U	6 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	6 U	6 U	6 U	6 U	6 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	6 U	6 U	6 U	6 U	6 U
1,2-Dichloropropane	UG/KG	0	0%		NA	0	114	6 U	6 U	6 U	6 U	6 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	6 U	6 U	6 U	6 U	6 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	6 U	6 U	6 U	6 U	6 U
Acetone	UG/KG	67	2%	200	0	2	106	30 U	29 U	32 U	29 U	30 U
Benzene	UG/KG	0	0%	60	0	0	114	6 U	6 U	6 U	6 U	6 U
Bromochloromethane	UG/KG	0	0%		NA	0	114	6 U	6 U	6 U	6 U	6 U
Bromodichloromethane	UG/KG	0	0%		NA	0	114	6 U	6 U	6 U	6 U	6 U
Bromoform	UG/KG	0	0%		NA	0	114	6 U	6 U	6 U	6 U	6 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	6 U	6 U	6 U	6 U	6 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	6 U	6 U	6 U	6 U	6 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	6 U	6 U	6 U	6 U	6 U
Chlorodibromomethane	UG/KG	0	0%		NA	0	114	6 U	6 U	6 U	6 U	6 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	12 U	12 U	13 U	11 U	12 U
Chloroform	UG/KG	0	0%	300	0	0	114	6 U	6 U	6 U	6 U	6 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		NA	1	114	6 U	6 U	6 U	6 U	6 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	6 U	6 U	6 U	6 U	6 U
Cyclohexane	UG/KG	0	0%		NA	0	114	6 U	6 U	6 U	6 U	6 U
Dichlorodifluoromethane	UG/KG	2.25 ¹	4%		NA	5	114	6 U	6 U	6 U	6 U	6 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	6 U	6 U	6 U	6 U	6 U
Isopropylbenzene	UG/KG	0	0%		NA	0	114	6 U	6 U	6 U	6 U	6 U
Methyl Acetate	UG/KG	0	0%		NA	0	114	6 U	6 U	6 U	6 U	6 U
Methyl Tertbutyl Ether	UG/KG	0	0%		NA	0	114	6 U	6 U	6 U	6 U	6 U
Methyl bromide	UG/KG	0	0%		NA	0	89	12 U	12 U	13 U	11 U	12 U
Methyl butyl ketone	UG/KG	0	0%		NA	0	114	30 U	29 U	32 U	29 U	30 U
Methyl chloride	UG/KG	0	0%		NA	0	114	12 U	12 U	13 U	11 U	12 U
Methyl cyclohexane	UG/KG	0	0%		NA	0	114	6 U	6 U	6 U	6 U	6 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	30 U	29 U	32 U	29 U	30 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY						SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11		
LOCATION ID						11EXPRA401	11EXPRA501	11EXPRA601	11EXPRA701	11EXPRA702		
MATRIX						SOIL	SOIL	SOIL	SOIL	SOIL		
SAMPLE ID						11EXPRA401	11EXPRA501	11EXPRA601	11EXPRA701	11EXPRA702		
SAMPLE DEPTH TO TOP OF SAMPLE						0	0	0	0	0		
SAMPLE DEPTH TO BOTTOM OF SAMPLE						0.2	0.2	0.2	0.2	0.2		
SAMPLE DATE						11/15/2006	11/15/2006	11/15/2006	11/15/2006	11/15/2006		
QC CODE						SA	SA	SA	SA	SA		
STUDY ID						IRA	IRA	IRA	IRA	IRA		
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	30 U	29 U	32 U	29 U	30 U
Methylene chloride	UG/KG	49	89%	100	0	102	114	13 J	12 J	7 J	10 J	17 J
Styrene	UG/KG	0	0%		NA	0	114	6 U	6 U	6 U	6 U	6 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	6 U	6 U	6 U	6 U	6 U
Toluene	UG/KG	0	0%	1,500	0	0	114	6 U	6 U	6 U	6 U	6 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	18 U	18 U	19 U	17 U	18 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	6 U	6 U	6 U	6 U	6 U
Trans-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	6 U	6 U	6 U	6 U	6 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	6 U	6 U	6 U	6 U	6 U
Trichlorofluoromethane	UG/KG	0	0%		NA	0	114	6 UJ	6 UJ	6 UJ	6 UJ	6 UJ
Vinyl chloride	UG/KG	0	0%	200	0	0	114	12 U	12 U	13 U	11 U	12 U
Carcinogenic PAHs												
Benzo(a)anthracene	UG/KG	260,000	52%		NA	66	127	410 U	400 U	420 U	410 U	390 U
Benzo(a)pyrene	UG/KG	240,000	49%		NA	62	127	410 U	400 U	420 U	410 U	390 U
Benzo(b)fluoranthene	UG/KG	310,000	51%		NA	65	127	410 U	400 U	420 U	410 U	390 U
Benzo(k)fluoranthene	UG/KG	59,000	24%		NA	30	127	410 U	400 U	420 U	410 U	390 U
Chrysene	UG/KG	240,000	50%		NA	64	127	410 U	400 U	420 U	410 U	390 U
Dibenz(a,h)anthracene	UG/KG	40,000	35%		NA	44	127	410 U	400 U	420 U	410 U	390 U
Indeno(1,2,3-cd)pyrene	UG/KG	150,000	46%		NA	58	127	410 U	400 U	420 U	410 U	390 U
BTE (calculated)	MG/KG	355	94%	10 ^b	8	127	135	0.48	0.46	0.49	0.48	0.45
Metals												
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	10800 J	14300 J	14900 J	11300 J	9700 J
Antimony	MG/KG	11.3	18%	31	0	21	114	0.82 UJ	0.74 UJ	0.81 UJ	0.78 UJ	0.79 UJ
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	5.1 J	7.3 J	6.5 J	5.7 J	5.3 J
Barium	MG/KG	248	100%	5,370	0	114	114	98.7 J	120 J	154 J	101 J	80.7 J
Beryllium	MG/KG	1	100%	150	0	114	114	0.61 J	0.79 J	0.89 J	0.65 J	0.55 J
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.27 J	0.4 J	0.44 J	0.28 J	0.3 J
Calcium	MG/KG	216,000	100%		NA	114	114	2760 J	2730 J	4450 J	2280 J	2430 J
Chromium	MG/KG	44.5	100%		NA	113	113	15 J	20.4 J	19.5 J	15.9 J	14.7 J
Cobalt	MG/KG	16.8	100%	903	0	114	114	7.5 J	10.7 J	10.7 J	8.7 J	8 J
Copper	MG/KG	131	100%	3,130	0	114	114	16.6 J	22.6 J	18.5 J	13.5 J	16.5 J
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	20200 J	27800 J	25700 J	22500 J	20100 J
Lead	MG/KG	469	100%	400	1	114	114	11.4 J	16.1 J	15 J	302 J	11.7 J
Magnesium	MG/KG	25200 ¹	100%		NA	114	114	2700 J	4150 J	3680 J	2890 J	3040 J
Manganese	MG/KG	1,540	100%	1,760	0	114	114	587 J	868 J	1190 J	888 J	580 J
Mercury	MG/KG	0.327	99%	23	0	113	114	0.044	0.037	0.043	0.056	0.035
Nickel	MG/KG	38.6	100%	1,560	0	114	114	18.4 J	29.4 J	25.1 J	19.9 J	20.9 J
Potassium	MG/KG	1,750	100%		NA	114	114	1120 J	1250 J	1750 J	1140 J	1020 J
Selenium	MG/KG	3.4	25%	390	0	28	114	1.8 J	1.9 J	2.3 J	1.6 J	1.4 J

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.18 UJ	0.16 UJ	0.18 UJ	0.17 UJ	0.17 UJ
Sodium	MG/KG	164	75%		NA	86	114	34.5 UJ	42.6 J	34 UJ	39.5 J	35.6 J
Thallium	MG/KG	2.1	25%	5.2	0	28	114	1.4 J	1.6 J	1.5 J	1.5 J	1.5 J
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	18.9 J	27.6 J	24.7 J	20.3 J	16.9 J
Zinc	MG/KG	591	100%	23,500	0	114	114	71.6 J	103 J	85.7 J	131 J	69.1 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.
- (6) A shaded, boxed sample indicates that the soil represented by the sample has been removed from the site. Therefore, the analytical results for the shaded sample are not characteristic of current site conditions.

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.

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXPRB101	11EXPRB201	11EXPRB202	11EXPRB301	11EXPRB801
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXPRB101	11EXPRB201	11EXPRB202	11EXPRB301	11EXPRB801
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								12/6/2006	11/15/2006	11/15/2006	11/15/2006	11/15/2006
QC CODE								SA	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds												
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	6 U	7 U	6 U	6 U	5 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	6 U	7 U	6 U	6 U	5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		NA	0	114	6 U	7 UJ	6 UJ	6 UJ	5 UJ
1,1,2-Trichloroethane	UG/KG	0	0%		NA	0	114	6 U	7 U	6 U	6 U	5 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	6 U	7 U	6 U	6 U	5 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	6 U	7 U	6 U	6 U	5 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		NA	0	114	6 U	7 U	6 U	6 U	5 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	6 U	7 U	6 U	6 U	5 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		NA	0	114	6 U	7 U	6 U	6 U	5 U
1,2-Dibromoethane	UG/KG	0	0%		NA	0	114	6 U	7 U	6 U	6 U	5 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	6 U	7 U	6 U	6 U	5 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	6 U	7 U	6 U	6 U	5 U
1,2-Dichloropropane	UG/KG	0	0%		NA	0	114	6 U	7 U	6 U	6 U	5 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	6 U	7 U	6 U	6 U	5 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	6 U	7 U	6 U	6 U	5 U
Acetone	UG/KG	67	2%	200	0	2	106	30 U	36 U	31 U	30 U	27 U
Benzene	UG/KG	0	0%	60	0	0	114	6 U	7 U	6 U	6 U	5 U
Bromochloromethane	UG/KG	0	0%		NA	0	114	6 U	7 U	6 U	6 U	5 U
Bromodichloromethane	UG/KG	0	0%		NA	0	114	6 U	7 U	6 U	6 U	5 U
Bromoform	UG/KG	0	0%		NA	0	114	6 U	7 U	6 U	6 U	5 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	6 U	7 U	6 U	6 U	5 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	6 U	7 U	6 U	6 U	5 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	6 U	7 U	6 U	6 U	5 U
Chlorodibromomethane	UG/KG	0	0%		NA	0	114	6 U	7 U	6 U	6 U	5 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	12 U	14 U	12 U	12 U	11 U
Chloroform	UG/KG	0	0%	300	0	0	114	6 U	7 U	6 U	6 U	5 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		NA	1	114	6 U	7 U	6 U	6 U	5 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	6 U	7 U	6 U	6 U	5 U
Cyclohexane	UG/KG	0	0%		NA	0	114	6 U	7 U	6 U	6 U	5 U
Dichlorodifluoromethane	UG/KG	2.25 ¹	4%		NA	5	114	6 U	7 U	6 U	6 U	5 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	6 U	7 U	6 U	6 U	5 U
Isopropylbenzene	UG/KG	0	0%		NA	0	114	6 U	7 U	6 U	6 U	5 U
Methyl Acetate	UG/KG	0	0%		NA	0	114	6 U	7 U	6 U	6 U	5 U
Methyl Tertbutyl Ether	UG/KG	0	0%		NA	0	114	6 U	7 U	6 U	6 U	5 U
Methyl bromide	UG/KG	0	0%		NA	0	89	12 UJ	14 U	12 U	12 U	11 U
Methyl butyl ketone	UG/KG	0	0%		NA	0	114	30 U	36 U	31 U	30 U	27 U
Methyl chloride	UG/KG	0	0%		NA	0	114	12 U	14 U	12 U	12 U	11 U
Methyl cyclohexane	UG/KG	0	0%		NA	0	114	6 U	7 U	6 U	6 U	5 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	30 U	36 U	31 U	30 U	27 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY						SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11		
LOCATION ID						11EXPRB101	11EXPRB201	11EXPRB202	11EXPRB301	11EXPRB801		
MATRIX						SOIL	SOIL	SOIL	SOIL	SOIL		
SAMPLE ID						11EXPRB101	11EXPRB201	11EXPRB202	11EXPRB301	11EXPRB801		
SAMPLE DEPTH TO TOP OF SAMPLE						0	0	0	0	0		
SAMPLE DEPTH TO BOTTOM OF SAMPLE						0.2	0.2	0.2	0.2	0.2		
SAMPLE DATE						12/6/2006	11/15/2006	11/15/2006	11/15/2006	11/15/2006		
QC CODE						SA	SA	SA	SA	SA		
STUDY ID						IRA	IRA	IRA	IRA	IRA		
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	30 U	36 U	31 U	30 U	27 U
Methylene chloride	UG/KG	49	89%	100	0	102	114	8 J	18 J	13 J	15 J	25 J
Styrene	UG/KG	0	0%		NA	0	114	6 U	7 U	6 U	6 U	5 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	6 U	7 U	6 U	6 U	5 U
Toluene	UG/KG	0	0%	1,500	0	0	114	6 U	7 U	6 U	6 U	5 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	18 U	22 U	19 U	18 U	16 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	6 U	7 U	6 U	6 U	5 U
Trans-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	6 U	7 U	6 U	6 U	5 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	6 U	7 U	6 U	6 U	5 U
Trichlorofluoromethane	UG/KG	0	0%		NA	0	114	6 UJ	7 UJ	6 UJ	6 UJ	5 UJ
Vinyl chloride	UG/KG	0	0%	200	0	0	114	12 U	14 U	12 U	12 U	11 U
Carcinogenic PAHs												
Benzo(a)anthracene	UG/KG	260,000	52%		NA	66	127	300 J	310 J	410 U	410 U	360 U
Benzo(a)pyrene	UG/KG	240,000	49%		NA	62	127	320 J	340 J	410 U	410 U	360 U
Benzo(b)fluoranthene	UG/KG	310,000	51%		NA	65	127	680 J	740 J	410 U	410 U	360 U
Benzo(k)fluoranthene	UG/KG	59,000	24%		NA	30	127	400 UJ	480 UJ	410 U	410 U	360 U
Chrysene	UG/KG	240,000	50%		NA	64	127	360 J	420 J	410 U	410 U	360 U
Dibenz(a,h)anthracene	UG/KG	40,000	35%		NA	44	127	62 J	48 J	410 U	410 U	360 U
Indeno(1,2,3-cd)pyrene	UG/KG	150,000	46%		NA	58	127	230 J	190 J	410 U	410 U	360 U
BTE (calculated)	MG/KG	355	94%	10 ^b	8	127	135	0.51	0.52	0.48	0.48	0.42
Metals												
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	9030	10500 J	9530 J	11700 J	5840 J
Antimony	MG/KG	11.3	18%	31	0	21	114	0.6 U	1 J	0.74 UJ	0.83 UJ	0.64 UJ
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	4.1	5.1 J	4.4 J	6 J	5.5 J
Barium	MG/KG	248	100%	5,370	0	114	114	76.9	84.8 J	87 J	96.8 J	31.2 J
Beryllium	MG/KG	1	100%	150	0	114	114	0.56	0.55 J	0.55 J	0.6 J	0.3 J
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.12 J	0.28 J	0.24 J	0.24 J	0.19 J
Calcium	MG/KG	216,000	100%		NA	114	114	2820 J	3510 J	2500 J	2430 J	46100 J
Chromium	MG/KG	44.5	100%		NA	113	113	12.8 J	15.2 J	13.3 J	17.6 J	10.1 J
Cobalt	MG/KG	16.8	100%	903	0	114	114	7.1 J	7.8 J	7 J	9.4 J	15.1 J
Copper	MG/KG	131	100%	3,130	0	114	114	12.5	15.6 J	13.7 J	18.8 J	25.1 J
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	17600 J	19200 J	17600 J	24300 J	25600 J
Lead	MG/KG	469	100%	400	1	114	114	17 J	21.2 J	10.5 J	15 J	8.9 J
Magnesium	MG/KG	25200 ¹	100%		NA	114	114	2280	2750 J	2380 J	3180 J	6280 J
Manganese	MG/KG	1,540	100%	1,760	0	114	114	367 J	369 J	456 J	595 J	384 J
Mercury	MG/KG	0.327	99%	23	0	113	114	0.043	0.059	0.038	0.041	0.008
Nickel	MG/KG	38.6	100%	1,560	0	114	114	15.8	18.1 J	16.1 J	22.3 J	27.3 J
Potassium	MG/KG	1,750	100%		NA	114	114	871	1180 J	998 J	1270 J	678 J
Selenium	MG/KG	3.4	25%	390	0	28	114	0.72 U	1.6 J	1.3 J	1.9 J	1.4 J

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.06 U	0.19 UJ	0.16 UJ	0.18 UJ	0.14 UJ
Sodium	MG/KG	164	75%		NA	86	114	30.1 U	35.9 UJ	41.9 J	37.2 J	67 J
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.79 U	1.6 J	1.1 J	2 J	1.4 J
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	16.1 J	18.7 J	16.4 J	21.2 J	11 J
Zinc	MG/KG	591	100%	23,500	0	114	114	59.1 J	75.1 J	58.9 J	85.3 J	72.8 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.
- (6) A shaded, boxed sample indicates that the soil represented by the sample has been removed from the site. Therefore, the analytical results for the shaded sample are not characteristic of current site conditions.

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.

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXPRB901	11EXPRC001	11EXPRC1001	11EXPRC101	11EXPRC1101
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXPRB901	11EXPRC001	11EXPRC1001	11EXPRC101	11EXPRC1101
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								11/15/2006	12/15/2006	12/6/2006	12/6/2006	12/6/2006
QC CODE								SA	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds												
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	6 U		5 U	13 U	5 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	6 U		5 U	13 U	5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		NA	0	114	6 UJ		5 U	13 U	5 U
1,1,2-Trichloroethane	UG/KG	0	0%		NA	0	114	6 U		5 U	13 U	5 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	6 U		5 U	13 U	5 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	6 U		5 U	13 U	5 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		NA	0	114	6 U		5 U	13 U	5 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	6 U		5 U	13 U	5 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		NA	0	114	6 U		5 U	13 U	5 U
1,2-Dibromoethane	UG/KG	0	0%		NA	0	114	6 U		5 U	13 U	5 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	6 U		5 U	13 U	5 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	6 U		5 U	13 U	5 U
1,2-Dichloropropane	UG/KG	0	0%		NA	0	114	6 U		5 U	13 U	5 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	6 U		5 U	13 U	5 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	6 U		5 U	13 U	5 U
Acetone	UG/KG	67	2%	200	0	2	106	29 U		26 U	67	24 U
Benzene	UG/KG	0	0%	60	0	0	114	6 U		5 U	13 U	5 U
Bromochloromethane	UG/KG	0	0%		NA	0	114	6 U		5 U	13 U	5 U
Bromodichloromethane	UG/KG	0	0%		NA	0	114	6 U		5 U	13 U	5 U
Bromoform	UG/KG	0	0%		NA	0	114	6 U		5 U	13 U	5 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	6 U		5 U	13 U	5 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	6 U		5 U	13 U	5 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	6 U		5 U	13 U	5 U
Chlorodibromomethane	UG/KG	0	0%		NA	0	114	6 U		5 U	13 U	5 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	11 U		10 U	27 U	9 U
Chloroform	UG/KG	0	0%	300	0	0	114	6 U		5 U	13 U	5 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		NA	1	114	6 U		5 U	13 U	5 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	6 U		5 U	13 U	5 U
Cyclohexane	UG/KG	0	0%		NA	0	114	6 U		5 U	13 U	5 U
Dichlorodifluoromethane	UG/KG	2.25 ¹	4%		NA	5	114	6 U		5 U	13 U	5 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	6 U		5 U	13 U	5 U
Isopropylbenzene	UG/KG	0	0%		NA	0	114	6 U		5 U	13 U	5 U
Methyl Acetate	UG/KG	0	0%		NA	0	114	6 U		5 U	13 U	5 U
Methyl Tertbutyl Ether	UG/KG	0	0%		NA	0	114	6 U		5 U	13 U	5 U
Methyl bromide	UG/KG	0	0%		NA	0	89	11 U		10 UJ	27 UJ	9 UJ
Methyl butyl ketone	UG/KG	0	0%		NA	0	114	29 U		26 U	67 U	24 U
Methyl chloride	UG/KG	0	0%		NA	0	114	11 U		10 U	27 U	9 U
Methyl cyclohexane	UG/KG	0	0%		NA	0	114	6 U		5 U	13 U	5 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	29 U		26 U	67 U	24 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXPRB901	11EXPRC001	11EXPRC1001	11EXPRC101	11EXPRC1101
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXPRB901	11EXPRC001	11EXPRC1001	11EXPRC101	11EXPRC1101
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								11/15/2006	12/15/2006	12/6/2006	12/6/2006	12/6/2006
QC CODE								SA	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	29 U		26 U	67 U	24 U
Methylene chloride	UG/KG	49	89%	100	0	102	114	13 J		10 J	19 J	15 J
Styrene	UG/KG	0	0%		NA	0	114	6 U		5 U	13 U	5 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	6 U		5 U	13 U	5 U
Toluene	UG/KG	0	0%	1,500	0	0	114	6 U		5 U	13 U	5 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	17 U		15 U	40 U	14 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	6 U		5 U	13 U	5 U
Trans-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	6 U		5 U	13 U	5 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	6 U		5 U	13 U	5 U
Trichlorofluoromethane	UG/KG	0	0%		NA	0	114	6 UJ		5 UJ	13 UJ	5 UJ
Vinyl chloride	UG/KG	0	0%	200	0	0	114	11 U		10 U	27 U	9 U
Carcinogenic PAHs												
Benzo(a)anthracene	UG/KG	260,000	52%		NA	66	127	290 J	510 U	760	320 J	990
Benzo(a)pyrene	UG/KG	240,000	49%		NA	62	127	300 J	510 U	540	330 J	730
Benzo(b)fluoranthene	UG/KG	310,000	51%		NA	65	127	520	510 U	1100 J	490 J	1500 J
Benzo(k)fluoranthene	UG/KG	59,000	24%		NA	30	127	160 J	510 U	380 UJ	200 J	380 UJ
Chrysene	UG/KG	240,000	50%		NA	64	127	340 J	510 U	720	360 J	960
Dibenz(a,h)anthracene	UG/KG	40,000	35%		NA	44	127	58 J	510 U	170 J	62 J	230 J
Indeno(1,2,3-cd)pyrene	UG/KG	150,000	46%		NA	58	127	210 J	510 U	450	230 J	600
BTE (calculated)	MG/KG	355	94%	10 ^b	8	127	135	0.47	0.59	0.95	0.50	1.3
Metals												
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	8640 J		12000 J	11500	11200 J
Antimony	MG/KG	11.3	18%	31	0	21	114	0.7 UJ		0.82 U	0.91 U	0.75 U
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	4.9 J		6	5	5.3
Barium	MG/KG	248	100%	5,370	0	114	114	47.1 J		69.4	97.3	67.7
Beryllium	MG/KG	1	100%	150	0	114	114	0.39 J		0.58	0.74	0.56
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.16 J		0.26	0.21 J	0.24
Calcium	MG/KG	216,000	100%		NA	114	114	8170 J		6990 J	7380 J	7220 J
Chromium	MG/KG	44.5	100%		NA	113	113	14 J		18	16.3 J	16.6
Cobalt	MG/KG	16.8	100%	903	0	114	114	7.8 J		9.8 J	6.6 J	9.4 J
Copper	MG/KG	131	100%	3,130	0	114	114	14.1 J		21.9	14.5	21.1
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	18700 J		23900 J	20400 J	22600 J
Lead	MG/KG	469	100%	400	1	114	114	11.4 J		13	16.9 J	11.4
Magnesium	MG/KG	25200 ¹	100%		NA	114	114	4430 J		5080	3090	4770
Manganese	MG/KG	1,540	100%	1,760	0	114	114	400 J		543	373 J	547
Mercury	MG/KG	0.327	99%	23	0	113	114	0.026		0.032 J	0.064	0.028 J
Nickel	MG/KG	38.6	100%	1,560	0	114	114	22 J		28.4 J	19.2	26.2 J
Potassium	MG/KG	1,750	100%		NA	114	114	817 J		1200	1240	1090
Selenium	MG/KG	3.4	25%	390	0	28	114	1.2 J		0.7 UJ	1.1 U	0.64 UJ

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.15 UJ		0.59 U	0.09 U	0.54 U
Sodium	MG/KG	164	75%		NA	86	114	42.6 J		45.4 U		31.6 U
Thallium	MG/KG	2.1	25%	5.2	0	28	114	1.2 J		0.78 U	1.2 U	0.72 U
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	13 J		20.2 J	19.7 J	18.9 J
Zinc	MG/KG	591	100%	23,500	0	114	114	75.5 J		96.9 J	76.2 J	85.4 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.
- (6) A shaded, boxed sample indicates that the soil represented by the sample has been removed from the site. Therefore, the analytical results for the shaded sample are not characteristic of current site conditions.

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.

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXPRD001	11EXPRD1101	11EXPRD1102	11EXPRE1101
MATRIX								SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXPRD001	11EXPRD1101	11EXPRD1102	11EXPRE1101
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2
SAMPLE DATE								12/15/2006	12/6/2006	12/6/2006	12/6/2006
QC CODE								SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds											
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114		4 U	5 U	5 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114		4 U	5 U	5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		NA	0	114		4 U	5 U	5 U
1,1,2-Trichloroethane	UG/KG	0	0%		NA	0	114		4 U	5 U	5 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114		4 U	5 U	5 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114		4 U	5 U	5 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		NA	0	114		4 U	5 U	5 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114		4 U	5 U	5 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		NA	0	114		4 U	5 U	5 U
1,2-Dibromoethane	UG/KG	0	0%		NA	0	114		4 U	5 U	5 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114		4 U	5 U	5 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114		4 U	5 U	5 U
1,2-Dichloropropane	UG/KG	0	0%		NA	0	114		4 U	5 U	5 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114		4 U	5 U	5 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114		4 U	5 U	5 U
Acetone	UG/KG	67	2%	200	0	2	106		22 U	23 U	26 U
Benzene	UG/KG	0	0%	60	0	0	114		4 U	5 U	5 U
Bromochloromethane	UG/KG	0	0%		NA	0	114		4 U	5 U	5 U
Bromodichloromethane	UG/KG	0	0%		NA	0	114		4 U	5 U	5 U
Bromoform	UG/KG	0	0%		NA	0	114		4 U	5 U	5 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114		4 U	5 U	5 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114		4 U	5 U	5 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114		4 U	5 U	5 U
Chlorodibromomethane	UG/KG	0	0%		NA	0	114		4 U	5 U	5 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114		9 U	9 U	10 U
Chloroform	UG/KG	0	0%	300	0	0	114		4 U	5 U	5 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		NA	1	114		4 U	5 U	5 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114		4 U	5 U	5 U
Cyclohexane	UG/KG	0	0%		NA	0	114		4 U	5 U	5 U
Dichlorodifluoromethane	UG/KG	2.25 ¹	4%		NA	5	114		4 U	5 U	5 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114		4 U	5 U	5 U
Isopropylbenzene	UG/KG	0	0%		NA	0	114		4 U	5 U	5 U
Methyl Acetate	UG/KG	0	0%		NA	0	114		4 U	5 U	5 U
Methyl Tertbutyl Ether	UG/KG	0	0%		NA	0	114		4 U	5 U	5 U
Methyl bromide	UG/KG	0	0%		NA	0	89		9 UJ	9 UJ	10 UJ
Methyl butyl ketone	UG/KG	0	0%		NA	0	114		22 U	23 U	26 U
Methyl chloride	UG/KG	0	0%		NA	0	114		9 U	9 U	10 U
Methyl cyclohexane	UG/KG	0	0%		NA	0	114		4 U	5 U	5 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114		22 U	23 U	26 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXPRD001	11EXPRD1101	11EXPRD1102	11EXPRED1101
MATRIX								SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXPRD001	11EXPRD1101	11EXPRD1102	11EXPRED1101
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2
SAMPLE DATE								12/15/2006	12/6/2006	12/6/2006	12/6/2006
QC CODE								SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal²	Number of Exceedances³	Number of Times Detected	Number of Samples Analyzed⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114		22 U	23 U	26 U
Methylene chloride	UG/KG	49	89%	100	0	102	114		8 J	9 J	10 J
Styrene	UG/KG	0	0%		NA	0	114		4 U	5 U	5 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114		4 U	5 U	5 U
Toluene	UG/KG	0	0%	1,500	0	0	114		4 U	5 U	5 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114		13 U	14 U	16 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114		4 U	5 U	5 U
Trans-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114		4 U	5 U	5 U
Trichloroethene	UG/KG	77	19%	700	0	22	114		4 U	5 U	5 U
Trichlorofluoromethane	UG/KG	0	0%		NA	0	114		4 UJ	5 UJ	5 UJ
Vinyl chloride	UG/KG	0	0%	200	0	0	114		9 U	9 U	10 U
Carcinogenic PAHs											
Benzo(a)anthracene	UG/KG	260,000	52%		NA	66	127	480 U	840	880	1300
Benzo(a)pyrene	UG/KG	240,000	49%		NA	62	127	480 U	620	650	1200
Benzo(b)fluoranthene	UG/KG	310,000	51%		NA	65	127	480 U	1300 J	1300 J	3200 J
Benzo(k)fluoranthene	UG/KG	59,000	24%		NA	30	127	480 U	380 UJ	380 UJ	400 UJ
Chrysene	UG/KG	240,000	50%		NA	64	127	480 U	820	870	1900
Dibenz(a,h)anthracene	UG/KG	40,000	35%		NA	44	127	480 U	190 J	200 J	400
Indeno(1,2,3-cd)pyrene	UG/KG	150,000	46%		NA	58	127	480 U	530	520	1200
BTE (calculated)	MG/KG	355	94%	10 ^b	8	127	135	0.56	1.1	1.1	2.2
Metals											
Aluminum	MG/KG	17,500	100%	76,100	0	114	114		10000 J	11800 J	9330 J
Antimony	MG/KG	11.3	18%	31	0	21	114		0.83 U	0.78 U	0.89 U
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114		5.2	5.8	7
Barium	MG/KG	248	100%	5,370	0	114	114		64.6	67.1	56.5
Beryllium	MG/KG	1	100%	150	0	114	114		0.53	0.58	0.47
Cadmium	MG/KG	2.5	94%	37	0	107	114		0.21 J	0.22 J	0.29
Calcium	MG/KG	216,000	100%		NA	114	114		7420 J	8920 J	31200 J
Chromium	MG/KG	44.5	100%		NA	113	113		15.1	17.7	15.7
Cobalt	MG/KG	16.8	100%	903	0	114	114		8.8 J	10.3 J	9.3 J
Copper	MG/KG	131	100%	3,130	0	114	114		20.4	22.6	26
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114		20800 J	24600 J	22300 J
Lead	MG/KG	469	100%	400	1	114	114		13.3	11.5	17.2
Magnesium	MG/KG	25200 ¹	100%		NA	114	114		4400	5430	7680
Manganese	MG/KG	1,540	100%	1,760	0	114	114		531	581	493
Mercury	MG/KG	0.327	99%	23	0	113	114		0.02 J	0.028 J	0.02 J
Nickel	MG/KG	38.6	100%	1,560	0	114	114		24.4 J	29.4 J	27.6 J
Potassium	MG/KG	1,750	100%		NA	114	114		1050	1090	1070
Selenium	MG/KG	3.4	25%	390	0	28	114		0.71 UJ	0.67 UJ	0.76 UJ

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

								SEAD-11	SEAD-11	SEAD-11	SEAD-11
								11EXPRD001	11EXPRD1101	11EXPRD1102	11EXPRE1101
								SOIL	SOIL	SOIL	SOIL
								11EXPRD001	11EXPRD1101	11EXPRD1102	11EXPRE1101
								0	0	0	0
								0.2	0.2	0.2	0.2
								12/15/2006	12/6/2006	12/6/2006	12/6/2006
								SA	SA	SA	SA
								IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114		0.6 U	0.56 U	0.19 U
Sodium	MG/KG	164	75%		NA	86	114		44.5 J	47.6 J	76.9 J
Thallium	MG/KG	2.1	25%	5.2	0	28	114		0.79 U	0.75 U	0.85 U
Vanadium	MG/KG	31.6	100%	78.2	0	114	114		17.7 J	19.6 J	15.7 J
Zinc	MG/KG	591	100%	23,500	0	114	114		92.6 J	85.8 J	76.1 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.
- (6) A shaded, boxed sample indicates that the soil represented by the sample has been removed from the site. Therefore, the analytical results for the shaded sample are not characteristic of current site conditions.

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.

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXP201	11EXPRF1101	11EXPRF201	11EXPRG101	11EXPRG1201	11EXPRG201
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXFLD002	11EXPRF1101	11EXPRF201	11EXPRG101	11EXPRG1201	11EXPRG202
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								12/21/2006	12/6/2006	12/6/2006	12/7/2006	12/6/2006	12/6/2006
QC CODE								SA	SA	SA	SA	SA	DU
STUDY ID								IRA	IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114		5 U	10 U	6 U	5 U	8 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114		5 U	10 U	6 U	5 U	8 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		NA	0	114		5 U	10 U	6 U	5 U	8 U
1,1,2-Trichloroethane	UG/KG	0	0%		NA	0	114		5 U	10 U	6 U	5 U	8 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114		5 U	10 U	6 U	5 U	8 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114		5 U	10 U	6 U	5 U	8 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		NA	0	114		5 U	10 U	6 UJ	5 U	8 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114		5 U	10 U	6 UJ	5 U	8 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		NA	0	114		5 U	10 U	6 U	5 U	8 U
1,2-Dibromoethane	UG/KG	0	0%		NA	0	114		5 U	10 U	6 U	5 U	8 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114		5 U	10 U	6 U	5 U	8 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114		5 U	10 U	6 U	5 U	8 U
1,2-Dichloropropane	UG/KG	0	0%		NA	0	114		5 U	10 U	6 U	5 U	8 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114		5 U	10 U	6 U	5 U	8 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114		5 U	10 U	6 U	5 U	8 U
Acetone	UG/KG	67	2%	200	0	2	106		21 J	51 U	31 U	27 U	41 U
Benzene	UG/KG	0	0%	60	0	0	114		5 U	10 U	6 U	5 U	8 U
Bromochloromethane	UG/KG	0	0%		NA	0	114		5 U	10 U	6 U	5 U	8 U
Bromodichloromethane	UG/KG	0	0%		NA	0	114		5 U	10 U	6 U	5 U	8 U
Bromoform	UG/KG	0	0%		NA	0	114		5 U	10 U	6 U	5 U	8 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114		5 U	10 U	6 U	5 U	8 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114		5 U	10 U	6 UJ	5 U	8 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114		5 U	10 U	6 U	5 U	8 U
Chlorodibromomethane	UG/KG	0	0%		NA	0	114		5 U	10 U	6 U	5 U	8 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114		10 U	20 U	12 U	11 U	16 U
Chloroform	UG/KG	0	0%	300	0	0	114		5 U	10 U	6 U	5 U	8 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		NA	1	114		5 U	10 U	6 U	5 U	8 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114		5 U	10 U	6 U	5 U	8 U
Cyclohexane	UG/KG	0	0%		NA	0	114		5 U	10 U	6 U	5 U	8 U
Dichlorodifluoromethane	UG/KG	2.25 ¹	4%		NA	5	114		5 U	10 U	6 U	5 U	8 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114		5 U	10 U	6 U	5 U	8 U
Isopropylbenzene	UG/KG	0	0%		NA	0	114		5 U	10 U	6 U	5 U	8 U
Methyl Acetate	UG/KG	0	0%		NA	0	114		5 U	10 U	6 U	5 U	8 U
Methyl Tertbutyl Ether	UG/KG	0	0%		NA	0	114		5 U	10 U	6 UJ	5 U	8 U
Methyl bromide	UG/KG	0	0%		NA	0	89		10 UJ	20 UJ	12 UJ	11 UJ	16 UJ
Methyl butyl ketone	UG/KG	0	0%		NA	0	114		26 U	51 U	31 U	27 U	41 U
Methyl chloride	UG/KG	0	0%		NA	0	114		10 U	20 U	12 U	11 U	16 U
Methyl cyclohexane	UG/KG	0	0%		NA	0	114		5 U	10 U	6 U	5 U	8 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114		26 U	51 U	31 U	27 U	41 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXPRES201	11EXPRF1101	11EXPRF201	11EXPRG101	11EXPRG1201	11EXPRG201
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXFLD002	11EXPRF1101	11EXPRF201	11EXPRG101	11EXPRG1201	11EXPRG202
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								12/21/2006	12/6/2006	12/6/2006	12/7/2006	12/6/2006	12/6/2006
QC CODE								SA	SA	SA	SA	SA	DU
STUDY ID								IRA	IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal²	Number of Exceedances³	Number of Times Detected	Number of Samples Analyzed⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	26 U	51 U	31 U	27 U	41 U	41 U
Methylene chloride	UG/KG	49	89%	100	0	102	114	12 J	12 J	8 J	10 J	8 J	8 J
Styrene	UG/KG	0	0%		NA	0	114	5 U	10 U	6 U	5 U	8 U	8 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	5 U	10 U	6 U	5 U	8 U	8 U
Toluene	UG/KG	0	0%	1,500	0	0	114	5 U	10 U	6 U	5 U	8 U	8 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	16 U	31 U	18 U	16 U	24 U	24 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	5 U	10 U	6 UJ	5 U	8 U	8 U
Trans-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	5 U	10 U	6 U	5 U	8 U	8 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	5 U	10 U	6 U	5 U	8 U	8 U
Trichlorofluoromethane	UG/KG	0	0%		NA	0	114	5 UJ	10 UJ	6 U	5 UJ	8 UJ	8 UJ
Vinyl chloride	UG/KG	0	0%	200	0	0	114	10 U	20 U	12 U	11 U	16 U	16 U
Carcinogenic PAHs													
Benzo(a)anthracene	UG/KG	260,000	52%		NA	66	127	33 J	470	710	80 J	79 J	5500 J
Benzo(a)pyrene	UG/KG	240,000	49%		NA	62	127	29 J	340 J	650	83 J	50 J	5200 J
Benzo(b)fluoranthene	UG/KG	310,000	51%		NA	65	127	39 J	880 J	1200 J	160 J	140 J	9700 J
Benzo(k)fluoranthene	UG/KG	59,000	24%		NA	30	127	400 U	410 UJ	590 UJ	450 UJ	390 UJ	4800 UJ
Chrysene	UG/KG	240,000	50%		NA	64	127	35 J	530	690	96 J	92 J	5700 J
Dibenz(a,h)anthracene	UG/KG	40,000	35%		NA	44	127	400 U	110 J	110 J	450 U	390 U	940 J
Indeno(1,2,3-cd)pyrene	UG/KG	150,000	46%		NA	58	127	400 U	310 J	400 J	60 J	44 J	3400 J
BTE (calculated)	MG/KG	355	94%	10 ^b	8	127	135	0.26	0.62	1.0	0.34	0.27	8.1
Metals													
Aluminum	MG/KG	17,500	100%	76,100	0	114	114		9510 J	11700	11900 J	10300 J	11600
Antimony	MG/KG	11.3	18%	31	0	21	114	0.76 U	0.89 U	1.1 J	0.78 U	0.71 U	0.71 U
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	5.4	4.4	7.1	4.5	6.1	6.1
Barium	MG/KG	248	100%	5,370	0	114	114	81.7	99.6	125 J	62.8	88	88
Beryllium	MG/KG	1	100%	150	0	114	114	0.51	0.6	0.69	0.53	0.58	0.58
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.25	0.42	0.51	0.12 J	0.46	0.46
Calcium	MG/KG	216,000	100%		NA	114	114	26500 J	7160 J	4820 J	17300 J	5080 J	5080 J
Chromium	MG/KG	44.5	100%		NA	113	113	14.6	16.8 J	17.3 J	15.4	17.7 J	17.7 J
Cobalt	MG/KG	16.8	100%	903	0	114	114	8.7 J	6.8 J	10 J	7.5 J	8.6 J	8.6 J
Copper	MG/KG	131	100%	3,130	0	114	114	19.5	22.6	18.6	20.6	22.7	22.7
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	20600 J	20100 J	23500 J	20500 J	22700 J	22700 J
Lead	MG/KG	469	100%	400	1	114	114	16.9	22 J	32.6 J	11.8	26.2 J	26.2 J
Magnesium	MG/KG	25200 ¹	100%		NA	114	114	9360	3480	3600 J	7180	4160	4160
Manganese	MG/KG	1,540	100%	1,760	0	114	114	715	338 J	666 J	280	376 J	376 J
Mercury	MG/KG	0.327	99%	23	0	113	114	0.016 J	0.067	0.046 J	0.029 J	0.029	0.029
Nickel	MG/KG	38.6	100%	1,560	0	114	114	26.2 J	20.9	21.7 J	23.6 J	24.3	24.3
Potassium	MG/KG	1,750	100%		NA	114	114	932	1600	1310 J	891	1180	1180
Selenium	MG/KG	3.4	25%	390	0	28	114	0.65 UJ	1.1 U	0.78 UJ	0.67 UJ	0.85 U	0.85 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
								11EXP201	11EXPRF101	11EXPRF201	11EXPRG101	11EXPRG1201	11EXPRG201
								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
								11EXFLD002	11EXPRF101	11EXPRF201	11EXPRG101	11EXPRG1201	11EXPRG202
								0	0	0	0	0	0
								0.2	0.2	0.2	0.2	0.2	0.2
								12/21/2006	12/6/2006	12/6/2006	12/7/2006	12/6/2006	12/6/2006
								SA	SA	SA	SA	SA	DU
								IRA	IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal²	Number of Exceedances³	Number of Times Detected	Number of Samples Analyzed⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114		0.55 U	0.17 U	0.2 U	0.57 U	0.14 U
Sodium	MG/KG	164	75%		NA	86	114		66.9 J	44.4 U	71.2 J	49.9 J	48.8 J
Thallium	MG/KG	2.1	25%	5.2	0	28	114		0.73 U	1.2 U	0.88 U	0.75 U	0.93 U
Vanadium	MG/KG	31.6	100%	78.2	0	114	114		15.9 J	20.2 J	22.8 J	17.1 J	21.3 J
Zinc	MG/KG	591	100%	23,500	0	114	114		81.9 J	91.7 J	92.9 J	73.8 J	94.2 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.
- (6) A shaded, boxed sample indicates that the soil represented by the sample has been removed from the site. Therefore, the analytical results for the shaded sample are not characteristic of current site conditions.

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.

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXPRG201	11EXPRH1201	11EXPRH201	11EXPRH301	11EXPRI1201	11EXPRI401
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXPRG201	11EXPRH1201	11EXPRH201	11EXPRH301	11EXPRI1201	11EXPRI401
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								12/6/2006	12/6/2006	12/7/2006	12/6/2006	12/6/2006	12/6/2006
QC CODE								SA	SA	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	9 U	7 U	9 U	6 U	5 U	10 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	9 U	7 U	9 U	6 U	5 U	10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		NA	0	114	9 U	7 U	9 U	6 U	5 U	10 U
1,1,2-Trichloroethane	UG/KG	0	0%		NA	0	114	9 U	7 U	9 U	6 U	5 U	10 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	9 U	7 U	9 U	6 U	5 U	10 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	9 U	7 U	9 U	6 U	5 U	10 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		NA	0	114	9 U	7 U	9 UJ	6 U	5 U	10 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	9 U	7 U	9 UJ	6 U	5 U	10 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		NA	0	114	9 U	7 U	9 U	6 U	5 U	10 U
1,2-Dibromoethane	UG/KG	0	0%		NA	0	114	9 U	7 U	9 U	6 U	5 U	10 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	9 U	7 U	9 U	6 U	5 U	10 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	9 U	7 U	9 U	6 U	5 U	10 U
1,2-Dichloropropane	UG/KG	0	0%		NA	0	114	9 U	7 U	9 U	6 U	5 U	10 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	9 U	7 U	9 U	6 U	5 U	10 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	9 U	7 U	9 U	6 U	5 U	10 U
Acetone	UG/KG	67	2%	200	0	2	106	46 UJ	33 U	46 U	30 U	23 U	48 UJ
Benzene	UG/KG	0	0%	60	0	0	114	9 U	7 U	9 U	6 U	5 U	10 U
Bromochloromethane	UG/KG	0	0%		NA	0	114	9 U	7 U	9 U	6 U	5 U	10 U
Bromodichloromethane	UG/KG	0	0%		NA	0	114	9 U	7 U	9 U	6 U	5 U	10 U
Bromoform	UG/KG	0	0%		NA	0	114	9 U	7 U	9 U	6 U	5 U	10 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	9 U	7 U	9 U	6 U	5 U	10 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	9 UJ	7 U	9 UJ	6 U	5 U	10 UJ
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	9 U	7 U	9 U	6 U	5 U	10 U
Chlorodibromomethane	UG/KG	0	0%		NA	0	114	9 U	7 U	9 U	6 U	5 U	10 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	18 U	13 U	18 U	12 U	9 U	19 U
Chloroform	UG/KG	0	0%	300	0	0	114	9 U	7 U	9 U	6 U	5 U	10 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		NA	1	114	9 U	7 U	9 U	6 U	5 U	10 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	9 U	7 U	9 U	6 U	5 U	10 U
Cyclohexane	UG/KG	0	0%		NA	0	114	9 U	7 U	9 U	6 U	5 U	10 U
Dichlorodifluoromethane	UG/KG	2.25 ¹	4%		NA	5	114	9 U	7 U	9 U	6 U	5 U	10 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	9 U	7 U	9 U	6 U	5 U	10 U
Isopropylbenzene	UG/KG	0	0%		NA	0	114	9 U	7 U	9 U	6 U	5 U	10 U
Methyl Acetate	UG/KG	0	0%		NA	0	114	9 UJ	7 U	9 U	6 U	5 U	10 UJ
Methyl Tertbutyl Ether	UG/KG	0	0%		NA	0	114	9 UJ	7 U	9 UJ	6 U	5 U	10 UJ
Methyl bromide	UG/KG	0	0%		NA	0	89	18 UR	13 UJ	18 UJ	12 UJ	9 UJ	19 UR
Methyl butyl ketone	UG/KG	0	0%		NA	0	114	46 U	33 U	46 U	30 U	23 U	48 U
Methyl chloride	UG/KG	0	0%		NA	0	114	18 U	13 U	18 U	12 U	9 U	19 U
Methyl cyclohexane	UG/KG	0	0%		NA	0	114	9 U	7 U	9 U	6 U	5 U	10 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	46 U	33 U	46 U	30 U	23 U	48 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXPRG201	11EXPRH1201	11EXPRH201	11EXPRH301	11EXPRI1201	11EXPRI401
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXPRG201	11EXPRH1201	11EXPRH201	11EXPRH301	11EXPRI1201	11EXPRI401
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								12/6/2006	12/6/2006	12/7/2006	12/6/2006	12/6/2006	12/6/2006
QC CODE								SA	SA	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal²	Number of Exceedances³	Number of Times Detected	Number of Samples Analyzed⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	46 U	33 U	46 U	30 U	23 U	48 U
Methylene chloride	UG/KG	49	89%	100	0	102	114	10 J	18 J	13 J	8 J	17 J	14 J
Styrene	UG/KG	0	0%		NA	0	114	9 U	7 U	9 U	6 U	5 U	10 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	9 U	7 U	9 U	6 U	5 U	10 U
Toluene	UG/KG	0	0%	1,500	0	0	114	9 U	7 U	9 U	6 U	5 U	10 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	28 U	20 U	27 U	18 U	14 U	29 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	9 UJ	7 U	9 UJ	6 U	5 U	10 UJ
Trans-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	9 U	7 U	9 U	6 U	5 U	10 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	9 U	7 U	9 U	6 U	5 U	10 U
Trichlorofluoromethane	UG/KG	0	0%		NA	0	114	9 U	7 UJ	9 U	6 UJ	5 UJ	10 U
Vinyl chloride	UG/KG	0	0%	200	0	0	114	18 U	13 U	18 U	12 U	9 U	19 U
Carcinogenic PAHs													
Benzo(a)anthracene	UG/KG	260,000	52%		NA	66	127	1000 J	530	1500	220 J	380 U	2000 J
Benzo(a)pyrene	UG/KG	240,000	49%		NA	62	127	880 J	350 J	1300	210 J	380 U	1800 J
Benzo(b)fluoranthene	UG/KG	310,000	51%		NA	65	127	1400 J	740 J	2300 J	300 J	380 U	2600 J
Benzo(k)fluoranthene	UG/KG	59,000	24%		NA	30	127	340 J	430 UJ	500 UJ	120 J	380 U	1100 J
Chrysene	UG/KG	240,000	50%		NA	64	127	920 J	520	1600	230 J	380 U	2100 J
Dibenz(a,h)anthracene	UG/KG	40,000	35%		NA	44	127	160 J	91 J	260 J	44 J	380 U	340 J
Indeno(1,2,3-cd)pyrene	UG/KG	150,000	46%		NA	58	127	550 J	250 J	810	140 J	380 U	1200 J
BTE (calculated)	MG/KG	355	94%	10 ^b	8	127	135	1.3	0.60	2.0	0.32	0.44	2.8
Metals													
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	11000	9360 J	11000 J	11500	10100 J	12400
Antimony	MG/KG	11.3	18%	31	0	21	114	0.72 U	0.87 U	1.1 UJ	0.69 U	0.75 U	1.3 J
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	5.2	4.7	4.8	4.9	5.6	4.7
Barium	MG/KG	248	100%	5,370	0	114	114	87.9	61	102 J	96	60.6	109
Beryllium	MG/KG	1	100%	150	0	114	114	0.56	0.49	0.57	0.57	0.58	0.61
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.4	0.19 J	0.5	0.41	0.2 J	0.77
Calcium	MG/KG	216,000	100%		NA	114	114	4820 J	9120 J	7860 J	4570 J	14900 J	8070 J
Chromium	MG/KG	44.5	100%		NA	113	113	16.4 J	14.2	16.8 J	16 J	16.6	20.2 J
Cobalt	MG/KG	16.8	100%	903	0	114	114	7.6 J	7.4 J	7 J	6.8 J	11.1 J	7.5 J
Copper	MG/KG	131	100%	3,130	0	114	114	22	19.5	22.4	19.3	20.2	32.1
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	19900 J	18700 J	19000 J	19600 J	24500 J	20900 J
Lead	MG/KG	469	100%	400	1	114	114	25.3 J	26.4	36.2 J	15.7 J	16.9	42.7 J
Magnesium	MG/KG	25200 ¹	100%		NA	114	114	3580	5070	3480 J	2940	6070	3910
Manganese	MG/KG	1,540	100%	1,760	0	114	114	360 J	299	875 J	279 J	524	334 J
Mercury	MG/KG	0.327	99%	23	0	113	114	0.059	0.03 J	0.061 J	0.046	0.02 J	0.09
Nickel	MG/KG	38.6	100%	1,560	0	114	114	21.5	21.5 J	20.2 J	19	29.7 J	23.9
Potassium	MG/KG	1,750	100%		NA	114	114	1170	998	1430 J	1200	933	1550
Selenium	MG/KG	3.4	25%	390	0	28	114	0.86 U	0.74 UJ	0.97 UJ	0.83 U	0.64 UJ	1.1 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

		SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	
FACILITY		SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	
LOCATION ID		11EXPRG201	11EXPRH1201	11EXPRH201	11EXPRH301	11EXPRI1201	11EXPRI401	11EXPRG201	11EXPRH1201	11EXPRH201	11EXPRH301	
MATRIX		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
SAMPLE ID		11EXPRG201	11EXPRH1201	11EXPRH201	11EXPRH301	11EXPRI1201	11EXPRI401	11EXPRG201	11EXPRH1201	11EXPRH201	11EXPRH301	
SAMPLE DEPTH TO TOP OF SAMPLE		0	0	0	0	0	0	0	0	0	0	
SAMPLE DEPTH TO BOTTOM OF SAMPLE		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
SAMPLE DATE		12/6/2006	12/6/2006	12/7/2006	12/6/2006	12/6/2006	12/6/2006	12/6/2006	12/6/2006	12/6/2006	12/6/2006	
QC CODE		SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	
STUDY ID		IRA	IRA	IRA	IRA	IRA	IRA	IRA	IRA	IRA	IRA	
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal²	Number of Exceedances³	Number of Times Detected	Number of Samples Analyzed⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.7 U	0.63 U	0.25 U	0.14 U	0.54 U
Sodium	MG/KG	164	75%		NA	86	114	60.9 J	36.4 U	51.1 J	41.1 J	42.8 J
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.94 U	0.83 U	1.1 U	0.91 U	0.72 U
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	19.7 J	15.8 J	19.4 J	22.1 J	16.1 J
Zinc	MG/KG	591	100%	23,500	0	114	114	84.4 J	74.2 J	103 J	73.3 J	63.9 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.
- (6) A shaded, boxed sample indicates that the soil represented by the sample has been removed from the site. Therefore, the analytical results for the shaded sample are not characteristic of current site conditions.

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.

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXPRI402	11EXPRI501	11EXPRI601	11EXPRI701	11EXPRI801	11EXPRI1001
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXPRI402	11EXPRI501	11EXPRI601	11EXPRI701	11EXPRI801	11EXPRI1001
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								1/5/2007	12/6/2006	12/6/2006	12/6/2006	12/6/2006	12/6/2006
QC CODE								SA	SA	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114		5 U	6 U	5 U	5 U	4 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114		5 U	6 U	5 U	5 U	4 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		NA	0	114		5 U	6 U	5 U	5 U	4 U
1,1,2-Trichloroethane	UG/KG	0	0%		NA	0	114		5 U	6 U	5 U	5 U	4 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114		5 U	6 U	5 U	5 U	4 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114		5 U	6 U	5 U	5 U	4 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		NA	0	114		5 U	6 U	5 U	5 U	4 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114		5 U	6 U	5 U	5 U	4 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		NA	0	114		5 U	6 U	5 U	5 U	4 U
1,2-Dibromoethane	UG/KG	0	0%		NA	0	114		5 U	6 U	5 U	5 U	4 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114		5 U	6 U	5 U	5 U	4 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114		5 U	6 U	5 U	5 U	4 U
1,2-Dichloropropane	UG/KG	0	0%		NA	0	114		5 U	6 U	5 U	5 U	4 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114		5 U	6 U	5 U	5 U	4 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114		5 U	6 U	5 U	5 U	4 U
Acetone	UG/KG	67	2%	200	0	2	106		25 UJ	28 UJ	26 UJ	27 UJ	21 UJ
Benzene	UG/KG	0	0%	60	0	0	114		5 U	6 U	5 U	5 U	4 U
Bromochloromethane	UG/KG	0	0%		NA	0	114		5 U	6 U	5 U	5 U	4 U
Bromodichloromethane	UG/KG	0	0%		NA	0	114		5 U	6 U	5 U	5 U	4 U
Bromoform	UG/KG	0	0%		NA	0	114		5 U	6 U	5 U	5 U	4 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114		5 U	6 U	5 U	5 U	4 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114		5 UJ	6 UJ	5 UJ	5 UJ	4 UJ
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114		5 U	6 U	5 U	5 U	4 U
Chlorodibromomethane	UG/KG	0	0%		NA	0	114		5 U	6 U	5 U	5 U	4 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114		10 U	11 U	10 U	11 U	8 U
Chloroform	UG/KG	0	0%	300	0	0	114		5 U	6 U	5 U	5 U	4 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		NA	1	114		5 U	6 U	5 U	5 U	4 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114		5 U	6 U	5 U	5 U	4 U
Cyclohexane	UG/KG	0	0%		NA	0	114		5 U	6 U	5 U	5 U	4 U
Dichlorodifluoromethane	UG/KG	2.25 ¹	4%		NA	5	114		5 U	6 U	5 U	5 U	4 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114		5 U	6 U	5 U	5 U	4 U
Isopropylbenzene	UG/KG	0	0%		NA	0	114		5 U	6 U	5 U	5 U	4 U
Methyl Acetate	UG/KG	0	0%		NA	0	114		5 UJ	6 UJ	5 UJ	5 UJ	4 UJ
Methyl Tertbutyl Ether	UG/KG	0	0%		NA	0	114		5 UJ	6 UJ	5 UJ	5 UJ	4 UJ
Methyl bromide	UG/KG	0	0%		NA	0	89		10 UR	11 UR	10 UR	11 UR	8 UR
Methyl butyl ketone	UG/KG	0	0%		NA	0	114		25 U	28 U	26 U	27 U	21 U
Methyl chloride	UG/KG	0	0%		NA	0	114		10 U	11 U	10 U	11 U	8 U
Methyl cyclohexane	UG/KG	0	0%		NA	0	114		5 U	6 U	5 U	5 U	4 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114		25 U	28 U	26 U	27 U	21 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXPRI402	11EXPRI501	11EXPRI601	11EXPRI701	11EXPRI801	11EXPRI901
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXPRI402	11EXPRI501	11EXPRI601	11EXPRI701	11EXPRI801	11EXPRI901
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								1/5/2007	12/6/2006	12/6/2006	12/6/2006	12/6/2006	12/6/2006
QC CODE								SA	SA	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal²	Number of Exceedances³	Number of Times Detected	Number of Samples Analyzed⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	25 U	28 U	26 U	27 U	27 U	21 U
Methylene chloride	UG/KG	49	89%	100	0	102	114	12 J	9 J	7 J	6 J	6 J	5 J
Styrene	UG/KG	0	0%		NA	0	114	5 U	6 U	5 U	5 U	5 U	4 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	5 U	6 U	5 U	5 U	5 U	4 U
Toluene	UG/KG	0	0%	1,500	0	0	114	5 U	6 U	5 U	5 U	5 U	4 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	15 U	17 U	16 U	16 U	16 U	13 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	5 UJ	6 UJ	5 UJ	5 UJ	5 UJ	4 UJ
Trans-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	5 U	6 U	5 U	5 U	5 U	4 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	5 U	6 U	5 U	5 U	5 U	4 U
Trichlorofluoromethane	UG/KG	0	0%		NA	0	114	5 U	6 U	5 U	5 U	5 U	4 U
Vinyl chloride	UG/KG	0	0%	200	0	0	114	10 U	11 U	10 U	11 U	11 U	8 U
Carcinogenic PAHs													
Benzo(a)anthracene	UG/KG	260,000	52%		NA	66	127	340	680	31 J	72 J	75 J	400 J
Benzo(a)pyrene	UG/KG	240,000	49%		NA	62	127	280	630	22 J	61 J	59 J	380 J
Benzo(b)fluoranthene	UG/KG	310,000	51%		NA	65	127	510 J	930	32 J	84 J	70 J	360 J
Benzo(k)fluoranthene	UG/KG	59,000	24%		NA	30	127	190 UJ	240 J	420 U	27 J	37 J	120 J
Chrysene	UG/KG	240,000	50%		NA	64	127	300	630	60 J	60 J	57 J	470 J
Dibenz(a,h)anthracene	UG/KG	40,000	35%		NA	44	127	46 J	110 J	420 U	13 J	12 J	91 J
Indeno(1,2,3-cd)pyrene	UG/KG	150,000	46%		NA	58	127	160 J	400	16 J	46 J	39 J	220 J
BTE (calculated)	MG/KG	355	94%	10 ^b	8	127	135	0.43	0.95	0.24	0.10	0.09	0.57
Metals													
Aluminum	MG/KG	17,500	100%	76,100	0	114	114		11200	12000	12600	12000	7750
Antimony	MG/KG	11.3	18%	31	0	21	114		0.64 U	0.66 U	0.63 U	3.2 J	0.59 U
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114		5.2	6	5.6	5.5	3.9
Barium	MG/KG	248	100%	5,370	0	114	114		88.7	86.1	111	119	46.5
Beryllium	MG/KG	1	100%	150	0	114	114		0.58	0.62	0.68	0.66	0.41
Cadmium	MG/KG	2.5	94%	37	0	107	114		0.42	0.35	0.4	0.49	0.22 J
Calcium	MG/KG	216,000	100%		NA	114	114		24400 J	15500 J	3270 J	3830 J	40300 J
Chromium	MG/KG	44.5	100%		NA	113	113		16.6 J	17.3 J	18.1 J	19.9 J	11.6 J
Cobalt	MG/KG	16.8	100%	903	0	114	114		8.3 J	8.6 J	10.7 J	9.2 J	6.9 J
Copper	MG/KG	131	100%	3,130	0	114	114		17.1	17.8	16.3	25.6	19.3
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114		22100 J	23900 J	25500 J	24100 J	16400 J
Lead	MG/KG	469	100%	400	1	114	114		15.2 J	13.5 J	15.2 J	101 J	14 J
Magnesium	MG/KG	25200 ¹	100%		NA	114	114		7570	4780	3430	3310	11200
Manganese	MG/KG	1,540	100%	1,760	0	114	114		728 J	455 J	844 J	785 J	393 J
Mercury	MG/KG	0.327	99%	23	0	113	114		0.017 J	0.035	0.041	0.051	0.053
Nickel	MG/KG	38.6	100%	1,560	0	114	114		24	23.7	24	22.7	19.1
Potassium	MG/KG	1,750	100%		NA	114	114		1180	1290	1050	1160	955
Selenium	MG/KG	3.4	25%	390	0	28	114		0.77 U	0.79 U	0.76 U	0.77 U	0.7 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
								11EXPRI402	11EXPRI501	11EXPRI601	11EXPRI701	11EXPRI801	11EXPRI001
								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
								11EXPRI402	11EXPRI501	11EXPRI601	11EXPRI701	11EXPRI801	11EXPRI001
								0	0	0	0	0	0
								0.2	0.2	0.2	0.2	0.2	0.2
								1/5/2007	12/6/2006	12/6/2006	12/6/2006	12/6/2006	12/6/2006
								SA	SA	SA	SA	SA	SA
								IRA	IRA	IRA	IRA	IRA	IRA
								Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114		0.13 U	0.13 U	0.62 U	0.63 U	0.11 U
Sodium	MG/KG	164	75%		NA	86	114		63 J	64.8 J	43.2 J	32.1 U	82.9 J
Thallium	MG/KG	2.1	25%	5.2	0	28	114		0.85 U	0.86 U	0.83 U	0.84 U	0.77 U
Vanadium	MG/KG	31.6	100%	78.2	0	114	114		18.9 J	19.8 J	21.2 J	20.5 J	14.1 J
Zinc	MG/KG	591	100%	23,500	0	114	114		98 J	103 J	86.9 J	149 J	82.7 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.
- (6) A shaded, boxed sample indicates that the soil represented by the sample has been removed from the site. Therefore, the analytical results for the shaded sample are not characteristic of current site conditions.

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.

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXPRJ1101	11EXPRJ1201	11EXPRJ1201	11EXPRJ901	11EXFLB501	11EXFLB701
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXPRJ1101	11EXPRJ1202	11EXPRJ1201	11EXPRJ901	11EXFLB501	11EXFLB701
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								12/6/2006	12/6/2006	12/6/2006	12/6/2006	11/6/2006	11/6/2006
QC CODE								SA	DU	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	5 U	5 U	5 U	5 U	6 U	5 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	5 U	5 U	5 U	5 U	6 U	5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	6 U	5 U
1,1,2-Trichloroethane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	6 U	5 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	5 U	5 U	5 U	5 U	6 U	5 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	5 U	5 U	5 U	5 U	6 U	5 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	6 U	5 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	5 U	5 U	5 U	5 U	6 U	5 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	6 U	5 U
1,2-Dibromoethane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	6 U	5 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	5 U	5 U	5 U	5 U	6 U	5 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	5 U	5 U	5 U	5 U	6 U	5 U
1,2-Dichloropropane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	6 U	5 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	5 U	5 U	5 U	5 U	6 U	5 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	5 U	5 U	5 U	5 U	6 U	5 U
Acetone	UG/KG	67	2%	200	0	2	106	26 UJ	25 U	23 U	26 UJ	28 UJ	26 UJ
Benzene	UG/KG	0	0%	60	0	0	114	5 U	5 U	5 U	5 U	6 U	5 U
Bromochloromethane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	6 U	5 U
Bromodichloromethane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	6 U	5 U
Bromoform	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	6 U	5 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	5 U	5 U	5 U	5 U	6 U	5 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	5 UJ	5 U	5 U	5 UJ	6 U	5 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	5 U	5 U	5 U	5 U	6 U	5 U
Chlorodibromomethane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	6 U	5 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	10 U	10 U	9 U	10 U	11 U	10 U
Chloroform	UG/KG	0	0%	300	0	0	114	5 U	5 U	5 U	5 U	6 U	5 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		NA	1	114	5 U	5 U	5 U	5 U	6 U	5 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	6 U	5 U
Cyclohexane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	6 U	5 U
Dichlorodifluoromethane	UG/KG	2.25 ¹	4%		NA	5	114	5 U	5 U	5 U	5 U	6 U	5 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	5 U	5 U	5 U	5 U	6 U	5 U
Isopropylbenzene	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	6 U	5 U
Methyl Acetate	UG/KG	0	0%		NA	0	114	5 UJ	5 U	5 U	5 UJ	6 UJ	5 UJ
Methyl Tertbutyl Ether	UG/KG	0	0%		NA	0	114	5 UJ	5 U	5 U	5 UJ	6 UJ	5 UJ
Methyl bromide	UG/KG	0	0%		NA	0	89	10 UR	10 UJ	9 UJ	10 UR	11 UJ	10 UJ
Methyl butyl ketone	UG/KG	0	0%		NA	0	114	26 U	25 U	23 U	26 U	28 U	26 U
Methyl chloride	UG/KG	0	0%		NA	0	114	10 U	10 U	9 U	10 U	11 U	10 U
Methyl cyclohexane	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	6 U	5 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	26 U	25 U	23 U	26 U	28 U	26 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXPRJ1101	11EXPRJ1201	11EXPRJ1201	11EXPRJ901	11EXFLB501	11EXFLB701
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXPRJ1101	11EXPRJ1202	11EXPRJ1201	11EXPRJ901	11EXFLB501	11EXFLB701
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								12/6/2006	12/6/2006	12/6/2006	12/6/2006	11/6/2006	11/6/2006
QC CODE								SA	DU	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	26 U	25 U	23 U	26 U	28 U	26 U
Methylene chloride	UG/KG	49	89%	100	0	102	114	9 J	9 J	10 J	5 J	12 U	10 U
Styrene	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	6 U	5 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	5 U	5 U	5 U	5 U	6 U	5 U
Toluene	UG/KG	0	0%	1,500	0	0	114	5 U	5 U	5 U	5 U	6 U	5 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	16 U	15 U	14 U	15 U	17 U	16 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	5 UJ	5 U	5 U	5 UJ	6 UJ	5 UJ
Trans-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	5 U	5 U	5 U	5 U	6 U	5 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	5 U	5 U	5 U	5 U	3 J	5 U
Trichlorofluoromethane	UG/KG	0	0%		NA	0	114	5 U	5 UJ	5 UJ	5 U	6 U	5 U
Vinyl chloride	UG/KG	0	0%	200	0	0	114	10 U	10 U	9 U	10 U	11 U	10 U
Carcinogenic PAHs													
Benzo(a)anthracene	UG/KG	260,000	52%		NA	66	127	190 J	59 J	27 J	26 J	7800	8400
Benzo(a)pyrene	UG/KG	240,000	49%		NA	62	127	190 J	53 J	26 J	20 J	7300	8000
Benzo(b)fluoranthene	UG/KG	310,000	51%		NA	65	127	180 J	98 J	28 J	29 J	9800	11000
Benzo(k)fluoranthene	UG/KG	59,000	24%		NA	30	127	55 J	370 UJ	20 J	8 J	2900	3400
Chrysene	UG/KG	240,000	50%		NA	64	127	260 J	61 J	32 J	16 J	7200	8200
Dibenz(a,h)anthracene	UG/KG	40,000	35%		NA	44	127	42 J	370 U	370 U	400 U	1300 J	1500 J
Indeno(1,2,3-cd)pyrene	UG/KG	150,000	46%		NA	58	127	120 J	44 J	22 J	17 J	5000 J	5900 J
BTE (calculated)	MG/KG	355	94%	10 ^b	8	127	135	0.28	0.26	0.22	0.23	11	12
Metals													
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	12500	6440 J	6450 J	11600	8180 J	10100 J
Antimony	MG/KG	11.3	18%	31	0	21	114	0.6 U	3.4 J	0.72 U	0.68 J	0.87 J	0.82 UJ
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	5.1	4.1	3.7	6.1	5 J	5 J
Barium	MG/KG	248	100%	5,370	0	114	114	62.4	35.2	34.3	80	107 J	81.7 J
Beryllium	MG/KG	1	100%	150	0	114	114	0.63	0.34	0.35	0.61	0.49 J	0.55 J
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.36	0.16 J	0.27	0.41	0.62 J	0.5 J
Calcium	MG/KG	216,000	100%		NA	114	114	29500 J	32600 J	53200 J	5680 J	34000 J	2570 J
Chromium	MG/KG	44.5	100%		NA	113	113	19 J	10.3	10.7	17.2 J	14.2 J	16.1 J
Cobalt	MG/KG	16.8	100%	903	0	114	114	11.1 J	6.9 J	6 J	9.9 J	7.4 J	9 J
Copper	MG/KG	131	100%	3,130	0	114	114	23.8	17.8	17.3	24.7	33.2 J	20.4 J
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	25000 J	14400 J	14300 J	24100 J	18600 J	21300 J
Lead	MG/KG	469	100%	400	1	114	114	20.8 J	64 J	16.4 J	93.3 J	38.5 J	47.5 J
Magnesium	MG/KG	25200 ¹	100%		NA	114	114	7900	8940 J	13700 J	4880	2730 J	3290 J
Manganese	MG/KG	1,540	100%	1,760	0	114	114	607 J	325	330	706 J	614 J	646 J
Mercury	MG/KG	0.327	99%	23	0	113	114	0.03	0.016 J	0.022 J	0.065	0.047	0.038
Nickel	MG/KG	38.6	100%	1,560	0	114	114	28.9	17.1 J	17 J	28.9	20.1 J	23.7 J
Potassium	MG/KG	1,750	100%		NA	114	114	1200	800	869	1040	988 J	978 J
Selenium	MG/KG	3.4	25%	390	0	28	114	0.72 U	0.61 UJ	0.62 UJ	0.73 U	1.2 J	1.7 J

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXPRJ1101	11EXPRJ1201	11EXPRJ1201	11EXPRJ901	11EXPRJ901	11EXFLB501
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXPRJ1101	11EXPRJ1202	11EXPRJ1201	11EXPRJ901	11EXPRJ901	11EXFLB501
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								12/6/2006	12/6/2006	12/6/2006	12/6/2006	12/6/2006	11/6/2006
QC CODE								SA	DU	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA	IRA
		Maximum	Frequency of	Cleanup	Number of	Number of Times	Number of Samples						
Parameter	Units	Value	Detection	Goal²	Exceedances³	Detected	Analyzed⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.12 U	0.52 U	0.16 U	0.12 U	0.17 UJ	0.59 UJ
Sodium	MG/KG	164	75%		NA	86	114	89.7 J	57.1 J	113 J	36.3 J	33.6 UJ	166 UJ
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.79 U	0.69 U	0.69 U	0.81 U	1.3 J	1.5 J
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	22.2 J	11.7 J	13.2 J	21.1 J	15.3 J	19 J
Zinc	MG/KG	591	100%	23,500	0	114	114	102 J	58.3 J	59.1 J	155 J	122 J	81.5 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.
- (6) A shaded, boxed sample indicates that the soil represented by the sample has been removed from the site. Therefore, the analytical results for the shaded sample are not characteristic of current site conditions.

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.

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
	LOCATION ID								11EXFLC601	11EXFLC701	11EXFLC801	11EXFLD101	11EXPRE201
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXFLC601	11EXFLC701	11EXFLC801	11EXFLD101	11EXPRE201	11EXPRH401
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								11/6/2006	11/6/2006	11/6/2006	12/7/2006	12/6/2006	12/21/2006
QC CODE								SA	SA	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	7 U	6 U	5 U	6 U	15 U	7 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	7 U	6 U	5 U	6 U	15 U	7 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		NA	0	114	7 U	6 U	5 U	6 U	15 U	7 U
1,1,2-Trichloroethane	UG/KG	0	0%		NA	0	114	7 U	6 U	5 U	6 U	15 U	7 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	7 U	6 U	5 U	6 U	15 U	7 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	7 U	6 U	5 U	6 U	15 U	7 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		NA	0	114	7 U	6 U	5 U	6 UJ	15 U	7 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	7 U	6 U	5 U	6 UJ	15 U	7 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		NA	0	114	7 U	6 U	5 U	6 U	15 U	7 U
1,2-Dibromoethane	UG/KG	0	0%		NA	0	114	7 U	6 U	5 U	6 U	15 U	7 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	7 U	6 U	5 U	6 U	15 U	7 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	7 U	6 U	5 U	6 U	15 U	7 U
1,2-Dichloropropane	UG/KG	0	0%		NA	0	114	7 U	6 U	5 U	6 U	15 U	7 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	7 U	6 U	5 U	6 U	15 U	7 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	7 U	6 U	5 U	6 U	15 U	7 U
Acetone	UG/KG	67	2%	200	0	2	106	33 UJ	29 UJ	26 UJ	31 U	77 U	34 U
Benzene	UG/KG	0	0%	60	0	0	114	7 U	6 U	5 U	6 U	15 U	7 U
Bromochloromethane	UG/KG	0	0%		NA	0	114	7 U	6 U	5 U	6 U	15 U	7 U
Bromodichloromethane	UG/KG	0	0%		NA	0	114	7 U	6 U	5 U	6 U	15 U	7 U
Bromoform	UG/KG	0	0%		NA	0	114	7 U	6 U	5 U	6 U	15 U	7 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	7 U	6 U	5 U	6 U	15 U	7 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	7 U	6 U	5 U	6 UJ	15 U	7 UJ
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	7 U	6 U	5 U	6 U	15 U	7 U
Chlorodibromomethane	UG/KG	0	0%		NA	0	114	7 U	6 U	5 U	6 U	15 U	7 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	13 U	12 U	10 U	12 U	31 U	14 UJ
Chloroform	UG/KG	0	0%	300	0	0	114	7 U	6 U	5 U	6 U	15 U	7 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		NA	1	114	7 U	6 U	5 U	6 U	15 U	7 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	7 U	6 U	5 U	6 U	15 U	7 U
Cyclohexane	UG/KG	0	0%		NA	0	114	7 U	6 U	5 U	6 U	15 U	7 U
Dichlorodifluoromethane	UG/KG	2.25 ¹	4%		NA	5	114	7 U	6 U	5 U	6 U	15 U	7 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	7 U	6 U	5 U	6 U	15 U	7 U
Isopropylbenzene	UG/KG	0	0%		NA	0	114	7 U	6 U	5 U	6 U	15 U	7 U
Methyl Acetate	UG/KG	0	0%		NA	0	114	7 UJ	6 UJ	5 UJ	6 U	15 U	7 U
Methyl Tertbutyl Ether	UG/KG	0	0%		NA	0	114	7 UJ	6 UJ	5 UJ	6 UJ	15 U	7 U
Methyl bromide	UG/KG	0	0%		NA	0	89	13 UJ	12 UJ	10 UJ	12 UJ	31 UJ	14 UR
Methyl butyl ketone	UG/KG	0	0%		NA	0	114	33 U	29 U	26 U	31 U	77 U	34 U
Methyl chloride	UG/KG	0	0%		NA	0	114	13 U	12 U	10 U	12 U	31 U	14 U
Methyl cyclohexane	UG/KG	0	0%		NA	0	114	7 U	6 U	5 U	6 U	15 U	7 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	33 U	29 U	26 U	31 U	77 U	34 U

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
	LOCATION ID								11EXFLC601	11EXFLC701	11EXFLC801	11EXFLD101	11EXPRE201
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXFLC601	11EXFLC701	11EXFLC801	11EXFLD101	11EXPRE201	11EXPRH401
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								11/6/2006	11/6/2006	11/6/2006	12/7/2006	12/6/2006	12/21/2006
QC CODE								SA	SA	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	33 U	29 U	26 U	31 U	77 U	34 U
Methylene chloride	UG/KG	49	89%	100	0	102	114	11 U	12 U	14 U	9 J	25 J	15 J
Styrene	UG/KG	0	0%		NA	0	114	7 U	6 U	5 U	6 U	15 U	7 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	7 U	6 U	5 U	6 U	15 U	7 U
Toluene	UG/KG	0	0%	1,500	0	0	114	7 U	6 U	5 U	6 U	15 U	7 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	20 U	18 U	15 U	19 U	46 U	21 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	7 UJ	6 UJ	5 UJ	6 UJ	15 U	7 U
Trans-1,3-Dichloropropene	UG/KG	0	0%		NA	0	114	7 U	6 U	5 U	6 U	15 U	7 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	12	9	2 J	6 U	15 U	7 U
Trichlorofluoromethane	UG/KG	0	0%		NA	0	114	7 U	6 U	5 U	6 U	15 UJ	7 U
Vinyl chloride	UG/KG	0	0%	200	0	0	114	13 U	12 U	10 U	12 U	31 U	14 U
Carcinogenic PAHs													
Benzo(a)anthracene	UG/KG	260,000	52%		NA	66	127	260000	51000	22000	19000	11000	12000
Benzo(a)pyrene	UG/KG	240,000	49%		NA	62	127	240000	44000	20000	18000	9900	9800
Benzo(b)fluoranthene	UG/KG	310,000	51%		NA	65	127	310000 J	54000	25000	33000 J	15000	11000
Benzo(k)fluoranthene	UG/KG	59,000	24%		NA	30	127	59000 J	16000	8700	2200 UJ	4200 J	5600
Chrysene	UG/KG	240,000	50%		NA	64	127	240000	45000	19000	22000	11000	11000
Dibenz(a,h)anthracene	UG/KG	40,000	35%		NA	44	127	40000 J	9700 J	4000 J	3600	1700 J	1900 J
Indeno(1,2,3-cd)pyrene	UG/KG	150,000	46%		NA	58	127	150000 J	29000 J	13000 J	14000	6400	6900
BTE (calculated)	MG/KG	355	94%	10 ^b	8	127	135	355	68	30	28	15	15
Metals													
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	11800 J	9400 J	9960 J	13400 J	9730	11600 J
Antimony	MG/KG	11.3	18%	31	0	21	114	7.5 J	11.3 J	0.78 UJ	0.89 UJ	0.74 U	1.7 J
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	7.4 J	10.6 J	4.5 J	5.6	4.6	5.5 J
Barium	MG/KG	248	100%	5,370	0	114	114	248 J	145 J	60.5 J	99.4 J	84.7	98.5 J
Beryllium	MG/KG	1	100%	150	0	114	114	0.8 J	0.52 J	0.49 J	0.67	0.58	0.66 J
Cadmium	MG/KG	2.5	94%	37	0	107	114	2.2 J	2.5 J	0.66 J	0.51	0.73	1 J
Calcium	MG/KG	216,000	100%		NA	114	114	23000 J	10900 J	4440 J	3880 J	75400 J	8820 J
Chromium	MG/KG	44.5	100%		NA	113	113	31.9 J	44.5 J	16.3 J	20.9 J	16.4 J	19.8 J
Cobalt	MG/KG	16.8	100%	903	0	114	114	10.5 J	13.3 J	7.7 J	8.7 J	6.1 J	8.4 J
Copper	MG/KG	131	100%	3,130	0	114	114	131 J	126 J	23.1 J	20.8	22	44.8 J
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	23900 J	48100 J	20700 J	24500 J	17600 J	20900 J
Lead	MG/KG	469	100%	400	1	114	114	350 J	469 J	35.4 J	17.8 J	55.6 J	57.3 J
Magnesium	MG/KG	25200 ¹	100%		NA	114	114	6960 J	4580 J	4680 J	3870 J	4200	3750 J
Manganese	MG/KG	1,540	100%	1,760	0	114	114	544 J	707 J	508 J	316 J	429 J	229 J
Mercury	MG/KG	0.327	99%	23	0	113	114	0.327	0.199	0.05	0.052 J	0.157	0.144 J
Nickel	MG/KG	38.6	100%	1,560	0	114	114	35.7 J	35.2 J	23.9 J	23.9 J	18	24.1 J
Potassium	MG/KG	1,750	100%		NA	114	114	1240 J	1090 J	959 J	1450 J	1260	1380 J
Selenium	MG/KG	3.4	25%	390	0	28	114	1.7 J	3.4 J	1.7 J	0.76 UJ	0.89 U	2.1 J

Appendix D
Table D-1
Complete Confirmatory Soil Sample Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

FACILITY	SEAD-11												
	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11							
LOCATION ID	11EXFLC601	11EXFLC701	11EXFLC801	11EXFLD101	11EXPRE201	11EXPRH401							
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL							
SAMPLE ID	11EXFLC601	11EXFLC701	11EXFLC801	11EXFLD101	11EXPRE201	11EXPRH401							
SAMPLE DEPTH TO TOP OF SAMPLE	0	0	0	0	0	0							
SAMPLE DEPTH TO BOTTOM OF SAMPLE	0.2	0.2	0.2	0.2	0.2	0.2							
SAMPLE DATE	11/6/2006	11/6/2006	11/6/2006	12/7/2006	12/6/2006	12/21/2006							
QC CODE	SA	SA	SA	SA	SA	SA							
STUDY ID	IRA	IRA	IRA	IRA	IRA	IRA							
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	2.2 J	1.4 J	0.57 UJ	0.19 U	0.73 U	0.43 J
Sodium	MG/KG	164	75%		NA	86	114	157 J	164 J	159 UJ	56.3 J	73.9 J	227 UJ
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.89 UJ	1.8 J	1.3 J	0.85 U	0.98 U	0.85 J
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	28.5 J	25.2 J	17.1 J	25.9 J	18.8 J	21.5 J
Zinc	MG/KG	591	100%	23,500	0	114	114	454 J	591 J	97.9 J	90.8 J	119 J	207 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.
- (6) A shaded, boxed sample indicates that the soil represented by the sample has been removed from the site. Therefore, the analytical results for the shaded sample are not characteristic of current site conditions.

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.

Appendix D
Table D-2
Complete Post-IRA Groundwater Results
SEAD-11 Record of Decision
Seneca Army Depot Activity

Facility	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
Location ID	MW11-1	MW11-2	MW11-3	MW11-4	MW11-5	MW11-6	MW11-6	MW11-6	MW11-7
Matrix	GW	GW	GW	GW	GW	GW	GW	GW	GW
Sample ID	11RA20000	11RA20001	11RA20007	11RA20002	11RA20003	11RA20005	11RA20004	11RA20004	11RA20006
Sample Date	2/22/2007	2/21/2007	2/21/2007	2/20/2007	2/20/2007	2/21/2007	2/21/2007	2/21/2007	2/21/2007
QC Code	SA	SA	SA	SA	SA	DU	SA	SA	SA
Study ID	LTM	LTM	LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sampling Round	1	1	1	1	1	1	1	1	1

Parameter	Units	Frequency		Criteria Source	Cleanup Goal ¹	Number of Exceedances	Number of Times Detected	Number of Samples Analyzed	SEAD-11 MW11-1		SEAD-11 MW11-2		SEAD-11 MW11-3		SEAD-11 MW11-4		SEAD-11 MW11-5		SEAD-11 MW11-6		SEAD-11 MW11-6		SEAD-11 MW11-7					
		Maximum Value	Detection						Value (Q)	U	Value (Q)	U	Value (Q)	U	Value (Q)	U	Value (Q)	U	Value (Q)	U	Value (Q)	U	Value (Q)	U	Value (Q)	U	Value (Q)	U
Vinyl chloride	UG/L	0	0%	GA	2	0	0	8	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U		
Metals																												
Aluminum	UG/L	340	13%	SEC	50	1	1	8	340		200	U	200	U	200	U	200	U	200	U	200	U	200	U	200	U	200	U
Antimony	UG/L	0	0%	GA	3	0	0	8	5.6	U	5.6	U	5.6	U	5.6	U	5.6	U	5.6	U	5.6	U	5.6	U	5.6	U	5.6	U
Arsenic	UG/L	0	0%			0	0	8	4.2	U	4.2	U	4.2	U	4.2	U	4.2	U	4.2	U	4.2	U	4.2	U	4.2	U	4.2	U
Barium	UG/L	68.6	100%	GA	1000	0	8	8	36.4		57.8		29.4		68.6		64.8		32		32		30.9					
Beryllium	UG/L	0	0%			0	0	8	0.25	U	0.25	U	2	U	0.25	U	2	U	2	U	0.25	U	2	U	0.25	U	2	U
Cadmium	UG/L	0	0%	GA	5	0	0	8	0.36	U	0.36	U	0.36	U	0.36	U	0.36	U	0.36	U	0.36	U	0.36	U	0.36	U	0.36	U
Calcium	UG/L	169000	100%			0	8	8	80300		102000		134000		134000		124000		140000		140000		140000		169000			
Chromium	UG/L	3.5	25%	GA	50	0	2	8	3.5	J	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U	0.53	J
Cobalt	UG/L	2	25%			0	2	8	0.79	U	0.79	U	2	J	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U	1.4	J
Copper	UG/L	2.2	13%	GA	200	0	1	8	2.2	J	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
Iron	UG/L	727	88%	GA	300	3	7	8	427		85.8		727		17	U	59.7		33.6	J	58.8		374					
Iron+Manganese	UG/L	1068	100%	GA	500	2	8	8	467.8		97.3		1068		17	J	70.5		39.5	J	65.2		604					
Lead	UG/L	0	0%			0	0	8	2.2	U	2.2	U	2.2	U	2.2	U	2.2	U	2.2	U	2.2	U	2.2	U	2.2	U	2.2	U
Magnesium	UG/L	30300	100%			0	8	8	23800		22100		23100		21000		20700		23900		23900		23900		30300			
Manganese	UG/L	341	100%	GA	300	1	8	8	40.8		11.5		341		8.5		10.8		5.9		6.4		230					
Mercury	UG/L	0	0%	GA	0.7	0	0	8	0.12	U	0.12	U	0.12	U	0.12	U	0.12	U	0.12	U	0.12	U	0.12	U	0.12	U	0.12	U
Nickel	UG/L	3.2	38%	GA	100	0	3	8	3.2	J	1.4	U	2	J	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	J
Potassium	UG/L	4520	100%			0	8	8	1880		1200		1210		1590		2270		4450		4520		2070					
Selenium	UG/L	0	0%	GA	10	0	0	8	6.1	U	6.1	U	6.1	U	6.1	U	6.1	U	6.1	U	6.1	U	6.1	U	6.1	U	6.1	U
Silver	UG/L	0	0%	GA	50	0	0	8	3	U	3	U	3	U	1	U	3	U	3	U	1	U	1	U	1	U	1	U
Sodium	UG/L	14400	100%	GA	20000	0	8	8	4410	J	14400		6540	J	8070	J	9190	J	6970	J	7050	J	7220	J				
Thallium	UG/L	0	0%			0	0	8	6.7	U	6.7	U	6.7	U	6.7	U	6.7	U	6.7	U	6.7	U	6.7	U	6.7	U	6.7	U
Vanadium	UG/L	1.6	13%			0	1	8	0.98	U	0.98	U	0.98	U	1.6	J	0.98	U	0.98	U	0.98	U	0.98	U	0.98	U	0.98	U
Zinc	UG/L	10.8	63%	SEC	5000	0	5	8	10.8		3.6	U	5.2	J	8.7	J	3.6	U	3.6	U	3.7	J	4.2	J				

Notes:

(1) The cleanup goal (CUG) values were based on the following criteria:

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

SEC = Secondary Drinking Water Regulations - Drinking Water Standards and Health Advisory (EPA 82-B-00-001)

(2) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.

U = compound was not detected

J = the reported value is an estimated concentration

APPENDIX E

RISK MEMO AND EPA COMMENTS

PARSONS

MEMORANDUM

TO: Julio Vazquez, USEPA
Kuldeep K. Gupta, NYSDEC
Mark Sergott, NYSDOH

DATE: April 14, 2008

FROM: Todd Heino, Parsons

COPIES: John Hill, AFCEE
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Patrick O'Connor, Portage Environmental

SUBJECT: SEAD-11 Post Remediation Risk Assessment

1. Purpose and Organization of Memorandum

Parsons has completed a risk assessment to evaluate potential risks associated with site conditions following the removal action at SEAD-11. This memorandum summarizes the risk assessment approach and the results. It is the Army's position that No Further Action (NFA) is needed at SEAD-11 based on the risk assessment results.

Section 2 of the memorandum provides the 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 process (i.e., hazard identification, exposure assessment, toxicity assessment, and risk characterization); and Section 8 discusses the risk uncertainties associated with this risk assessment. Section 9 summarizes the risk assessment findings and Section 10 lists the references.

2. Background

SEAD-11, the Old Construction Debris Landfill, was located in the southwestern portion of the former Depot. The landfill reportedly operated in the 1940s. The Old Construction Debris Landfill measured approximately 4 acres in size. Previous investigations and activities performed at SEAD-11 include the Expanded Site Inspection (ESI) in 1994, the Additional Sampling Program conducted in 2000 and 2001, the interim remedial action (IRA) completed in January 2007, and the Long-Term Monitoring (LTM) program conducted in 2007 after the IRA. The results of previous investigative work are extensively reported in the Expanded Site Inspection Report for Three Moderately High Priority SWMUs (Parsons ES, 1995), Decision Document for a Non-Time Critical Removal Action at SEAD-11 (Parsons, 2003), and the Construction Completion Report (Parsons, 2007).

Based on the previous investigations, the contaminants of potential concern (COPCs) identified at SEAD-11 include landfill material (e.g., drums and metal containers), volatile organic compounds (VOCs), carcinogenic polycyclic aromatic hydrocarbons (cPAHs), and metals in soil. In addition, metals and VOCs are identified as COPCs in groundwater.

An interim remedial action (IRA) was conducted between October 2006 and January 2007. The IRA was performed to:

- (1) remove the landfilled materials and contaminated soils to eliminate the potential threat that they represent to surrounding populations and to the environment;
- (2) remove the potential source of TCE and metals detected in the groundwater immediately downgradient of the landfill; and,
- (3) provide documentation to support an NFA finding for SEAD-11 upon completion of the IRA.

A Construction Completion Report was prepared by Parsons to provide record documentation of the IRA construction activities and to provide documentation that all landfill material and soil exceeding cleanup goals were removed. The Completion Report also concludes that no further action is required at SEAD-11.

This risk assessment memorandum presents the SEAD-11 human health risk assessment results, which are intended to provide documentation to support the NFA determination made for conditions remaining at SEAD-11. Since the area of concern (AOC) is located in a portion of the Depot where the defined future use is training, the risk assessment calculations completed focus on the evaluation of the potential risks for human receptors.

3. Data Used for Risk Assessment

Confirmatory soil sample results from the 2006-2007 IRA that are representative of soil remaining at SEAD-11 were used for the risk assessment. The soil data used for the risk assessment are presented in **Appendix A**. Soil associated with all these results were assumed accessible by all potential receptors evaluated in this risk assessment and therefore all presented results were used for this risk assessment.

The SEAD-11 groundwater dataset used for the risk assessment consists of analytical results from Round 1 and Round 2 of the Additional Sampling Program performed on November 20-21, 2000 and February 27-28, 2001, and the LTM conducted on February 20-22, 2007 after the IRA. The Additional Sampling Program and LTM groundwater samples were both collected under the USEPA Region 2 low-flow groundwater sampling method, and their results are in general comparable to each other. Groundwater samples were collected from seven monitoring wells (MW11-1, MW11-2, MW11-3, MW11-4, MW11-5, MW11-6, and MW11-7) during these three sampling events. VOC and metal results for the 2007 post remediation LTM sampling event were deemed to represent the current groundwater conditions and therefore were used for the risk assessment. Semi-volatile organic compounds (SVOCs), explosives, pesticides, polychlorinated biphenyls (PCBs), and herbicides were not analyzed during the 2007 LTM and the results from Round 1 and Round 2 of the Additional Sampling Program were used for the risk assessment. Groundwater data used for the risk assessment are also presented in **Appendix A**.

Groundwater data collected between January 16 and 24, 1994 from four wells (i.e., MW11-1, MW11-2, MW11-3, and MW11-4) as part of the ESI were not included in the dataset as the samples were not collected using the low-flow sampling method.

For the soil data, analytical results from sample duplicate pairs were averaged to provide a discrete result for the sample location prior to performing summary statistics and risk assessment calculations. In addition, all soil and groundwater data used in the risk assessment were validated by Parsons Chemists in accordance with the USEPA Region 2 Standard Operating Procedures (SOPs) and all data are deemed acceptable.

4. Hazard Identification

Soil COPCs evaluated within the risk assessment were selected by comparing the maximum detected concentrations with USEPA Region 9 Preliminary Remediation Goals (PRGs) for residential soil corresponding to a target cancer risk of 1×10^{-6} or a target hazard quotient of 0.1, whichever was lower. Other appropriate USEPA screening values were used if Region 9 PRGs were not available (e.g., USEPA Region 3 Risk-Based Concentrations for residential soil).

The maximum detected concentration of each chemical detected in groundwater was compared to the respective Region 9 PRG for tap water determined for a risk level of 1×10^{-6} (for carcinogens) or hazard quotient level of 0.1 (for noncarcinogens), whichever was lower. Other appropriate USEPA screening values were used if Region 9 PRGs were not available (e.g., USEPA Region 3 Risk-Based Concentrations for tap water, USEPA Maximum Contaminant Level for drinking water).

Chemicals were eliminated as COPCs for human exposure if concentrations were less than the screening level. A chemical was considered to be a COPC if the maximum detected concentration was greater than the screening value or if there was no screening value available. In addition, any member of a chemical class that has other members selected as COPCs was retained (e.g., all detected carcinogenic polycyclic aromatic hydrocarbons were retained as COPCs if one was identified as a COPC based on the screening process).

Tables 1A and **1B** present and summarize the COPC identification process for SEAD-11 soil and groundwater, respectively.

5. Exposure Assessment

5.1 Exposure Point Concentrations (EPCs)

The risks were calculated for reasonable maximum exposure (RME) scenarios. Soil EPCs are equal to an appropriate upper confidence limit (UCL) of the arithmetic mean of the concentrations. The EPC, or the appropriate UCL of the mean concentration, was calculated using the USEPA Software for Calculating Upper Confidence Limits (ProUCL version 4.00.02). The EPC calculation is consistent with the USEPA guidance (2007, 2002b).

Future use of groundwater has been based on the assumption that a single private well can be placed anywhere at SEAD-11. Therefore, as a conservative step, the maximum detected concentration of each COPC detected during any of the three rounds of monitoring was used as the EPC for groundwater.

EPCs for COPCs in ambient air were estimated based on the soil EPCs and the concentrations of particulate matter less than 10µm aerodynamic diameter (PM₁₀) in ambient air. Ambient PM₁₀ concentration for a construction worker was estimated using an emission and dispersion model (**Appendix B**). PM₁₀ concentration for industrial workers, trespassers, and residents (i.e., 17 µg/m³) were based on existing SEDA air measurements.

Tables 2A through **2E** summarize EPCs for SEAD-11 soil, groundwater, ambient air and air within a shower.

5.2. Receptors, Exposure Pathways, and Exposure Profile

SEAD-11 is currently vacant property. The AOC is located in the Training parcel. Based on the current and foreseeable future land use of SEAD-11, three human receptors were identified for the BRA: current and future construction worker, future industrial worker, and current adolescent trespasser/future visitor (ages 11-16 yrs). In addition, a future resident was included to evaluate potential risks to receptors under the unrestricted use scenario.

Exposure pathways evaluated for soil exposure included inhalation of ambient dusts caused by soil resuspension, ingestion of soil, and dermal contact with soil. It is extremely unlikely that groundwater will be used as a drinking water source at SEAD-11, since there is an acceptable alternative water supply to serve the Depot's needs. In addition, the aquifer underlying SEAD-11 is not believed to be productive enough to supply the potential drinking water needs for occupants of SEAD-11. Therefore, the groundwater exposure pathways are potentially incomplete at SEAD-11. Nonetheless, as a conservative approach, the following groundwater exposure pathways were evaluated for the risk assessment: intake of groundwater, inhalation of groundwater (for future residents only), and dermal contact with groundwater (for construction workers and residential receptors only).

The exposure assumptions are summarized in **Tables 3A, 3B, 3C, 3D, and 3E** for an industrial worker, a construction worker, an adolescent trespasser, an adult resident, and a child resident, respectively. These assumptions were intended to approximate the frequency, duration, and manner in which receptors would be exposed to environmental media.

5.3 Quantification of Exposure

Each receptor's potential exposures to the identified COPCs were quantified for each of the exposure pathways. The exposures were calculated following methods recommended in USEPA guidance documents, such as the RAGS (USEPA, 1989). A human health intake or the absorbed dose, depending on the exposure route, was calculated based on the EPC and exposure factor assumptions. The total exposure is divided by the period of interest to obtain an average exposure. The averaging time is a function of the toxic endpoint: for non-carcinogenic effects, it is the exposure time (specific to the scenario being assessed) and for carcinogenic effects, it is lifetime (70 years).

6. Toxicity Assessment

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

For the evaluation of carcinogenic PAHs, toxicity equivalency factors (TEFs) based on the toxicity of benzo(a)pyrene were used (USEPA, 1993).

PAH	TEF
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 a slope factor for a given PAH, the appropriate TEF value was multiplied by the slope factor for benzo(a)pyrene.

For the development of dermal toxicity values, information regarding Gastrointestinal (GI) absorption efficiency for administered doses was used. Specifically, oral slope factors were converted to dermal slope factors by dividing by the GI absorption efficiency. Oral reference doses were converted to dermal reference doses by multiplying by the GI absorption efficiency. The derivation of the dermal toxicity values for this risk assessment was consistent with the USEPA (2004) recommendation and the GI absorption efficiency recommended by USEPA in its Supplemental Guidance for Dermal Risk Assessment was used for the COPCs in this risk assessment. In the absence of any information on absorption for the substance or chemically related substances, an oral absorption efficiency of 100 percent was assumed in accordance with USEPA Region 2 guidance (personal communication between A. Schatz of Parsons and M. Maddeloni of USEPA Region 2).

RfCs were converted to inhalation reference doses with units of milligrams of chemical per kilogram of body weight per day (mg/kg-day); similarly, inhalation unit risk factors were converted to inhalation slope factor in units of per milligrams of chemical per kilogram of body weight per day ((mg/kg-day)⁻¹). The conversion was made by assuming an inhalation rate of 20 m³/day and an adult body weight of 70 kg.

Chronic RfDs and RfCs are ideally based on chronic exposure studies in humans or animals. Chronic exposure for humans is considered to be exposure of roughly seven years or more, based on exposure of rodents for one year or more in animal toxicity studies. Construction workers and trespassers were

assumed to be exposed to the contaminants at SEAD-11 for 1 year and 6 years, respectively; therefore, subchronic RfDs and RfCs would be appropriate to evaluate the non-carcinogenic threshold effects. For this risk assessment, chronic RfDs and RfCs were used to conservatively assess risks for these receptors.

The toxicity factors used in this evaluation are summarized in **Tables 4A** through **4D**.

7. Risk Characterization

The detailed risk calculation is presented in **Tables 5** through **10** for exposure through soil ingestion, groundwater intake, soil dermal exposure, groundwater dermal exposure, inhalation of groundwater while showering, and inhalation of dust in ambient air. The non-cancer hazard indices and cancer risks calculated for the receptors are summarized in **Table 11**.

7.1 Risk Characterization Results for Receptors Under Training Scenario

Both cancer risks and non-cancer hazard indices for the industrial worker receptor and the adolescent trespasser receptor are within the USEPA limits.

The cancer risk for the construction worker is within the USEPA limit (1×10^{-6} vs. 1×10^{-4}). The non-cancer hazard index for the construction worker is above the USEPA limit. Dust inhalation, soil ingestion, and groundwater intake contribute approximately 80%, 14%, and 6%, respectively, to the total non-cancer hazard index. Almost all of the non-cancer hazard via inhalation of ambient air dust was caused by aluminum and manganese and aluminum, arsenic, iron, manganese, and vanadium contribute to the majority of the non-cancer hazard via soil ingestion. Summary descriptive statistics are presented in **Table 12** to compare the aluminum, arsenic, iron, manganese, and vanadium concentrations in SEAD-11 and upgradient soils. As is shown in the table, the 95% UCLs for aluminum, arsenic, iron, manganese, and vanadium in SEAD-11 soil are all below the corresponding maximum concentrations observed in the SEAD-11 upgradient location SB11-3 and the SEAD-4 upgradient location SB4-1. It should be noted that SEAD-4 is located west and therefore upgradient of SEAD-11; conditions upgradient of SEAD-4 were considered in this risk memorandum to represent SEAD-11 upgradient conditions. In summary, aluminum, arsenic, iron, manganese, and vanadium concentrations at SEAD-11 are not related to historic activities at SEAD-11. If aluminum, arsenic, iron, manganese, and vanadium in soil were not considered as COPCs for the risk assessment, the non-cancer hazard index for the construction worker would be below the USEPA limit of 1. Therefore, it is concluded that remaining chemicals found at SEAD-11 are not a result of a hazardous substance release and that contaminants associated with historical activities at SEAD-11 do not pose a health risk to construction workers.

In summary, remaining chemicals found at SEAD-11 are not a result of a hazardous substance release and that contaminants associated with historical activities at SEAD-11 do not pose a health risk to the receptors under the future use of the property (i.e., training).

7.2 Risk Characterization Results for Residential Receptors

The cancer risks for the adult resident and the child resident are both at 4×10^{-5} , below the USEPA's limit for cancer risk (i.e., 1×10^{-4}). The total life-time cancer risk for the resident (sum of cancer risk for the adult resident and the child resident) is 9×10^{-5} , below the USEPA limit.

The non-cancer hazard indices for the adult resident and child resident are 1 and 5, at or above the USEPA limit of 1. Groundwater intake is the predominant exposure pathway that contributes to 55% and 47% to the total non-cancer hazard for adult resident and child resident, respectively. Trichloroethene (TCE) and manganese in groundwater all contribute significantly (i.e., $HQ \geq 0.1$) to the total HI computed for the adult resident. A further review of the data indicates that the manganese concentrations detected in SEAD-11 groundwater are generally consistent with the SEAD-11 upgradient conditions (as shown in **Table 13**). Therefore, manganese was not identified as a COC in SEAD-11 groundwater. If manganese were not included in the risk calculation, the non-cancer hazard index for an adult resident via groundwater intake and the total non-cancer hazard index for an adult resident would be below the USEPA limit of 1.

Trichloroethene in groundwater would result in non-cancer hazard index equal to the USEPA limit of 1 for the child resident. For the child resident, soil ingestion also would result in an elevated HI of 2. The predominant risk contributors for this exposure pathway include aluminum, arsenic, iron, manganese, and vanadium, all with associated HQs greater than 0.1. As shown in Table 12, the aluminum, arsenic, iron, manganese, and vanadium concentrations in SEAD-11 soil are consistent with the upgradient conditions; therefore, none of these metals were identified as COCs in SEAD-11 soil.

In summary, remaining chemicals found at SEAD-11 are not a result of a hazardous substance release and that contaminants associated with historical activities at SEAD-11 do not pose unacceptable cancer risks to future potential residents or unacceptable non-cancer hazards to future adult residents. TCE detected in groundwater may result in non-cancer hazard index at the USEPA limit of 1 for the child resident; however, it should be noted that it is extremely unlikely that groundwater will be used as drinking water source at SEAD-11, since there is a current acceptable water supply, and the aquifer beneath SEAD-11 is not believed to be productive enough to supply the drinking water needs for SEAD-11. In addition, the maximum detected TCE concentration in SEAD-11 groundwater (i.e., 3.1 $\mu\text{g/L}$) is below the NYSDEC GA Groundwater Standard (i.e., 5 $\mu\text{g/L}$) and the Maximum Contaminant Level (MCL) promulgated in the National Primary Drinking Water Regulations (i.e., 5 $\mu\text{g/L}$). Further, as discussed in the following section, there is uncertainty associated with the TCE toxicity value and it is likely the risks presented in this memorandum were overstated by using conservative toxicity values for TCE.

8. Uncertainties

All risk assessments involve the use of assumptions and professional judgments to varying degrees. This results in uncertainty in the final estimates of risk. There are uncertainties associated with each component of the risk assessment from data collection through risk characterization. These uncertainties are addressed by making conservative assumptions concerning risk and exposure parameters throughout the assessment. As a result, the risk assessment provides upper-bound estimates of the risks to populations near the SEAD-11, and is highly unlikely to underestimate actual risks related to SEAD-11.

The primary site-specific uncertainties associated with the risk assessment for SEAD-11 include evaluation of TCE toxicity value. The non-cancer hazard quotient from exposure to TCE in groundwater via groundwater intake is at the USEPA limit of 1. The current USEPA recommended toxicity values (oral reference dose of 3×10^{-4} mg/kg-day, oral/inhalation cancer slope factor of 0.4 (mg/kg-day)⁻¹, and

inhalation reference concentration of 0.04 mg/m³) for TCE were selected for this risk characterization. These values were recommended by the USEPA's National Center for Environmental Assessment (NCEA) in August of 2001 in its preliminary Draft Trichloroethene Health Risk Assessment. The proposed toxicity values, however, have received considerable scrutiny, even from within the USEPA. Numerous technical concerns with the NCEA Draft Trichloroethene Health Risk Assessment were identified by groups such as the Department of Defense (DoD, 2001), USEPA regional toxicologists (e.g., USEPA Region 8, 2003), and USEPA's Science Advisory Board (USEPA SAB, 2002). The USEPA is currently in the process of revising the Draft Trichloroethene Health Risk Assessment. In the interim, agencies are utilizing various toxicity values for trichloroethene. For example, toxicologists at USEPA Region 8 have technical concerns regarding the 2001 proposed toxicity values and recommend using the USEPA's withdrawn toxicity value for trichloroethene (USEPA Region 8, 2003). The oral reference dose withdrawn from IRIS is 6x10⁻³ mg/kg-day for TCE. Massachusetts Department of Environmental Protection (MADEP, 2007) is using 2x10⁻³ mg/kg-day as the oral reference dose for TCE. If these values were used to replace the oral reference dose value used in this risk assessment, the non-cancer hazard indices for potential residents caused by chemicals associated with SEAD-11 release would be within the USEPA limit.

9. Conclusions

Results of the risk assessment conducted for SEAD-11 indicate that remaining chemicals at SEAD-11 are not a result of a hazardous substance release and that contaminants associated with historical activities at SEAD-11 do not pose a health risk to the receptors under the future use of the property (i.e., training).

Although the risk calculation indicates that the TCE concentrations detected in groundwater may pose potential non-cancer hazard to the residential child receptor, there is uncertainty associated with the toxicity value and if alternative toxicity values were used, the non-cancer hazard index would be within the USEPA limit. Further, the detected TCE concentrations found at SEAD-11 are all below the NYSDEC GA Standard and the MCL for drinking water contaminants. In addition, it is extremely unlikely that groundwater will be used as drinking water source at SEAD-11, since there is an acceptable alternative water supply available. Further, the aquifer underlying SEAD-11 is not considered to be productive enough to supply future potential drinking water needs for SEAD-11. Based on the above facts, it is the Army's position that NFA is needed at SEAD-11.

10. References

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**TABLE 1A
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN IN SEAD-11 SOIL
SENECA ARMY DEPOT ACTIVITY**

Scenario Time frame:	Cuurent/Future
Medium:	Soil
Exposure Medium:	Soil
Exposure Point:	SEAD-11

CAS Number	Chemical	Minimum Detected Concentration ¹ (mg/kg)	Q	Maximum Detected Concentration ¹ (mg/kg)	Q	Location of Maximum Concentration	Detection Frequency ¹	Range of Reporting Limits ¹ (mg/kg)	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															
67641	Acetone	0.021	J	0.067		11EXPRC101	2 / 106	0.02 - 0.076	0.067		1,400	NYSDEC Subpart 375-6	0.05	NO	BSL
156592	Cis-1,2-Dichloroethene	0.002	J	0.002	J	11EXFLE801	1 / 114	0.004 - 0.015	0.002		4.3	NYSDEC Subpart 375-6	0.25	NO	BSL
75718	Dichlorodifluoromethane	0.002	J	0.002	J	11EXFLD701	5 / 114	0.004 - 0.015	0.002		9.4			NO	BSL
75092	Methylene chloride	0.0045	J	0.049	J	11EXFLE802	103 / 114	0 - 0.022	0.049		9.1	NYSDEC Subpart 375-6	0.05	NO	BSL
127184	Tetrachloroethene	0.002	J	0.002	J	11EXFLA601	2 / 114	0.004 - 0.015	0.002		0.48	NYSDEC Subpart 375-6	1.3	NO	BSL
79016	Trichloroethene	0.002	J	0.077		11EXFLF601	22 / 114	0.004 - 0.015	0.077		0.053	NYSDEC Subpart 375-6	0.47	YES	ASL
SVOC															
56553	Benzo(a)anthracene	0.02	J	4.8		11EXFLD1101	58 / 119	0.34 - 0.51	4.8		0.62	NYSDEC Subpart 375-6	1	YES	ASL
50328	Benzo(a)pyrene	0.02	J	4.5		11EXFLE101	54 / 119	0.34 - 0.51	4.5		0.062	NYSDEC Subpart 375-6	1	YES	ASL
205992	Benzo(b)fluoranthene	0.02	J	7.4		11EXFLD1101	57 / 119	0.34 - 0.51	7.4		0.62	NYSDEC Subpart 375-6	1	YES	ASL
207089	Benzo(k)fluoranthene	0.008	J	2.1		11EXFLE101	23 / 119	0.19 - 2.1	2.1		6.2	NYSDEC Subpart 375-6	0.8	YES	CSG
218019	Chrysene	0.016	J	5.5		11EXFLD1101	56 / 119	0.34 - 0.51	5.5		62	NYSDEC Subpart 375-6	1	YES	CSG
53703	Dibenz(a,h)anthracene	0.012	J	0.85	J	11EXFLD1101	36 / 119	0.34 - 2.1	0.85		0.062	NYSDEC Subpart 375-6	0.33	YES	ASL
193395	Indeno(1,2,3-cd)pyrene	0.016	J	2.8	J	11EXFLD1101	50 / 119	0.34 - 0.51	2.8		0.62	NYSDEC Subpart 375-6	0.5	YES	ASL
Metals															
7429905	Aluminum	3,600	J	17,500		11EXFLC301	114 / 114		17,500	20,500	7,600			YES	ASL
7440360	Antimony	0.68	J	11.3	J	11EXFLE1101	21 / 114	0.56 - 16.9	11.3	6.55	3.1			YES	ASL
7440382	Arsenic	2.6		19.5	J	11EXFLE401	114 / 114		19.5	21.5	0.39	NYSDEC Subpart 375-6	13	YES	ASL
7440393	Barium	23	J	248	J	11EXFLC301	114 / 114		248	159	540	NYSDEC Subpart 375-6	350	NO	BSL
7440417	Beryllium	0.26		1		11EXFLC301	114 / 114		1	1.4	15	NYSDEC Subpart 375-6	7.2	NO	BSL
7440439	Cadmium	0.08	J	2.5	J	11EXFLD901	107 / 114	0 - 0.24	2.5	2.9	3.7	NYSDEC Subpart 375-6	2.5	NO	BSL
7440702	Calcium	1,460		216,000	J	11EXFLH901	114 / 114		216,000	293,000	2,500,000			NO	NUT
7440473	Chromium	5.5	J	44.5	J	11EXFLF901	113 / 113		44.5	32.7	210	NYSDEC Subpart 375-6	30	NO	BSL
7440484	Cobalt	4.2	J	16.8	J	11EXFLE301	114 / 114		16.8	29.1	900			NO	BSL
7440508	Copper	10	J	131	J	11EXFLE1101	114 / 114		131	62.8	310	NYSDEC Subpart 375-6	50	NO	BSL
7439896	Iron	8,760	J	51,100	J	11EXFLE401	114 / 114		51,100	38,600	2,300			YES	ASL
7439921	Lead	4.7	J	400	J	11EXFLE1101	113 / 113		400	266	400	NYSDEC Subpart 375-6	63	NO	BSL
7439954	Magnesium	1,930	J	25,200		11EXFLE1001	114 / 114		25,200	29,100	400,000			NO	NUT
7439965	Manganese	163	J	1,540		11EXFLD501	114 / 114		1,540	2,380	180	NYSDEC Subpart 375-6	1,600	YES	ASL
7439976	Mercury	0.006	J	0.327		11EXFLD801	113 / 114	0 - 0.005	0.327	0.13	2.3	NYSDEC Subpart 375-6	0.18	NO	BSL
7440020	Nickel	10	J	38.6	J	11EXFLE301	114 / 114		38.6	62.3	160	NYSDEC Subpart 375-6	30	NO	BSL
7440097	Potassium	617		1,750	J	11EXPRA601	114 / 114		1,750	3,160	5,000,000			NO	NUT
7782492	Selenium	1.2	J	3.4	J	11EXPRA601	28 / 114	0.4 - 1.1	3.4	1.7	39	NYSDEC Subpart 375-6	3.9	NO	BSL
7440224	Silver	0.23	J	2.2	J	11EXFLE401	6 / 114	0.06 - 0.88	2.2	0.87	39	NYSDEC Subpart 375-6	2	NO	BSL
7440235	Sodium	28	J	164	J	11EXFLF1001	86 / 114	22.4 - 167	164	269	1,125,000			NO	NUT
7440280	Thallium	0.82	J	2.1	J	11EXFLA601	28 / 114	0.49 - 1.2	2.1	1.2	0.52			YES	ASL
7440622	Vanadium	7.6	J	31.6	J	11EXFLB401	114 / 114		31.6	32.7	7.8			YES	ASL
7440666	Zinc	34	J	591	J	11EXFLD601	114 / 114		591	126	2,300	NYSDEC Subpart 375-6	109	NO	BSL

**TABLE 1A
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN IN SEAD-11 SOIL
SENECA ARMY DEPOT ACTIVITY**

Scenario Time frame:	Cuurent/Future
Medium:	Soil
Exposure Medium:	Soil
Exposure Point:	SEAD-11

CAS Number	Chemical	Minimum Detected Concentration ₁ (mg/kg)	Q	Maximum Detected Concentration ₁ (mg/kg)	Q	Location of Maximum Concentration	Detection Frequency ¹	Range of Reporting Limits ¹ (mg/kg)	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
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Notes:

- 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.
- The maximum detected concentration was used for screening.
- Background value is the maximum Seneca background concentration.
- EPA Region 9 Preliminary Remediation Goals (PRGs) for residential soil. On-line resources available at <http://www.epa.gov/region09/waste/sfund/prg/files/prgtable2004.xls>. Last updated October 2004.
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.
- Potential ARAR/TBC values are from NYSDEC Brownfield Unrestricted Use Soil Cleanup Objectives, http://www.dec.state.ny.us/website/regs/subpart375_6.html
- 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 1B
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN IN SEAD-11 GROUNDWATER
SENECA ARMY DEPOT ACTIVITY**

Scenario Timeframe:	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	Detection Frequency ¹		Range of Reporting Limits ¹ (ug/L)		Concentration Used for Screening ² (ug/L)	Background Value ³ (ug/L)	Screening Value ⁴ (ug/L)	Potential ARAR /TBC Value (ug/L)	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection ⁵
VOC																	
76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroethane	1.8		1.8		MW11-1	1	7	1	- 1	1.8		5,918	5	GA	NO	BSL
127-18-4	Tetrachloroethene	2.05		2.05		MW11-6	1	7	1	- 1	2.05		0.10	5	GA	YES	ASL
79-01-6	Trichloroethene	1.4		3.1		MW11-6	2	7	1	- 1	3.1		0.028	5	GA	YES	ASL
SVOC																	
95-95-4	2,4,5-Trichlorophenol	0.6865	J	0.6865	J	MW11-5	1	14	2.5	- 2.8	0.6865		365	1	GA	NO	BSL
88-06-2	2,4,6-Trichlorophenol	0.299	J	0.299	J	MW11-5	1	14	1	- 1.1	0.299		0.36	1	GA	NO	BSL
85-68-7	Butylbenzylphthalate	0.07	J	0.16	J	MW11-7	2	14	1	- 1.1	0.16		730			NO	BSL
117-84-0	Di-n-octylphthalate	0.072	J	0.281	J	MW11-6	2	14	1	- 1.1	0.281		146			NO	BSL
131-11-3	Dimethylphthalate	0.36	J	3		MW11-5	2	14	1	- 1.1	3		36,487			NO	BSL
129-00-0	Pyrene	0.082	J	0.082	J	MW11-6	1	14	1	- 1.1	0.082		18			NO	BSL
Pesticides																	
50-29-3	4,4'-DDT	0.006	J	0.006	J	MW11-6	1	14	0.01	- 0.11	0.006		0.20	0.2	GA	NO	BSL
Metals																	
7429-90-5	Aluminum	340		340		MW11-1	1	7	200	- 200	340	2,730	3,650	50	SEC	NO	BSL
7440-39-3	Barium	29.4		68.6		MW11-4	7	7			68.6	78.2	255	1,000	GA	NO	BSL
7440-70-2	Calcium	80,300		169,000		MW11-7	7	7			169,000	116,000	250,000			NO	NUT
7440-47-3	Chromium	0.53	J	3.5	J	MW11-1	2	7	0.44	- 0.44	3.5	4.7	11	50	GA	NO	BSL
7440-48-4	Cobalt	1.4	J	2	J	MW11-3	2	7	0.79	- 0.79	2	3.7	73			NO	BSL
7440-50-8	Copper	2.2	J	2.2	J	MW11-1	1	7	2	- 2	2.2	3.3	146	200	GA	NO	BSL
7439-89-6	Iron	46.2	J	727		MW11-3	6	7	17	- 17	727	4,480	1,095	300	GA	NO	BSL
7439-95-4	Magnesium	20,700		30,300		MW11-7	7	7			30,300	28,600	40,000			NO	NUT
7439-96-5	Manganese	6.15		341		MW11-3	7	7			341	224	88	50	SEC	YES	ASL
7440-02-0	Nickel	1.4	J	3.2	J	MW11-1	3	7	1.4	- 1.4	3.2	7.3	73	100	GA	NO	BSL
7440-09-7	Potassium	1200		4,485		MW11-6	7	7			4,485	3,830	700,000			NO	NUT
7440-23-5	Sodium	4410	J	14,400		MW11-2	7	7			14,400	14,600	1,200,000	20,000	GA	NO	NUT
7440-62-2	Vanadium	1.6	J	1.6	J	MW11-4	1	7	0.98	- 0.98	1.6	5.2	4			NO	BSL
7440-66-6	Zinc	2.75	J	10.8		MW11-1	5	7	3.6	- 3.6	10.8	23.1	1,095	5,000	SEC	NO	BSL

**TABLE 1B
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN IN SEAD-11 GROUNDWATER
SENECA ARMY DEPOT ACTIVITY**

Scenario Timeframe:	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	Detection Frequency ¹	Range of Reporting Limits ¹ (ug/L)	Concentration Used for Screening ² (ug/L)	Background Value ³ (ug/L)	Screening Value ⁴ (ug/L)	Potential ARAR /TBC Value (ug/L)	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection ⁵
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Notes:

- For VOCs and metals, only results from the post remediation 2007 round sampling were included. For all the other fractions, results from the 2000 and 2001 sampling rounds were included. Laboratory duplicates were not included in the assessment. Range of reporting limits were presented for nondetects only
- The maximum detected concentration was used for screening.
- Background values are average concentrations of background sample results.
- EPA Region 9 Preliminary Remediation Goals (PRGs) for tap water. On-line resources available at <http://www.epa.gov/region09/waste/sfund/prg/files/prgtable2004.xls>. Last updated October 2004. 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. MCL for lead was used as screening value for lead as no Region 9 PRG is available. 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.
- Rationale codes
 Selection Reason: Above Screening Levels (ASL)
 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)
 SEC = USEPA Secondary Drinking Water Regulation, non-enforceable (EPA 822-B-00-001, Summer 2000)
 Q = Qualifier
 J = Estimated Value

TABLE 2A
SOIL EXPOSURE POINT CONCENTRATION SUMMARY FOR SEAD-11
SENECA ARMY DEPOT ACTIVITY

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Soil
Exposure Point:	SEAD-11

Chemical of Potential Concern	Units Mean (1,	Arithmetic (1)	EPA ProUCL Student-t 95th UCL Value 2)	Maximum Detected Concentration (1)	Q	EPC Units	Reasonable Maximum Exposure (2)		
							EPA ProUCL Recommended UCL Value	Medium EPC Statistic	Medium EPC Rationale
Trichloroethene	mg/kg	4.4E-03	5.5E-03	7.7E-02		mg/kg	5.1E-03	95% KM (BCA)	Non-parametric
Benzo(a)anthracene	mg/kg	0.44	0.56	4.8		mg/kg	0.73	95% Chebyshev	Non-parametric
Benzo(a)pyrene	mg/kg	0.40	0.51	4.5		mg/kg	0.51	95% KM (BCA)	Non-parametric
Benzo(b)fluoranthene	mg/kg	0.62	0.81	7.4		mg/kg	1.09	95% Chebyshev	Non-parametric
Benzo(k)fluoranthene	mg/kg	0.25	0.30	2.1		mg/kg	0.19	95% KM (BCA)	Non-parametric
Chrysene	mg/kg	0.45	0.58	5.5		mg/kg	0.55	95% KM (t)	Non-parametric
Dibenz(a,h)anthracene	mg/kg	0.20	0.22	0.85	J	mg/kg	0.16	95% KM (t)	Non-parametric
Indeno(1,2,3-cd)pyrene	mg/kg	0.32	0.39	2.8	J	mg/kg	0.34	95% KM (BCA)	Non-parametric
Aluminum	mg/kg	10,769	11,132	17,500		mg/kg	11,132	95% Student's-t	Normal
Antimony	mg/kg	0.95	1.2	11.3	J	mg/kg	1.50	95% KM (Bootstrap)	Non-parametric
Arsenic	mg/kg	5.6	5.8	19.5	J	mg/kg	5.85	95% Modified-t	Normal
Iron	mg/kg	22,456	23,289	51,100	J	mg/kg	23,305	95% Modified-t	Normal
Manganese	mg/kg	583	623	1,540		mg/kg	623	Approx Gama	Gamma
Thallium	mg/kg	0.63	0.70	2.1	J	mg/kg	1.10	95% KM (Bootstrap)	Non-parametric
Vanadium	mg/kg	19.3	19.9	31.6		mg/kg	19.93	95% Student's-t	Normal

Notes:

- 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.
- The EPCs were calculated using the ProUCL Version 4.0 and the EPCs were selected in accordance with the ProUCL Version 4.00.02 User's Guide (USEPA, 2007) and the Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites (USEPA, 2002).

Q - qualifier
J = Estimated Value

TABLE 2B
GROUNDWATER EXPOSURE POINT CONCENTRATION SUMMARY - SEAD-11
SENECA ARMY DEPOT ACTIVITY

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

Chemical of Potential Concern	Units	Arithmetic Mean	Maximum Detected Concentration mg/L	Maximum Qualifier	Reasonable Maximum Exposure		
					Medium EPC Value (mg/L)	Medium EPC Statistic	Medium EPC Rationale
Tetrachloroethene	mg/L	6.5E-04	0.00205		0.00205	MDC	See note
Trichloroethene	mg/L	7.8E-04	0.0031		0.0031	MDC	See note
Manganese	mg/L	9.3E-02	0.341		0.341	MDC	See note

Notes:

- Laboratory duplicates were not included in the assessment.
Concentrations for nondetects were assumed to be half the detection limits.
 - 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 2C
 AMBIENT AIR EXPOSURE POINT CONCENTRATIONS FOR
 INDUSTRIAL WORKERS, TRESPASSERS, & RESIDENTS AT SEAD-11
 SENECA ARMY DEPOT ACTIVITY

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Air
Exposure Point:	SEAD-11

Equation for Air EPC from Surface Soil (mg/m ³) =	CSsurf x PM10 x CF
Variables:	
CSsurf = Chemical Concentration in Surface Soil, from EPC data (mg/kg)	
PM10 = Average Measured PM10 Concentration = 17 ug/m ³	
CF = Conversion Factor = 1E-9 kg/ug	

Analyte	Reasonable Maximum Exposure	
	EPC Data for Surface Soil (mg/kg)	Calculated Air EPC Surface Soil (mg/m ³)
Trichloroethene	5.1E-03	8.6E-11
Benzo(a)anthracene	0.7	1.2E-08
Benzo(a)pyrene	0.5	8.6E-09
Benzo(b)fluoranthene	1.1	1.9E-08
Benzo(k)fluoranthene	0.2	3.3E-09
Chrysene	0.6	9.4E-09
Dibenz(a,h)anthracene	0.2	2.8E-09
Indeno(1,2,3-cd)pyrene	0.3	5.7E-09
Aluminum	11,132	1.9E-04
Antimony	1.5	2.5E-08
Arsenic	5.8	9.9E-08
Iron	23,305	4.0E-04
Manganese	623	1.1E-05
Thallium	1.1	1.9E-08
Vanadium	19.9	3.4E-07

TABLE 2D
 AMBIENT AIR EXPOSURE POINT CONCENTRATIONS FOR
 CONSTRUCTION WORKER AT SEAD-11
 SENECA ARMY DEPOT ACTIVITY

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Air
Exposure Point:	SEAD-11

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= 303 ug/m³

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

Analyte	Reasonable Maximum Exposure	
	EPC Data for Surface and Subsurface Soil (mg/kg)	Calculated Air EPC Surface and Subsurface Soil (mg/m ³)
Trichloroethene	5.1E-03	1.5E-09
Benzo(a)anthracene	0.73	2.2E-07
Benzo(a)pyrene	0.51	1.5E-07
Benzo(b)fluoranthene	1.09	3.3E-07
Benzo(k)fluoranthene	0.19	5.8E-08
Chrysene	0.55	1.7E-07
Dibenz(a,h)anthracene	0.16	5.0E-08
Indeno(1,2,3-cd)pyrene	0.34	1.0E-07
Aluminum	11,132	3.4E-03
Antimony	1.50	4.5E-07
Arsenic	5.85	1.8E-06
Iron	23,305	7.1E-03
Manganese	623	1.9E-04
Thallium	1.10	3.3E-07
Vanadium	19.9	6.0E-06

TABLE 2E
CALCULATION OF AIR CONCENTRATION IN SHOWER
FROM VOLATILIZATION OF GROUNDWATER (DAILY)
REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-11
Seneca Army Depot Activity

Scenario Timeframe:	Current/Future
Medium:	Groundwater
Exposure Medium:	Air
Exposure Point:	SEAD-11

Analyte	Residential Adult Time of Shower - T _{event} (min)	Residential Adult EPC Air (mg/m ³)	Residential Child Time of Shower - T _{event} (min)	Residential Child EPC Air (mg/m ³)	Shower - Fw (L/min)	RME								
						EPC Groundwater (mg/l)	Flow Rate of Air in Shower - Fa (m ³ /min)	Volume of Bathroom - Vb (m ³)	Henry Laws Constant - H (m ³ -atm/mol)	Asymptotic Air Conc. - Cinf (mg/m ³)	Rate Constant - K (1/min)	Efficiency of Release - E (unitless)	Efficiency of Release for TCE - E-TCE	Henry Laws Constant - H-TCE (m ³ -atm/mol)
						Tetrachloroethene	35	1.49E-02	60	1.49E-02	19	2.05E-03	2.4	12
Trichloroethene	35	1.46E-02	60	1.46E-02	19	3.10E-03	2.4	12	9.85E-03	1.59E-02	0.20	6.49E-01	0.6	0.0091
Manganese	35	NA	60	NA	19	3.41E-01	2.4	12		0.E+00	0.20	0.E+00	0.6	0.0091

<p>Concentration in Air (mg/m³) = Cinf[1+(1/(kTs))(exp(-kTs)-1)]</p> <p>Asymptotic Air Conc. - Cinf (mg/m³) = [(E)(Fw)(EPCgw)]/Fa</p> <p>Rate Constant - k (1/min) = Fa/Vb</p> <p>Efficiency of Release - E (unitless) = (E-tce)(H)/(H-tce)</p>	<p>Variables:</p> <p>CA = Chemical Concentration in Air (mg/m³)</p> <p>Ts = Time of Shower (minutes)</p> <p>Fw = Flow Rate of Shower (L/min)</p> <p>Fa = Flow Rate of Air in Shower (m³/min)</p> <p>Vb = Volume of Bathroom (m³)</p>	<p>Assumptions:</p> <p>EPC - Groundwater Data - RME</p> <p>35 and 60 minutes for adult and child, respectively</p> <p>2.4 (Average Air Flow)</p> <p>12 (Average Bathroom Volume)</p>
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Note:
Henry's law constants not available for the inorganic COPC.

**TABLE 3A
EXPOSURE FACTOR ASSUMPTIONS FOR SEAD-11 - INDUSTRIAL WORKER
Seneca Army Depot Activity**

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Soil
Exposure Point:	SEAD-11
Receptor Population:	Industrial Worker
Receptor Age:	Adult

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE
Ingestion of Soil	EPC	Soil EPC	mg/kg			Table 2A
	BW	Body Weight	kg	70	Default value for industrial worker.	USEPA, 2002.
	IR	Ingestion Rate	mg/day	100	Default value for outdoor worker.	USEPA, 2002.
	FI	Fraction Ingested	unitless	1	Assumng 100% ingestion from site.	BPJ.
	EF	Exposure Frequency	days/yr	250	Default value for industrial worker.	USEPA, 2002, 2004.
	ED	Exposure Duration	year	25	Default value for industrial worker.	USEPA, 2002, 2004.
	CF	Conversion Factor	kg/mg	1E-6		
	AT(Nc) AT(Cair)	Averaging Time - Nc Averaging Time - Car	days days	9,125 25,550	25 years. 70 years, default value for industrial worker.	USEPA, 2002.
Dermal Contact of Soil	EPC	Soil EPC	mg/kg			Table 2A
	BW	Body Weight	kg	70		USEPA, 2002.
	SA	Skin Contact Surface Area	cm2	3,300		USEPA, 2002, 2004.
	AF	Soil/Skin Adherence Factor	mg/cm2-event	0.2		USEPA, 2002, 2004.
	ABS	Dermal Absorption Fraction	unitless			USEPA, 2004.
	EV	Event Frequency	events/day	1		USEPA, 2004.
	EF	Exposure Frequency	days/yr	250		USEPA, 2002, 2004.
	ED	Exposure Duration	year	25		USEPA, 2002, 2004.
	CF	Conversion Factor	kg/mg	1E-6		
	AT(Nc) AT(Cair)	Averaging Time - Nc Averaging Time - Car	days days	9,125 25,550		USEPA, 2002.

Source References:

- Notes:
RME = Reasonable Maximum Exposure
- BPJ: Best Professional Judgement.
 - 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

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 3A
EXPOSURE FACTOR ASSUMPTIONS FOR SEAD-11 - INDUSTRIAL WORKER
Seneca Army Depot Activity**

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Air
Exposure Point:	SEAD-11
Receptor Population:	Industrial Worker
Receptor Age:	Adult

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE
Inhalation of Dust in Ambient Air	EPC	Air EPC	mg/m ³			Table 2C
	BW	Body Weight	kg	70	Default value for industrial worker.	USEPA, 2002.
	IR	Inhalation Rate	m ³ /day	20	Default value for industrial worker.	USEPA, 2002.
	EF	Exposure Frequency	days/yr	250	Default value for industrial worker.	USEPA, 2002, 2004.
	ED	Exposure Duration	year	25	Default value for industrial worker.	USEPA, 2002, 2004.
	AT(Nc) AT(Cair)	Averaging Time - Nc Averaging Time - Car	days days	9,125 25,550	25 years. 70 years, default value for industrial worker.	USEPA, 2002.

Source References:

- Notes:
RME = Reasonable Maximum Exposure
- BPJ: Best Professional Judgement.
 - 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 3A
EXPOSURE FACTOR ASSUMPTIONS FOR SEAD-11 - INDUSTRIAL WORKER
Seneca Army Depot Activity**

Scenario Timeframe:	Future
Medium:	Groundwater
Exposure Medium:	Groundwater
Exposure Point:	SEAD-11
Receptor Population:	Industrial Worker
Receptor Age:	Adult

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE
Intake of Groundwater	EPC	Groundwater EPC	mg/L			Table 2B
	BW	Body Weight	kg	70	Default value for industrial worker.	USEPA, 2002.
	IR	Intake Rate	L/day	1	Default intake rate for commercial/industrial worker.	USEPA, 1991.
	EF	Exposure Frequency	days/yr	250	Default value for industrial worker.	USEPA, 2002, 2004.
	ED	Exposure Duration	year	25	Default value for industrial worker.	USEPA, 2002, 2004.
	AT(Nc) AT(Cair)	Averaging Time - Nc Averaging Time - Car	days days	9,125 25,550	25 years. 70 years, default value for industrial worker.	USEPA, 2002.

Source References: *//////////*

Notes:

RME = Reasonable Maximum Exposure

- 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 (Part E, Supplemental Guidance for Dermal Risk Assessment) Final.

Intake Equation:

$$\text{Daily Intake (DI) (mg/kg-day)} = \text{EPC} \times \text{IR} \times \text{EF} \times \text{ED} / (\text{BW} \times \text{AT})$$

**TABLE 3B
EXPOSURE FACTOR ASSUMPTIONS FOR SEAD-11 - CONSTRUCTION WORKER
Seneca Army Depot Activity**

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Soil
Exposure Point:	SEAD-11
Receptor Population:	Construction Worker
Receptor Age:	Adult

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE
Ingestion of Soil	EPC	Soil EPC	mg/kg			Table 2A
	BW	Body Weight	kg	70	Default value for construction worker.	USEPA, 2002.
	IR	Ingestion Rate	mg/day	330	Default value for construction worker.	USEPA, 2002.
	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		
	AT(Nc) AT(Cair)	Averaging Time - Nc Averaging Time - Car	days days	365 25,550	1 year. 70 years, default value for construction worker.	USEPA, 2002.
Dermal Contact of Soil	EPC	Soil EPC	mg/kg			Table 2A
	BW	Body Weight	kg	70	Default value for construction worker.	USEPA, 2002.
	SA	Skin Contact Surface Area	cm2	3,300	Default value for construction worker.	USEPA, 2002.
	AF	Soil/Skin Adherence Factor	mg/cm2-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.
	CF	Conversion Factor	kg/mg	1E-6		
	AT(Nc) AT(Cair)	Averaging Time - Nc Averaging Time - Car	days days	365 25,550	1 year. 70 years, default value for construction worker.	USEPA, 2002.

Source References:

- Notes:
RME = Reasonable Maximum Exposure
- 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 (Part E, Supplemental Guidance for Dermal Risk Assessment) Final.

Intake Equations:

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 3B
EXPOSURE FACTOR ASSUMPTIONS FOR SEAD-11 - CONSTRUCTION WORKER
Seneca Army Depot Activity**

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Air
Exposure Point:	SEAD-11
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	Air EPC	mg/m3			Table 2D
	BW	Body Weight	kg	70	Default value for construction worker.	USEPA, 2002.
	IR	Inhalation Rate	m3/day	20	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.
	AT(Nc) AT(Cair)	Averaging Time - Nc Averaging Time - Car	days days	365 25,550	1 year. 70 years, default value for construction worker.	USEPA, 2002.

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.

Notes:

RME = Reasonable Maximum Exposure

Intake Equation:

Inhalation Daily Intake (DI) (mg/kg-day) = EPC x IR x EF x ED / (BW x AT)

**TABLE 3B
EXPOSURE FACTOR ASSUMPTIONS FOR SEAD-11 - CONSTRUCTION WORKER
Seneca Army Depot Activity**

Scenario Timeframe:	Current/Future
Medium:	Groundwater
Exposure Medium:	Groundwater
Exposure Point:	SEAD-11
Receptor Population:	Construction Worker
Receptor Age:	Adult

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE
Intake of Groundwater	EPC	Groundwater EPC	mg/L			Table 2B
	BW	Body Weight	kg	70	Default value for construction worker.	USEPA, 2002.
	IR	Intake Rate	L/day	1	Default intake rate for commercial/industrial worker.	USEPA, 1991.
	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.
	AT(Nc) AT(Cair)	Averaging Time - Nc Averaging Time - Car	days days	365 25,550	1 year. 70 years, default value for construction worker.	USEPA, 2002.
Dermal of Groundwater	EPC	Groundwater EPC	mg/L			Table 2B
	BW	Body Weight	kg	70	Default value for construction worker.	USEPA, 2002.
	SA	Skin Surface Area	cm ²	2490	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 _{event}	Event duration (hr/event)	hr/event	0.5	Assumes half hour to assemble or disassemble a pumping system.	BPJ.
	AT(Nc) AT(Cair)	Averaging Time - Nc Averaging Time - Car	days days	365 25,550	1 year. 70 years, default value for construction worker.	USEPA, 2002.

Source References:

Notes:

RME = Reasonable Maximum Exposure

- 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 (Part E, Supplemental Guidance for Dermal Risk Assessment) Final.

**TABLE 3B
EXPOSURE FACTOR ASSUMPTIONS FOR SEAD-11 - CONSTRUCTION WORKER
Seneca Army Depot Activity**

Scenario Timeframe:	Current/Future
Medium:	Groundwater
Exposure Medium:	Groundwater
Exposure Point:	SEAD-11
Receptor Population:	Construction Worker
Receptor Age:	Adult

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE
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Intake Equation:

Ingestion Daily Intake (DI) (mg/kg-day) = EPC x IR x EF x ED/(BW x AT)

Dermal Dermal Absorbed Dose (DAD) (mg/kg-day) = (DA_{event} x EV x ED x EF x SA) / (BW x AT)

For Inorganics, DA_{event} = K_p x EPC x t_{event}

For Organics, If t_{event} <= t*, then: DA_{event} = 2 FA x K_p x EPC ((6 τ_{event} x t_{event}) / π)^{1/2}

if t_{event} > t*, then: DA_{event} = FA x K_p x EPC [(t_{event} / 1 + B) + 2 τ_{event} ((1 + 3 B + 3 B²) / (1 + B)²)]

Where:

*t** = Time to reach steady - state (hr)

τ_{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)

**TABLE 3C
EXPOSURE FACTOR ASSUMPTIONS FOR SEAD-11 - ADOLESCENT TRESPASSER
Seneca Army Depot Activity**

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Soil
Exposure Point:	SEAD-11
Receptor Population:	Adolescent Trespasser
Receptor Age:	Adolescent (11-16 yr)

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE
Ingestion of Soil	EPC	Soil EPC	mg/kg			
	BW	Body Weight	kg	50	Average weight for adolescent ages 11-16 (Table 7-3).	Table 2A USEPA, 1997.
	IR	Ingestion Rate	mg/day	100	Default soil ingestion rate for adult.	USEPA, 2002.
	FI	Fraction Ingested	unitless	1	Assuming 100% ingestion from site.	BPJ.
	EF	Exposure Frequency	days/yr	14	Assumes 2 weeks.	BPJ.
	ED	Exposure Duration	year	5	Exposure duration from age 11 to age 16.	BPJ.
	CF	Conversion Factor	kg/mg	1E-6		
	AT(Nc) AT(Cair)	Averaging Time - Nc Averaging Time - Car	days days	1,825 25,550	5 years. 70 years, default value for human life span.	USEPA, 2002.
Dermal Contact of Soil	EPC	Soil EPC	mg/kg			
	BW	Body Weight	kg	50	Average weight for adolescent ages 11-16 (Table 7-3).	Table 2A USEPA, 1997.
	SA	Skin Contact Surface Area	cm2	5,867	Average surface area for adolscent ages 11-16 (Table 7-3) including head, hands, forearms, lower legs, and feet.	USEPA, 1997.
	AF	Soil/Skin Adherence Factor	mg/cm2-event	0.07	Default value for adult.	USEPA, 2004.
	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	Assumes 2 weeks.	BPJ.
	ED	Exposure Duration	year	5	Exposure duration from age 11 to age 16.	BPJ.
	CF	Conversion Factor	kg/mg	1E-6		
	AT(Nc)	Averaging Time - Nc	days	1,825	5 years.	
	AT(Cair)	Averaging Time - Car	days	25,550	70 years, default value for human life span.	USEPA, 2002.

Source References:

- Notes:
- BPJ: Best Professional Judgement.
 - 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.
- RME = Reasonable Maximum Exposure

Intake Equations:

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 3C
EXPOSURE FACTOR ASSUMPTIONS FOR SEAD-11 - ADOLESCENT TRESPASSER
Seneca Army Depot Activity**

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Air
Exposure Point:	SEAD-11
Receptor Population:	Adolescent Trespasser
Receptor Age:	Adolescent (11-16 yr)

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE
Inhalation of Dust in Ambient Air	EPC	Air EPC	mg/m ³	50	Average weight for adolescent ages 11-16 (Table 7-3). Average inhalation rate for moderate activity is 1.6 m ³ /hr. Assuming 1 hr/day exposure. Attends 5 days/wk and 10 days/yr vacation. Exposure duration from age 11 to age 16. 5 years. 70 years, default value for human life span.	Table 2C USEPA, 1997.
	BW	Body Weight	kg			
	IR	Inhalation Rate	m ³ /day	1.6		USEPA, 1997 & BPJ.
	EF	Exposure Frequency	days/yr	14		BPJ.
	ED	Exposure Duration	year	5		BPJ.
	AT(Nc) AT(Cair)	Averaging Time - Nc Averaging Time - Car	days days	1,825 25,550		USEPA, 2002.

Source References:

- BPJ: Best Professional Judgement.
- 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.

Notes:

RME = Reasonable Maximum Exposure

Intake Equation:

Inhalation Daily Intake (DI) (mg/kg-day) = EPC x IR x EF x ED / (BW x AT)

**TABLE 3C
EXPOSURE FACTOR ASSUMPTIONS FOR SEAD-11 - ADOLESCENT TRESPASSER
Seneca Army Depot Activity**

Scenario Timeframe:	Current/Future
Medium:	Groundwater
Exposure Medium:	Groundwater
Exposure Point:	SEAD-11
Receptor Population:	Adolescent Trespasser
Receptor Age:	Adolescent (11-16 yr)

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE
Intake of Groundwater	EPC	Groundwater EPC	mg/L			Table 2B
	BW	Body Weight	kg	50	Average weight for adolescent ages 11-16 (Table 7-3).	USEPA, 1997.
	IR	Intake Rate	L/day	2	95th percentile for children ages 11-16 yr.	USEPA, 1997.
	EF	Exposure Frequency	days/yr	14	Assumption.	BPJ
	ED	Exposure Duration	year	5	Exposure duration from age 11 to age 16.	BPJ.
	AT(Nc) AT(Cair)	Averaging Time - Nc Averaging Time - Car	days days	1,825 25,550	5 years. 70 years, default value for human life span.	USEPA, 2002.

Source References:

- Notes:
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:

Intake Daily Intake (DI) (mg/kg-day) = EPC x IR x EF x ED/(BW x AT)

**TABLE 3D
EXPOSURE FACTOR ASSUMPTIONS FOR SEAD-11 - RESIDENTIAL ADULT
Seneca Army Depot Activity**

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Soil
Exposure Point:	SEAD-11
Receptor Population:	Residential Adult
Receptor Age:	Adult

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE
Ingestion of Soil	EPC	Soil EPC	mg/kg	Table 2A		See Table 2A
	BW	Body Weight	kg	70	Default value for adult.	USEPA, 2002.
	IR	Ingestion Rate	mg/day	100	Default soil ingestion rate for residential adult.	USEPA, 2002.
	FI	Fraction Ingested	unitless	1	Assuming 100% ingestion from site.	BPJ.
	EF	Exposure Frequency	days/yr	350	Default exposure frequency for residential receptor.	USEPA, 2004, 2002. USEPA, 2002.
	ED	Exposure Duration	year	24	Default RME exposure duration.	
	CF	Conversion Factor	kg/mg	1E-6		
	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.
Dermal Contact of Soil	EPC	Soil EPC	mg/kg	Table 2A		See Table 2A.
	BW	Body Weight	kg	70	Default value for adult.	USEPA, 2002.
	SA	Skin Contact Surface Area	cm2	5,700	Default value for adult.	USEPA, 2004.
	AF	Soil/Skin Adherence Factor	mg/cm2-event	0.07	Default RME for adult.	USEPA, 2004.
	ABS	Dermal Absorption Fraction	unitless		Chemical-specific	USEPA, 2004.
	EV	Event Frequency	events/day	1	Default value for residential receptor.	USEPA, 2004.
	EF	Exposure Frequency	days/yr	350	Default exposure frequency for residential receptor.	USEPA, 2004, 2002. USEPA, 2004.
	ED	Exposure Duration	year	24	Default RME exposure duration.	
	CF	Conversion Factor	kg/mg	1E-6		
	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.

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 (Part E, Supplemental Guidance for Dermal Risk Assessment) Final.

Intake Equations:

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 3D
EXPOSURE FACTOR ASSUMPTIONS FOR SEAD-11 - RESIDENTIAL ADULT
Seneca Army Depot Activity**

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Air
Exposure Point:	SEAD-11
Receptor Population:	Residential Adult
Receptor Age:	Adult

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE
Inhalation of Dust in Ambient Air	EPC	Air EPC	mg/m3	Table 2C		See Table 2C.
	BW	Body Weight	kg	70	Default value for adult.	USEPA, 2002.
	IR	Inhalation Rate	m3/day	20	Default value for adult.	USEPA, 1997.
	EF	Exposure Frequency	days/yr	350	Default exposure frequency for residential receptor.	USEPA, 2004, 2002. USEPA, 2002.
	ED	Exposure Duration	year	24	Default RME exposure duration.	
	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.

Source References:

- Notes:
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 Equation

Inhalation Daily Intake (DI) (mg/kg-day) = EPC x IR x EF x ED / (BW x AT)

**TABLE 3D
EXPOSURE FACTOR ASSUMPTIONS FOR SEAD-11 - RESIDENTIAL ADULT
Seneca Army Depot Activity**

Scenario Timeframe:	Future
Medium:	Groundwater
Exposure Medium:	Groundwater
Exposure Point:	SEAD-11
Receptor Population:	Residential Adult
Receptor Age:	Adult

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE
Intake of Groundwater	EPC	Groundwater EPC	mg/L	Table 2B		See Table 2B
	BW	Body Weight	kg	70	Default value for adult.	USEPA, 2002.
	IR	Intake Rate	L/day	2	Default value for adult.	USEPA, 2002.
	EF	Exposure Frequency	days/yr	350	Default exposure frequency for residential receptor.	USEPA, 2004, 2002.
	ED	Exposure Duration	year	24	Default RME exposure duration.	USEPA, 2002.
	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.
Dermal Contact of Groundwater	EPC	Groundwater EPC	mg/L	Table 2B		See Table 2B
	Kp	Permeability Constant	cm/hr		Chemical-specific.	USEPA, 2004.
	BW	Body Weight	kg	70	Default value for adult.	USEPA, 2002.
	SA	Skin Contact Surface Area	cm ²	18,000	Default RME for adult showering/bathing.	USEPA, 2004.
	EV	Event Frequency	events/day	1	Default RME for adult showering/bathing.	USEPA, 2004.
	t _{event}	Event Duration	hr/event	0.58	Default RME for adult showering/bathing.	USEPA, 2004.
	EF	Exposure Frequency	days/yr	350	Default exposure frequency for residential receptor.	USEPA, 2004, 2002.
	ED AT(Nc) AT(Cair)	Exposure Duration Averaging Time - Nc Averaging Time - Car	year days days	24 8,760 25,550	Default RME exposure duration. 24 years. 70 years, default value for human life span.	USEPA, 2002. USEPA, 2002.
Inhalation of Groundwater	EPC	Air EPC	mg/m ³	Table 2E		See Table 2E
	BW	Body Weight	kg	70	Default value for adult.	USEPA, 2002.
	IR	Inhalation Rate	m ³ /hr	1.0	Average rate for light activities.	USEPA, 1997.
	EV	Event Frequency	event/day	1	Default RME for adult showering/bathing.	USEPA, 2004.
	t _{event}	Event Duration	hr/event	0.58	Default RME for adult showering/bathing.	USEPA, 2004.
	EF	Exposure Frequency	days/yr	350	Default exposure frequency for residential receptor.	USEPA, 2004, 2002.
	ED	Exposure Duration	year	24	Default RME exposure duration.	USEPA, 2002.
	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.

TABLE 3D
EXPOSURE FACTOR ASSUMPTIONS FOR SEAD-11 - RESIDENTIAL ADULT
Seneca Army Depot Activity

Scenario Timeframe:	Future
Medium:	Groundwater
Exposure Medium:	Groundwater
Exposure Point:	SEAD-11
Receptor Population:	Residential Adult
Receptor Age:	Adult

Source References:

- Notes:
- 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.
- RME = Reasonable Maximum Exposure

Intake Equations:

Intake Daily Intake (DI) (mg/kg-day) = EPC x IR x EF x ED / (BW x AT)

Dermal DI (mg/kg-day) = DA_{event} x EV x EF x ED x SA / (BW x AT)

Equation for Absorbed Dose per Event (DA_{event}):

For inorganics: DA_{event} = K_p x EPC x t_{event} x C

Where: K_p = Permeability Coefficient, cm/hr

EPC = EPC in Groundwater, mg/L

C = Conversion Factor, 10⁻³ L/cm³

For organics:

If t_{event} <= t*, then: DA_{event} = 2 FA x K_p x C_w ((6 τ_{event} x t_{event}) / π)^{1/2}

if t_{event} > t*, then: DA_{event} = FA x K_p x C_w [(t_{event} / (1 + B)) + 2 τ_{event} ((1 + 3 B + 3 B²) / (1 + B)²)]

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)

Inhalation DI (mg/kg-day) = EPC x IR x t_{event} x EV x EF x ED / (BW x AT)

**TABLE 3E
EXPOSURE FACTOR ASSUMPTIONS FOR SEAD-11 - RESIDENTIAL CHILD
Seneca Army Depot Activity**

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Soil
Exposure Point:	SEAD-11
Receptor Population:	Residential Child
Receptor Age:	Child (0-6 yr)

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE
Ingestion of Soil	EPC	Soil EPC	mg/kg	Table 2A		See Table 2A.
	BW	Body Weight	kg	15	Default value for child (ages 0-6yr).	USEPA, 2002.
	IR	Ingestion Rate	mg/day	200	Default soil ingestion rate for child.	USEPA, 2002.
	FI	Fraction Ingested	unitless	1	Assuming 100% ingestion from site.	BPJ.
	EF	Exposure Frequency	days/yr	350	Default exposure frequency for residential receptor.	USEPA, 2004, 2002. USEPA, 2002.
	ED	Exposure Duration	year	6	Default exposure duration.	
	CF	Conversion Factor	kg/mg	1E-6		
	AT(Nc) AT(Cair)	Averaging Time - Nc Averaging Time - Car	days days	2,190 25,550	6 years. 70 years, default value for human life span.	USEPA, 2002.
Dermal Contact of Soil	EPC	Soil EPC	mg/kg	Table 2A		See Table 2A.
	BW	Body Weight	kg	15	Default value for child.	USEPA, 2002.
	SA	Skin Contact Surface Area	cm2	2,800	Default value for child.	USEPA, 2002, 2004.
	AF	Soil/Skin Adherence Factor	mg/cm2-event	0.2	Default RME value for child.	USEPA, 2002, 2004.
	ABS	Dermal Absorption Fraction	unitless		Chemical-specific	USEPA, 2004.
	EV	Event Frequency	events/day	1	Default value for residential child.	USEPA, 2004, 2002.
	EF	Exposure Frequency	days/yr	350	Default exposure frequency for residential receptor.	USEPA, 2004, 2002.
	ED	Exposure Duration	year	6	Default exposure duration.	USEPA, 2002.
	CF	Conversion Factor	kg/mg	1E-6		
	AT(Nc) AT(Cair)	Averaging Time - Nc Averaging Time - Car	days days	2,190 25,550	6 year. 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 (Part E, Supplemental Guidance for Dermal Risk Assessment) Final.

Intake Equations:

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 3E
EXPOSURE FACTOR ASSUMPTIONS FOR SEAD-11 - RESIDENTIAL CHILD
Seneca Army Depot Activity**

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Air
Exposure Point:	SEAD-11
Receptor Population:	Residential Child
Receptor Age:	Child (0-6 yr)

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE
Inhalation of Dust in Ambient Air	EPC	Air EPC	mg/m3	Table 2C		Table 2C
	BW	Body Weight	kg	15	Default value for child (ages 0-6yr).	USEPA, 2002.
	IR	Inhalation Rate	m3/day	7.1	Average long term inhalation rate for child ages 0-6 yr.	USEPA, 1997.
	EF	Exposure Frequency	days/yr	350	Default exposure frequency for residential child.	USEPA, 2004, 2002.
	ED	Exposure Duration	year	6	Default value for exposure duration.	USEPA, 2002.
	AT(Nc)	Averaging Time - Nc	days	2,190	6 years.	
	AT(Cair)	Averaging Time - Car	days	25,550	70 years, default value for human life span.	USEPA, 2002.

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. |
| | · 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 3E
EXPOSURE FACTOR ASSUMPTIONS FOR SEAD-11 - RESIDENTIAL CHILD
Seneca Army Depot Activity

Scenario Timeframe:	Future
Medium:	Groundwater
Exposure Medium:	Groundwater
Exposure Point:	SEAD-11
Receptor Population:	Residential Child
Receptor Age:	Child (0-6 yr)

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE
Intake of Groundwater	EPC	Groundwater EPC	mg/L	Table 2B		See Table 2B
	BW	Body Weight	kg	15	Default value for child (ages 0-6r).	USEPA, 2002.
	IR	Intake Rate	L/day	1.5	95th percentile for children ages 1-10 yr.	USEPA, 1997.
	EF	Exposure Frequency	days/yr	350	Default exposure frequency for residential receptor.	USEPA, 2004, 2002.
	ED	Exposure Duration	year	6	6 years.	USEPA, 2002.
	AT(Nc) AT(Cair)	Averaging Time - Nc Averaging Time - Car	days days	2,190 25,550	70 years, default value for human life span.	USEPA, 2002.
Dermal Contact of Groundwater	EPC	Groundwater EPC	mg/L	Table 2B		See Table 2B
	Kp	Permeability Constant	cm/hr		Chemical-specific.	USEPA, 2004.
	BW	Body Weight	kg	15	Default value for child (ages 0-6r).	USEPA, 2002.
	SA	Skin Contact Surface Area	cm ²	6,600	Default RME for child showering/bathing.	USEPA, 2004.
	EV	Event Frequency	events/day	1	Default RME for child showering/bathing.	USEPA, 2004.
	t _{event}	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.
	ED AT(Nc) AT(Cair)	Exposure Duration Averaging Time - Nc Averaging Time - Car	year days days	6 2,190 25,550	6 years. 70 years, default value for human life span.	USEPA, 2002. USEPA, 2002.
Inhalation of Groundwater	EPC	Air EPC	mg/m ³	Table 2E		See Table 2E
	BW	Body Weight	kg	15	Default value for child ages 0-6yr.	USEPA, 2002.
	IR	Inhalation Rate	m ³ /hr	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.
	t _{event}	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.
	ED	Exposure Duration	year	6	6 years.	USEPA, 2002.
	AT(Nc) AT(Cair)	Averaging Time - Nc Averaging Time - Car	days days	2,190 25,550	70 years, default value for human life span.	USEPA, 2002.

TABLE 3E
EXPOSURE FACTOR ASSUMPTIONS FOR SEAD-11 - RESIDENTIAL CHILD
Seneca Army Depot Activity

Scenario Timeframe:	Future
Medium:	Groundwater
Exposure Medium:	Groundwater
Exposure Point:	SEAD-11
Receptor Population:	Residential Child
Receptor Age:	Child (0-6 yr)

Notes:	Source References:
RME = Reasonable Maximum Exposure	<ul style="list-style-type: none"> · 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:	
Intake	Daily Intake (DI) (mg/kg-day) = EPC x IR x EF x ED/(BW x AT)
Dermal	DI (mg/kg-day) = DA _{event} x EV x EF x ED x SA/(BW x AT)
	Equation for Absorbed Dose per Event (DA _{event}):
	For inorganics:
	DA _{event} = K _p x EPC x t _{event} x C
	Where:
	K _p = Permeability Coefficient, cm/hr
	EPC = EPC in Groundwater, mg/L
	C = Conversion Factor, 10 ⁻³ L/cm ³
	For organics:
	If t _{event} <= t*, then: DA _{event} = 2 FA x K _p x C _w ((6 τ _{event} x t _{event}) / π) ^{1/2}
	if t _{event} > t*, then: DA _{event} = FA x K _p x C _w [(t _{event} / 1 + B) + 2 τ _{event} ((1 + 3 B + 3 B ²) / (1 + B) ²)]
	Where:
	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)
Inhalation	DI (mg/kg-day) = EPC x IR x t _{event} x EV x EF x ED / (BW x AT)

**TABLE 4A
NON-CANCER TOXICITY DATA -- ORAL/DERMAL
SEAD-11**

Chemical of Potential Concern	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)
Tetrachloroethene	Chronic	1E-02	mg/kg-day	1	1.00E-02	mg/kg-day	Hepatotoxicity	1000	IRIS	4/10/2008
Trichloroethene	Chronic	3E-04	mg/kg-day	1	3.00E-04	mg/kg-day	liver	5000	See Note 6	2001
Benzo(a)anthracene	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(a)pyrene	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(b)fluoranthene	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(k)fluoranthene	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A
Chrysene	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A
Dibenz(a,h)anthracene	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	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A
Aluminum	Chronic	1.0E+00	mg/kg-day	1	1.0E+00	mg/kg-day	N/A	N/A	NCEA	8/26/1996
Antimony	Chronic	4E-04	mg/kg-day	0.15	6E-05	mg/kg-day	Whole Body Blood	1000	IRIS	4/10/2008
Arsenic	Chronic	3E-04	mg/kg-day	1	3E-04	mg/kg-day	Skin	3	IRIS	4/10/2008
Iron	Chronic	3E-01	mg/kg-day	1	3E-01	mg/kg-day	N/A	1	NCEA	07/23/96
Manganese (4)	Chronic	2.3E-02	mg/kg-day	0.04	9E-04	mg/kg-day	Central Nervous System	3	IRIS	4/10/2008
Thallium (5)	Chronic	6E-04	mg/kg-day	1	6E-04	mg/kg-day	Liver, Blood, Hair	3000	IRIS	4/10/2008
Vanadium	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	4/10/2008

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.

(6) Trichloroethylene Health Risk Assessment: Synthesis and Characterization (USEPA, 2001).

**TABLE 4B
NON-CANCER TOXICITY DATA -- INHALATION
SEAD-11**

Chemical of Potential Concern	Chronic/ Subchronic	Value Inhalation RfC	Units	Adjusted Inhalation RfD (1)	Units	Primary Target Organ	Combined Uncertainty/Modifying Factors	Sources of RfC/RfD: Target Organ	Dates (2) (MM/DD/YY)
Tetrachloroethene	Chronic	2.80E-01	mg/m ³	8.00E-02	mg/kg-day	N/A	N/A	ATSDR, MRL	2006
Trichloroethene	Chronic	4E-02	mg/m ³	1E-02	mg/kg-day	Central Nervous System ¹	1000	Note 3	2001
Benzo(a)anthracene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(a)pyrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(b)fluoranthene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(k)fluoranthene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chrysene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dibenz(a,h)anthracene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Indeno(1,2,3-cd)pyrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aluminum	Chronic	5E-03	mg/m ³	1.43E-03	mg/kg-day	N/A	N/A	NCEA	6/20/1997
Antimony	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Arsenic	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Iron	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Manganese	Chronic	5E-05	mg/m ³	1E-05	mg/kg-day	Central Nervous System	1000	IRIS	4/10/2008
Thallium	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Vanadium	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 m³/day 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.

(3) Trichloroethylene Health Risk Assessment: Synthesis and Characterization (USEPA, 2001).

N/A = Not Applicable

IRIS = Integrated Risk Information System

PPRTV = EPA's Provisional Peer Reviewed Toxicity Values

**TABLE 4C
CANCER TOXICITY DATA -- ORAL/DERMAL
SEAD-11**

Chemical of Potential Concern	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)
Tetrachloroethene	5.40E-01	EPA Region 3, Region 9	1	5.40E-01	(mg/kg-day)-1	N/A	N/A	2006
Trichloroethene	4E-01	See Note 5	1	4.00E-01	(mg/kg-day) ¹	See Note 4	USEPA ⁵	2001
Benzo(a)anthracene	0.73	NCEA	1	0.73	(mg/kg-day) ¹	B2	IRIS	4/10/2008
Benzo(a)pyrene	7.3	IRIS	1	7.3	(mg/kg-day) ¹	B2	IRIS	4/10/2008
Benzo(b)fluoranthene	0.73	NCEA	1	0.73	(mg/kg-day) ¹	B2	IRIS	4/10/2008
Benzo(k)fluoranthene	0.073	NCEA	1	0.073	(mg/kg-day) ¹	B2	IRIS	4/10/2008
Chrysene	0.0073	NCEA	1	0.0073	(mg/kg-day) ¹	B2	IRIS	4/10/2008
Dibenz(a,h)anthracene	7.3	NCEA	1	7.3	(mg/kg-day) ¹	B2	IRIS	4/10/2008
Indeno(1,2,3-cd)pyrene	0.73	NCEA	1	0.73	(mg/kg-day) ¹	B2	IRIS	4/10/2008
Aluminum	N/A	N/A	N/A	N/A	N/A	D	NCEA	6/20/1997
Antimony	N/A	N/A	0.15	N/A	N/A	N/A	N/A	N/A
Arsenic	1.5	IRIS	1	1.5	(mg/kg-day) ¹	A	IRIS	4/10/2008
Iron	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A
Manganese	N/A	N/A	0.04	N/A	N/A	D	N/A	N/A
Thallium	N/A	N/A	1	N/A	N/A	D	N/A	N/A
Vanadium	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.
- (4) Trichloroethylene Health Risk Assessment: Synthesis and Characterization (USEPA, 2001). The high-end value presented in the document was used.
 In this document, it is recommended to classify TCE as "highly likely to be carcinogenic to humans".

**TABLE 4D
CANCER TOXICITY DATA -- INHALATION
SEAD-11**

Chemical of Potential Concern	Unit Risk	Units	Unit Risk Source	Adjustment (1)	Inhalation Cancer Slope Factor	Units	Weight of Evidence/ Cancer Guideline Description	Weight of Evidence Source	Date (2) (MM/DD/YY)
Tetrachloroethene	5.7E-06	(ug/m ³)-1	Region 3 & 9	3500	2.00E-02	(mg/kg-day) ⁻¹	N/A	N/A	2006
Trichloroethene	1.1E-04	(ug/m ³) ⁻¹	Note 3	3500	4.00E-01	(mg/kg-day) ⁻¹	Note 3	Note 3	2001
Benzo(a)anthracene	N/A	N/A	N/A	N/A	N/A	N/A	B2	IRIS	4/10/2008
Benzo(a)pyrene	8.9E-04	(ug/m ³) ⁻¹	NCEA	3500	3.1	(mg/kg-day) ⁻¹	B2	IRIS	4/10/2008
Benzo(b)fluoranthene	N/A	N/A	N/A	N/A	N/A	N/A	B2	IRIS	4/10/2008
Benzo(k)fluoranthene	N/A	N/A	N/A	N/A	N/A	N/A	B2	IRIS	4/10/2008
Chrysene	N/A	N/A	N/A	N/A	N/A	N/A	B2	IRIS	4/10/2008
Dibenz(a,h)anthracene	N/A	N/A	N/A	N/A	N/A	N/A	B2	IRIS	4/10/2008
Indeno(1,2,3-cd)pyrene	N/A	N/A	N/A	N/A	N/A	N/A	B2	IRIS	4/10/2008
Aluminum	N/A	N/A	N/A	N/A	N/A	N/A	D	NCEA	4/10/2008
Antimony	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Arsenic	4.3E-03	(ug/m ³) ⁻¹	IRIS	3500	1.5E+01	(mg/kg-day) ⁻¹	A	IRIS	4/10/2008
Iron	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Manganese	N/A	N/A	N/A	N/A	N/A	N/A	D	IRIS	4/10/2008
Thallium	N/A	N/A	N/A	N/A	N/A	N/A	D	IRIS	4/10/2008
Vanadium	N/A	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

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) 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.
- (3) Trichloroethylene Health Risk Assessment: Synthesis and Characterization (USEPA, 2001). The high-end value presented in the document was used. In this document, it is recommended to classify TCE as "highly likely to be carcinogenic to humans".

TABLE 5
CALCULATION OF INTAKE AND RISK FROM THE INGESTION OF SOIL
REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-11
SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) = $\frac{EPC \times IR \times CF \times FI \times EF \times ED \times B}{BW \times AT}$	Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor
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	

Analyte	Oral RfD (mg/kg-day)	Carc. Slope Oral (mg/kg-day) ⁻¹	Bioavailability (unitless)	EPC Surface Soil (mg/kg)	Industrial Worker			Construction Worker			Adolescent Trespasser					
					Intake (mg/kg-day)		Hazard Quotient	Cancer Risk	Intake (mg/kg-day)		Hazard Quotient	Cancer Risk	Intake (mg/kg-day)		Hazard Quotient	Cancer Risk
					(Nc)	(Car)			(Nc)	(Car)			(Nc)	(Car)		
Trichloroethene	3.00E-04	4.0E-01	1	5.1E-03	4.97E-09	1.78E-09	2E-05	7E-10	1.64E-08	2.34E-10	5E-05	9E-11	3.90E-10	2.78E-11	1E-06	1E-11
Benzo(a)anthracene	N/A	7.3E-01	1	7.3E-01		2.55E-07		2E-07		3.37E-08		2E-08		4.00E-09		3E-09
Benzo(a)pyrene	N/A	7.3E+00	1	5.1E-01		1.77E-07		1E-06		2.33E-08		2E-07		2.77E-09		2E-08
Benzo(b)fluoranthene	N/A	7.3E-01	1	1.1E+00		3.81E-07		3E-07		5.03E-08		4E-08		5.97E-09		4E-09
Benzo(k)fluoranthene	N/A	7.3E-02	1	1.9E-01		6.70E-08		5E-09		8.84E-09		6E-10		1.05E-09		8E-11
Chrysene	N/A	7.3E-03	1	5.5E-01		1.92E-07		1E-09		2.54E-08		2E-10		3.02E-09		2E-11
Dibenz(a,h)anthracene	N/A	7.3E+00	1	1.6E-01		5.75E-08		4E-07		7.59E-09		6E-08		9.01E-10		7E-09
Indeno(1,2,3-cd)pyrene	N/A	7.3E-01	1	3.4E-01		1.18E-07		9E-08		1.56E-08		1E-08		1.85E-09		1E-09
Aluminum	1.00E+00	N/A	1	1.1E+04	1.09E-02		1E-02		3.59E-02		4E-02		8.54E-04		9E-04	
Antimony	4.00E-04	N/A	1	1.5E+00	1.46E-06		4E-03		4.83E-06		1E-02		1.15E-07		3E-04	
Arsenic	3.00E-04	1.5E+00	1	5.8E+00	5.72E-06	2.04E-06		3E-06	1.89E-05	2.70E-07		6E-02	4E-07	4.49E-07	3.20E-08	5E-08
Iron	3.00E-01	N/A	1	2.3E+04	2.28E-02		8E-02		7.53E-02		3E-01		1.79E-03		6E-03	
Manganese	2.33E-02	N/A	1	6.2E+02	6.09E-04		3E-02		2.01E-03		9E-02		4.78E-05		2E-03	
Thallium	6.47E-04	N/A	1	1.1E+00	1.08E-06		2E-03		3.56E-06		6E-03		8.45E-08		1E-04	
Vanadium	1.00E-03	N/A	1	2.0E+01	1.95E-05		2E-02		6.44E-05		6E-02		1.53E-06		2E-03	
Total Hazard Quotient and Cancer Risk:							2E-01	5E-06			5E-01	7E-07			1E-02	8E-08
					Assumptions for Industrial Worker			Assumptions for Construction Worker			Assumptions for Adolescent Trespasser					
					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 =	50 kg				
					IR =	100 mg/day		IR =	330 mg/day		IR =	100 mg/day				
					FI =	1 unitless		FI =	1 unitless		FI =	1 unitless				
					EF =	250 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.

TABLE 5
CALCULATION OF INTAKE AND RISK FROM THE INGESTION OF SOIL
REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-11
SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) = $\frac{EPC \times IR \times CF \times FI \times EF \times ED \times B}{BW \times AT}$	Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor
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	

Analyte	Oral RfD (mg/kg-day)	Carc. Slope Oral (mg/kg-day) ⁻¹	Bioavailability (unitless)	EPC Surface Soil (mg/kg)	Resident (Adult)			Resident (Child)			Resident Total Lifetime Cancer Risk		
					Intake (mg/kg-day)		Hazard Quotient	Cancer Risk	Intake (mg/kg-day)			Hazard Quotient	Cancer Risk
					(Nc)	(Car)			(Nc)	(Car)			
Trichloroethene	3.00E-04	4.0E-01	1	5.1E-03	6.96E-09	2.39E-09	2E-05	1E-09	6.49E-08	5.57E-09	2E-04	2E-09	3E-09
Benzo(a)anthracene	N/A	7.3E-01	1	7.3E-01		3.43E-07		3E-07		8.00E-07		6E-07	8E-07
Benzo(a)pyrene	N/A	7.3E+00	1	5.1E-01		2.38E-07		2E-06		5.54E-07		4E-06	6E-06
Benzo(b)fluoranthene	N/A	7.3E-01	1	1.1E+00		5.12E-07		4E-07		1.19E-06		9E-07	1E-06
Benzo(k)fluoranthene	N/A	7.3E-02	1	1.9E-01		9.00E-08		7E-09		2.10E-07		2E-08	2E-08
Chrysene	N/A	7.3E-03	1	5.5E-01		2.59E-07		2E-09		6.04E-07		4E-09	6E-09
Dibenz(a,h)anthracene	N/A	7.3E+00	1	1.6E-01		7.73E-08		6E-07		1.80E-07		1E-06	2E-06
Indeno(1,2,3-cd)pyrene	N/A	7.3E-01	1	3.4E-01		1.59E-07		1E-07		3.70E-07		3E-07	4E-07
Aluminum	1.00E+00	N/A	1	1.1E+04	1.52E-02		2E-02		1.42E-01		1E-01		
Antimony	4.00E-04	N/A	1	1.5E+00	2.05E-06		5E-03		1.91E-05		5E-02		
Arsenic	3.00E-04	1.5E+00	1	5.8E+00	8.01E-06	2.75E-06	3E-02	4E-06	7.48E-05	6.41E-06	2E-01	1E-05	1E-05
Iron	3.00E-01	N/A	1	2.3E+04	3.19E-02		1E-01		2.98E-01		1E+00		
Manganese	2.33E-02	N/A	1	6.2E+02	8.53E-04		4E-02		7.96E-03		3E-01		
Thallium	6.47E-04	N/A	1	1.1E+00	1.51E-06		2E-03		1.41E-05		2E-02		
Vanadium	1.00E-03	N/A	1	2.0E+01	2.73E-05		3E-02		2.55E-04		3E-01		
Total Hazard Quotient and Cancer Risk:							2E-01	7E-06			2.1E+00	2E-05	2E-05
					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			

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-11
Seneca Army Depot Activity**

Equation for Intake (mg/kg-day) = $\frac{EPC \times IR \times EF \times ED}{BW \times AT}$	Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose
Variables (Assumptions for Each Receptor are Listed at the Bottom): EPC = Exposure Point Concentration in Groundwater (mg/L) ED=Exposure Duration IR = Intake Rate BW=Bodyweight EF = Exposure Frequency AT=Averaging Time	Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

Analyte	Oral RfD (mg/kg-day)	Carc. Slope Oral (mg/kg-day)-1	EPC Groundwater (mg/liter)	Industrial Worker				Construction Worker				Adolescent Trespasser			
				Intake (mg/kg-day)		Hazard Quotient	Cancer Risk	Intake (mg/kg-day)		Hazard Quotient	Cancer Risk	Intake (mg/kg-day)		Hazard Quotient	Cancer Risk
				(Nc)	(Car)			(Nc)	(Car)			(Nc)	(Car)		
Tetrachloroethene	1.E-02	5.4E-01	0.00205	2.0E-05	7.2E-06	2E-03	4E-06	2.0E-05	2.9E-07	2E-03	2E-07	3.1E-06	2.2E-07	3E-04	1E-07
Trichloroethene	3.E-04	4.0E-01	0.0031	3.0E-05	1.1E-05	1E-01	4E-06	3.0E-05	4.3E-07	1E-01	2E-07	4.8E-06	3.4E-07	2E-02	1E-07
Manganese	2.E-02	N/A	0.341	3.3E-03	1.2E-03	1E-01		3.3E-03	4.8E-05	1E-01		5.2E-04	3.7E-05	2E-02	
Total Hazard Quotient and Cancer Risk:						2E-01	8E-06			2E-01	3E-07			4E-02	3E-07
				Assumptions for Industrial Worker				Assumptions for Construction Worker				Assumptions for Adolescent Trespasser			
				BW = 70 kg				BW = 70 kg				BW = 50 kg			
				IR = 1 liters/day				IR = 1 liters/day				IR = 2.0 liters/day			
				EF = 250 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-11
Seneca Army Depot Activity**

Equation for Intake (mg/kg-day) = $\frac{EPC \times IR \times EF}{BW \times AT}$	Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose
Variables (Assumptions for Each Receptor are Listed at the Bottom): EPC = Exposure Point Concentration in Groundwater (mg/L) IR = Intake Rate EF = Exposure Frequency	Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

Analyte	Oral RfD (mg/kg-day)	Carc. Slope Oral (mg/kg-day) ⁻¹	EPC Groundwater (mg/liter)	Resident (Adult)				Resident (Child)			Resident Total Lifetime Cancer Risk	
				Intake (mg/kg-day)		Hazard Quotient	Cancer Risk	Intake (mg/kg-day)		Hazard Quotient		Cancer Risk
				(Nc)	(Car)			(Nc)	(Car)			
Tetrachloroethene	1.E-02	5.4E-01	0.00205	5.6E-05	1.9E-05	6E-03	1E-05	2.0E-04	1.7E-05	2E-02	9E-06	2E-05
Trichloroethene	3.E-04	4.0E-01	0.0031	8.5E-05	2.9E-05	3E-01	1E-05	3.0E-04	2.5E-05	1E+00	1E-05	2E-05
Manganese	2.E-02	N/A	0.341	9.3E-03	3.2E-03	4E-01		3.3E-02	2.8E-03	1E+00		
Total Hazard Quotient and Cancer Risk:						7E-01	2E-05			2E+00	2E-05	4E-05
Assumptions 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-11 SOIL
SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) = $\frac{EPC \times CF \times SA \times AF \times ABS \times EV \times EF \times ED}{BW \times AT}$	Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose
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 Cancer Risk = Chronic Daily Intake (Car) x Slope Factor
EV = Event Frequency EF = Exposure Frequency ED = Exposure Duration BW = Bodyweight AT = Averaging Time	

Analyte	Dermal RfD (mg/kg-day)	Carc. Slope Dermal (mg/kg-day)-1	Absorption Factor* (unitless)	EPC Surface Soil (mg/kg)	EPC from Total Soils (mg/kg)	Industrial Worker			Construction Worker			Adolescent Trespasser					
						Absorbed Dose (mg/kg-day)		Hazard Quotient	Cancer Risk	Absorbed Dose (mg/kg-day)		Hazard Quotient	Cancer Risk	Absorbed Dose (mg/kg-day)		Hazard Quotient	Cancer Risk
						(Nc)	(Car)			(Nc)	(Car)			(Nc)	(Car)		
Trichloroethene	3.00E-04	4.0E-01	1.0E-02	5.1E-03	5.1E-03	3.28E-10	1.17E-10	1E-06	5E-11	4.92E-10	7.03E-12	2E-06	3E-12	1.60E-11	1.14E-12	5.33E-08	4.57E-13
Benzo(a)anthracene	N/A	7.3E-01	1.3E-01	7.3E-01	7.3E-01		2.19E-07		2E-07		1.31E-08		1E-08		2.14E-09		1.56E-09
Benzo(a)pyrene	N/A	7.3E+00	1.3E-01	5.1E-01	5.1E-01		1.52E-07		1E-06		9.10E-09		7E-08		1.48E-09		1.08E-08
Benzo(b)fluoranthene	N/A	7.3E-01	1.3E-01	1.1E+00	1.1E+00		3.27E-07		2E-07		1.96E-08		1E-08		3.19E-09		2.33E-09
Benzo(k)fluoranthene	N/A	7.3E-02	1.3E-01	1.9E-01	1.9E-01		5.75E-08		4E-09		3.45E-09		3E-10		5.61E-10		4.09E-11
Chrysene	N/A	7.3E-03	1.3E-01	5.5E-01	5.5E-01		1.65E-07		1E-09		9.91E-09		7E-11		1.61E-09		1.18E-11
Dibenz(a,h)anthracene	N/A	7.3E+00	1.3E-01	1.6E-01	1.6E-01		4.93E-08		4E-07		2.96E-09		2E-08		4.81E-10		3.51E-09
Indeno(1,2,3-cd)pyrene	N/A	7.3E-01	1.3E-01	3.4E-01	3.4E-01		1.01E-07		7E-08		6.08E-09		4E-09		9.88E-10		7.21E-10
Aluminum	1.00E+00	N/A	1E-03	1.1E+04	1.1E+04	7.19E-05		7E-05		1.08E-04		1E-04		3.51E-06		3.51E-06	
Antimony	6.00E-05	N/A	1E-03	1.5E+00	1.5E+00	9.66E-09		2E-04		1.45E-08		2E-04		4.71E-10		7.86E-06	
Arsenic	3.00E-04	1.5E+00	3E-02	5.8E+00	5.8E+00	1.13E-06	4.05E-07	4E-03	6E-07	1.70E-06	2.43E-08	6E-03	4E-08	5.53E-08	3.95E-09	1.84E-04	5.92E-09
Iron	3.00E-01	N/A	1E-03	2.3E+04	2.3E+04	1.51E-04		5E-04		2.26E-04		8E-04		7.34E-06		2.45E-05	
Manganese	9.33E-04	N/A	1E-03	6.2E+02	6.2E+02	4.02E-06		4E-03		6.03E-06		6E-03		1.96E-07		2.10E-04	
Thallium	6.47E-04	N/A	1E-03	1.1E+00	1.1E+00	7.12E-09		1E-05		1.07E-08		2E-05		3.47E-10		5.37E-07	
Vanadium	2.60E-05	N/A	1E-03	2.0E+01	2.0E+01	1.29E-07		5E-03		1.93E-07		7E-03		6.28E-09		2.41E-04	

Total Hazard Quotient and Cancer Risk: 1E-02 3E-06 2E-02 2E-07 7E-04 2E-08

Assumptions for Industrial Worker	Assumptions for Construction Worker	Assumptions for Adolescent Trespasser
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 = 50 kg
SA = 3,300 cm ²	SA = 3,300 cm ²	SA = 5,867 cm ²
AF = 0.2 mg/cm ² -event	AF = 0.3 mg/cm ² -event	AF = 0.07 mg/cm ² -event
EV = 1 event/day	EV = 1 event/day	EV = 1 event/day
EF = 250 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.
 * 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/healthbul.htm>).

TABLE 7
 CALCULATION OF ABSORBED DOSE AND RISK FROM DERMAL CONTACT TO SOIL
 REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-11 SOIL
 SENECA ARMY DEPOT ACTIVITY

Equation for Intake (mg/kg-day) =	$EPC \times CF \times SA \times AF \times ABS \times EV \times EF \times ED$ BW x AT	Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose
Variables (Assumptions for Each Receptor are Listed at the Bottom):		Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor
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	

Analyte	Dermal RfD (mg/kg-day)	Carc. Slope Dermal (mg/kg-day)-1	Absorption Factor* (unitless)	EPC Surface Soil (mg/kg)	EPC from Total Soils (mg/kg)	Resident (Adult)			Resident (Child)			Resident Total Lifetime Cancer Risk		
						Absorbed Dose (mg/kg-day)		Hazard Quotient	Cancer Risk	Absorbed Dose (mg/kg-day)			Hazard Quotient	Cancer Risk
						(Nc)	(Car)			(Nc)	(Car)			
Trichloroethene	3.00E-04	4.0E-01	1.0E-02	5.1E-03	5.1E-03	2.78E-10	9.52E-11	9E-07	4E-11	1.82E-09	1.56E-10	6.06E-06	6.24E-11	1E-10
Benzo(a)anthracene	N/A	7.3E-01	1.3E-01	7.3E-01	7.3E-01		1.78E-07		1E-07		2.91E-07		2.13E-07	3E-07
Benzo(a)pyrene	N/A	7.3E+00	1.3E-01	5.1E-01	5.1E-01		1.23E-07		9E-07		2.02E-07		1.47E-06	2E-06
Benzo(b)fluoranthene	N/A	7.3E-01	1.3E-01	1.1E+00	1.1E+00		2.66E-07		2E-07		4.35E-07		3.17E-07	5E-07
Benzo(k)fluoranthene	N/A	7.3E-02	1.3E-01	1.9E-01	1.9E-01		4.67E-08		3E-09		7.65E-08		5.58E-09	9E-09
Chrysene	N/A	7.3E-03	1.3E-01	5.5E-01	5.5E-01		1.34E-07		1E-09		2.20E-07		1.60E-09	3E-09
Dibenz(a,h)anthracene	N/A	7.3E+00	1.3E-01	1.6E-01	1.6E-01		4.01E-08		3E-07		6.56E-08		4.79E-07	8E-07
Indeno(1,2,3-cd)pyrene	N/A	7.3E-01	1.3E-01	3.4E-01	3.4E-01		8.23E-08		6E-08		1.35E-07		9.83E-08	2E-07
Aluminum	1.00E+00	N/A	1E-03	1.1E+04	1.1E+04	6.08E-05		6E-05		3.99E-04		3.99E-04		
Antimony	6.00E-05	N/A	1E-03	1.5E+00	1.5E+00	8.18E-09		1E-04		5.36E-08		8.93E-04		
Arsenic	3.00E-04	1.5E+00	3E-02	5.8E+00	5.8E+00	9.59E-07	3.29E-07	3E-03	5E-07	6.28E-06	5.38E-07	2.09E-02	8.08E-07	1E-06
Iron	3.00E-01	N/A	1E-03	2.3E+04	2.3E+04	1.27E-04		4E-04		8.34E-04		2.78E-03		
Manganese	9.33E-04	N/A	1E-03	6.2E+02	6.2E+02	3.40E-06		4E-03		2.23E-05		2.39E-02		
Thallium	6.47E-04	N/A	1E-03	1.1E+00	1.1E+00	6.02E-09		9E-06		3.95E-08		6.10E-05		
Vanadium	2.60E-05	N/A	1E-03	2.0E+01	2.0E+01	1.09E-07		4E-03		7.13E-07		2.74E-02		
Total Hazard Quotient and Cancer Risk:								1E-02	2E-06			8E-02	3E-06	5E-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
SA =	5,700 cm ²	SA =	2,800 cm ²
AF =	0.07 mg/cm ² -event	AF =	0.2 mg/cm ² -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/healthbul.htm>).

TABLE 8
CALCULATION OF ABSORBED DOSE AND RISK FROM DERMAL CONTACT TO GROUNDWATER
REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-11
Seneca Army Depot Activity

<p>Equation for Dermal (mg/kg-day) = $\frac{DA \times SA \times EF \times ED \times EV}{BW \times AT}$</p> <p>Variables (Assumptions for Each Receptor are Listed at the Bottom):</p> <p>DA = Absorbed Dose per Event, mg/cm²-event SA = Surface Area Contact EF = Exposure Frequency EV = Event Frequency</p>	<p>Equation for Absorbed Dose per Event (DA): $K_p =$ Permeability Coefficient, cm/hr $EPC =$ EPC in Groundwater, mg/L $C =$ Conversion Factor, 10³ L/cm³</p> <p>For inorganic DA = $K_p \times EPC \times t_{event} \times C$</p> <p>For organics If $t_{event} \leq t^*$, then: $DA_{event} = 2 \times FA \times K_p \times EPC \times C \times ((6 \times t_{event} \times t_{event}) / p)^{1/2}$ if $t_{event} > t^*$, then: $DA_{event} = FA \times K_p \times EPC \times C \times [(t_{event} / 1 + B) + 2 \times t_{event} \times ((1 + 3B + 3B^2) / (1 + B)^2)]$</p> <p>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) $B = K_p (MW)^{1/2} / 2.6$</p> <p>If $B \leq 0.6$, then $t^* = 2.4 \times t_{event}$ If $B > 0.6$, then $t^* = 6 \times t_{event} \times (b - \sqrt{b^2 - c^2})$ $b = ((2(1+B)^2) / p) - c$ $c = (1 + 3B + 3B^2) / 3(1+B)$</p> <p>$t_{event}$ is Lag Time per event (hr/event) = $0.105 \times 10^{(0.0056 \times MW)}$ t^* is time to reach steady-state (hr) t_{event} = duration of event, hr/event</p>	<p>Equation for Hazard Quotient = $\frac{\text{Chronic Daily Intake (Nc)}}{\text{Reference Dose}}$</p> <p>Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor</p>
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Analyte	Dermal RfD (mg/kg-day)	Carc. Slope Dermal (mg/kg-day) ⁻¹	Permeability Coefficient K_p (cm/hr)	t_{event} (hr/event)	Fraction Absorbed Water	B	t^* (hour)	EPC Ground Water (mg/L)	Absorbed Dose/Event (mg/cm ² -event)	Industrial Worker			Construction Worker			Adolescent Trespasser					
										Intake (mg/kg-day)		Hazard Quotient	Cancer Risk	Intake (mg/kg-day)		Hazard Quotient	Cancer Risk	Intake (mg/kg-day)		Hazard Quotient	Cancer Risk
										(Nc)	(Car)			(Nc)	(Car)			(Nc)	(Car)		
VOCs																					
Tetrachloroethene	1.E-02	5.4E-01	3.30E-02	8.9.E-01	1.00E+00	1.6.E-01	2.1.E+00	2.E-03	1.2.E-07				1E-06	2E-08	1E-04	9E-09					
Trichloroethene	3.E-04	4.0E-01	1.20E-02	5.7.E-01	1.00E+00	5.3.E-02	1.4.E+00	3.E-03	5.5.E-08				5E-07	8E-09	2E-03	3E-09					
Metals																					
Manganese	2.E-02	N/A	1.E-03	1.1.E-01	---	---	---	3.41.E-01	3.58E-08				3E-07		1E-05						
Total Hazard Quotient and Cancer Risk:															2E-03	1E-08					
										BW	Assumptions for Construction Worker										
										SA	=	70 kg									
										EF	=	2,490 cm ²									
										ED	=	1 event/day									
											=	100 days/year									
											=	1 years									
										t_{event}	=	0.5 hr/event									
										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 Exhibit B-1 or B-2, Kp was calculated using:

$$K_p = 10^{(-2.80 + 0.66(\log K_{ow}) - 0.0056(MW))}$$

**TABLE 8
CALCULATION OF ABSORBED DOSE AND RISK FROM DERMAL CONTACT TO GROUNDWATER
REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-11
Seneca Army Depot Activity**

<p>Equation for Dermal (mg/kg-day) = $\frac{DA \times SA \times EF \times ED \times EV}{BW \times AT}$</p> <p><u>Variables (Assumptions for Each Receptor are Listed at the Bottom):</u></p> <p>DA = Absorbed Dose per Event, mg/cm²-event SA = Surface Area Contact EF = Exposure Frequency EV = Event Frequency</p> <p>ED = Exposure Duration BW = Bodyweight AT = Averaging Time</p>	<p>Equation for Absorbed Dose per Event (DA):</p> <p>For inorganics: $DA = K_p \times EPC \times t_{event} \times C$</p> <p>For organics: If $t_{event} \leq t^*$, then: $DA_{event} = 2 \times FA \times K_p \times EPC \times C \times ((6 \times t_{event} \times t_{event}) / p)^{1/2}$</p> <p>if $t_{event} > t^*$, then: $DA_{event} = FA \times K_p \times EPC \times C \times [(t_{event} / (1 + B)) + 2 \times t_{event} \times ((1 + 3B + 3B^2) / (1 + B)^2)]$</p> <p>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)</p> <p>FA = Fraction absorbed water (dimensionless)</p> <p>$B = K_p (MW)^{1/2} / 2.6$</p> <p>t_{event} is Lag Time per event (hr/event) = $0.105 \times 10^{(0.0056MW)}$</p> <p>$t^*$ is time to reach steady-state (hr)</p> <p>t_{event} = duration of event, hr/event</p> <p>K_p = Permeability Coefficient, cm/hr EPC = EPC in Groundwater, mg/L C = Conversion Factor, 10³ L/cm³</p> <p>If $B \leq 0.6$, then $t^* = 2.4 \times t_{event}$</p> <p>If $B > 0.6$, then $t^* = 6 \times t_{event} \times (b - \text{SQRT}(b^2 - c^2))$</p> <p>$b = ((2(1+B))^2 / p) - c$</p> <p>$c = (1 + 3B + 3B^2) / 3(1+B)$</p>	<p>Equation for Hazard Quotient = $\frac{\text{Chronic Daily Intake (Nc)}}{\text{Reference Dose}}$</p> <p>Equation for Cancer Risk = $\frac{\text{Chronic Daily Intake (Car)} \times \text{Slope Factor}}$</p>
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Analyte	Dermal RfD (mg/kg-day)	Carc. Slope Dermal (mg/kg-day) ⁻¹	Permeability Coefficient K_p (cm/hr)	t_{event} (hr/event)	Fraction Absorbed Water	B	t^* (hour)	EPC Ground Water (mg/L)	Absorbed Dose/Event (mg/cm ² -event)	Resident Adult			Resident Child			Resident		
										Intake (mg/kg-day)		Hazard Quotient	Cancer Risk	Intake (mg/kg-day)		Hazard Quotient	Cancer Risk	Total
										(Nc)	(Car)			(Nc)	(Car)			
VOCs																		
Tetrachloroethene	1.E-02	5.4E-01	3.30E-02	8.9.E-01	1.00E+00	1.6.E-01	2.1.E+00	2.E-03	1.8.E-07	4E-05	1E-05	4E-03	8E-06	7E-05	6E-06	7E-03	3E-06	1E-05
Trichloroethene	3.E-04	4.0E-01	1.20E-02	5.7.E-01	1.00E+00	5.3.E-02	1.4.E+00	3.E-03	7.8.E-08	2E-05	7E-06	6E-02	3E-06	3E-05	3E-06	1E-01	1E-06	4E-06
Metals																		
Manganese	2.E-02	N/A	1.20E-02	5.E-01	---	---	---	3.41.E-01	2.05E-06	5E-04		2E-02		9E-04		4E-02		
Total Hazard Quotient and Cancer Risk:												9E-02	1E-05			2E-01	5E-06	2E-05
										Assumptions for Resident Adult			Assumptions for Resident Child					
										BW = 70 kg			BW = 15 kg					
										SA = 18,000 cm ²			SA = 6,600 cm ²					
										EV = 1 event/day			EV = 1 event/day					
										EF = 350 days/year			EF = 350 days/year					
										ED = 24 years			ED = 6 years					
										t_{event} = 0.58 hr/event			t_{event} = 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 Exhibit B-1 or B-2, Kp was calculated using:
 $K_p = 10^{(-2.80 + 0.66(\log Kow) - 0.0056(MW))}$

**TABLE 9
CALCULATION OF INTAKE AND RISK FROM INHALATION OF GROUNDWATER (WHILE SHOWERING)
REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-11
Seneca Army Depot Activity**

Equation for Intake (mg/kg-day) =	$\frac{EPC \times IR \times t_{event} \times EV \times EF \times ED}{BW \times AT}$	Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose
Variables (Assumptions for Each Receptor are Listed at the Bottom):		Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor
EPC =Exposure Point Concentration in Air (mg/m ³)	ED=Exposure Duration	
t _{event} = Event Duration	EV = Event Frequency	
IR = Inhalation Rate	BW=Body Weight	
EF = Exposure Frequency	AT = Averaging Time	

Analyte	Inhalation RfD (mg/kg-day)	Carc. Slope Inhalation (mg/kg-day) ⁻¹	EPC* Air Adult (mg/m ³)	EPC* Air Child (mg/m ³)	Resident Adult			Resident Child			Resident		
					Intake (mg/kg-day)		Hazard Quotient	Contribution to Lifetime Cancer Risk	Intake (mg/kg-day)		Hazard Quotient	Contribution to Lifetime Cancer Risk	Total Lifetime Cancer Risk
					(Nc)	(Car)			(Nc)	(Car)			
VOCs													
Tetrachloroethene	2.80E-01	5.71E-06	6.46E-04		5.13E-06	1.76E-06	2E-05	1E-11	4.13E-05	3.54E-06	1E-04	2E-11	3E-11
Trichloroethene	4.00E-02	1.14E-04	7.76E-04		6.16E-06	2.11E-06	2E-04	2E-10	4.96E-05	4.25E-06	1E-03	5E-10	7E-10
Metals													
Manganese	5.00E-05	N/A	9.27E-02										
Total Hazard Quotient and Cancer Risk:							2E-04	3E-10			1E-03	5E-10	8E-10
					Assumptions for Future Resident (Adult)			Assumptions for Future Resident (Child)					
					BW =	70 kg	BW =	15 kg					
					IR =	1.0 m ³ /hr	IR =	1.0 m ³ /hr					
					t _{event} =	0.58 hr/event	t _{event} =	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.

NA= Information not available.

* 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-11 SOIL
Seneca Army Depot Activity

Equation for Intake (mg/kg-day) = $\frac{EPC \times IR \times EF \times ED}{BW \times AT}$	Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose
Variables (Assumptions for Each Receptor are Listed at the Bottom): EPC = EPC in Air, mg/m3 IR = Inhalation Rate EF = Exposure Frequency	Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor
ED = Exposure Duration BW = Bodyweight AT = Averaging Time	

Analyte	Inhalation RfD (mg/kg-day)	Carc. Slope Inhalation (mg/kg-day)-1	Air EPC from Surface Soil (mg/m3)	Air EPC from Total Soils (mg/m3)	Industrial Worker			Construction Worker			Adolescent Trespasser					
					Intake (mg/kg-day)		Hazard Quotient	Cancer Risk	Intake (mg/kg-day)		Hazard Quotient	Cancer Risk	Intake (mg/kg-day)		Hazard Quotient	Cancer Risk
					(Nc)	(Car)			(Nc)	(Car)			(Nc)	(Car)		
Trichloroethene	1.14E-02	4.00E-01	8.7E-11	1.5E-09	1.70E-11	6.06E-12	1E-09	2E-12	3.02E-10	4.32E-12	3E-08	2E-12	1.06E-13	7.60E-15	9E-12	3E-15
Benzo(a)anthracene	N/A	N/A	1.2E-08	2.2E-07												
Benzo(a)pyrene	N/A	3.10E+00	8.7E-09	1.5E-07		6.06E-10		2E-09		4.32E-10		1E-09		7.60E-13		2E-12
Benzo(b)fluoranthene	N/A	N/A	1.9E-08	3.3E-07												
Benzo(k)fluoranthene	N/A	N/A	3.2E-09	5.8E-08												
Chrysene	N/A	N/A	9.4E-09	1.7E-07												
Dibenz(a,h)anthracene	N/A	N/A	2.7E-09	4.8E-08												
Indeno(1,2,3-cd)pyrene	N/A	N/A	5.8E-09	1.0E-07												
Aluminum	1.43E-03	N/A	1.9E-04	3.4E-03	3.70E-05		3E-02		6.60E-04		5E-01		2.32E-07		2E-04	
Antimony	N/A	N/A	2.6E-08	4.5E-07												
Arsenic	N/A	1.51E+01	9.9E-08	1.8E-06		6.95E-09		1E-07		4.95E-09		7E-08		8.72E-12		1E-10
Iron	N/A	N/A	4.0E-04	7.1E-03												
Manganese	1.43E-05	N/A	1.1E-05	1.9E-04	2.07E-06		1E-01		3.69E-05		3E+00		1.30E-08		9E-04	
Thallium	N/A	N/A	1.9E-08	3.3E-07												
Vanadium	N/A	N/A	3.4E-07	6.0E-06												
Total Hazard Quotient and Cancer Risk:							2E-01	1E-07			3E+00	8E-08			1E-03	1E-10
					Assumptions for Industrial Worker			Assumptions for Construction Worker			Assumptions for Adolescent Trespasser					
					CA =	EPC Surface Only		CA =	EPC Surface and Sub-Surface		CA =	EPC Surface Only				
					BW =	70 kg		BW =	70 kg		BW =	50 kg				
					IR =	20 m3/day		IR =	20 m3/day		IR =	1.6 m3/day				
					EF =	250 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-11
Seneca Army Depot Activity

Equation for Intake (mg/kg-day) = $\frac{CA \times IR \times EF \times ED}{BW \times AT}$	Equation for Hazard Quotient = Chronic Daily Intake (Nc)/Reference Dose
Variables (Assumptions for Each Receptor are Listed at the Bottom): CA = Chemical Concentration in Air from Stockpile Soil, mg/m ³ ED = Exposure Duration, year IR = Inhalation Rate, m ³ /day BW = Bodyweight, kg EF = Exposure Frequency, day/year AT = Averaging Time, day	Equation for Cancer Risk = Chronic Daily Intake (Car) x Slope Factor

Analyte	Inhalation RfD (mg/kg-day)	Carc. Slope Inhalation (mg/kg-day) ⁻¹	Air EPC (mg/m ³)	Resident Adult				Resident Child			Resident	
				Intake (mg/kg-day)		Hazard Quotient	Contribution to Lifetime Cancer Risk	Intake (mg/kg-day)		Hazard Quotient	Contribution to Lifetime Cancer Risk	Total Lifetime Cancer Risk
				(Nc)	(Car)			(Nc)	(Car)			
Trichloroethene	1.14E-02	4.00E-01	8.6E-11	2.37E-11	8.11E-12	2E-09	3E-12	3.92E-11	3.36E-12	3E-09	1E-12	5E-12
Benzo(a)anthracene	N/A	N/A	1.2E-08									
Benzo(a)pyrene	N/A	3.10E+00	8.6E-09		8.08E-10		3E-09		3.35E-10		1E-09	4E-09
Benzo(b)fluoranthene	N/A	N/A	1.9E-08									
Benzo(k)fluoranthene	N/A	N/A	3.3E-09									
Chrysene	N/A	N/A	9.4E-09									
Dibenz(a,h)anthracene	N/A	N/A	2.8E-09									
Indeno(1,2,3-cd)pyrene	N/A	N/A	5.7E-09									
Aluminum	1.43E-03	N/A	1.9E-04	5.18E-05		4E-02		8.59E-05		6E-02		
Antimony	N/A	N/A	2.5E-08									
Arsenic	N/A	1.51E+01	9.9E-08		9.34E-09		1E-07		3.87E-09		6E-08	2E-07
Iron	N/A	N/A	4.0E-04									
Manganese	1.43E-05	N/A	1.1E-05	2.90E-06		2E-01		4.80E-06		3E-01		
Thallium	N/A	N/A	1.9E-08									
Vanadium	N/A	N/A	3.4E-07									
Total Hazard Quotient and Cancer Risk:						2E-01	1E-07			4E-01	6E-08	2E-07
				Assumptions for Resident Adult				Assumptions for Resident Child				
				CA =	Air EPC from Stockpile Soil			CA =	Air EPC from Stockpile Soil			
				BW =	70 kg			BW =	15 kg			
				IR =	20 m3/day			IR =	7.1 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 11
CALCULATION OF TOTAL NONCARCINOGENIC AND CARCINOGENIC RISKS - SEAD-11
REASONABLE MAXIMUM EXPOSURE (RME)
Seneca Army Depot Activity

RECEPTOR	EXPOSURE ROUTE	REASONABLE MAXIMUM EXPOSURE (RME)			
		HAZARD INDEX		CANCER RISK	
		Hazard Index	Percent	Cancer Risk	Percent
<u>INDUSTRIAL WORKER</u>	Inhalation of Dust in Ambient Air	2E-01	29%	1E-07	1%
	Ingestion of Soil	2E-01	27%	5E-06	33%
	Intake of Groundwater	2E-01	42%	8E-06	51%
	Dermal Contact to Soil	1E-02	2%	3E-06	16%
	Dermal Contact to Groundwater	NA		NA	
	<i>TOTAL RECEPTOR RISK (Nc & Car)</i>	<u>6E-01</u>	100%	<u>2E-05</u>	100%
<u>CONSTRUCTION WORKER</u>	Inhalation of Dust in Ambient Air	3E+00	80%	8E-08	6%
	Ingestion of Soil	5E-01	14%	7E-07	56%
	Intake of Groundwater	2E-01	6%	3E-07	26%
	Dermal Contact to Soil	2E-02	1%	2E-07	12%
	Dermal Contact to Groundwater	2E-03	0%	1E-08	1%
	<i>TOTAL RECEPTOR RISK (Nc & Car)</i>	<u>4E+00</u>	100%	<u>1E-06</u>	100%
<u>ADOLESCENT TRESPASSER</u>	Inhalation of Dust in Ambient Air	1E-03	2%	1E-10	0%
	Ingestion of Soil	1E-02	23%	8E-08	23%
	Intake of Groundwater	4E-02	73%	3E-07	70%
	Dermal Contact to Soil	7E-04	1%	2E-08	7%
	Dermal Contact to Groundwater	NA		NA	
	<i>TOTAL RECEPTOR RISK (Nc & Car)</i>	<u>5E-02</u>	100%	<u>4E-07</u>	100%

TABLE 11
CALCULATION OF TOTAL NONCARCINOGENIC AND CARCINOGENIC RISKS - SEAD-11
REASONABLE MAXIMUM EXPOSURE (RME)
Seneca Army Depot Activity

RECEPTOR	EXPOSURE ROUTE	REASONABLE MAXIMUM EXPOSURE (RME)			
		HAZARD INDEX		CANCER RISK	
		Hazard Index	Percent	Cancer Risk	Percent
<u>RESIDENT (ADULT)</u>	Inhalation of Dust in Ambient Air	2E-01	19%	1E-07	0%
	Inhalation of Groundwater	2E-04	0%	3E-10	0%
	Ingestion of Soil	2E-01	18%	7E-06	17%
	Intake of Groundwater	7E-01	55%	2E-05	52%
	Dermal Contact to Soil	1E-02	1%	2E-06	5%
	Dermal Contact to Groundwater	9E-02	7%	1E-05	25%
	<i>TOTAL RECEPTOR RISK (Nc & Car)</i>	<i><u>1E+00</u></i>	<i>100%</i>	<i><u>4E-05</u></i>	<i>100%</i>
<u>RESIDENT (CHILD)</u>	Inhalation of Dust in Ambient Air	4E-01	8%	6E-08	0%
	Inhalation of Groundwater	1E-03	0%	5E-10	0%
	Ingestion of Soil	2E+00	40%	2E-05	38%
	Intake of Groundwater	2E+00	47%	2E-05	44%
	Dermal Contact to Soil	8E-02	2%	3E-06	8%
	Dermal Contact to Groundwater	2E-01	3%	5E-06	10%
	<i>TOTAL RECEPTOR RISK (Nc & Car)</i>	<i><u>5E+00</u></i>	<i>100%</i>	<i><u>4E-05</u></i>	<i>100%</i>
<u>RESIDENT (TOTAL)</u>	Inhalation of Dust in Ambient Air			2E-07	2E-03
	Inhalation of Groundwater			8E-10	9E-06
	Ingestion of Soil			2E-05	3E-01
	Intake Groundwater			4E-05	5E-01
	Dermal Contact to Soil			5E-06	6E-02
	Dermal Contact to Groundwater			2E-05	2E-01
	<i>TOTAL RECEPTOR CANCER RISK</i>			<i><u>9E-05</u></i>	<i>1E+00</i>

NA - Not Applicable

Table 12
Comparison of SEAD-11 Metal Concentrations in Soil with Upgradient Concentrations

COPC	SEAD-11 Soil Concentration (mg/kg)			SEAD-11 Upgradient Maximum ² (mg/kg)	SEAD-4 Upgradient Maximum ³ (mg/kg)
	Maximum	Average	95% UCL ¹		
Aluminum 17,500		10,769	11,132	17,600	21,000
Arsenic 19.5		5.6	5.8	NA	21.5
Iron 51,100		22,456	23,289	28,300	37,900
Manganese	1,540 583	623		674	NA
Vanadium 31.6		19.3	19.9	31.8	31

Notes:

1. 95% UCL Based on normal distribution.
2. The maximum detected concentration from SB11-3.
3. The maximum detected concentration from SB4-1.
4. NA – Not Available.

<p align="center">Table 13 Comparison of Manganese Concentration in SEAD-11 Groundwater with Upgradient Conditions</p>		
SEAD-11 Groundwater	MW11-1 Maximum (Upgradient SEAD-11)	MW4-1 Maximum (Upgradient SEAD-4)
<p align="center">Maximum: 772 Average: 110</p>	47.7	346
Unit: µg/L.		

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY	SEAD-11						SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID	11EXFLA501						11EXFLA601	11EXFLA701	11EXFLB301	11EXFLB301	11EXFLB301V	11EXFLB401
MATRIX	SOIL						SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID	11EXFLA501						11EXFLA601	11EXFLA701	11EXFLB301	11EXFLB301V	11EXFLB301V	11EXFLB401
SAMPLE DEPTH TO TOP OF SAMPLE	0						0	0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE	0.2						0.2	0.2	0.2	0.2	0.2	0.2
SAMPLE DATE	11/6/2006						11/6/2006	11/6/2006	11/6/2006	11/17/2006	11/22/2006	11/10/2006
QC CODE	SA						SA	SA	SA	SA	SA	SA
STUDY ID	IRA						IRA	IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds												
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	5 U	5 U	5 U	8 U	5 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	5 U	5 U	5 U	8 U	5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	8 U	5 U
1,1,2-Trichloroethane	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	8 U	5 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	5 U	5 U	5 U	8 U	5 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	5 U	5 U	5 U	8 U	5 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	8 U	5 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	5 U	5 U	5 U	8 U	5 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	8 U	5 U
1,2-Dibromoethane	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	8 U	5 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	5 U	5 U	5 U	8 U	5 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	5 U	5 U	5 U	8 U	5 U
1,2-Dichloropropane	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	8 U	5 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	5 U	5 U	5 U	8 U	5 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	5 U	5 U	5 U	8 U	5 U
Acetone	UG/KG	67	2%	200	0	2	106	24 UJ	26 UJ	27 UJ	40 U	26 U
Benzene	UG/KG	0	0%	60	0	0	114	5 U	5 U	5 U	8 U	5 U
Bromochloromethane	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	8 U	5 U
Bromodichloromethane	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	8 U	5 U
Bromoform	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	8 U	5 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	5 U	5 U	5 U	8 U	5 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	5 U	5 U	5 U	8 U	5 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	5 U	5 U	5 U	8 U	5 U
Chlorodibromomethane	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	8 U	5 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	10 U	10 U	11 U	16 U	10 U
Chloroform	UG/KG	0	0%	300	0	0	114	5 U	5 U	5 U	8 U	5 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		0	1	114	5 U	5 U	5 U	8 U	5 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	8 U	5 U
Cyclohexane	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	8 U	5 U
Dichlorodifluoromethane	UG/KG	2	4%		0	5	114	5 U	5 U	5 U	8 U	5 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	5 U	5 U	5 U	8 U	5 U
Isopropylbenzene	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	8 U	5 U
Methyl Acetate	UG/KG	0	0%		0	0	114	5 UJ	5 UJ	5 UJ	8 UJ	5 U
Methyl Tertbutyl Ether	UG/KG	0	0%		0	0	114	5 UJ	5 UJ	5 UJ	8 UJ	5 U
Methyl bromide	UG/KG	0	0%		0	0	88	10 UJ	10 UJ	11 UJ	16 UR	10 U
Methyl butyl ketone	UG/KG	0	0%		0	0	114	24 U	26 U	27 U	40 U	26 U
Methyl chloride	UG/KG	0	0%		0	0	114	10 U	10 U	11 U	16 U	10 U
Methyl cyclohexane	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	8 U	5 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	24 U	26 U	27 U	40 U	26 U

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY												
LOCATION ID												
MATRIX												
SAMPLE ID												
SAMPLE DEPTH TO TOP OF SAMPLE												
SAMPLE DEPTH TO BOTTOM OF SAMPLE												
SAMPLE DATE												
QC CODE												
STUDY ID												
	Maximum	Frequency	Cleanup	Number	Number	Number	IRA	IRA	IRA	IRA	IRA	IRA
Parameter	Units	Value	of Detection	Goal ²	of Exceedances ³	of Times Detected	of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	24 U	26 U	27 U	40 U	26 U
Methylene chloride	UG/KG	49	90%	100	0	103	114	10 U	19 U	22 U	26 J	6 J
Styrene	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	8 U	5 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	5 U	2 J	2 J	8 U	5 U
Toluene	UG/KG	0	0%	1,500	0	0	114	5 U	5 U	5 U	8 U	5 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	15 U	15 U	16 U	24 U	15 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	5 UJ	5 UJ	5 UJ	8 UJ	5 U
Trans-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	8 U	5 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	5 U	5 U	5 U	8 U	5 U
Trichlorofluoromethane	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	8 UJ	5 U
Vinyl chloride	UG/KG	0	0%	200	0	0	114	10 U	10 U	11 U	16 U	10 U
Carcinogenic PAHs												
Benzo(a)anthracene	UG/KG	4,800	49%		0	58	119	200 J	23 J	2800	400 U	400 U
Benzo(a)pyrene	UG/KG	4,500	45%		0	54	119	200 J	400 U	2900	400 U	400 U
Benzo(b)fluoranthene	UG/KG	7,400	48%		0	57	119	340 J	24 J	5300 J	400 U	400 U
Benzo(k)fluoranthene	UG/KG	2,100	19%		0	23	119	380 UJ	400 U	2000 UJ	400 U	400 U
Chrysene	UG/KG	5,500	47%		0	56	119	180 J	400 U	2800	400 U	400 U
Dibenz(a,h)anthracene	UG/KG	850	30%		0	36	119	41 J	400 UJ	540 J	400 U	400 U
Indeno(1,2,3-cd)pyrene	UG/KG	2,800	42%		0	50	119	120 J	400 UJ	2000 J	400 U	400 U
BTE (calculated)	MG/KG	7	100%	10 ^b	0	119	119	0.31	0.43	4.5	0.46	0.46
Metals												
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	10400 J	10000 J	10500 J	13400	13200
Antimony	MG/KG	11.3	18%	31	0	21	114	0.82 UJ	0.83 UJ	0.84 UJ	0.8 U	0.78 UJ
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	4.8 J	5 J	5.4 J	6.2	6.8
Barium	MG/KG	248	100%	5,370	0	114	114	94.8 J	89.1 J	101 J	94.3 J	96.5 J
Beryllium	MG/KG	1	100%	150	0	114	114	0.56 J	0.57 J	0.63 J	0.66	0.64
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.26 J	0.54 J	0.6 J	0.27	0.31
Calcium	MG/KG	216,000	100%		0	114	114	2250 J	2540 J	2770 J	2710	2140
Chromium	MG/KG	44.5	100%		0	113	113	15.1 J	14.9 J	15 J	19	19
Cobalt	MG/KG	16.8	100%	903	0	114	114	8.1 J	8.7 J	8.6 J	10.4	11.3 J
Copper	MG/KG	131	100%	3,130	0	114	114	14.5 J	16.4 J	16.1 J	24.9	19.3
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	20100 J	20500 J	21200 J	26200	27200
Lead	MG/KG	400	100%	400	0	113	113	15.2 J	13.1 J	14.1 J	14.5	15
Magnesium	MG/KG	25200 ¹	100%		0	114	114	3070 J	3150 J	2880 J	3960 J	3560
Manganese	MG/KG	1,540	100%	1,760	0	114	114	478 J	776 J	921 J	666	900 J
Mercury	MG/KG	0.327	99%	23	0	113	114	0.035	0.04	0.051	0.049	0.044
Nickel	MG/KG	38.6	100%	1,560	0	114	114	18.4 J	22 J	19.9 J	28.4 J	24.8 J
Potassium	MG/KG	1,750	100%		0	114	114	910 J	891 J	1070 J	1220 J	1470 J
Selenium	MG/KG	3.4	25%	390	0	28	114	1.7 J	1.8 J	1.5 J	0.69 U	2.1 J

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.18 UJ	0.18 UJ	0.18 UJ	0.17 U		0.17 U
Sodium	MG/KG	164	75%		0	86	114	71.9 J	34.9 UJ	35.2 UJ	56.1 J		66 J
Thallium	MG/KG	2.1	25%	5.2	0	28	114	1.3 J	2.1 J	1.6 J	0.77 U		1.5 J
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	21.5 J	17.4 J	18.7 J	23.5		31.6
Zinc	MG/KG	591	100%	23,500	0	114	114	67.8 J	75.6 J	76.6 J	95.4 J		77.3 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.

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.

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

				SEAD-11			SEAD-11			SEAD-11			SEAD-11			SEAD-11	
FACILITY				11EXFLB501			11EXFLB501			11EXFLB601			11EXFLB701			11EXFLB701	11EXFLB801
LOCATION ID				SOIL			SOIL			SOIL			SOIL			SOIL	SOIL
MATRIX				11EXFLB501			11EXFLB502			11EXFLB601			11EXFLB701			11EXFLB702	11EXFLB801
SAMPLE ID				0			0			0			0			0	0
SAMPLE DEPTH TO TOP OF SAMPLE				0.2			0.2			0.2			0.2			0.2	0.2
SAMPLE DEPTH TO BOTTOM OF SAMPLE				11/6/2006			11/22/2006			11/6/2006			11/6/2006			11/22/2006	11/6/2006
SAMPLE DATE				SA			SA			SA			SA			SA	SA
QC CODE				IRA			IRA			IRA			IRA			IRA	IRA
STUDY ID																	
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	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%	800	0	0	114	6 U		4 U		5 U				5 U	
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	6 U		4 U		5 U				5 U	
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		0	0	114	6 U		4 U		5 U				5 U	
1,1,2-Trichloroethane	UG/KG	0	0%		0	0	114	6 U		4 U		5 U				5 U	
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	6 U		4 U		5 U				5 U	
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	6 U		4 U		5 U				5 U	
1,2,3-Trichlorobenzene	UG/KG	0	0%		0	0	114	6 U		4 U		5 U				5 U	
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	6 U		4 U		5 U				5 U	
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		0	0	114	6 U		4 U		5 U				5 U	
1,2-Dibromoethane	UG/KG	0	0%		0	0	114	6 U		4 U		5 U				5 U	
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	6 U		4 U		5 U				5 U	
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	6 U		4 U		5 U				5 U	
1,2-Dichloropropane	UG/KG	0	0%		0	0	114	6 U		4 U		5 U				5 U	
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	6 U		4 U		5 U				5 U	
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	6 U		4 U		5 U				5 U	
Acetone	UG/KG	67	2%	200	0	2	106	28 UJ		22 UJ		26 UJ				24 UJ	
Benzene	UG/KG	0	0%	60	0	0	114	6 U		4 U		5 U				5 U	
Bromochloromethane	UG/KG	0	0%		0	0	114	6 U		4 U		5 U				5 U	
Bromodichloromethane	UG/KG	0	0%		0	0	114	6 U		4 U		5 U				5 U	
Bromoform	UG/KG	0	0%		0	0	114	6 U		4 U		5 U				5 U	
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	6 U		4 U		5 U				5 U	
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	6 U		4 U		5 U				5 U	
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	6 U		4 U		5 U				5 U	
Chlorodibromomethane	UG/KG	0	0%		0	0	114	6 U		4 U		5 U				5 U	
Chloroethane	UG/KG	0	0%	1,900	0	0	114	11 U		9 U		10 U				10 U	
Chloroform	UG/KG	0	0%	300	0	0	114	6 U		4 U		5 U				5 U	
Cis-1,2-Dichloroethene	UG/KG	2	1%		0	1	114	6 U		4 U		5 U				5 U	
Cis-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	6 U		4 U		5 U				5 U	
Cyclohexane	UG/KG	0	0%		0	0	114	6 U		4 U		5 U				5 U	
Dichlorodifluoromethane	UG/KG	2	4%		0	5	114	6 U		4 U		5 U				5 U	
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	6 U		4 U		5 U				5 U	
Isopropylbenzene	UG/KG	0	0%		0	0	114	6 U		4 U		5 U				5 U	
Methyl Acetate	UG/KG	0	0%		0	0	114	6 UJ		4 UJ		5 UJ				5 UJ	
Methyl Tertbutyl Ether	UG/KG	0	0%		0	0	114	6 UJ		4 UJ		5 UJ				5 UJ	
Methyl bromide	UG/KG	0	0%		0	0	88	11 UJ		9 UJ		10 UJ				10 UJ	
Methyl butyl ketone	UG/KG	0	0%		0	0	114	28 U		22 U		26 U				24 U	
Methyl chloride	UG/KG	0	0%		0	0	114	11 U		9 U		10 U				10 U	
Methyl cyclohexane	UG/KG	0	0%		0	0	114	6 U		4 U		5 U				5 U	
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	28 U		22 U		26 U				24 U	

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY	SEAD-11						SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID							11EXFLB501	11EXFLB501	11EXFLB601	11EXFLB701	11EXFLB701	11EXFLB801
MATRIX							SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID							11EXFLB501	11EXFLB502	11EXFLB601	11EXFLB701	11EXFLB702	11EXFLB801
SAMPLE DEPTH TO TOP OF SAMPLE							0	0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE							0.2	0.2	0.2	0.2	0.2	0.2
SAMPLE DATE							11/6/2006	11/22/2006	11/6/2006	11/6/2006	11/22/2006	11/6/2006
QC CODE							SA	SA	SA	SA	SA	SA
STUDY ID							IRA	IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	28 U		22 U	26 U	24 U
Methylene chloride	UG/KG	49	90%	100	0	103	114	12 U	9 U	10 U		12 U
Styrene	UG/KG	0	0%		0	0	114	6 U	4 U	5 U		5 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	6 U	4 U	5 U		5 U
Toluene	UG/KG	0	0%	1,500	0	0	114	6 U	4 U	5 U		5 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	17 U	13 U	16 U		14 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	6 UJ	4 UJ	5 UJ		5 UJ
Trans-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	6 U	4 U	5 U		5 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	3 J	4 U	5 U		5 U
Trichlorofluoromethane	UG/KG	0	0%		0	0	114	6 U	4 U	5 U		5 U
Vinyl chloride	UG/KG	0	0%	200	0	0	114	11 U	9 U	10 U		10 U
Carcinogenic PAHs												
Benzo(a)anthracene	UG/KG	4,800	49%		0	58	119		390 U	1300 J		390 U
Benzo(a)pyrene	UG/KG	4,500	45%		0	54	119		390 U	1200 J		390 U
Benzo(b)fluoranthene	UG/KG	7,400	48%		0	57	119		390 U	2100 J		390 U
Benzo(k)fluoranthene	UG/KG	2,100	19%		0	23	119		390 U	1900 UJ		390 U
Chrysene	UG/KG	5,500	47%		0	56	119		390 U	1200 J		390 U
Dibenz(a,h)anthracene	UG/KG	850	30%		0	36	119		390 U	240 J		390 U
Indeno(1,2,3-cd)pyrene	UG/KG	2,800	42%		0	50	119		390 U	780 J		390 U
BTE (calculated)	MG/KG	7	100%	10 ^b	0	119	119	0.45		1.9		0.45
Metals												
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	8180 J		8810 J	10100 J	7400 J
Antimony	MG/KG	11.3	18%	31	0	21	114	0.87 J		0.8 UJ	0.82 UJ	0.79 UJ
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	5 J		5.3 J	5 J	3.7 J
Barium	MG/KG	248	100%	5,370	0	114	114	107 J		68.8 J	81.7 J	37.8 J
Beryllium	MG/KG	1	100%	150	0	114	114	0.49 J		0.47 J	0.55 J	0.38 J
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.62 J		0.35 J	0.5 J	0.42 J
Calcium	MG/KG	216,000	100%		0	114	114	34000 J		2750 J	2570 J	30600 J
Chromium	MG/KG	44.5	100%		0	113	113	14.2 J		13.1 J	16.1 J	12.5 J
Cobalt	MG/KG	16.8	100%	903	0	114	114	7.4 J		7.9 J	9 J	7 J
Copper	MG/KG	131	100%	3,130	0	114	114	33.2 J		20.1 J	20.4 J	18.3 J
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	18600 J		18700 J	21300 J	16800 J
Lead	MG/KG	400	100%	400	0	113	113	38.5 J		12.6 J	47.5 J	10.3 J
Magnesium	MG/KG	25200 ¹	100%		0	114	114	2730 J		3320 J	3290 J	7620 J
Manganese	MG/KG	1,540	100%	1,760	0	114	114	614 J		600 J	646 J	315 J
Mercury	MG/KG	0.327	99%	23	0	113	114	0.047		0.034	0.038	0.012
Nickel	MG/KG	38.6	100%	1,560	0	114	114	20.1 J		21.5 J	23.7 J	19.8 J
Potassium	MG/KG	1,750	100%		0	114	114	988 J		930 J	978 J	764 J
Selenium	MG/KG	3.4	25%	390	0	28	114	1.2 J		2.2 J	1.7 J	1.4 J

Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.17 UJ		0.17 UJ	0.59 UJ		0.17 UJ
Sodium	MG/KG	164	75%		0	86	114	33.6 UJ		36.6 J	166 UJ		59.6 UJ
Thallium	MG/KG	2.1	25%	5.2	0	28	114	1.3 J		1.3 J	1.5 J		0.82 J
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	15.3 J		16.1 J	19 J		12.5 J
Zinc	MG/KG	591	100%	23,500	0	114	114	122 J		81.8 J	81.5 J		81.4 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.

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.

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY													
LOCATION ID								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
MATRIX								11EXFLC001	11EXFLC1001	11EXFLC1001	11EXFLC101	11EXFLC101	11EXFLC201
SAMPLE ID								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH TO TOP OF SAMPLE								11EXFLC001	11EXFLC1002	11EXFLC1001	11EXFLC101	11EXFLC101V	11EXFLC202
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0	0	0	0	0	0
SAMPLE DATE								0.2	0.2	0.2	0.2	0.2	0.2
QC CODE								12/15/2006	11/30/2006	11/30/2006	11/17/2006	11/22/2006	11/10/2006
STUDY ID								SA	DU	SA	SA	SA	DU
								IRA	IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114		4 U	4 U		10 U	5 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114		4 U	4 U		10 U	5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		0	0	114		4 U	4 U		10 U	5 U
1,1,2-Trichloroethane	UG/KG	0	0%		0	0	114		4 U	4 U		10 U	5 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114		4 U	4 U		10 U	5 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114		4 U	4 U		10 U	5 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		0	0	114		4 U	4 U		10 U	5 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114		4 U	4 U		10 U	5 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		0	0	114		4 U	4 U		10 U	5 U
1,2-Dibromoethane	UG/KG	0	0%		0	0	114		4 U	4 U		10 U	5 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114		4 U	4 U		10 U	5 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114		4 U	4 U		10 U	5 U
1,2-Dichloropropane	UG/KG	0	0%		0	0	114		4 U	4 U		10 U	5 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114		4 U	4 U		10 U	5 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114		4 U	4 U		10 U	5 U
Acetone	UG/KG	67	2%	200	0	2	106	20 U	20 U	20 U	49 U	23 U	23 U
Benzene	UG/KG	0	0%	60	0	0	114		4 U	4 U		10 U	5 U
Bromochloromethane	UG/KG	0	0%		0	0	114		4 U	4 U		10 U	5 U
Bromodichloromethane	UG/KG	0	0%		0	0	114		4 U	4 U		10 U	5 U
Bromoform	UG/KG	0	0%		0	0	114		4 U	4 U		10 U	5 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114		4 U	4 U		10 U	5 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114		4 U	4 U		10 U	5 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114		4 U	4 U		10 U	5 U
Chlorodibromomethane	UG/KG	0	0%		0	0	114		4 U	4 U		10 U	5 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114		8 U	8 U		20 U	9 U
Chloroform	UG/KG	0	0%	300	0	0	114		4 U	4 U		10 U	5 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		0	1	114		4 U	4 U		10 U	5 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		0	0	114		4 U	4 U		10 U	5 U
Cyclohexane	UG/KG	0	0%		0	0	114		4 U	4 U		10 U	5 U
Dichlorodifluoromethane	UG/KG	2	4%		0	5	114		4 U	4 U		10 U	5 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114		4 U	4 U		10 U	5 U
Isopropylbenzene	UG/KG	0	0%		0	0	114		4 U	4 U		10 U	5 U
Methyl Acetate	UG/KG	0	0%		0	0	114		4 U	4 U		10 U	5 U
Methyl Tertbutyl Ether	UG/KG	0	0%		0	0	114		4 U	4 U		10 U	5 U
Methyl bromide	UG/KG	0	0%		0	0	88	8 UJ	8 UJ	8 UJ	20 UR	9 U	9 U
Methyl butyl ketone	UG/KG	0	0%		0	0	114	20 U	20 U	20 U	49 U	23 U	23 U
Methyl chloride	UG/KG	0	0%		0	0	114	8 U	8 U	8 U	20 U	9 U	9 U
Methyl cyclohexane	UG/KG	0	0%		0	0	114	4 U	4 U	4 U	10 U	5 U	5 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	20 U	20 U	20 U	49 U	23 U	23 U

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY		SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11		
LOCATION ID		11EXFLC001	11EXFLC1001	11EXFLC1001	11EXFLC101	11EXFLC101	11EXFLC101V	11EXFLC201					
MATRIX		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL					
SAMPLE ID		11EXFLC001	11EXFLC1002	11EXFLC1001	11EXFLC101	11EXFLC101V	11EXFLC202						
SAMPLE DEPTH TO TOP OF SAMPLE		0	0	0	0	0	0						
SAMPLE DEPTH TO BOTTOM OF SAMPLE		0.2	0.2	0.2	0.2	0.2	0.2						
SAMPLE DATE		12/15/2006	11/30/2006	11/30/2006	11/17/2006	11/22/2006	11/10/2006						
QC CODE		SA	DU	SA	SA	SA	DU						
STUDY ID		IRA	IRA	IRA	IRA	IRA	IRA						
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	20 U	20 U		49 U	23 U	
Methylene chloride	UG/KG	49	90%	100	0	103	114	8 J	8 J		26 J	4 J	
Styrene	UG/KG	0	0%		0	0	114	4 U	4 U		10 U	5 U	
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	4 U	4 U		10 U	5 U	
Toluene	UG/KG	0	0%	1,500	0	0	114	4 U	4 U		10 U	5 U	
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	12 U	12 U		29 U	14 U	
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	4 U	4 U		10 UJ	5 U	
Trans-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	4 U	4 U		10 U	5 U	
Trichloroethene	UG/KG	77	19%	700	0	22	114	4 U	4 U		10 U	5 U	
Trichlorofluoromethane	UG/KG	0	0%		0	0	114	4 UJ	4 UJ		10 UJ	5 U	
Vinyl chloride	UG/KG	0	0%	200	0	0	114	8 U	8 U		20 U	9 U	
Carcinogenic PAHs													
Benzo(a)anthracene	UG/KG	4,800	49%		0	58	119	410 U	170 J	240 J	28 J		54 J
Benzo(a)pyrene	UG/KG	4,500	45%		0	54	119	410 U	140 J	220 J			40 J
Benzo(b)fluoranthene	UG/KG	7,400	48%		0	57	119	410 U	210 J	320 J	33 J		59 J
Benzo(k)fluoranthene	UG/KG	2,100	19%		0	23	119	410 U	61 J	97 J	400 U		390 U
Chrysene	UG/KG	5,500	47%		0	56	119	410 U	160 J	240 J	28 J		53 J
Dibenz(a,h)anthracene	UG/KG	850	30%		0	36	119	410 U	27 J	40 J	400 U		390 U
Indeno(1,2,3-cd)pyrene	UG/KG	2,800	42%		0	50	119	410 U	96 J	150 J	400 U		29 J
BTE (calculated)	MG/KG	7	100%	10 ^b	0	119	119	0.48	0.22	0.33	0.25		0.25
Metals													
Aluminum	MG/KG	17,500	100%	76,100	0	114	114		9620 J	7170 J	12700		12200
Antimony	MG/KG	11.3	18%	31	0	21	114		0.58 U	0.53 U	0.83 U		0.77 UJ
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114		5.4	4.8	6		5.9
Barium	MG/KG	248	100%	5,370	0	114	114		76.6 J	51.4 J	116 J		92.4 J
Beryllium	MG/KG	1	100%	150	0	114	114		0.53	0.4	0.62		0.65
Cadmium	MG/KG	2.5	94%	37	0	107	114		0.33	0.19 U	0.29		0.17 J
Calcium	MG/KG	216,000	100%		0	114	114		49400 J	36200 J	3130		2480
Chromium	MG/KG	44.5	100%		0	113	113		53 R	11.2 R	17.9		17.5
Cobalt	MG/KG	16.8	100%	903	0	114	114		11.7	9.7	10.3		10.8 J
Copper	MG/KG	131	100%	3,130	0	114	114		21.1	16.8	18.1		19.1
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114		22100	17300	24600		23400
Lead	MG/KG	400	100%	400	0	113	113		134 R	10.6 R	12.4		93.1 J
Magnesium	MG/KG	25200 ¹	100%		0	114	114		9730	8760	3410 J		3820
Manganese	MG/KG	1,540	100%	1,760	0	114	114		541	483	803		813 J
Mercury	MG/KG	0.327	99%	23	0	113	114		0.011 J	0.02	0.037		0.047
Nickel	MG/KG	38.6	100%	1,560	0	114	114		28.6	22.2	24.1 J		27.3 J
Potassium	MG/KG	1,750	100%		0	114	114		1060	894	1130 J		1060 J
Selenium	MG/KG	3.4	25%	390	0	28	114		0.41 U	0.38 U	0.71 U		1.6 J

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.52 U	0.48 U	0.18 U			0.17 U
Sodium	MG/KG	164	75%		0	86	114	95.5 J	61.7 J	34.7 U			49.2 J
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.51 U	0.47 U	0.79 U			0.95 J
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	14.4 J	11.4 J	21.9			21.8
Zinc	MG/KG	591	100%	23,500	0	114	114	98.8 J	70.8 J	86.6 J			82.5 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.

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.

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY													
LOCATION ID								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
MATRIX								11EXFLC201	11EXFLC301	11EXFLC301	11EXFLC401	11EXFLC401	11EXFLC401
SAMPLE ID								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH TO TOP OF SAMPLE								11EXFLC201	11EXFLC301	11EXFLC301V	11EXFLC402	11EXFLC402V	11EXFLC401
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0	0	0	0	0	0
SAMPLE DATE								0.2	0.2	0.2	0.2	0.2	0.2
QC CODE								11/10/2006	11/17/2006	11/22/2006	11/17/2006	11/22/2006	11/17/2006
STUDY ID								SA	SA	SA	DU	DU	SA
								IRA	IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	5 U		14 U		6 U	
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	5 U		14 U		6 U	
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		0	0	114	5 U		14 U		6 U	
1,1,2-Trichloroethane	UG/KG	0	0%		0	0	114	5 U		14 U		6 U	
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	5 U		14 U		6 U	
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	5 U		14 U		6 U	
1,2,3-Trichlorobenzene	UG/KG	0	0%		0	0	114	5 U		14 U		6 U	
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	5 U		14 U		6 U	
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		0	0	114	5 U		14 U		6 U	
1,2-Dibromoethane	UG/KG	0	0%		0	0	114	5 U		14 U		6 U	
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	5 U		14 U		6 U	
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	5 U		14 U		6 U	
1,2-Dichloropropane	UG/KG	0	0%		0	0	114	5 U		14 U		6 U	
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	5 U		14 U		6 U	
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	5 U		14 U		6 U	
Acetone	UG/KG	67	2%	200	0	2	106	25 U	70 U		33 U		
Benzene	UG/KG	0	0%	60	0	0	114	5 U		14 U		6 U	
Bromochloromethane	UG/KG	0	0%		0	0	114	5 U		14 U		6 U	
Bromodichloromethane	UG/KG	0	0%		0	0	114	5 U		14 U		6 U	
Bromoform	UG/KG	0	0%		0	0	114	5 U		14 U		6 U	
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	5 U		14 U		6 U	
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	5 U		14 U		6 U	
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	5 U		14 U		6 U	
Chlorodibromomethane	UG/KG	0	0%		0	0	114	5 U		14 U		6 U	
Chloroethane	UG/KG	0	0%	1,900	0	0	114	10 U		28 U		13 U	
Chloroform	UG/KG	0	0%	300	0	0	114	5 U		14 U		6 U	
Cis-1,2-Dichloroethene	UG/KG	2	1%		0	1	114	5 U		14 U		6 U	
Cis-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	5 U		14 U		6 U	
Cyclohexane	UG/KG	0	0%		0	0	114	5 U		14 U		6 U	
Dichlorodifluoromethane	UG/KG	2	4%		0	5	114	5 U		14 U		6 U	
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	5 U		14 U		6 U	
Isopropylbenzene	UG/KG	0	0%		0	0	114	5 U		14 U		6 U	
Methyl Acetate	UG/KG	0	0%		0	0	114	5 U		14 U		6 U	
Methyl Tertbutyl Ether	UG/KG	0	0%		0	0	114	5 U		14 U		6 U	
Methyl bromide	UG/KG	0	0%		0	0	88	10 U	28 UR		13 UR		
Methyl butyl ketone	UG/KG	0	0%		0	0	114	25 U	70 U		33 U		
Methyl chloride	UG/KG	0	0%		0	0	114	10 U	28 U		13 U		
Methyl cyclohexane	UG/KG	0	0%		0	0	114	5 U	14 U		6 U		
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	25 U	70 U		33 U		

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY												
LOCATION ID												
MATRIX												
SAMPLE ID												
SAMPLE DEPTH TO TOP OF SAMPLE												
SAMPLE DEPTH TO BOTTOM OF SAMPLE												
SAMPLE DATE												
QC CODE												
STUDY ID												
	Maximum	Frequency	Cleanup	Number	Number	Number	IRA	IRA	IRA	IRA	IRA	IRA
Parameter	Units	Value	of Detection	Goal ²	of Exceedances ³	of Times Detected	of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	25 U		70 U		33 U
Methylene chloride	UG/KG	49	90%	100	0	103	114	7 J		42 J		16 J
Styrene	UG/KG	0	0%		0	0	114	5 U		14 U		6 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	5 U		14 U		6 U
Toluene	UG/KG	0	0%	1,500	0	0	114	5 U		14 U		6 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	15 U		42 U		20 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	5 U		14 UJ		6 UJ
Trans-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	5 U		14 U		6 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	5 U		14 U		6 U
Trichlorofluoromethane	UG/KG	0	0%		0	0	114	5 U		14 UJ		6 UJ
Vinyl chloride	UG/KG	0	0%	200	0	0	114	10 U		28 U		13 U
Carcinogenic PAHs												
Benzo(a)anthracene	UG/KG	4,800	49%		0	58	119	180 J		79 J		380 U
Benzo(a)pyrene	UG/KG	4,500	45%		0	54	119	190 J		64 J		380 U
Benzo(b)fluoranthene	UG/KG	7,400	48%		0	57	119	380		120 J		380 U
Benzo(k)fluoranthene	UG/KG	2,100	19%		0	23	119	370 U		400 U		380 U
Chrysene	UG/KG	5,500	47%		0	56	119	260 J		77 J		380 U
Dibenz(a,h)anthracene	UG/KG	850	30%		0	36	119	37 J		400 U		380 U
Indeno(1,2,3-cd)pyrene	UG/KG	2,800	42%		0	50	119	150 J		38 J		380 U
BTE (calculated)	MG/KG	7	100%	10 ^b	0	119	119	0.30		0.29		0.44
Metals												
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	12900		17500		13200
Antimony	MG/KG	11.3	18%	31	0	21	114	0.8 UJ		0.79 U		0.72 U
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	5.6		6.8		6.4
Barium	MG/KG	248	100%	5,370	0	114	114	78.3 J		182 J		68.3 J
Beryllium	MG/KG	1	100%	150	0	114	114	0.49		1		0.56
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.3		0.36		0.18 J
Calcium	MG/KG	216,000	100%		0	114	114	2080		5710		1460
Chromium	MG/KG	44.5	100%		0	113	113	20		21.8		18.4
Cobalt	MG/KG	16.8	100%	903	0	114	114	7.9 J		12.3		10.9
Copper	MG/KG	131	100%	3,130	0	114	114	22.3		23.7		18.6
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	25500		29200		26800
Lead	MG/KG	400	100%	400	0	113	113	11.4 J		16.3		15
Magnesium	MG/KG	25200 ¹	100%		0	114	114	3900		5750 J		3590 J
Manganese	MG/KG	1,540	100%	1,760	0	114	114	252 J		1140		451
Mercury	MG/KG	0.327	99%	23	0	113	114	0.031		0.036		0.052
Nickel	MG/KG	38.6	100%	1,560	0	114	114	23.1 J		29.9 J		24.5 J
Potassium	MG/KG	1,750	100%		0	114	114	1320 J		1520 J		1290 J
Selenium	MG/KG	3.4	25%	390	0	28	114	1.8 J		0.67 U		0.62 U

Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.17 U	0.17 U		0.16 U		0.16 U
Sodium	MG/KG	164	75%		0	86	114	45.9 J	62.9 J		41.5 J		48.1 J
Thallium	MG/KG	2.1	25%	5.2	0	28	114	1.5 J	0.75 U		0.69 U		0.69 U
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	23.4	31.2		23.7		23.5
Zinc	MG/KG	591	100%	23,500	0	114	114	82.7 J	92.1 J		92.3 J		86.3 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.

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.

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY		SEAD-11		SEAD-11		SEAD-11		SEAD-11		SEAD-11			
LOCATION ID		11EXFLC401		11EXFLC501		11EXFLC601		11EXFLC602		11EXFLC701			
MATRIX		SOIL		SOIL		SOIL		SOIL		SOIL			
SAMPLE ID		11EXFLC401V		11EXFLC501		11EXFLC601		11EXFLC602		11EXFLC701			
SAMPLE DEPTH TO TOP OF SAMPLE		0		0		0		0		0			
SAMPLE DEPTH TO BOTTOM OF SAMPLE		0.2		0.2		0.2		0.2		0.2			
SAMPLE DATE		11/22/2006		11/10/2006		11/6/2006		11/22/2006		11/6/2006			
QC CODE		SA		SA		SA		SA		SA			
STUDY ID		IRA		IRA		IRA		IRA		IRA			
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	9 U	5 U	7 U		6 U	
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	9 U	5 U	7 U		6 U	
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		0	0	114	9 U	5 U	7 U		6 U	
1,1,2-Trichloroethane	UG/KG	0	0%		0	0	114	9 U	5 U	7 U		6 U	
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	9 U	5 U	7 U		6 U	
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	9 U	5 U	7 U		6 U	
1,2,3-Trichlorobenzene	UG/KG	0	0%		0	0	114	9 U	5 U	7 U		6 U	
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	9 U	5 U	7 U		6 U	
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		0	0	114	9 U	5 U	7 U		6 U	
1,2-Dibromoethane	UG/KG	0	0%		0	0	114	9 U	5 U	7 U		6 U	
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	9 U	5 U	7 U		6 U	
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	9 U	5 U	7 U		6 U	
1,2-Dichloropropane	UG/KG	0	0%		0	0	114	9 U	5 U	7 U		6 U	
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	9 U	5 U	7 U		6 U	
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	9 U	5 U	7 U		6 U	
Acetone	UG/KG	67	2%	200	0	2	106	44 U	27 U	33 UJ		29 UJ	
Benzene	UG/KG	0	0%	60	0	0	114	9 U	5 U	7 U		6 U	
Bromochloromethane	UG/KG	0	0%		0	0	114	9 U	5 U	7 U		6 U	
Bromodichloromethane	UG/KG	0	0%		0	0	114	9 U	5 U	7 U		6 U	
Bromoform	UG/KG	0	0%		0	0	114	9 U	5 U	7 U		6 U	
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	9 U	5 U	7 U		6 U	
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	9 U	5 U	7 U		6 U	
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	9 U	5 U	7 U		6 U	
Chlorodibromomethane	UG/KG	0	0%		0	0	114	9 U	5 U	7 U		6 U	
Chloroethane	UG/KG	0	0%	1,900	0	0	114	18 U	11 U	13 U		12 U	
Chloroform	UG/KG	0	0%	300	0	0	114	9 U	5 U	7 U		6 U	
Cis-1,2-Dichloroethene	UG/KG	2	1%		0	1	114	9 U	5 U	7 U		6 U	
Cis-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	9 U	5 U	7 U		6 U	
Cyclohexane	UG/KG	0	0%		0	0	114	9 U	5 U	7 U		6 U	
Dichlorodifluoromethane	UG/KG	2	4%		0	5	114	9 U	5 U	7 U		6 U	
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	9 U	5 U	7 U		6 U	
Isopropylbenzene	UG/KG	0	0%		0	0	114	9 U	5 U	7 U		6 U	
Methyl Acetate	UG/KG	0	0%		0	0	114	9 UJ	5 U	7 UJ		6 UJ	
Methyl Tertbutyl Ether	UG/KG	0	0%		0	0	114	9 UJ	5 U	7 UJ		6 UJ	
Methyl bromide	UG/KG	0	0%		0	0	88	18 UR	11 U	13 UJ		12 UJ	
Methyl butyl ketone	UG/KG	0	0%		0	0	114	44 U	27 U	33 U		29 U	
Methyl chloride	UG/KG	0	0%		0	0	114	18 U	11 U	13 U		12 U	
Methyl cyclohexane	UG/KG	0	0%		0	0	114	9 U	5 U	7 U		6 U	
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	44 U	27 U	33 U		29 U	

Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11

FACILITY	SEAD-11							SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID	11EXFLC401							11EXFLC501	11EXFLC601	11EXFLC601	11EXFLC601	11EXFLC701	11EXFLC701
MATRIX	SOIL							SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID	11EXFLC401V							11EXFLC501	11EXFLC601	11EXFLC602	11EXFLC701	11EXFLC702	
SAMPLE DEPTH TO TOP OF SAMPLE	0							0	0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE	0.2							0.2	0.2	0.2	0.2	0.2	0.2
SAMPLE DATE	11/22/2006							11/10/2006	11/6/2006	11/22/2006	11/6/2006	11/22/2006	
QC CODE	SA							SA	SA	SA	SA	SA	SA
STUDY ID	IRA							IRA	IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	44 U	27 U	33 U		29 U	
Methylene chloride	UG/KG	49	90%	100	0	103	114	17 J	12 J	11 U		12 U	
Styrene	UG/KG	0	0%		0	0	114	9 U	5 U	7 U		6 U	
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	9 U	5 U	7 U		6 U	
Toluene	UG/KG	0	0%	1,500	0	0	114	9 U	5 U	7 U		6 U	
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	26 U	16 U	20 U		18 U	
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	9 UJ	5 U	7 UJ		6 UJ	
Trans-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	9 U	5 U	7 U		6 U	
Trichloroethene	UG/KG	77	19%	700	0	22	114	9 U	5 U	12		9	
Trichlorofluoromethane	UG/KG	0	0%		0	0	114	9 UJ	5 U	7 U		6 U	
Vinyl chloride	UG/KG	0	0%	200	0	0	114	18 U	11 U	13 U		12 U	
Carcinogenic PAHs													
Benzo(a)anthracene	UG/KG	4,800	49%		0	58	119		150 J		380 U		390 U
Benzo(a)pyrene	UG/KG	4,500	45%		0	54	119		110 J		380 U		390 U
Benzo(b)fluoranthene	UG/KG	7,400	48%		0	57	119		140 J		380 U		390 U
Benzo(k)fluoranthene	UG/KG	2,100	19%		0	23	119		39 J		380 U		390 U
Chrysene	UG/KG	5,500	47%		0	56	119		140 J		380 U		390 U
Dibenz(a,h)anthracene	UG/KG	850	30%		0	36	119		23 J		380 U		390 U
Indeno(1,2,3-cd)pyrene	UG/KG	2,800	42%		0	50	119		62 J		380 U		390 U
BTE (calculated)	MG/KG	7	100%	10 ^b	0	119	119	0.17		0.44			0.45
Metals													
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	12400		11800 J		9400 J	
Antimony	MG/KG	11.3	18%	31	0	21	114	0.81 UJ		7.5 J		11.3 J	
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	5.4		7.4 J		10.6 J	
Barium	MG/KG	248	100%	5,370	0	114	114	114 J		248 J		145 J	
Beryllium	MG/KG	1	100%	150	0	114	114	0.7		0.8 J		0.52 J	
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.32		2.2 J		2.5 J	
Calcium	MG/KG	216,000	100%		0	114	114	2920		23000 J		10900 J	
Chromium	MG/KG	44.5	100%		0	113	113	16.8		31.9 J		44.5 J	
Cobalt	MG/KG	16.8	100%	903	0	114	114	9 J		10.5 J		13.3 J	
Copper	MG/KG	131	100%	3,130	0	114	114	15.5		131 J		126 J	
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	21100		23900 J		48100 J	
Lead	MG/KG	400	100%	400	0	113	113	13.6		350 J			13.3 J
Magnesium	MG/KG	25200 ¹	100%		0	114	114	2830		6960 J		4580 J	
Manganese	MG/KG	1,540	100%	1,760	0	114	114	862 J		544 J		707 J	
Mercury	MG/KG	0.327	99%	23	0	113	114	0.039		0.327		0.199	
Nickel	MG/KG	38.6	100%	1,560	0	114	114	20.5 J		35.7 J		35.2 J	
Potassium	MG/KG	1,750	100%		0	114	114	1660 J		1240 J		1090 J	
Selenium	MG/KG	3.4	25%	390	0	28	114	2.1 J		1.7 J		3.4 J	

Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.18 U	2.2 J			1.4 J	
Sodium	MG/KG	164	75%		0	86	114	67.9 J	157 J			164 J	
Thallium	MG/KG	2.1	25%	5.2	0	28	114	1.2 J	0.89 UJ			1.8 J	
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	21.8	28.5 J			25.2 J	
Zinc	MG/KG	591	100%	23,500	0	114	114	85.9 J	454 J			591 J	

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.

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.

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY		SEAD-11						SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID				11EXFLC801	11EXFLC801	11EXFLC901	11EXFLD001	11EXFLD001	11EXFLD1001	11EXFLD101		
MATRIX				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL		
SAMPLE ID				11EXFLC801	11EXFLC802	11EXFLC901	11EXFLD001	11EXFLD001	11EXFLD1001	11EXFLD101		
SAMPLE DEPTH TO TOP OF SAMPLE				0	0	0	0	0	0	0		
SAMPLE DEPTH TO BOTTOM OF SAMPLE				0.2	0.2	0.2	0.2	0.2	0.2	0.2		
SAMPLE DATE				11/6/2006	11/22/2006	11/6/2006	12/15/2006	11/9/2006	12/7/2006			
QC CODE				SA	SA	SA	SA	SA	SA	SA		
STUDY ID				IRA	IRA	IRA	IRA	IRA	IRA	IRA		
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds												
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	5 U		6 U		4 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	5 U		6 U		4 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		0	0	114	5 U		6 U		4 U
1,1,2-Trichloroethane	UG/KG	0	0%		0	0	114	5 U		6 U		4 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	5 U		6 U		4 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	5 U		6 U		4 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		0	0	114	5 U		6 U		4 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	5 U		6 U		4 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		0	0	114	5 U		6 U		4 U
1,2-Dibromoethane	UG/KG	0	0%		0	0	114	5 U		6 U		4 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	5 U		6 U		4 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	5 U		6 U		4 U
1,2-Dichloropropane	UG/KG	0	0%		0	0	114	5 U		6 U		4 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	5 U		6 U		4 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	5 U		6 U		4 U
Acetone	UG/KG	67	2%	200	0	2	106	26 UJ		30 UJ		22 UR
Benzene	UG/KG	0	0%	60	0	0	114	5 U		6 U		4 U
Bromochloromethane	UG/KG	0	0%		0	0	114	5 U		6 U		4 U
Bromodichloromethane	UG/KG	0	0%		0	0	114	5 U		6 U		4 U
Bromoform	UG/KG	0	0%		0	0	114	5 U		6 U		4 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	5 U		6 U		4 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	5 U		6 U		4 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	5 U		6 U		4 U
Chlorodibromomethane	UG/KG	0	0%		0	0	114	5 U		6 U		4 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	10 U		12 U		9 U
Chloroform	UG/KG	0	0%	300	0	0	114	5 U		6 U		4 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		0	1	114	5 U		6 U		4 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	5 U		6 U		4 U
Cyclohexane	UG/KG	0	0%		0	0	114	5 U		6 U		4 U
Dichlorodifluoromethane	UG/KG	2	4%		0	5	114	5 U		6 U		4 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	5 U		6 U		4 U
Isopropylbenzene	UG/KG	0	0%		0	0	114	5 U		6 U		4 U
Methyl Acetate	UG/KG	0	0%		0	0	114	5 UJ		6 UJ		4 UJ
Methyl Tertbutyl Ether	UG/KG	0	0%		0	0	114	5 UJ		6 UJ		4 UJ
Methyl bromide	UG/KG	0	0%		0	0	88	10 UJ		12 UJ		9 UR
Methyl butyl ketone	UG/KG	0	0%		0	0	114	26 U		30 U		22 U
Methyl chloride	UG/KG	0	0%		0	0	114	10 U		12 U		9 U
Methyl cyclohexane	UG/KG	0	0%		0	0	114	5 U		6 U		4 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	26 U		30 U		22 UJ

Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11

FACILITY													
LOCATION ID							SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	
MATRIX							11EXFLC801	11EXFLC801	11EXFLC901	11EXFLD001	11EXFLD1001	11EXFLD101	
SAMPLE ID							SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
SAMPLE DEPTH TO TOP OF SAMPLE							11EXFLC801	11EXFLC802	11EXFLC901	11EXFLD001	11EXFLD1001	11EXFLD101	
SAMPLE DEPTH TO BOTTOM OF SAMPLE							0	0	0	0	0	0	
SAMPLE DATE							0.2	0.2	0.2	0.2	0.2	0.2	
QC CODE							11/6/2006	11/22/2006	11/6/2006	12/15/2006	11/9/2006	12/7/2006	
STUDY ID							SA	SA	SA	SA	SA	SA	
							IRA	IRA	IRA	IRA	IRA	IRA	
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal²	Number of Exceedances³	Number of Times Detected	Number of Samples Analyzed⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	26 U		30 U		22 U	31 U
Methylene chloride	UG/KG	49	90%	100	0	103	114	14 U		11 U		12	9 J
Styrene	UG/KG	0	0%	0	0	0	114	5 U		6 U		4 U	6 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	5 U		6 U		4 U	6 U
Toluene	UG/KG	0	0%	1,500	0	0	114	5 U		6 U		4 U	6 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	15 U		18 U		13 U	19 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	5 UJ		6 UJ		4 UJ	6 UJ
Trans-1,3-Dichloropropene	UG/KG	0	0%	0	0	0	114	5 U		6 U		4 U	6 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	2 J		6 U		4 U	6 U
Trichlorofluoromethane	UG/KG	0	0%	0	0	0	114	5 U		6 U		4 U	6 U
Vinyl chloride	UG/KG	0	0%	200	0	0	114	10 U		12 U		9 U	12 U
Carcinogenic PAHs													
Benzo(a)anthracene	UG/KG	4,800	49%		0	58	119		400 U	1300 J	410 U	370 U	
Benzo(a)pyrene	UG/KG	4,500	45%		0	54	119		400 U	1200 J	410 U	370 U	
Benzo(b)fluoranthene	UG/KG	7,400	48%		0	57	119		400 U	2000 J	410 U	370 U	
Benzo(k)fluoranthene	UG/KG	2,100	19%		0	23	119		400 U	2100 UJ	410 U	370 U	
Chrysene	UG/KG	5,500	47%		0	56	119		400 U	1100 J	410 U	370 U	
Dibenz(a,h)anthracene	UG/KG	850	30%		0	36	119		400 U	2100 UJ	410 U	370 U	
Indeno(1,2,3-cd)pyrene	UG/KG	2,800	42%		0	50	119		400 U	770 J	410 U	370 U	
BTE (calculated)	MG/KG	7	100%	10 ^b	0	119	119		0.46	2.7	0.48	0.43	
Metals													
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	9960 J		11500 J		11100	13400 J
Antimony	MG/KG	11.3	18%	31	0	21	114	0.78 UJ		0.82 UJ		0.76 U	0.89 UJ
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	4.5 J		5.1 J		5.2	5.6
Barium	MG/KG	248	100%	5,370	0	114	114	60.5 J		95.6 J		60.3	99.4 J
Beryllium	MG/KG	1	100%	150	0	114	114	0.49 J		0.65 J		0.59	0.67
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.66 J		0.46 J		0.54	0.51
Calcium	MG/KG	216,000	100%		0	114	114	4440 J		4170 J		23800	3880 J
Chromium	MG/KG	44.5	100%		0	113	113	16.3 J		16.5 J		17.4 J	20.9 J
Cobalt	MG/KG	16.8	100%	903	0	114	114	7.7 J		9 J		9.3	8.7 J
Copper	MG/KG	131	100%	3,130	0	114	114	23.1 J		17.7 J		20.5	20.8
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	20700 J		20900 J		22400	24500 J
Lead	MG/KG	400	100%	400	0	113	113	35.4 J		14.2 J		12.7 J	17.8 J
Magnesium	MG/KG	25200 ¹	100%		0	114	114	4680 J		3410 J		7290	3870 J
Manganese	MG/KG	1,540	100%	1,760	0	114	114	508 J		573 J		489	316 J
Mercury	MG/KG	0.327	99%	23	0	113	114	0.05		0.037		0.03	0.052 J
Nickel	MG/KG	38.6	100%	1,560	0	114	114	23.9 J		21.8 J		26.3 J	23.9 J
Potassium	MG/KG	1,750	100%		0	114	114	959 J		1080 J		1040 J	1450 J
Selenium	MG/KG	3.4	25%	390	0	28	114	1.7 J		1.9 J		0.65 U	0.76 UJ

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.57 UJ		0.18 UJ		0.17 U	0.19 U
Sodium	MG/KG	164	75%		0	86	114	159 UJ		167 UJ		73.5 J	56.3 J
Thallium	MG/KG	2.1	25%	5.2	0	28	114	1.3 J		1.6 J		0.73 U	0.85 U
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	17.1 J		19.3 J		18.6	25.9 J
Zinc	MG/KG	591	100%	23,500	0	114	114	97.9 J		74.9 J		85.1 J	90.8 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.

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.

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY													
LOCATION ID								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
MATRIX								11EXFLD101	11EXFLD1101	11EXFLD201	11EXFLD201	11EXFLD301	11EXFLD301
SAMPLE ID								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH TO TOP OF SAMPLE								11EXFLD102	11EXFLD1101	11EXFLD201	11EXFLD201V	11EXFLD301	11EXFLD301V
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0	0	0	0	0	0
SAMPLE DATE								0.2	0.2	0.2	0.2	0.2	0.2
QC CODE								12/21/2006	11/9/2006	11/17/2006	11/22/2006	11/17/2006	11/22/2006
STUDY ID								SA	SA	SA	SA	SA	SA
								IRA	IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114		6 U		10 U		8 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114		6 U		10 U		8 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		0	0	114		6 U		10 U		8 U
1,1,2-Trichloroethane	UG/KG	0	0%		0	0	114		6 U		10 U		8 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114		6 U		10 U		8 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114		6 U		10 U		8 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		0	0	114		6 U		10 U		8 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114		6 U		10 U		8 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		0	0	114		6 U		10 U		8 U
1,2-Dibromoethane	UG/KG	0	0%		0	0	114		6 U		10 U		8 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114		6 U		10 U		8 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114		6 U		10 U		8 U
1,2-Dichloropropane	UG/KG	0	0%		0	0	114		6 U		10 U		8 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114		6 U		10 U		8 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114		6 U		10 U		8 U
Acetone	UG/KG	67	2%	200	0	2	106	28 UR			50 U		43 U
Benzene	UG/KG	0	0%	60	0	0	114		6 U		10 U		8 U
Bromochloromethane	UG/KG	0	0%		0	0	114		6 U		10 U		8 U
Bromodichloromethane	UG/KG	0	0%		0	0	114		6 U		10 U		8 U
Bromoform	UG/KG	0	0%		0	0	114		6 U		10 U		8 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114		6 U		10 U		8 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114		6 U		10 U		8 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114		6 U		10 U		8 U
Chlorodibromomethane	UG/KG	0	0%		0	0	114		6 U		10 U		8 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114		11 U		20 U		17 U
Chloroform	UG/KG	0	0%	300	0	0	114		6 U		10 U		8 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		0	1	114		6 U		10 U		8 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		0	0	114		6 U		10 U		8 U
Cyclohexane	UG/KG	0	0%		0	0	114		6 U		10 U		8 U
Dichlorodifluoromethane	UG/KG	2	4%		0	5	114		6 U		10 U		8 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114		6 U		10 U		8 U
Isopropylbenzene	UG/KG	0	0%		0	0	114		6 U		10 U		8 U
Methyl Acetate	UG/KG	0	0%		0	0	114		6 UJ		10 UJ		8 UJ
Methyl Tertbutyl Ether	UG/KG	0	0%		0	0	114		6 UJ		10 UJ		8 UJ
Methyl bromide	UG/KG	0	0%		0	0	88	11 UR			20 UR		17 UR
Methyl butyl ketone	UG/KG	0	0%		0	0	114		28 U		50 U		43 U
Methyl chloride	UG/KG	0	0%		0	0	114		11 U		20 U		17 U
Methyl cyclohexane	UG/KG	0	0%		0	0	114		6 U		10 U		8 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114		28 UJ		50 U		43 U

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY		SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11			
LOCATION ID		11EXFLD101	11EXFLD101	11EXFLD201	11EXFLD201	11EXFLD301	11EXFLD301	11EXFLD301	11EXFLD301	11EXFLD301			
MATRIX		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL			
SAMPLE ID		11EXFLD102	11EXFLD1101	11EXFLD201	11EXFLD201V	11EXFLD301	11EXFLD301V	11EXFLD301	11EXFLD301V	11EXFLD301V			
SAMPLE DEPTH TO TOP OF SAMPLE		0	0	0	0	0	0	0	0	0			
SAMPLE DEPTH TO BOTTOM OF SAMPLE		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2			
SAMPLE DATE		12/21/2006	11/9/2006	11/17/2006	11/22/2006	11/17/2006	11/22/2006	11/17/2006	11/22/2006	11/22/2006			
QC CODE		SA	SA	SA	SA	SA	SA	SA	SA	SA			
STUDY ID		IRA	IRA	IRA	IRA	IRA	IRA	IRA	IRA	IRA			
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114		28 U		50 U		43 U
Methylene chloride	UG/KG	49	90%	100	0	103	114		11		30 J		24 J
Styrene	UG/KG	0	0%		0	0	114		6 U		10 U		8 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114		6 U		10 U		8 U
Toluene	UG/KG	0	0%	1,500	0	0	114		6 U		10 U		8 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114		17 U		30 U		26 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114		6 UJ		10 UJ		8 UJ
Trans-1,3-Dichloropropene	UG/KG	0	0%		0	0	114		6 U		10 U		8 U
Trichloroethene	UG/KG	77	19%	700	0	22	114		6 U		10 U		8 U
Trichlorofluoromethane	UG/KG	0	0%		0	0	114		6 U		10 UJ		8 UJ
Vinyl chloride	UG/KG	0	0%	200	0	0	114		11 U		20 U		17 U
Carcinogenic PAHs													
Benzo(a)anthracene	UG/KG	4,800	49%		0	58	119	77 J	4800	980		31 J	
Benzo(a)pyrene	UG/KG	4,500	45%		0	54	119	67 J	3700 J	1000		400 U	
Benzo(b)fluoranthene	UG/KG	7,400	48%		0	57	119	99 J	7400	2100		25 J	
Benzo(k)fluoranthene	UG/KG	2,100	19%		0	23	119	41 J	1700 J	400 U		400 U	
Chrysene	UG/KG	5,500	47%		0	56	119	85 J	5500	1300		25 J	
Dibenz(a,h)anthracene	UG/KG	850	30%		0	36	119	380 U	850 J	180 J		400 U	
Indeno(1,2,3-cd)pyrene	UG/KG	2,800	42%		0	50	119	52 J	2800 J	800		400 U	
BTE (calculated)	MG/KG	7	100%	10 ^b	0	119	119	0.28	6.1	1.6		0.43	
Metals													
Aluminum	MG/KG	17,500	100%	76,100	0	114	114		10400	12400		15900	
Antimony	MG/KG	11.3	18%	31	0	21	114		5.5 J	0.75 U		0.77 U	
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114		7.2	6		5.3	
Barium	MG/KG	248	100%	5,370	0	114	114		79.3	100 J		144 J	
Beryllium	MG/KG	1	100%	150	0	114	114		0.54	0.59		0.92	
Cadmium	MG/KG	2.5	94%	37	0	107	114		0.86	0.23		0.34	
Calcium	MG/KG	216,000	100%		0	114	114		18100	2540		2090	
Chromium	MG/KG	44.5	100%		0	113	113		18.7 J	18.4		19.7	
Cobalt	MG/KG	16.8	100%	903	0	114	114		10	10.4		10.4	
Copper	MG/KG	131	100%	3,130	0	114	114		35.5	22		18.6	
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114		23200	24700		24500	
Lead	MG/KG	400	100%	400	0	113	113		162 J	12.7		14.5	
Magnesium	MG/KG	25200 ¹	100%		0	114	114		6080	4380 J		3340 J	
Manganese	MG/KG	1,540	100%	1,760	0	114	114		1210	396		1290	
Mercury	MG/KG	0.327	99%	23	0	113	114		0.058	0.036		0.044	
Nickel	MG/KG	38.6	100%	1,560	0	114	114		28.6 J	26.9 J		23.1 J	
Potassium	MG/KG	1,750	100%		0	114	114		1110 J	1270 J		1320 J	
Selenium	MG/KG	3.4	25%	390	0	28	114		0.72 U	0.64 U		0.66 U	

Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.18 U	0.18 U	0.16 U	0.17 U	0.17 U	0.17 U
Sodium	MG/KG	164	75%		0	86	114	42.7 J	42.7 J	48.2 J	63.5 J	63.5 J	63.5 J
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.8 U	0.8 U	0.71 U	0.74 U	0.74 U	0.74 U
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	19.3	19.3	30.1	25.4	25.4	25.4
Zinc	MG/KG	591	100%	23,500	0	114	114	130 J	130 J	111 J	87.1 J	87.1 J	87.1 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.

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.

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY	SEAD-11						SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	
LOCATION ID	11EXFLD401						11EXFLD501	11EXFLD501	11EXFLD501	11EXFLD501	11EXFLD601	11EXFLD701	
MATRIX	SOIL						SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
SAMPLE ID	11EXFLD401V						11EXFLD401V	11EXFLD501	11EXFLD501V	11EXFLD601	11EXFLD701		
SAMPLE DEPTH TO TOP OF SAMPLE	0						0	0	0	0	0	0	
SAMPLE DEPTH TO BOTTOM OF SAMPLE	0.2						0.2	0.2	0.2	0.2	0.2	0.2	
SAMPLE DATE	11/17/2006						11/22/2006	11/17/2006	11/22/2006	11/27/2006	11/9/2006		
QC CODE	SA						SA	SA	SA	SA	SA	SA	
STUDY ID	IRA						IRA	IRA	IRA	IRA	IRA	IRA	
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114		9 U		6 U	4 U	6 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114		9 U		6 U	4 U	6 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		0	0	114		9 U		6 U	4 U	6 U
1,1,2-Trichloroethane	UG/KG	0	0%		0	0	114		9 U		6 U	4 U	6 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114		9 U		6 U	4 U	6 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114		9 U		6 U	4 U	6 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		0	0	114		9 U		6 U	4 U	6 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114		9 U		6 U	4 U	6 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		0	0	114		9 U		6 U	4 U	6 U
1,2-Dibromoethane	UG/KG	0	0%		0	0	114		9 U		6 U	4 U	6 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114		9 U		6 U	4 U	6 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114		9 U		6 U	4 U	6 U
1,2-Dichloropropane	UG/KG	0	0%		0	0	114		9 U		6 U	4 U	6 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114		9 U		6 U	4 U	6 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114		9 U		6 U	4 U	6 U
Acetone	UG/KG	67	2%	200	0	2	106	45 U		32 U	22 U		28 UR
Benzene	UG/KG	0	0%	60	0	0	114		9 U		6 U	4 U	6 U
Bromochloromethane	UG/KG	0	0%		0	0	114		9 U		6 U	4 U	6 U
Bromodichloromethane	UG/KG	0	0%		0	0	114		9 U		6 U	4 U	6 U
Bromoform	UG/KG	0	0%		0	0	114		9 U		6 U	4 U	6 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114		9 U		6 U	4 U	6 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114		9 U		6 U	4 U	6 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114		9 U		6 U	4 U	6 U
Chlorodibromomethane	UG/KG	0	0%		0	0	114		9 U		6 U	4 U	6 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	18 U		13 U	9 U		11 U
Chloroform	UG/KG	0	0%	300	0	0	114		9 U		6 U	4 U	6 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		0	1	114		9 U		6 U	4 U	6 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		0	0	114		9 U		6 U	4 U	6 U
Cyclohexane	UG/KG	0	0%		0	0	114		9 U		6 U	4 U	6 U
Dichlorodifluoromethane	UG/KG	2	4%		0	5	114		9 U		6 U	4 U	2 J
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114		9 U		6 U	4 U	6 U
Isopropylbenzene	UG/KG	0	0%		0	0	114		9 U		6 U	4 U	6 U
Methyl Acetate	UG/KG	0	0%		0	0	114		9 UJ		6 U	4 U	6 UJ
Methyl Tertbutyl Ether	UG/KG	0	0%		0	0	114		9 UJ		6 U	4 U	6 UJ
Methyl bromide	UG/KG	0	0%		0	0	88	18 UR		13 U	9 UJ		11 UR
Methyl butyl ketone	UG/KG	0	0%		0	0	114	45 U		32 U	22 U		28 U
Methyl chloride	UG/KG	0	0%		0	0	114	18 U		13 U	9 U		11 U
Methyl cyclohexane	UG/KG	0	0%		0	0	114		9 U		6 U	4 U	6 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	45 U		32 U	22 U		28 UJ

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY		SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11		
LOCATION ID		11EXFLD401	11EXFLD401	11EXFLD501	11EXFLD501	11EXFLD601	11EXFLD701						
MATRIX		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL						
SAMPLE ID		11EXFLD401V	11EXFLD401V	11EXFLD501V	11EXFLD501V	11EXFLD601V	11EXFLD701V						
SAMPLE DEPTH TO TOP OF SAMPLE		0	0	0	0	0	0						
SAMPLE DEPTH TO BOTTOM OF SAMPLE		0.2	0.2	0.2	0.2	0.2	0.2						
SAMPLE DATE		11/17/2006	11/22/2006	11/17/2006	11/22/2006	11/27/2006	11/9/2006						
QC CODE		SA	SA	SA	SA	SA	SA						
STUDY ID		IRA	IRA	IRA	IRA	IRA	IRA						
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114		45 U		32 U	22 U	28 U
Methylene chloride	UG/KG	49	90%	100	0	103	114	22 J		20 J	6 J		16
Styrene	UG/KG	0	0%		0	0	114	9 U		6 U	4 U		6 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	9 U		6 U	4 U		6 U
Toluene	UG/KG	0	0%	1,500	0	0	114	9 U		6 U	4 U		6 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	27 U		19 U	13 U		16 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	9 UJ		6 U	4 U		6 UJ
Trans-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	9 U		6 U	4 U		6 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	9 U		6 U	4 U		6 U
Trichlorofluoromethane	UG/KG	0	0%		0	0	114	9 UJ		6 U	4 U		6 U
Vinyl chloride	UG/KG	0	0%	200	0	0	114	18 U		13 U	9 U		11 U
Carcinogenic PAHs													
Benzo(a)anthracene	UG/KG	4,800	49%		0	58	119	410 U		390 U	360 U		380 J
Benzo(a)pyrene	UG/KG	4,500	45%		0	54	119	410 U		390 U	360 U		350 J
Benzo(b)fluoranthene	UG/KG	7,400	48%		0	57	119	410 U		390 U	360 U		400
Benzo(k)fluoranthene	UG/KG	2,100	19%		0	23	119	410 U		390 U	360 U		130 J
Chrysene	UG/KG	5,500	47%		0	56	119	410 U		390 U	360 U		350 J
Dibenz(a,h)anthracene	UG/KG	850	30%		0	36	119	410 U		390 U	360 U		64 J
Indeno(1,2,3-cd)pyrene	UG/KG	2,800	42%		0	50	119	410 U		390 U	360 U		170 J
BTE (calculated)	MG/KG	7	100%	10 ^b	0	119	119	0.48		0.45	0.42		0.51
Metals													
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	10400		16100	6770 J		12000
Antimony	MG/KG	11.3	18%	31	0	21	114	0.76 U		0.84 U	0.66 UJ		0.85 U
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	5.9		7.5	3.5		5.4
Barium	MG/KG	248	100%	5,370	0	114	114	72.4 J		169 J	23.3 J		119
Beryllium	MG/KG	1	100%	150	0	114	114	0.51		0.83	0.32		0.74
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.26		0.36	0.39		0.62
Calcium	MG/KG	216,000	100%		0	114	114	2140		3250	61800 J		3460
Chromium	MG/KG	44.5	100%		0	113	113	15		21.6	10.8 J		16 J
Cobalt	MG/KG	16.8	100%	903	0	114	114	9.1		11.7	6.1 J		9.7
Copper	MG/KG	131	100%	3,130	0	114	114	23.8		19.6	13.6		19.3
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	21900		30700	15200 J		21900
Lead	MG/KG	400	100%	400	0	113	113	14.2		28.4	20.4 J		23.6 J
Magnesium	MG/KG	25200 ¹	100%		0	114	114	3350 J		3860 J	7310 J		2870
Manganese	MG/KG	1,540	100%	1,760	0	114	114	639		1540	325 J		1120
Mercury	MG/KG	0.327	99%	23	0	113	114	0.043		0.048	0.01 J		0.041
Nickel	MG/KG	38.6	100%	1,560	0	114	114	24.9 J		28.1 J	18.3 J		21.8 J
Potassium	MG/KG	1,750	100%		0	114	114	1200 J		1710 J	710 J		1070 J
Selenium	MG/KG	3.4	25%	390	0	28	114	0.65 U		0.72 U	0.57 U		0.73 U

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.16 U		0.18 U		0.48 U	0.18 U
Sodium	MG/KG	164	75%		0	86	114	50.4 J		56.4 J		90.6 J	35.7 U
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.72 U		0.81 U		0.63 U	0.81 U
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	19		27.2		11.1 J	20.2
Zinc	MG/KG	591	100%	23,500	0	114	114	87.6 J		160 J		354 J	84.1 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.

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.

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY	SEAD-11						SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	
LOCATION ID	11EXFLD801						11EXFLD901	11EXFLE1001	11EXFLE1001	11EXFLE1001	11EXFLE101	11EXFLE1101	
MATRIX	SOIL						SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
SAMPLE ID	11EXFLD801						11EXFLD901	11EXFLE1002	11EXFLE1001	11EXFLE101	11EXFLE1101		
SAMPLE DEPTH TO TOP OF SAMPLE	0						0	0	0	0	0	0	
SAMPLE DEPTH TO BOTTOM OF SAMPLE	0.2						0.2	0.2	0.2	0.2	0.2	0.2	
SAMPLE DATE	11/9/2006						11/9/2006	11/9/2006	11/9/2006	11/27/2006	11/9/2006		
QC CODE	SA						SA	DU	SA	SA	SA		
STUDY ID	IRA						IRA	IRA	IRA	IRA	IRA		
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	4 U	5 U	4 U	4 U	6 U	5 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	4 U	5 U	4 U	4 U	6 U	5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		0	0	114	4 U	5 U	4 U	4 U	6 U	5 U
1,1,2-Trichloroethane	UG/KG	0	0%		0	0	114	4 U	5 U	4 U	4 U	6 U	5 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	4 U	5 U	4 U	4 U	6 U	5 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	4 U	5 U	4 U	4 U	6 U	5 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		0	0	114	4 U	5 U	4 U	4 U	6 U	5 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	4 U	5 U	4 U	4 U	6 U	5 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		0	0	114	4 U	5 U	4 U	4 U	6 U	5 U
1,2-Dibromoethane	UG/KG	0	0%		0	0	114	4 U	5 U	4 U	4 U	6 U	5 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	4 U	5 U	4 U	4 U	6 U	5 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	4 U	5 U	4 U	4 U	6 U	5 U
1,2-Dichloropropane	UG/KG	0	0%		0	0	114	4 U	5 U	4 U	4 U	6 U	5 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	4 U	5 U	4 U	4 U	6 U	5 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	4 U	5 U	4 U	4 U	6 U	5 U
Acetone	UG/KG	67	2%	200	0	2	106	22 UR	27 UR	19 UR	20 UR	30 U	23 UR
Benzene	UG/KG	0	0%	60	0	0	114	4 U	5 U	4 U	4 U	6 U	5 U
Bromochloromethane	UG/KG	0	0%		0	0	114	4 U	5 U	4 U	4 U	6 U	5 U
Bromodichloromethane	UG/KG	0	0%		0	0	114	4 U	5 U	4 U	4 U	6 U	5 U
Bromoform	UG/KG	0	0%		0	0	114	4 U	5 U	4 U	4 U	6 U	5 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	4 U	5 U	4 U	4 U	6 U	5 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	4 U	5 U	4 U	4 U	6 U	5 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	4 U	5 U	4 U	4 U	6 U	5 U
Chlorodibromomethane	UG/KG	0	0%		0	0	114	4 U	5 U	4 U	4 U	6 U	5 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	9 U	11 U	8 U	8 U	12 U	9 U
Chloroform	UG/KG	0	0%	300	0	0	114	4 U	5 U	4 U	4 U	6 U	5 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		0	1	114	4 U	5 U	4 U	4 U	6 U	5 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	4 U	5 U	4 U	4 U	6 U	5 U
Cyclohexane	UG/KG	0	0%		0	0	114	4 U	5 U	4 U	4 U	6 U	5 U
Dichlorodifluoromethane	UG/KG	2	4%		0	5	114	4 U	2 J	1 J	4 U	6 U	2 J
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	4 U	5 U	4 U	4 U	6 U	5 U
Isopropylbenzene	UG/KG	0	0%		0	0	114	4 U	5 U	4 U	4 U	6 U	5 U
Methyl Acetate	UG/KG	0	0%		0	0	114	4 UJ	5 UJ	4 UJ	4 UJ	6 U	5 UJ
Methyl Tertbutyl Ether	UG/KG	0	0%		0	0	114	4 UJ	5 UJ	4 UJ	4 UJ	6 U	5 UJ
Methyl bromide	UG/KG	0	0%		0	0	88	9 UR	11 UR	8 UR	8 UR	12 UJ	9 UR
Methyl butyl ketone	UG/KG	0	0%		0	0	114	22 U	27 U	19 U	20 U	30 U	23 U
Methyl chloride	UG/KG	0	0%		0	0	114	9 U	11 U	8 U	8 U	12 U	9 U
Methyl cyclohexane	UG/KG	0	0%		0	0	114	4 U	5 U	4 U	4 U	6 U	5 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	22 UJ	27 UJ	19 UJ	20 UJ	30 U	23 UJ

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY		SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	
LOCATION ID		11EXFLD801	11EXFLD901	11EXFLE1001	11EXFLE1001	11EXFLE1001	11EXFLE1001	11EXFLE1001	11EXFLE1001	11EXFLE1001	11EXFLE1001	11EXFLE1001	
MATRIX		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
SAMPLE ID		11EXFLD801	11EXFLD901	11EXFLE1002	11EXFLE1001	11EXFLE1001	11EXFLE1001	11EXFLE1001	11EXFLE1001	11EXFLE1001	11EXFLE1001	11EXFLE1001	
SAMPLE DEPTH TO TOP OF SAMPLE		0	0	0	0	0	0	0	0	0	0	0	
SAMPLE DEPTH TO BOTTOM OF SAMPLE		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
SAMPLE DATE		11/9/2006	11/9/2006	11/9/2006	11/9/2006	11/9/2006	11/9/2006	11/27/2006	11/9/2006	11/27/2006	11/9/2006	11/9/2006	
QC CODE		SA	SA	DU	SA	SA	SA	SA	SA	SA	SA	SA	
STUDY ID		IRA	IRA	IRA	IRA	IRA	IRA	IRA	IRA	IRA	IRA	IRA	
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	22 U	27 U	19 U	20 U	30 U	23 U
Methylene chloride	UG/KG	49	90%	100	0	103	114	12	16	14	12	9 J	13
Styrene	UG/KG	0	0%		0	0	114	4 U	5 U	4 U	4 U	6 U	5 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	4 U	5 U	4 U	4 U	6 U	5 U
Toluene	UG/KG	0	0%	1,500	0	0	114	4 U	5 U	4 U	4 U	6 U	5 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	13 U	16 U	12 U	12 U	18 U	14 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	4 UJ	5 UJ	4 UJ	4 UJ	6 U	5 UJ
Trans-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	4 U	5 U	4 U	4 U	6 U	5 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	4 U	5 U	4 U	4 U	6 U	5 U
Trichlorofluoromethane	UG/KG	0	0%		0	0	114	4 U	5 U	4 U	4 U	6 U	5 U
Vinyl chloride	UG/KG	0	0%	200	0	0	114	9 U	11 U	8 U	8 U	12 U	9 U
Carcinogenic PAHs													
Benzo(a)anthracene	UG/KG	4,800	49%		0	58	119	20 J	420 U	350 U	28 J	4700	370 U
Benzo(a)pyrene	UG/KG	4,500	45%		0	54	119	360 U	420 U	350 U	18 J	4500	370 U
Benzo(b)fluoranthene	UG/KG	7,400	48%		0	57	119	20 J	420 U	350 U	33 J	5800	370 U
Benzo(k)fluoranthene	UG/KG	2,100	19%		0	23	119	360 U	420 U	350 U	360 U	2100	370 U
Chrysene	UG/KG	5,500	47%		0	56	119	21 J	420 U	350 U	28 J	4900	370 U
Dibenz(a,h)anthracene	UG/KG	850	30%		0	36	119	360 U	420 U	350 U	360 U	700 J	370 U
Indeno(1,2,3-cd)pyrene	UG/KG	2,800	42%		0	50	119	360 U	420 U	350 U	360 U	2800	370 U
BTE (calculated)	MG/KG	7	100%	10 ^b	0	119	119	0.38	0.49	0.41	0.22	6.6	0.43
Metals													
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	10100	11600	6700	7250	7260 J	10300
Antimony	MG/KG	11.3	18%	31	0	21	114	0.77 U	0.87 U	0.67 U	0.71 U	1.1 J	8.1 J
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	5.2	5.2	5.2	4.4	3.6	5.5
Barium	MG/KG	248	100%	5,370	0	114	114	60	89.2	32.3	38.8	62.2 J	78.6
Beryllium	MG/KG	1	100%	150	0	114	114	0.53	0.64	0.42	0.43	0.35	0.57
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.48	1.1	0.42	0.39	0.35	0.83
Calcium	MG/KG	216,000	100%		0	114	114	14700	3650	75300	75400	2590 J	22600
Chromium	MG/KG	44.5	100%		0	113	113	15.3 J	16.6 J	9.7 J	23.7 J	10.5 J	21.9 J
Cobalt	MG/KG	16.8	100%	903	0	114	114	9.9	9.3	7.8	9.9	4.8 J	8.8
Copper	MG/KG	131	100%	3,130	0	114	114	22.6	17.5	17.5	18.2	17.3	50.8
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	20200	19800 J	17900	16100	13400 J	22600
Lead	MG/KG	400	100%	400	0	113	113	11.2 J	14.7 J	9 J	68.3 J	16.8 J	400 J
Magnesium	MG/KG	25200 ¹	100%		0	114	114	6670	3300	26200	24200	1930 J	7030
Manganese	MG/KG	1,540	100%	1,760	0	114	114	394	278	410	514	163 J	268
Mercury	MG/KG	0.327	99%	23	0	113	114	0.104	0.066	0.004 U	0.009 J	0.072	0.049
Nickel	MG/KG	38.6	100%	1,560	0	114	114	27.5 J	21.5 J	19.2 J	23.3 J	12.7 J	31.7 J
Potassium	MG/KG	1,750	100%		0	114	114	1170 J	1250 J	760 J	826 J	706 J	1040 J
Selenium	MG/KG	3.4	25%	390	0	28	114	0.65 U	0.75 U	0.58 U	0.6 U	0.67 U	0.65 U

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.17 U	0.19 U	0.15 U	0.15 U	0.26 J	0.23 J
Sodium	MG/KG	164	75%		0	86	114	53 J	73.4 J	107 J	118 J	32.9 U	96.1 J
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.73 U	0.84 U	0.65 U	0.68 U	1 J	0.73 U
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	17.5	19.9	12.4	11.9	13.8 J	22.9
Zinc	MG/KG	591	100%	23,500	0	114	114	78.1 J	85.3 J	84.2 J	87.7 J	66.9 J	256 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.

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.

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY	SEAD-11						SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	
LOCATION ID							11EXFLE201	11EXFLE201	11EXFLE301	11EXFLE401	11EXFLE501	11EXFLE601	
MATRIX							SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
SAMPLE ID							11EXFLE201V	11EXFLE201V	11EXFLE301	11EXFLE401	11EXFLE501	11EXFLE601	
SAMPLE DEPTH TO TOP OF SAMPLE							0	0	0	0	0	0	
SAMPLE DEPTH TO BOTTOM OF SAMPLE							0.2	0.2	0.2	0.2	0.2	0.2	
SAMPLE DATE							11/17/2006	11/22/2006	11/22/2006	11/22/2006	11/22/2006	11/22/2006	
QC CODE							SA	SA	SA	SA	SA	SA	
STUDY ID							IRA	IRA	IRA	IRA	IRA	IRA	
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	8 U	12 U	10 U	11 U	14 U	14 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	8 U	12 U	10 U	11 U	14 U	14 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		0	0	114	8 U	12 U	10 U	11 U	14 U	14 U
1,1,2-Trichloroethane	UG/KG	0	0%		0	0	114	8 U	12 U	10 U	11 U	14 U	14 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	8 U	12 U	10 U	11 U	14 U	14 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	8 U	12 U	10 U	11 U	14 U	14 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		0	0	114	8 U	12 U	10 U	11 U	14 U	14 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	8 U	12 U	10 U	11 U	14 U	14 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		0	0	114	8 U	12 U	10 U	11 U	14 U	14 U
1,2-Dibromoethane	UG/KG	0	0%		0	0	114	8 U	12 U	10 U	11 U	14 U	14 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	8 U	12 U	10 U	11 U	14 U	14 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	8 U	12 U	10 U	11 U	14 U	14 U
1,2-Dichloropropane	UG/KG	0	0%		0	0	114	8 U	12 U	10 U	11 U	14 U	14 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	8 U	12 U	10 U	11 U	14 U	14 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	8 U	12 U	10 U	11 U	14 U	14 U
Acetone	UG/KG	67	2%	200	0	2	106	39 U	60 U	49 U	53 U	68 U	68 U
Benzene	UG/KG	0	0%	60	0	0	114	8 U	12 U	10 U	11 U	14 U	14 U
Bromochloromethane	UG/KG	0	0%		0	0	114	8 U	12 U	10 U	11 U	14 U	14 U
Bromodichloromethane	UG/KG	0	0%		0	0	114	8 U	12 U	10 U	11 U	14 U	14 U
Bromoform	UG/KG	0	0%		0	0	114	8 U	12 U	10 U	11 U	14 U	14 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	8 U	12 U	10 U	11 U	14 U	14 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	8 U	12 U	10 U	11 U	14 U	14 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	8 U	12 U	10 U	11 U	14 U	14 U
Chlorodibromomethane	UG/KG	0	0%		0	0	114	8 U	12 U	10 U	11 U	14 U	14 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	16 U	24 U	20 U	21 U	27 U	27 U
Chloroform	UG/KG	0	0%	300	0	0	114	8 U	12 U	10 U	11 U	14 U	14 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		0	1	114	8 U	12 U	10 U	11 U	14 U	14 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	8 U	12 U	10 U	11 U	14 U	14 U
Cyclohexane	UG/KG	0	0%		0	0	114	8 U	12 U	10 U	11 U	14 U	14 U
Dichlorodifluoromethane	UG/KG	2	4%		0	5	114	8 U	12 U	10 U	11 U	14 U	14 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	8 U	12 U	10 U	11 U	14 U	14 U
Isopropylbenzene	UG/KG	0	0%		0	0	114	8 U	12 U	10 U	11 U	14 U	14 U
Methyl Acetate	UG/KG	0	0%		0	0	114	8 U	12 U	10 U	11 U	14 U	14 U
Methyl Tertbutyl Ether	UG/KG	0	0%		0	0	114	8 U	12 U	10 U	11 U	14 U	14 U
Methyl bromide	UG/KG	0	0%		0	0	88	16 UR	24 U	20 U	21 U	27 U	27 U
Methyl butyl ketone	UG/KG	0	0%		0	0	114	39 U	60 U	49 U	53 U	68 U	68 U
Methyl chloride	UG/KG	0	0%		0	0	114	16 U	24 U	20 U	21 U	27 U	27 U
Methyl cyclohexane	UG/KG	0	0%		0	0	114	8 U	12 U	10 U	11 U	14 U	14 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	39 U	60 U	49 U	53 U	68 U	68 U

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11							
LOCATION ID	11EXFLE201	11EXFLE201	11EXFLE301	11EXFLE401	11EXFLE501	11EXFLE601							
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL							
SAMPLE ID	11EXFLE201V	11EXFLE201V	11EXFLE301	11EXFLE401	11EXFLE501	11EXFLE601							
SAMPLE DEPTH TO TOP OF SAMPLE	0	0	0	0	0	0							
SAMPLE DEPTH TO BOTTOM OF SAMPLE	0.2	0.2	0.2	0.2	0.2	0.2							
SAMPLE DATE	11/17/2006	11/22/2006	11/22/2006	11/22/2006	11/22/2006	11/22/2006							
QC CODE	SA	SA	SA	SA	SA	SA							
STUDY ID	IRA	IRA	IRA	IRA	IRA	IRA							
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	39 U	60 U	49 U	53 U	68 U	
Methylene chloride	UG/KG	49	90%	100	0	103	114	22 J	39 J	30 J	31 J	44 J	
Styrene	UG/KG	0	0%		0	0	114	8 U	12 U	10 U	11 U	14 U	
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	8 U	12 U	10 U	11 U	14 U	
Toluene	UG/KG	0	0%	1,500	0	0	114	8 U	12 U	10 U	11 U	14 U	
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	24 U	36 U	29 U	32 U	41 U	
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	8 UJ	12 U	10 U	11 U	14 U	
Trans-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	8 U	12 U	10 U	11 U	14 U	
Trichloroethene	UG/KG	77	19%	700	0	22	114	8 U	12 U	10 U	11 U	14 U	
Trichlorofluoromethane	UG/KG	0	0%		0	0	114	8 UJ	12 U	10 U	11 U	14 U	
Vinyl chloride	UG/KG	0	0%	200	0	0	114	16 U	24 U	20 U	21 U	27 U	
Carcinogenic PAHs													
Benzo(a)anthracene	UG/KG	4,800	49%		0	58	119	390 U	400 U	26 J	410 U	400 U	
Benzo(a)pyrene	UG/KG	4,500	45%		0	54	119	390 U	400 U	400 U	410 U	400 U	
Benzo(b)fluoranthene	UG/KG	7,400	48%		0	57	119	390 U	400 U	400 U	410 U	400 U	
Benzo(k)fluoranthene	UG/KG	2,100	19%		0	23	119	390 U	400 U	400 U	410 U	400 U	
Chrysene	UG/KG	5,500	47%		0	56	119	390 U	400 U	400 U	410 U	400 U	
Dibenz(a,h)anthracene	UG/KG	850	30%		0	36	119	390 U	400 U	400 U	410 U	400 U	
Indeno(1,2,3-cd)pyrene	UG/KG	2,800	42%		0	50	119	390 U	400 U	400 U	410 U	400 U	
BTE (calculated)	MG/KG	7	100%	10 ^b	0	119	119	0.45	0.46	0.45	0.48	0.46	
Metals													
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	12300	13100 J	9580 J	10100 J	13500 J	
Antimony	MG/KG	11.3	18%	31	0	21	114	0.7 U	0.85 UJ	0.84 UJ	16.9 U	0.81 UJ	
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	5.7	7.8 J	19.5 J	5.3 J	5.1 J	
Barium	MG/KG	248	100%	5,370	0	114	114	139 J	87.6 J	105 J	72.7 J	91.2 J	
Beryllium	MG/KG	1	100%	150	0	114	114	0.62	0.68 J	0.53 J	0.47 J	0.65 J	
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.32	0.35 J	0.44 J	0.2 J	0.24 J	
Calcium	MG/KG	216,000	100%		0	114	114	2540	2600 J	2200 J	2870 J	6750 J	
Chromium	MG/KG	44.5	100%		0	113	113	16.9	20.7 J	17.1 J	15.5 J	20.2 J	
Cobalt	MG/KG	16.8	100%	903	0	114	114	9.7	16.8 J	10.4 J	9.6 J	10.7 J	
Copper	MG/KG	131	100%	3,130	0	114	114	13.6	22.3 J	26.2 J	19.1 J	18 J	
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	22500	30600 J	51100 J	21500 J	26100 J	
Lead	MG/KG	400	100%	400	0	113	113	11.3	18.8 J	64 J	11.2 J	16.1 J	
Magnesium	MG/KG	25200 ¹	100%		0	114	114	3100 J	4710 J	3220 J	3790 J	4640 J	
Manganese	MG/KG	1,540	100%	1,760	0	114	114	905	1380 J	377 J	420 J	637 J	
Mercury	MG/KG	0.327	99%	23	0	113	114	0.043	0.041	0.041	0.035	0.042	
Nickel	MG/KG	38.6	100%	1,560	0	114	114	22.6 J	38.6 J	28.7 J	26.5 J	27.9 J	
Potassium	MG/KG	1,750	100%		0	114	114	1070 J	1020 J	859 J	973 J	1250 J	
Selenium	MG/KG	3.4	25%	390	0	28	114	0.6 U	0.73 UJ	0.72 UJ	0.66 UJ	0.69 UJ	

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

		SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11						
FACILITY		SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11						
LOCATION ID		11EXFLE201	11EXFLE201	11EXFLE301	11EXFLE401	11EXFLE501	11EXFLE601						
MATRIX		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL						
SAMPLE ID		11EXFLE201	11EXFLE201V	11EXFLE301	11EXFLE401	11EXFLE501	11EXFLE601						
SAMPLE DEPTH TO TOP OF SAMPLE		0	0	0	0	0	0						
SAMPLE DEPTH TO BOTTOM OF SAMPLE		0.2	0.2	0.2	0.2	0.2	0.2						
SAMPLE DATE		11/17/2006	11/22/2006	11/22/2006	11/22/2006	11/22/2006	11/22/2006						
QC CODE		SA	SA	SA	SA	SA	SA						
STUDY ID		IRA	IRA	IRA	IRA	IRA	IRA						
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.15 U		0.19 UJ	0.64 J	0.17 UJ	0.18 UJ
Sodium	MG/KG	164	75%		0	86	114	46.3 J		40.2 J	53.9 J	41.1 J	42.3 J
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.67 U		0.82 UJ	0.8 UJ	0.74 UJ	0.77 UJ
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	21.3		22.3 J	19.4 J	18.3 J	22.6 J
Zinc	MG/KG	591	100%	23,500	0	114	114	82.7 J		108 J	143 J	79.1 J	93.7 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.

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.

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY	SEAD-11						SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	
LOCATION ID							11EXFLE701	11EXFLE801	11EXFLE802	11EXFLE901	11EXFLF1001	11EXFLF1101	
MATRIX							SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
SAMPLE ID							11EXFLE701	11EXFLE801	11EXFLE802	11EXFLE901	11EXFLF1001	11EXFLF1101	
SAMPLE DEPTH TO TOP OF SAMPLE							0	0	0	0	0	0	
SAMPLE DEPTH TO BOTTOM OF SAMPLE							0.2	0.2	0.2	0.2	0.2	0.2	
SAMPLE DATE							11/22/2006	11/10/2006	11/22/2006	11/9/2006	11/10/2006	11/10/2006	
QC CODE							SA	SA	SA	SA	SA	SA	
STUDY ID							IRA	IRA	IRA	IRA	IRA	IRA	
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	15 U	4 U	15 U	5 U	4 U	4 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	15 U	4 U	15 U	5 U	4 U	4 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		0	0	114	15 U	4 U	15 U	5 U	4 U	4 U
1,1,2-Trichloroethane	UG/KG	0	0%		0	0	114	15 U	4 U	15 U	5 U	4 U	4 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	15 U	4 U	15 U	5 U	4 U	4 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	15 U	4 U	15 U	5 U	4 U	4 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		0	0	114	15 U	4 U	15 U	5 U	4 U	4 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	15 U	4 U	15 U	5 U	4 U	4 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		0	0	114	15 U	4 U	15 U	5 U	4 U	4 U
1,2-Dibromoethane	UG/KG	0	0%		0	0	114	15 U	4 U	15 U	5 U	4 U	4 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	15 U	4 U	15 U	5 U	4 U	4 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	15 U	4 U	15 U	5 U	4 U	4 U
1,2-Dichloropropane	UG/KG	0	0%		0	0	114	15 U	4 U	15 U	5 U	4 U	4 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	15 U	4 U	15 U	5 U	4 U	4 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	15 U	4 U	15 U	5 U	4 U	4 U
Acetone	UG/KG	67	2%	200	0	2	106	74 U	21 U	76 U	25 UR	23 U	21 U
Benzene	UG/KG	0	0%	60	0	0	114	15 U	4 U	15 U	5 U	4 U	4 U
Bromochloromethane	UG/KG	0	0%		0	0	114	15 U	4 U	15 U	5 U	4 U	4 U
Bromodichloromethane	UG/KG	0	0%		0	0	114	15 U	4 U	15 U	5 U	4 U	4 U
Bromoform	UG/KG	0	0%		0	0	114	15 U	4 U	15 U	5 U	4 U	4 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	15 U	4 U	15 U	5 U	4 U	4 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	15 U	4 U	15 U	5 U	4 U	4 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	15 U	4 U	15 U	5 U	4 U	4 U
Chlorodibromomethane	UG/KG	0	0%		0	0	114	15 U	4 U	15 U	5 U	4 U	4 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	30 U	8 U	30 U	10 U	9 U	8 U
Chloroform	UG/KG	0	0%	300	0	0	114	15 U	4 U	15 U	5 U	4 U	4 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		0	1	114	15 U	2 J	15 U	5 U	4 U	4 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	15 U	4 U	15 U	5 U	4 U	4 U
Cyclohexane	UG/KG	0	0%		0	0	114	15 U	4 U	15 U	5 U	4 U	4 U
Dichlorodifluoromethane	UG/KG	2	4%		0	5	114	15 U	4 U	15 U	2 J	4 U	4 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	15 U	4 U	15 U	5 U	4 U	4 U
Isopropylbenzene	UG/KG	0	0%		0	0	114	15 U	4 U	15 U	5 U	4 U	4 U
Methyl Acetate	UG/KG	0	0%		0	0	114	15 U	4 U	15 U	5 UJ	4 U	4 U
Methyl Tertbutyl Ether	UG/KG	0	0%		0	0	114	15 U	4 U	15 U	5 UJ	4 U	4 U
Methyl bromide	UG/KG	0	0%		0	0	88	30 U	8 U	30 U	10 UR	9 U	8 U
Methyl butyl ketone	UG/KG	0	0%		0	0	114	74 U	21 U	76 U	25 U	23 U	21 U
Methyl chloride	UG/KG	0	0%		0	0	114	30 U	8 U	30 U	10 U	9 U	8 U
Methyl cyclohexane	UG/KG	0	0%		0	0	114	15 U	4 U	15 U	5 U	4 U	4 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	74 U	21 U	76 U	25 UJ	23 U	21 U

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY	SEAD-11												
LOCATION ID	SEAD-11		SEAD-11		SEAD-11		SEAD-11		SEAD-11		SEAD-11		
MATRIX	11EXFLE701		11EXFLE801		11EXFLE802		11EXFLE901		11EXFLF1001		11EXFLF1101		
SAMPLE ID	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		
SAMPLE DEPTH TO TOP OF SAMPLE	11EXFLE701		11EXFLE801		11EXFLE802		11EXFLE901		11EXFLF1001		11EXFLF1101		
SAMPLE DEPTH TO BOTTOM OF SAMPLE	0		0		0		0		0		0		
SAMPLE DATE	0.2		0.2		0.2		0.2		0.2		0.2		
QC CODE	11/22/2006		11/10/2006		11/22/2006		11/9/2006		11/10/2006		11/10/2006		
STUDY ID	SA		SA		SA		SA		SA		SA		
	IRA		IRA		IRA		IRA		IRA		IRA		
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal²	Number of Exceedances³	Number of Times Detected	Number of Samples Analyzed⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	74 U	21 U	76 U	25 U	23 U	21 U
Methylene chloride	UG/KG	49	90%	100	0	103	114	48 J	6 J	49 J	16	11 J	10 J
Styrene	UG/KG	0	0%		0	0	114	15 U	4 U	15 U	5 U	4 U	4 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	15 U	4 U	15 U	5 U	4 U	4 U
Toluene	UG/KG	0	0%	1,500	0	0	114	15 U	4 U	15 U	5 U	4 U	4 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	44 U	13 U	46 U	15 U	14 U	13 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	15 U	4 U	15 U	5 UJ	4 U	4 U
Trans-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	15 U	4 U	15 U	5 U	4 U	4 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	15 U	2 J	15 U	5 U	4 U	4 U
Trichlorofluoromethane	UG/KG	0	0%		0	0	114	15 U	4 U	15 U	5 U	4 U	4 U
Vinyl chloride	UG/KG	0	0%	200	0	0	114	30 U	8 U	30 U	10 U	9 U	8 U
Carcinogenic PAHs													
Benzo(a)anthracene	UG/KG	4,800	49%		0	58	119	410 U	390 U	400 U	73 J	69 J	44 J
Benzo(a)pyrene	UG/KG	4,500	45%		0	54	119	410 U	390 U	400 U	56 J	58 J	33 J
Benzo(b)fluoranthene	UG/KG	7,400	48%		0	57	119	410 U	390 U	400 U	74 J	99 J	46 J
Benzo(k)fluoranthene	UG/KG	2,100	19%		0	23	119	410 U	390 U	400 U	30 J	34 J	360 U
Chrysene	UG/KG	5,500	47%		0	56	119	410 U	390 U	400 U	68 J	78 J	41 J
Dibenz(a,h)anthracene	UG/KG	850	30%		0	36	119	410 U	390 U	400 U	400 U	360 U	360 U
Indeno(1,2,3-cd)pyrene	UG/KG	2,800	42%		0	50	119	410 U	390 U	400 U	38 J	46 J	23 J
BTE (calculated)	MG/KG	7	100%	10 ^b	0	119	119	0.48	0.45	0.46	0.28	0.26	0.23
Metals													
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	13000 J	13700	9580 J	11400	9470	11400
Antimony	MG/KG	11.3	18%	31	0	21	114	0.83 UJ	0.7 UJ	0.81 UJ	0.82 U	0.78 UJ	0.76 UJ
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	5.8 J	5.5	4.5 J	5.5	5	6.8
Barium	MG/KG	248	100%	5,370	0	114	114	127 J	88.3 J	73.9 J	71.1	44.7 J	65.2 J
Beryllium	MG/KG	1	100%	150	0	114	114	0.68 J	0.66	0.46 J	0.66	0.47	0.54
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.3 J	0.22	0.18 J	0.51	0.26	0.23
Calcium	MG/KG	216,000	100%		0	114	114	3080 J	3670	2730 J	4320	53300	34500
Chromium	MG/KG	44.5	100%		0	113	113	17.9 J	19.7	14.3 J	16.6 J	15.1	17
Cobalt	MG/KG	16.8	100%	903	0	114	114	9.7 J	9.2 J	8.6 J	8.9	8.9 J	10.4 J
Copper	MG/KG	131	100%	3,130	0	114	114	18.7 J	20.4	18 J	19.1	27.3	22
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	24500 J	25700	20000 J	22500	19900	23000
Lead	MG/KG	400	100%	400	0	113	113	13.6 J	11.5	9.3 J	13.8 J	9.5	11.1
Magnesium	MG/KG	25200 ¹	100%		0	114	114	3580 J	4490	3440 J	3670	15700	9250
Manganese	MG/KG	1,540	100%	1,760	0	114	114	1010 J	513 J	770 J	563	563 J	555 J
Mercury	MG/KG	0.327	99%	23	0	113	114	0.032	0.044	0.045	0.022	0.024	0.043
Nickel	MG/KG	38.6	100%	1,560	0	114	114	25 J	26.8 J	24.1 J	28.7 J	25.4 J	27.6 J
Potassium	MG/KG	1,750	100%		0	114	114	1220 J	1450 J	949 J	1100 J	1470 J	1640 J
Selenium	MG/KG	3.4	25%	390	0	28	114	0.71 UJ	1.6 J	0.69 UJ	0.7 U	1.2 J	1.8 J

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.18 UJ	0.15 U	0.18 UJ	0.18 U	0.17 U	0.17 U
Sodium	MG/KG	164	75%		0	86	114	58.8 J	53.7 J	54.3 J	34.5 J	115 J	106 J
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.8 UJ	1.2 J	0.77 UJ	0.78 U	1 J	1 J
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	22.3 J	23.6	17.1 J	18.9	16.7	18.6
Zinc	MG/KG	591	100%	23,500	0	114	114	77.7 J	84.7 J	74.7 J	95.7 J	133 J	81.9 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.

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.

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY	SEAD-11						SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	
LOCATION ID	11EXFLF201						11EXFLF301	11EXFLF401	11EXFLF501	11EXFLF601	11EXFLF701		
MATRIX	SOIL						SOIL	SOIL	SOIL	SOIL	SOIL		
SAMPLE ID	11EXFLF201						11EXFLF301	11EXFLF401	11EXFLF501	11EXFLF601	11EXFLF701		
SAMPLE DEPTH TO TOP OF SAMPLE	0						0	0	0	0	0		
SAMPLE DEPTH TO BOTTOM OF SAMPLE	0.2						0.2	0.2	0.2	0.2	0.2		
SAMPLE DATE	11/30/2006						11/27/2006	11/27/2006	11/27/2006	11/27/2006	11/27/2006		
QC CODE	SA						SA	SA	SA	SA	SA		
STUDY ID	IRA						IRA	IRA	IRA	IRA	IRA		
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
1,1,2-Trichloroethane	UG/KG	0	0%		0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
1,2-Dibromoethane	UG/KG	0	0%		0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
1,2-Dichloropropane	UG/KG	0	0%		0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
Acetone	UG/KG	67	2%	200	0	2	106	24 U	28 U	21 U	26 U	26 U	28 U
Benzene	UG/KG	0	0%	60	0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
Bromochloromethane	UG/KG	0	0%		0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
Bromodichloromethane	UG/KG	0	0%		0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
Bromoform	UG/KG	0	0%		0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
Chlorodibromomethane	UG/KG	0	0%		0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	9 U	11 U	8 U	10 U	10 U	11 U
Chloroform	UG/KG	0	0%	300	0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		0	1	114	5 U	6 U	4 U	5 U	5 U	6 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
Cyclohexane	UG/KG	0	0%		0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
Dichlorodifluoromethane	UG/KG	2	4%		0	5	114	5 U	6 U	4 U	5 U	5 U	6 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
Isopropylbenzene	UG/KG	0	0%		0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
Methyl Acetate	UG/KG	0	0%		0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
Methyl Tertbutyl Ether	UG/KG	0	0%		0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
Methyl bromide	UG/KG	0	0%		0	0	88	9 UJ	11 UJ	8 UJ	10 UJ	10 UJ	11 UJ
Methyl butyl ketone	UG/KG	0	0%		0	0	114	24 U	28 U	21 U	26 U	26 U	28 U
Methyl chloride	UG/KG	0	0%		0	0	114	9 U	11 U	8 U	10 U	10 U	11 U
Methyl cyclohexane	UG/KG	0	0%		0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	24 U	28 U	21 U	26 U	26 U	28 U

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY	SEAD-11												
LOCATION ID	SEAD-11		SEAD-11		SEAD-11		SEAD-11		SEAD-11		SEAD-11		
	11EXFLF201	11EXFLF301	11EXFLF401	11EXFLF501	11EXFLF601	11EXFLF701							
MATRIX	SOIL												
SAMPLE ID	SEAD-11		SEAD-11		SEAD-11		SEAD-11		SEAD-11		SEAD-11		
	11EXFLF201	11EXFLF301	11EXFLF401	11EXFLF501	11EXFLF601	11EXFLF701							
SAMPLE DEPTH TO TOP OF SAMPLE	0												
SAMPLE DEPTH TO BOTTOM OF SAMPLE	0.2												
SAMPLE DATE	11/30/2006		11/27/2006		11/27/2006		11/27/2006		11/27/2006		11/27/2006		
QC CODE	SA												
STUDY ID	IRA												
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	24 U	28 U	21 U	26 U	26 U	28 U
Methylene chloride	UG/KG	49	90%	100	0	103	114	9 J	7 J	5 J	6 J	6 J	5 J
Styrene	UG/KG	0	0%		0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	5 U	6 U	4 U	5 U	5 U	6 U
Toluene	UG/KG	0	0%	1,500	0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	14 U	17 U	13 U	16 U	15 U	16 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
Trans-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	5 U	6 U	4 U	5 U	5 U	6 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	5 U	6 U	4 U	6	77	6 U
Trichlorofluoromethane	UG/KG	0	0%		0	0	114	5 UJ	6 U	4 U	5 U	5 U	6 U
Vinyl chloride	UG/KG	0	0%	200	0	0	114	9 U	11 U	8 U	10 U	10 U	11 U
Carcinogenic PAHs													
Benzo(a)anthracene	UG/KG	4,800	49%		0	58	119	390 U	400 U	370 U	400 U	400 U	400 U
Benzo(a)pyrene	UG/KG	4,500	45%		0	54	119	390 U	400 U	370 U	400 U	400 U	400 U
Benzo(b)fluoranthene	UG/KG	7,400	48%		0	57	119	390 U	400 U	370 U	400 U	400 U	400 U
Benzo(k)fluoranthene	UG/KG	2,100	19%		0	23	119	390 U	400 U	370 U	400 U	400 U	400 U
Chrysene	UG/KG	5,500	47%		0	56	119	390 U	400 U	370 U	400 U	400 U	400 U
Dibenz(a,h)anthracene	UG/KG	850	30%		0	36	119	390 U	400 U	370 U	400 U	400 U	400 U
Indeno(1,2,3-cd)pyrene	UG/KG	2,800	42%		0	50	119	390 U	400 U	370 U	400 U	400 U	400 U
BTE (calculated)	MG/KG	7	100%	10 ^b	0	119	119	0.45	0.46	0.43	0.46	0.46	0.46
Metals													
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	13600 J	7620 J	6780 J	10200 J	9070 J	12200 J
Antimony	MG/KG	11.3	18%	31	0	21	114	0.65 U	0.79 UJ	0.77 UJ	0.76 UJ	0.78 UJ	0.72 UJ
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	6.4	4.1	4.1	5.1	4.7	6
Barium	MG/KG	248	100%	5,370	0	114	114	71.7 J	54.5 J	45.6 J	66.5 J	73.5 J	77.2 J
Beryllium	MG/KG	1	100%	150	0	114	114	0.6	0.37	0.4	0.42	0.44	0.55
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.23 U	0.27	0.37	0.32	0.25	0.35
Calcium	MG/KG	216,000	100%		0	114	114	2010 J	2230 J	64100 J	1650 J	2430 J	2240 J
Chromium	MG/KG	44.5	100%		0	113	113	21 J	11.9 J	10.8 J	15.4 J	14 J	18.1 J
Cobalt	MG/KG	16.8	100%	903	0	114	114	10.2	6.6 J	7.4 J	9.3 J	8.1 J	9.3 J
Copper	MG/KG	131	100%	3,130	0	114	114	25.9	12	17.6	14.3	14.3	16.9
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	29300	16300 J	15000 J	21100 J	18800 J	24800 J
Lead	MG/KG	400	100%	400	0	113	113	13.9	9.6 J	13.4 J	10.1 J	11.8 J	12.4 J
Magnesium	MG/KG	25200 ¹	100%		0	114	114	4330	2760 J	12100 J	3370 J	3160 J	3780 J
Manganese	MG/KG	1,540	100%	1,760	0	114	114	332	478 J	461 J	837 J	393 J	533 J
Mercury	MG/KG	0.327	99%	23	0	113	114	0.033	0.038	0.011 J	0.033	0.037	0.028
Nickel	MG/KG	38.6	100%	1,560	0	114	114	29.6	18.5 J	20.2 J	23.5 J	21.5 J	25.9 J
Potassium	MG/KG	1,750	100%		0	114	114	1220	835 J	1040 J	982 J	899 J	1130 J
Selenium	MG/KG	3.4	25%	390	0	28	114	0.47 U	0.67 U	0.66 U	0.65 U	0.66 U	0.62 U

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.58 U	0.17 U	0.17 U	0.17 U	0.17 U	0.53 U
Sodium	MG/KG	164	75%		0	86	114	34.6 J	33.2 J	104 J	32.2 J	37.1 J	43.5 J
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.57 U	0.75 U	0.74 U	0.73 U	0.74 U	0.69 U
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	24 J	13.6 J	12.8 J	18 J	15.8 J	20.9 J
Zinc	MG/KG	591	100%	23,500	0	114	114	99.8 J	59.6 J	86.9 J	81.5 J	113 J	103 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.

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.

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY														
LOCATION ID														
MATRIX														
SAMPLE ID														
SAMPLE DEPTH TO TOP OF SAMPLE														
SAMPLE DEPTH TO BOTTOM OF SAMPLE														
SAMPLE DATE														
QC CODE														
STUDY ID														
	Maximum	Frequency	Cleanup	Number	Number	Number	IRA	IRA	IRA	IRA	IRA	IRA		
Parameter	Units	Value	Detection	Goal ²	Exceedances ³	of Times	Detected	Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds														
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	0	114	7 U	7 U	4 U	4 U	4 U	5 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	0	114	7 U	7 U	4 U	4 U	4 U	5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		0	0	0	114	7 U	7 U	4 U	4 U	4 U	5 U
1,1,2-Trichloroethane	UG/KG	0	0%		0	0	0	114	7 U	7 U	4 U	4 U	4 U	5 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	0	114	7 U	7 U	4 U	4 U	4 U	5 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	0	114	7 U	7 U	4 U	4 U	4 U	5 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		0	0	0	114	7 UJ	7 U	4 U	4 U	4 U	5 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	0	114	7 UJ	7 U	4 U	4 U	4 U	5 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		0	0	0	114	7 U	7 U	4 U	4 U	4 U	5 U
1,2-Dibromoethane	UG/KG	0	0%		0	0	0	114	7 U	7 U	4 U	4 U	4 U	5 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	0	114	7 U	7 U	4 U	4 U	4 U	5 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	0	114	7 U	7 U	4 U	4 U	4 U	5 U
1,2-Dichloropropane	UG/KG	0	0%		0	0	0	114	7 U	7 U	4 U	4 U	4 U	5 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	0	114	7 U	7 U	4 U	4 U	4 U	5 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	0	114	7 U	7 U	4 U	4 U	4 U	5 U
Acetone	UG/KG	67	2%	200	0	2	2	106	34 U	37 U	22 U	22 U	21 U	25 U
Benzene	UG/KG	0	0%	60	0	0	0	114	7 U	7 U	4 U	4 U	4 U	5 U
Bromochloromethane	UG/KG	0	0%		0	0	0	114	7 U	7 U	4 U	4 U	4 U	5 U
Bromodichloromethane	UG/KG	0	0%		0	0	0	114	7 U	7 U	4 U	4 U	4 U	5 U
Bromoform	UG/KG	0	0%		0	0	0	114	7 U	7 U	4 U	4 U	4 U	5 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	0	114	7 U	7 U	4 U	4 U	4 U	5 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	0	114	7 UJ	7 U	4 U	4 U	4 UJ	5 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	0	114	7 U	7 U	4 U	4 U	4 U	5 U
Chlorodibromomethane	UG/KG	0	0%		0	0	0	114	7 U	7 U	4 U	4 U	4 U	5 U
Chloroethane	UG/KG	0	0%	1,900	0	0	0	114	13 U	15 U	9 U	9 U	8 UJ	10 U
Chloroform	UG/KG	0	0%	300	0	0	0	114	7 U	7 U	4 U	4 U	4 U	5 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		0	1	1	114	7 U	7 U	4 U	4 U	4 U	5 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		0	0	0	114	7 U	7 U	4 U	4 U	4 U	5 U
Cyclohexane	UG/KG	0	0%		0	0	0	114	7 U	7 U	4 U	4 U	4 U	5 U
Dichlorodifluoromethane	UG/KG	2	4%		0	5	5	114	7 U	7 U	4 U	4 U	4 U	5 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	0	114	7 U	7 U	4 U	4 U	4 U	5 U
Isopropylbenzene	UG/KG	0	0%		0	0	0	114	7 U	7 U	4 U	4 U	4 U	5 U
Methyl Acetate	UG/KG	0	0%		0	0	0	114	7 U	7 U	4 U	4 U	4 U	5 U
Methyl Tertbutyl Ether	UG/KG	0	0%		0	0	0	114	7 UJ	7 U	4 U	4 U	4 UJ	5 U
Methyl bromide	UG/KG	0	0%		0	0	0	88	13 UJ	15 UJ	9 UJ	9 UJ	8 U	10 UJ
Methyl butyl ketone	UG/KG	0	0%		0	0	0	114	34 U	37 U	22 U	22 U	21 U	25 U
Methyl chloride	UG/KG	0	0%		0	0	0	114	13 U	15 U	9 U	9 U	8 U	10 U
Methyl cyclohexane	UG/KG	0	0%		0	0	0	114	7 U	7 U	4 U	4 U	4 U	5 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	0	114	34 U	37 U	22 U	22 U	21 U	25 U

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11							
LOCATION ID	11EXFLF801	11EXFLF901	11EXFLG1001	11EXFLG1101	11EXFLG1101	11EXFLG201							
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL							
SAMPLE ID	11EXFLF801	11EXFLF901	11EXFLG1001	11EXFLG1102	11EXFLG1101	11EXFLG201							
SAMPLE DEPTH TO TOP OF SAMPLE	0	0	0	0	0	0							
SAMPLE DEPTH TO BOTTOM OF SAMPLE	0.2	0.2	0.2	0.2	0.2	0.2							
SAMPLE DATE	12/7/2006	11/27/2006	11/28/2006	11/28/2006	11/28/2006	11/30/2006							
QC CODE	SA	SA	SA	DU	SA	SA							
STUDY ID	IRA	IRA	IRA	IRA	IRA	IRA							
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	34 U	37 U	22 U	22 U	21 U	25 U
Methylene chloride	UG/KG	49	90%	100	0	103	114	11 J	9 J	6 J	4 J	5 J	12 J
Styrene	UG/KG	0	0%		0	0	114	7 U	7 U	4 U	4 U	4 U	5 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	7 U	7 U	4 U	4 U	4 U	5 U
Toluene	UG/KG	0	0%	1,500	0	0	114	7 U	7 U	4 U	4 U	4 U	5 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	20 U	22 U	14 U	13 U	13 U	15 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	7 UJ	7 U	4 U	4 U	4 UJ	5 U
Trans-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	7 U	7 U	4 U	4 U	4 U	5 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	7 U	8	30	10	13	5 U
Trichlorofluoromethane	UG/KG	0	0%		0	0	114	7 U	7 U	4 U	4 U	4 U	5 UJ
Vinyl chloride	UG/KG	0	0%	200	0	0	114	13 U	15 U	9 U	9 U	8 U	10 U
Carcinogenic PAHs													
Benzo(a)anthracene	UG/KG	4,800	49%		0	58	119	3600	110 J	360 U	33 J	120 J	46 J
Benzo(a)pyrene	UG/KG	4,500	45%		0	54	119	3000	110 J	360 U	25 J	99 J	41 J
Benzo(b)fluoranthene	UG/KG	7,400	48%		0	57	119	5000 J	210 J	360 U	26 J	120 J	56 J
Benzo(k)fluoranthene	UG/KG	2,100	19%		0	23	119	2000 UJ	400 UJ	360 U	380 U	64 J	24 J
Chrysene	UG/KG	5,500	47%		0	56	119	3500	140 J	360 U	38 J	110 J	42 J
Dibenz(a,h)anthracene	UG/KG	850	30%		0	36	119	540 J	400 U	360 U	380 U	370 U	390 U
Indeno(1,2,3-cd)pyrene	UG/KG	2,800	42%		0	50	119	1800 J	75 J	360 U	380 U	62 J	30 J
BTE (calculated)	MG/KG	7	100%	10 ^b	0	119	119	4.63	0.35	0.42	0.24	0.32	0.25
Metals													
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	12500 J	8140 J	7800 J	9650 J	10600 J	12200 J
Antimony	MG/KG	11.3	18%	31	0	21	114	0.88 UJ	3.2 J	1.6 J	0.77 UJ	0.75 UJ	0.64 U
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	6.5	5.1	4.3	6.1	5.8	6.2
Barium	MG/KG	248	100%	5,370	0	114	114	85.2 J	78 J	62.9 J	49.4 J	57 J	68.7 J
Beryllium	MG/KG	1	100%	150	0	114	114	0.63	0.4	0.4	0.46	0.49	0.6
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.47	0.64	0.19 J	0.32	0.34	0.23 U
Calcium	MG/KG	216,000	100%		0	114	114	4220 J	31900 J	60600 J	48300 J	54300 J	1810 J
Chromium	MG/KG	44.5	100%		0	113	113	18.7 J	22.4 J	13.6 J	15.4 J	17.1 J	19.1 J
Cobalt	MG/KG	16.8	100%	903	0	114	114	9.3 J	8.4 J	8.3 J	10.1 J	10.9 J	10.3
Copper	MG/KG	131	100%	3,130	0	114	114	22.1	39.1	18.2	19.9	22.4	23.1
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	24800 J	28200 J	17500 J	22600 J	22900 J	24600
Lead	MG/KG	400	100%	400	0	113	113	16.9 J	141 J	8.3 J	10.9 J	14.1 J	12.8
Magnesium	MG/KG	25200 ¹	100%		0	114	114	4210 J	6630 J	12400 J	8880 J	12000 J	4620
Manganese	MG/KG	1,540	100%	1,760	0	114	114	612 J	530 J	478 J	493 J	655 J	538
Mercury	MG/KG	0.327	99%	23	0	113	114	0.051 J	0.039	0.01 J	0.016 J	0.014 J	0.042
Nickel	MG/KG	38.6	100%	1,560	0	114	114	26.7 J	22.7 J	21.6 J	26.8 J	28.6 J	27.9
Potassium	MG/KG	1,750	100%		0	114	114	1300 J	985 J	1110 J	1090 J	1130 J	1440
Selenium	MG/KG	3.4	25%	390	0	28	114	0.75 UJ	0.63 U	0.63 U	0.66 U	0.64 U	0.45 U

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.19 U	0.53 U	0.16 U	0.56 U	0.54 U	0.09 U
Sodium	MG/KG	164	75%		0	86	114	59.2 J	74.1 J	105 J	99.8 J	92.2 J	22.7 U
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.84 U	0.7 U	0.7 U	0.73 U	0.71 U	0.56 U
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	21.5 J	15 J	13.9 J	16.1 J	17.3 J	21.1 J
Zinc	MG/KG	591	100%	23,500	0	114	114	97.5 J	196 J	62.2 J	83.7 J	90.7 J	88.4 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.

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.

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY	SEAD-11						SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	
LOCATION ID	11EXFLG301						11EXFLG401	11EXFLG501	11EXFLG601	11EXFLG701	11EXFLG801	11EXFLG801	
MATRIX	SOIL						SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
SAMPLE ID	11EXFLG301						11EXFLG401	11EXFLG501	11EXFLG601	11EXFLG701	11EXFLG801	11EXFLG801	
SAMPLE DEPTH TO TOP OF SAMPLE	0						0	0	0	0	0	0	
SAMPLE DEPTH TO BOTTOM OF SAMPLE	0.2						0.2	0.2	0.2	0.2	0.2	0.2	
SAMPLE DATE	12/4/2006						12/4/2006	12/4/2006	12/4/2006	12/4/2006	12/4/2006	11/27/2006	
QC CODE	SA						SA	SA	SA	SA	SA	SA	
STUDY ID	IRA						IRA	IRA	IRA	IRA	IRA	IRA	
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
1,1,2-Trichloroethane	UG/KG	0	0%		0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
1,2-Dibromoethane	UG/KG	0	0%		0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
1,2-Dichloropropane	UG/KG	0	0%		0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
Acetone	UG/KG	67	2%	200	0	2	106	32 U	24 U	20 UJ	21 UJ	28 UJ	26 U
Benzene	UG/KG	0	0%	60	0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
Bromochloromethane	UG/KG	0	0%		0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
Bromodichloromethane	UG/KG	0	0%		0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
Bromoform	UG/KG	0	0%		0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
Chlorodibromomethane	UG/KG	0	0%		0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	13 U	10 U	8 UJ	8 UJ	11 UJ	10 U
Chloroform	UG/KG	0	0%	300	0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		0	1	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
Cyclohexane	UG/KG	0	0%		0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
Dichlorodifluoromethane	UG/KG	2	4%		0	5	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
Isopropylbenzene	UG/KG	0	0%		0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
Methyl Acetate	UG/KG	0	0%		0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
Methyl Tertbutyl Ether	UG/KG	0	0%		0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
Methyl bromide	UG/KG	0	0%		0	0	88	13 UJ	10 UJ	8 UJ	8 UJ	11 UJ	10 UJ
Methyl butyl ketone	UG/KG	0	0%		0	0	114	32 U	24 U	20 UJ	21 UJ	28 UJ	26 U
Methyl chloride	UG/KG	0	0%		0	0	114	13 U	10 U	8 UJ	8 UJ	11 UJ	10 U
Methyl cyclohexane	UG/KG	0	0%		0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	32 U	24 U	20 UJ	21 UJ	28 UJ	26 U

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY		SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	
LOCATION ID		11EXFLG301	11EXFLG401	11EXFLG501	11EXFLG601	11EXFLG701	11EXFLG801						
MATRIX		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL						
SAMPLE ID		11EXFLG301	11EXFLG401	11EXFLG501	11EXFLG601	11EXFLG701	11EXFLG801						
SAMPLE DEPTH TO TOP OF SAMPLE		0	0	0	0	0	0						
SAMPLE DEPTH TO BOTTOM OF SAMPLE		0.2	0.2	0.2	0.2	0.2	0.2						
SAMPLE DATE		12/4/2006	12/4/2006	12/4/2006	12/4/2006	12/4/2006	12/4/2006					11/27/2006	
QC CODE		SA	SA	SA	SA	SA	SA					SA	
STUDY ID		IRA	IRA	IRA	IRA	IRA	IRA					IRA	
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	32 U	24 U	20 UJ	21 UJ	28 UJ	26 U
Methylene chloride	UG/KG	49	90%	100	0	103	114	8 J	8 J	6 J	6 J	7 J	7 J
Styrene	UG/KG	0	0%		0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
Toluene	UG/KG	0	0%	1,500	0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	19 U	15 U	12 UJ	13 UJ	17 UJ	16 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
Trans-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	6	4 J	2 J	4 UJ	6 UJ	5 U
Trichlorofluoromethane	UG/KG	0	0%		0	0	114	6 U	5 U	4 UJ	4 UJ	6 UJ	5 U
Vinyl chloride	UG/KG	0	0%	200	0	0	114	13 U	10 U	8 UJ	8 UJ	11 UJ	10 U
Carcinogenic PAHs													
Benzo(a)anthracene	UG/KG	4,800	49%		0	58	119	380 U	390 U	360 U	380 U	410 U	27 J
Benzo(a)pyrene	UG/KG	4,500	45%		0	54	119	380 U	390 U	360 U	380 U	410 U	20 J
Benzo(b)fluoranthene	UG/KG	7,400	48%		0	57	119	380 U	390 U	360 U	380 U	410 U	24 J
Benzo(k)fluoranthene	UG/KG	2,100	19%		0	23	119	380 U	390 U	360 U	380 U	410 U	380 U
Chrysene	UG/KG	5,500	47%		0	56	119	380 U	390 U	360 U	380 U	410 U	24 J
Dibenz(a,h)anthracene	UG/KG	850	30%		0	36	119	380 U	390 U	360 U	380 U	410 U	380 U
Indeno(1,2,3-cd)pyrene	UG/KG	2,800	42%		0	50	119	380 U	390 U	360 U	380 U	410 U	380 U
BTE (calculated)	MG/KG	7	100%	10 ^b	0	119	119	0.44	0.45	0.42	0.44	0.48	0.24
Metals													
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	8700 J	6690 J	3600 J	6900 J	12500 J	14300 J
Antimony	MG/KG	11.3	18%	31	0	21	114	0.87 U	0.79 U	0.73 U	0.83 U	0.85 U	0.7 UJ
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	3.6	4.1	2.6	7.4	6.4	6.7
Barium	MG/KG	248	100%	5,370	0	114	114	59.1 J	43.5 J	23.3 J	40 J	107 J	89.7 J
Beryllium	MG/KG	1	100%	150	0	114	114	0.47	0.44	0.3	0.48	0.73	0.62
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.33	0.3	0.06 U	0.07 U	0.23 J	0.35
Calcium	MG/KG	216,000	100%		0	114	114	2990 J	47900 J	51700 J	45500 J	4580 J	2430 J
Chromium	MG/KG	44.5	100%		0	113	113	13.9 J	10.2 J	5.5 J	11 J	18.5 J	20.5 J
Cobalt	MG/KG	16.8	100%	903	0	114	114	6 J	6 J	4.2 J	8.2 J	10.8 J	10.7 J
Copper	MG/KG	131	100%	3,130	0	114	114	12.9 J	16.3 J	10 J	20.5 J	21.1 J	26.2
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	17600 J	15100 J	8760 J	19900 J	26200 J	28100 J
Lead	MG/KG	400	100%	400	0	113	113	9.9 J	7.5 J	4.7 J	11.7 J	23.8 J	14.7 J
Magnesium	MG/KG	25200 ¹	100%		0	114	114	3210 J	6550 J	6630 J	9630 J	4090 J	4300 J
Manganese	MG/KG	1,540	100%	1,760	0	114	114	233 J	334 J	212 J	448 J	1280 J	596 J
Mercury	MG/KG	0.327	99%	23	0	113	114	0.031 J	0.016 J	0.005 UJ	0.011 J	0.07	0.045
Nickel	MG/KG	38.6	100%	1,560	0	114	114	19.4 J	18 J	10.2 J	21 J	30.1 J	27.7 J
Potassium	MG/KG	1,750	100%		0	114	114	1020 J	913 J	656 J	924 J	1080 J	1530 J
Selenium	MG/KG	3.4	25%	390	0	28	114	0.74 U	0.67 U	0.62 U	0.71 U	0.73 U	0.6 U

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.63 U	0.57 U	0.53 U	0.6 U	0.61 U	0.51 U
Sodium	MG/KG	164	75%		0	86	114	36.5 U	85.7 J	55.8 J	76.2 J	35.7 U	32.9 J
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.83 U	0.75 U	0.7 U	0.8 U	0.81 U	0.67 U
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	15.8 J	13.5 J	7.6 J	14.3 J	22.2 J	24.8 J
Zinc	MG/KG	591	100%	23,500	0	114	114	136 J	107 J	33.6 J	67.5 J	112 J	96.2 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.

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.

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY													
LOCATION ID								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
MATRIX								11EXFLG901	11EXFLH1001	11EXFLH1101	11EXFLH301	11EXFLH401	11EXPRH401
SAMPLE ID								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH TO TOP OF SAMPLE								11EXFLG901	11EXFLH1001	11EXFLH1101	11EXFLH301	11EXFLH401	11EXFLH402
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0	0	0	0	0	0
SAMPLE DATE								0.2	0.2	0.2	0.2	0.2	0.2
QC CODE								11/27/2006	11/27/2006	11/28/2006	12/4/2006	12/4/2006	1/5/2007
STUDY ID								SA	SA	SA	SA	SA	SA
								IRA	IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	5 U	5 U	4 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	5 U	5 U	4 U	5 U	5 U	5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		0	0	114	5 U	5 U	4 U	5 U	5 U	5 U
1,1,2-Trichloroethane	UG/KG	0	0%		0	0	114	5 U	5 U	4 U	5 U	5 U	5 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	5 U	5 U	4 U	5 U	5 U	5 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	5 U	5 U	4 U	5 U	5 U	5 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		0	0	114	5 U	5 U	4 U	5 U	5 U	5 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	5 U	5 U	4 U	5 U	5 U	5 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		0	0	114	5 U	5 U	4 U	5 U	5 U	5 U
1,2-Dibromoethane	UG/KG	0	0%		0	0	114	5 U	5 U	4 U	5 U	5 U	5 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	5 U	5 U	4 U	5 U	5 U	5 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	5 U	5 U	4 U	5 U	5 U	5 U
1,2-Dichloropropane	UG/KG	0	0%		0	0	114	5 U	5 U	4 U	5 U	5 U	5 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	5 U	5 U	4 U	5 U	5 U	5 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	5 U	5 U	4 U	5 U	5 U	5 U
Acetone	UG/KG	67	2%	200	0	2	106	25 U	26 U	21 U	24 U	25 U	25 U
Benzene	UG/KG	0	0%	60	0	0	114	5 U	5 U	4 U	5 U	5 U	5 U
Bromochloromethane	UG/KG	0	0%		0	0	114	5 U	5 U	4 U	5 U	5 U	5 U
Bromodichloromethane	UG/KG	0	0%		0	0	114	5 U	5 U	4 U	5 U	5 U	5 U
Bromoform	UG/KG	0	0%		0	0	114	5 U	5 U	4 U	5 U	5 U	5 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	5 U	5 U	4 U	5 U	5 U	5 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	5 U	5 U	4 U	5 U	5 U	5 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	5 U	5 U	4 U	5 U	5 U	5 U
Chlorodibromomethane	UG/KG	0	0%		0	0	114	5 U	5 U	4 U	5 U	5 U	5 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	10 U	10 U	8 U	10 U	10 U	10 U
Chloroform	UG/KG	0	0%	300	0	0	114	5 U	5 U	4 U	5 U	5 U	5 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		0	1	114	5 U	5 U	4 U	5 U	5 U	5 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	5 U	5 U	4 U	5 U	5 U	5 U
Cyclohexane	UG/KG	0	0%		0	0	114	5 U	5 U	4 U	5 U	5 U	5 U
Dichlorodifluoromethane	UG/KG	2	4%		0	5	114	5 U	5 U	4 U	5 U	5 U	5 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	5 U	5 U	4 U	5 U	5 U	5 U
Isopropylbenzene	UG/KG	0	0%		0	0	114	5 U	5 U	4 U	5 U	5 U	5 U
Methyl Acetate	UG/KG	0	0%		0	0	114	5 U	5 U	4 U	5 U	5 U	5 U
Methyl Tertbutyl Ether	UG/KG	0	0%		0	0	114	5 U	5 U	4 U	5 U	5 U	5 U
Methyl bromide	UG/KG	0	0%		0	0	88	10 UJ	10 UJ	8 UJ	10 UJ	10 UJ	10 UJ
Methyl butyl ketone	UG/KG	0	0%		0	0	114	25 U	26 U	21 U	24 U	25 U	25 U
Methyl chloride	UG/KG	0	0%		0	0	114	10 U	10 U	8 U	10 U	10 U	10 U
Methyl cyclohexane	UG/KG	0	0%		0	0	114	5 U	5 U	4 U	5 U	5 U	5 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	25 U	26 U	21 U	24 U	25 U	25 U

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY													
LOCATION ID								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXFLG901	11EXFLH1001	11EXFLH1101	11EXFLH301	11EXFLH401	11EXPRH401
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								11/27/2006	11/27/2006	11/28/2006	12/4/2006	12/4/2006	1/5/2007
QC CODE								SA	SA	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	25 U	26 U	21 U	24 U	25 U	
Methylene chloride	UG/KG	49	90%	100	0	103	114	6 J	7 J	5 J	6 J	6 J	
Styrene	UG/KG	0	0%		0	0	114	5 U	5 U	4 U	5 U	5 U	
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	5 U	5 U	4 U	5 U	5 U	
Toluene	UG/KG	0	0%	1,500	0	0	114	5 U	5 U	4 U	5 U	5 U	
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	15 U	16 U	13 U	15 U	15 U	
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	5 U	5 U	4 U	5 U	5 U	
Trans-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	5 U	5 U	4 U	5 U	5 U	
Trichloroethene	UG/KG	77	19%	700	0	22	114	2 J	8	4 U	5 U	2 J	
Trichlorofluoromethane	UG/KG	0	0%		0	0	114	5 U	5 U	4 U	5 U	5 U	
Vinyl chloride	UG/KG	0	0%	200	0	0	114	10 U	10 U	8 U	10 U	10 U	
Carcinogenic PAHs													
Benzo(a)anthracene	UG/KG	4,800	49%		0	58	119	390 U	380 U	340 U	410 U	380 U	180 J
Benzo(a)pyrene	UG/KG	4,500	45%		0	54	119	390 U	380 U	340 U	410 U	380 U	140 J
Benzo(b)fluoranthene	UG/KG	7,400	48%		0	57	119	390 U	380 U	340 U	410 U	380 U	240 J
Benzo(k)fluoranthene	UG/KG	2,100	19%		0	23	119	390 U	380 U	340 U	410 U	380 U	360 UJ
Chrysene	UG/KG	5,500	47%		0	56	119	390 U	380 U	340 U	410 U	380 U	140 J
Dibenz(a,h)anthracene	UG/KG	850	30%		0	36	119	390 U	380 U	340 U	410 U	380 U	25 J
Indeno(1,2,3-cd)pyrene	UG/KG	2,800	42%		0	50	119	390 U	380 U	340 U	410 U	380 U	80 J
BTE (calculated)	MG/KG	7	100%	10 ^b	0	119	119	0.45	0.44	0.39	0.48	0.44	0.22
Metals													
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	7000 J	13400 J	9560 J	13300 J	11600 J	
Antimony	MG/KG	11.3	18%	31	0	21	114	0.72 UJ	6.8 J	0.63 UJ	0.83 U	2.3 J	
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	4.3	4.1	4.4	5.2	5.7	
Barium	MG/KG	248	100%	5,370	0	114	114	46.7 J	83.6 J	51.4 J	111 J	78.7 J	
Beryllium	MG/KG	1	100%	150	0	114	114	0.35	0.58	0.43	0.69	0.72	
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.26	0.19 J	0.21	0.08 J	0.07 U	
Calcium	MG/KG	216,000	100%		0	114	114	30500 J	25500 J	30500 J	3970 J	13000 J	
Chromium	MG/KG	44.5	100%		0	113	113	11.5 J	18.3 J	14.8 J	20.5 J	17.7 J	
Cobalt	MG/KG	16.8	100%	903	0	114	114	6.8 J	8.5 J	7.9 J	9.1 J	10.5 J	
Copper	MG/KG	131	100%	3,130	0	114	114	17	20	18.7	13.7 J	21.1	
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	14700 J	21800 J	19400 J	25500 J	26400 J	
Lead	MG/KG	400	100%	400	0	113	113	37.5 J	15.9 J	9 J	12.4 J	15 J	
Magnesium	MG/KG	25200 ¹	100%		0	114	114	9050 J	6170 J	7440 J	4130 J	5620 J	
Manganese	MG/KG	1,540	100%	1,760	0	114	114	391 J	319 J	404 J	371 J	688 J	
Mercury	MG/KG	0.327	99%	23	0	113	114	0.023	0.027	0.007 J	0.053	0.027 J	
Nickel	MG/KG	38.6	100%	1,560	0	114	114	17.6 J	26.7 J	23.4 J	21.7 J	27.2 J	
Potassium	MG/KG	1,750	100%		0	114	114	931 J	1500 J	1140 J	1220 J	998 J	
Selenium	MG/KG	3.4	25%	390	0	28	114	0.61 U	0.68 U	0.54 U	0.71 U	0.7 U	

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.52 U	0.57 U	0.46 U	0.6 U	0.59 U	
Sodium	MG/KG	164	75%		0	86	114	63.4 J	59.9 J	68.4 J	41.3 J	34.4 U	
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.68 U	0.76 U	0.6 U	0.79 U	0.78 U	
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	12.1 J	22 J	15.4 J	23 J	19.8 J	
Zinc	MG/KG	591	100%	23,500	0	114	114	96.7 J	67.1 J	61.7 J	94.4 J	90.3 J	

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.

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.

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY	SEAD-11						SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	
LOCATION ID							11EXFLH501	11EXFLH601	11EXFLH701	11EXFLH801	11EXFLH901	11EXFLH001	
MATRIX							SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
SAMPLE ID							11EXFLH501	11EXFLH601	11EXFLH701	11EXFLH801	11EXFLH901	11EXFLH001	
SAMPLE DEPTH TO TOP OF SAMPLE							0	0	0	0	0	0	
SAMPLE DEPTH TO BOTTOM OF SAMPLE							0.2	0.2	0.2	0.2	0.2	0.2	
SAMPLE DATE							12/4/2006	12/4/2006	12/4/2006	11/30/2006	11/27/2006	11/30/2006	
QC CODE							SA	SA	SA	SA	SA	SA	
STUDY ID							IRA	IRA	IRA	IRA	IRA	IRA	
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
1,1,2-Trichloroethane	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
1,2-Dibromoethane	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
1,2-Dichloropropane	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
Acetone	UG/KG	67	2%	200	0	2	106	26 U	24 U	23 U	27 U	20 U	26 U
Benzene	UG/KG	0	0%	60	0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
Bromochloromethane	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
Bromodichloromethane	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
Bromoform	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
Chlorodibromomethane	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	10 U	10 U	9 U	11 U	8 U	10 U
Chloroform	UG/KG	0	0%	300	0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		0	1	114	5 U	5 U	5 U	5 U	4 U	5 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
Cyclohexane	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
Dichlorodifluoromethane	UG/KG	2	4%		0	5	114	5 U	5 U	5 U	5 U	4 U	5 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
Isopropylbenzene	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
Methyl Acetate	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
Methyl Tertbutyl Ether	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
Methyl bromide	UG/KG	0	0%		0	0	88	10 UJ	10 UJ	9 UJ	11 UJ	8 UJ	10 UJ
Methyl butyl ketone	UG/KG	0	0%		0	0	114	26 U	24 U	23 U	27 U	20 U	26 U
Methyl chloride	UG/KG	0	0%		0	0	114	10 U	10 U	9 U	11 U	8 U	10 U
Methyl cyclohexane	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	26 U	24 U	23 U	27 U	20 U	26 U

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXFLH501	11EXFLH601	11EXFLH701	11EXFLH801	11EXFLH901	11EXFLH1001
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXFLH501	11EXFLH601	11EXFLH701	11EXFLH801	11EXFLH901	11EXFLH1001
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								12/4/2006	12/4/2006	12/4/2006	11/30/2006	11/27/2006	11/30/2006
QC CODE								SA	SA	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	26 U	24 U	23 U	27 U	20 U	26 U
Methylene chloride	UG/KG	49	90%	100	0	103	114	6 J	6 J	6 J	12 J	5 J	11 J
Styrene	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	5 U	5 U	5 U	5 U	4 U	5 U
Toluene	UG/KG	0	0%	1,500	0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	15 U	14 U	14 U	16 U	12 U	16 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
Trans-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	4 U	5 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	5 U	3 J	5 U	2 J	4	5 U
Trichlorofluoromethane	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 UJ	4 U	5 UJ
Vinyl chloride	UG/KG	0	0%	200	0	0	114	10 U	10 U	9 U	11 U	8 U	10 U
Carcinogenic PAHs													
Benzo(a)anthracene	UG/KG	4,800	49%		0	58	119	390 U	380 U	370 U	400 U	200 J	390 U
Benzo(a)pyrene	UG/KG	4,500	45%		0	54	119	390 U	380 U	370 U	400 U	190 J	390 U
Benzo(b)fluoranthene	UG/KG	7,400	48%		0	57	119	390 U	380 U	370 U	400 U	220 J	390 U
Benzo(k)fluoranthene	UG/KG	2,100	19%		0	23	119	390 U	380 U	370 U	400 U	98 J	390 U
Chrysene	UG/KG	5,500	47%		0	56	119	390 U	380 U	370 U	400 U	200 J	390 U
Dibenz(a,h)anthracene	UG/KG	850	30%		0	36	119	390 U	380 U	370 U	400 U	31 J	390 U
Indeno(1,2,3-cd)pyrene	UG/KG	2,800	42%		0	50	119	390 U	380 U	370 U	400 U	100 J	390 U
BTE (calculated)	MG/KG	7	100%	10 ^b	0	119	119	0.45	0.44	0.43	0.46	0.28	0.45
Metals													
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	11400 J	11600 J	10300 J	13100 J	5370 J	9510 J
Antimony	MG/KG	11.3	18%	31	0	21	114	1 J	0.85 U	1.6 J	0.59 U	0.66 UJ	0.66 U
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	6.3	6.2	5.3	6.4	3.5	5
Barium	MG/KG	248	100%	5,370	0	114	114	67.7 J	89.8 J	64.7 J	112 J	32.1 J	75.7 J
Beryllium	MG/KG	1	100%	150	0	114	114	0.7	0.71	0.61	0.67	0.39	0.49
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.1 J	0.15 J	0.08 J	0.28	0.17 J	0.24 U
Calcium	MG/KG	216,000	100%		0	114	114	9730 J	8080 J	12700 J	2480 J	216000 J	1990 J
Chromium	MG/KG	44.5	100%		0	113	113	17.6 J	18.2 J	16 J	18.8 J	9.1 J	13.9 J
Cobalt	MG/KG	16.8	100%	903	0	114	114	10.9 J	10.2 J	9.6 J	10.2	5.9 J	7.5
Copper	MG/KG	131	100%	3,130	0	114	114	23.7	19.9	21.8	21.8	13.7	15.5
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	26800 J	26900 J	23900 J	26800	12500 J	20300
Lead	MG/KG	400	100%	400	0	113	113	13.3 J	15.5 J	11.6 J	14	8.2 J	10.1
Magnesium	MG/KG	25200 ¹	100%		0	114	114	7120 J	4880 J	5590 J	3370	7540 J	2730
Manganese	MG/KG	1,540	100%	1,760	0	114	114	672 J	698 J	485 J	622	348 J	514
Mercury	MG/KG	0.327	99%	23	0	113	114	0.032 J	0.033 J	0.029 J	0.047	0.019 J	0.032
Nickel	MG/KG	38.6	100%	1,560	0	114	114	30.2 J	26.7 J	26.4 J	24.3	15.7 J	19.9
Potassium	MG/KG	1,750	100%		0	114	114	1000 J	965 J	1010 J	1270	799 J	1000
Selenium	MG/KG	3.4	25%	390	0	28	114	0.69 U	0.72 U	0.7 U	0.42 U	0.57 U	0.47 U

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.58 U	0.61 U	0.59 U	0.52 U	0.48 U	0.59 U
Sodium	MG/KG	164	75%		0	86	114	42.5 J	35.6 U	52.7 J	32.1 J	63.1 J	23.6 U
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.77 U	0.81 U	0.78 U	0.51 U	0.63 U	0.58 U
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	19.6 J	20.9 J	18.3 J	22.8 J	9.9 J	16.4 J
Zinc	MG/KG	591	100%	23,500	0	114	114	93.3 J	88.5 J	88.7 J	99.9 J	51.1 J	76.1 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.

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.

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY	SEAD-11						SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	
LOCATION ID	11EXFL1101						11EXFL1601	11EXFL1701	11EXFL1801	11EXFL1901	11EXPRA401		
MATRIX	SOIL						SOIL	SOIL	SOIL	SOIL	SOIL		
SAMPLE ID	11EXFL1101						11EXFL1601	11EXFL1701	11EXFL1801	11EXFL1901	11EXPRA401		
SAMPLE DEPTH TO TOP OF SAMPLE	0						0	0	0	0	0		
SAMPLE DEPTH TO BOTTOM OF SAMPLE	0.2						0.2	0.2	0.2	0.2	0.2		
SAMPLE DATE	11/30/2006						12/4/2006	12/4/2006	11/30/2006	11/30/2006	11/15/2006		
QC CODE	SA						SA	SA	SA	SA	SA		
STUDY ID	IRA						IRA	IRA	IRA	IRA	IRA		
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	5 U	6 UJ
1,1,2-Trichloroethane	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
1,2-Dibromoethane	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
1,2-Dichloropropane	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
Acetone	UG/KG	67	2%	200	0	2	106	25 U	24 U	24 U	27 U	25 U	30 U
Benzene	UG/KG	0	0%	60	0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
Bromochloromethane	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
Bromodichloromethane	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
Bromoform	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
Chlorodibromomethane	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	10 U	10 U	9 U	11 U	10 U	12 U
Chloroform	UG/KG	0	0%	300	0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		0	1	114	5 U	5 U	5 U	5 U	5 U	6 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
Cyclohexane	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
Dichlorodifluoromethane	UG/KG	2	4%		0	5	114	5 U	5 U	5 U	5 U	5 U	6 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
Isopropylbenzene	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
Methyl Acetate	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
Methyl Tertbutyl Ether	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
Methyl bromide	UG/KG	0	0%		0	0	88	10 UJ	10 UJ	9 UJ	11 UJ	10 UJ	12 U
Methyl butyl ketone	UG/KG	0	0%		0	0	114	25 U	24 U	24 U	27 U	25 U	30 U
Methyl chloride	UG/KG	0	0%		0	0	114	10 U	10 U	9 U	11 U	10 U	12 U
Methyl cyclohexane	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	25 U	24 U	24 U	27 U	25 U	30 U

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY		SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11		
LOCATION ID		11EXFL1101	11EXFL1601	11EXFL1701	11EXFL1801	11EXFL1901	11EXFL1901	11EXFL1901	11EXFL1901	11EXFL1901	11EXPRA401		
MATRIX		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL		
SAMPLE ID		11EXFL1101	11EXFL1601	11EXFL1701	11EXFL1801	11EXFL1901	11EXFL1901	11EXFL1901	11EXFL1901	11EXFL1901	11EXPRA401		
SAMPLE DEPTH TO TOP OF SAMPLE		0	0	0	0	0	0	0	0	0	0		
SAMPLE DEPTH TO BOTTOM OF SAMPLE		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2		
SAMPLE DATE		11/30/2006	12/4/2006	12/4/2006	11/30/2006	11/30/2006	11/30/2006	11/30/2006	11/30/2006	11/30/2006	11/15/2006		
QC CODE		SA	SA	SA	SA	SA	SA	SA	SA	SA	SA		
STUDY ID		IRA	IRA	IRA	IRA	IRA	IRA	IRA	IRA	IRA	IRA		
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	25 U	24 U	24 U	27 U	25 U	30 U
Methylene chloride	UG/KG	49	90%	100	0	103	114	10 J	6 J	6 J	13 J	10 J	13 J
Styrene	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	5 U	5 U	5 U	5 U	5 U	6 U
Toluene	UG/KG	0	0%	1,500	0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	15 U	14 U	14 U	16 U	15 U	18 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
Trans-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	5 U	5 U	5 U	5 U	5 U	6 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	2 J	2 J	2 J	5 U	5 U	6 U
Trichlorofluoromethane	UG/KG	0	0%		0	0	114	5 UJ	5 U	5 U	5 UJ	5 UJ	6 UJ
Vinyl chloride	UG/KG	0	0%	200	0	0	114	10 U	10 U	9 U	11 U	10 U	12 U
Carcinogenic PAHs													
Benzo(a)anthracene	UG/KG	4,800	49%		0	58	119	400 U	390 U	390 U	390 U	400 U	410 U
Benzo(a)pyrene	UG/KG	4,500	45%		0	54	119	400 U	390 U	390 U	390 U	400 U	410 U
Benzo(b)fluoranthene	UG/KG	7,400	48%		0	57	119	400 U	390 U	390 U	390 U	400 U	410 U
Benzo(k)fluoranthene	UG/KG	2,100	19%		0	23	119	400 U	390 U	390 U	390 U	400 U	410 U
Chrysene	UG/KG	5,500	47%		0	56	119	400 U	390 U	390 U	390 U	400 U	410 U
Dibenz(a,h)anthracene	UG/KG	850	30%		0	36	119	400 U	390 U	390 U	390 U	400 U	410 U
Indeno(1,2,3-cd)pyrene	UG/KG	2,800	42%		0	50	119	400 U	390 U	390 U	390 U	400 U	410 U
BTE (calculated)	MG/KG	7	100%	10 ^b	0	119	119	0.46	0.45	0.45	0.45	0.46	0.48
Metals													
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	13200 J	9490 J	11200 J	9780 J	13200 J	10800 J
Antimony	MG/KG	11.3	18%	31	0	21	114	0.64 U	1.8 J	0.94 J	0.63 U	0.66 U	0.82 UJ
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	6.4	5.5	6	5	6.6	5.1 J
Barium	MG/KG	248	100%	5,370	0	114	114	111 J	80.4 J	74 J	81.9 J	108 J	98.7 J
Beryllium	MG/KG	1	100%	150	0	114	114	0.67	0.58	0.63	0.52	0.68	0.61 J
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.28	0.13 J	0.11 J	0.22 U	0.29	0.27 J
Calcium	MG/KG	216,000	100%		0	114	114	2690 J	29400 J	9790 J	1910 J	2520 J	2760 J
Chromium	MG/KG	44.5	100%		0	113	113	18.4 J	14.1 J	16.5 J	14.3 J	19 J	15 J
Cobalt	MG/KG	16.8	100%	903	0	114	114	9.1	9.3 J	10.4 J	7.4	8.9	7.5 J
Copper	MG/KG	131	100%	3,130	0	114	114	21.4	22.4	23	15.9	20.9	16.6 J
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	25800	21200 J	25400 J	21000	26900	20200 J
Lead	MG/KG	400	100%	400	0	113	113	12.6	11.3 J	13.2 J	10.4	12.8	11.4 J
Magnesium	MG/KG	25200 ¹	100%		0	114	114	3350	11300 J	6040 J	2630	3600	2700 J
Manganese	MG/KG	1,540	100%	1,760	0	114	114	623	592 J	599 J	445	665	587 J
Mercury	MG/KG	0.327	99%	23	0	113	114	0.04	0.029 J	0.031 J	0.041	0.041	0.044
Nickel	MG/KG	38.6	100%	1,560	0	114	114	23.8	24.3 J	27.8 J	19.3	26.5	18.4 J
Potassium	MG/KG	1,750	100%		0	114	114	1340	1010 J	992 J	979	1360	1120 J
Selenium	MG/KG	3.4	25%	390	0	28	114	0.46 U	0.68 U	0.69 U	0.45 U	0.47 U	1.8 J

Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.57 U	0.58 U	0.58 U	0.09 U	0.59 U	0.18 UJ
Sodium	MG/KG	164	75%		0	86	114	28.4 J	71.9 J	41.8 J	22.4 U	23.4 U	34.5 UJ
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.56 U	0.77 U	0.77 U	0.55 U	0.57 U	1.4 J
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	23 J	16.9 J	19.7 J	17 J	22.9 J	18.9 J
Zinc	MG/KG	591	100%	23,500	0	114	114	97.9 J	78.4 J	90.4 J	77.6 J	107 J	71.6 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.

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.

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY	SEAD-11						SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	
LOCATION ID	11EXPRAS01						11EXPRAS01	11EXPRAS01	11EXPRAS01	11EXPRAS01	11EXPRB101	11EXPRB201	
MATRIX	SOIL						SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
SAMPLE ID	11EXPRAS01						11EXPRAS01	11EXPRAS01	11EXPRAS01	11EXPRAS01	11EXPRB101	11EXPRB201	
SAMPLE DEPTH TO TOP OF SAMPLE	0						0	0	0	0	0	0	
SAMPLE DEPTH TO BOTTOM OF SAMPLE	0.2						0.2	0.2	0.2	0.2	0.2	0.2	
SAMPLE DATE	11/15/2006						11/15/2006	11/15/2006	11/15/2006	11/15/2006	12/6/2006	11/15/2006	
QC CODE	SA						SA	SA	SA	SA	SA	SA	
STUDY ID	IRA						IRA	IRA	IRA	IRA	IRA	IRA	
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		0	0	114	6 UJ	6 UJ	6 UJ	6 UJ	6 U	7 UJ
1,1,2-Trichloroethane	UG/KG	0	0%		0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
1,2-Dibromoethane	UG/KG	0	0%		0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
1,2-Dichloropropane	UG/KG	0	0%		0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
Acetone	UG/KG	67	2%	200	0	2	106	29 U	32 U	29 U	30 U	30 U	36 U
Benzene	UG/KG	0	0%	60	0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
Bromochloromethane	UG/KG	0	0%		0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
Bromodichloromethane	UG/KG	0	0%		0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
Bromoform	UG/KG	0	0%		0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
Chlorodibromomethane	UG/KG	0	0%		0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	12 U	13 U	11 U	12 U	12 U	14 U
Chloroform	UG/KG	0	0%	300	0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		0	1	114	6 U	6 U	6 U	6 U	6 U	7 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
Cyclohexane	UG/KG	0	0%		0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
Dichlorodifluoromethane	UG/KG	2	4%		0	5	114	6 U	6 U	6 U	6 U	6 U	7 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
Isopropylbenzene	UG/KG	0	0%		0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
Methyl Acetate	UG/KG	0	0%		0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
Methyl Tertbutyl Ether	UG/KG	0	0%		0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
Methyl bromide	UG/KG	0	0%		0	0	88	12 U	13 U	11 U	12 U	12 UJ	14 U
Methyl butyl ketone	UG/KG	0	0%		0	0	114	29 U	32 U	29 U	30 U	30 U	36 U
Methyl chloride	UG/KG	0	0%		0	0	114	12 U	13 U	11 U	12 U	12 U	14 U
Methyl cyclohexane	UG/KG	0	0%		0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	29 U	32 U	29 U	30 U	30 U	36 U

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY	SEAD-11												
LOCATION ID	SEAD-11		SEAD-11		SEAD-11		SEAD-11		SEAD-11		SEAD-11		
MATRIX	11EXPR601		11EXPR601		11EXPR701		11EXPR702		11EXPRB101		11EXPRB201		
SAMPLE ID	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		
SAMPLE DEPTH TO TOP OF SAMPLE	11EXPR601		11EXPR601		11EXPR701		11EXPR702		11EXPRB101		11EXPRB201		
SAMPLE DEPTH TO BOTTOM OF SAMPLE	0		0		0		0		0		0		
SAMPLE DATE	0.2		0.2		0.2		0.2		0.2		0.2		
QC CODE	11/15/2006		11/15/2006		11/15/2006		11/15/2006		12/6/2006		11/15/2006		
STUDY ID	SA		SA		SA		SA		SA		SA		
	IRA		IRA		IRA		IRA		IRA		IRA		
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal²	Number of Exceedances³	Number of Times Detected	Number of Samples Analyzed⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	29 U	32 U	29 U	30 U	30 U	36 U
Methylene chloride	UG/KG	49	90%	100	0	103	114	12 J	7 J	10 J	17 J	8 J	18 J
Styrene	UG/KG	0	0%		0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	6 U	6 U	6 U	6 U	6 U	7 U
Toluene	UG/KG	0	0%	1,500	0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	18 U	19 U	17 U	18 U	18 U	22 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
Trans-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	6 U	6 U	6 U	6 U	6 U	7 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	6 U	6 U	6 U	6 U	6 U	7 U
Trichlorofluoromethane	UG/KG	0	0%		0	0	114	6 UJ	6 UJ	6 UJ	6 UJ	6 UJ	7 UJ
Vinyl chloride	UG/KG	0	0%	200	0	0	114	12 U	13 U	11 U	12 U	12 U	14 U
Carcinogenic PAHs													
Benzo(a)anthracene	UG/KG	4,800	49%		0	58	119	400 U	420 U	410 U	390 U	300 J	310 J
Benzo(a)pyrene	UG/KG	4,500	45%		0	54	119	400 U	420 U	410 U	390 U	320 J	340 J
Benzo(b)fluoranthene	UG/KG	7,400	48%		0	57	119	400 U	420 U	410 U	390 U	680 J	740 J
Benzo(k)fluoranthene	UG/KG	2,100	19%		0	23	119	400 U	420 U	410 U	390 U	400 UJ	480 UJ
Chrysene	UG/KG	5,500	47%		0	56	119	400 U	420 U	410 U	390 U	360 J	420 J
Dibenz(a,h)anthracene	UG/KG	850	30%		0	36	119	400 U	420 U	410 U	390 U	62 J	48 J
Indeno(1,2,3-cd)pyrene	UG/KG	2,800	42%		0	50	119	400 U	420 U	410 U	390 U	230 J	190 J
BTE (calculated)	MG/KG	7	100%	10 ^b	0	119	119	0.46	0.49	0.48	0.45	0.51	0.52
Metals													
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	14300 J	14900 J	11300 J	9700 J	9030	10500 J
Antimony	MG/KG	11.3	18%	31	0	21	114	0.74 UJ	0.81 UJ	0.78 UJ	0.79 UJ	0.6 U	1 J
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	7.3 J	6.5 J	5.7 J	5.3 J	4.1	5.1 J
Barium	MG/KG	248	100%	5,370	0	114	114	120 J	154 J	101 J	80.7 J	76.9	84.8 J
Beryllium	MG/KG	1	100%	150	0	114	114	0.79 J	0.89 J	0.65 J	0.55 J	0.56	0.55 J
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.4 J	0.44 J	0.28 J	0.3 J	0.12 J	0.28 J
Calcium	MG/KG	216,000	100%		0	114	114	2730 J	4450 J	2280 J	2430 J	2820 J	3510 J
Chromium	MG/KG	44.5	100%		0	113	113	20.4 J	19.5 J	15.9 J	14.7 J	12.8 J	15.2 J
Cobalt	MG/KG	16.8	100%	903	0	114	114	10.7 J	10.7 J	8.7 J	8 J	7.1 J	7.8 J
Copper	MG/KG	131	100%	3,130	0	114	114	22.6 J	18.5 J	13.5 J	16.5 J	12.5	15.6 J
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	27800 J	25700 J	22500 J	20100 J	17600 J	19200 J
Lead	MG/KG	400	100%	400	0	113	113	16.1 J	15 J	302 J	11.7 J	17 J	21.2 J
Magnesium	MG/KG	25200 ¹	100%		0	114	114	4150 J	3680 J	2890 J	3040 J	2280	2750 J
Manganese	MG/KG	1,540	100%	1,760	0	114	114	868 J	1190 J	888 J	580 J	367 J	369 J
Mercury	MG/KG	0.327	99%	23	0	113	114	0.037	0.043	0.056	0.035	0.043	0.059
Nickel	MG/KG	38.6	100%	1,560	0	114	114	29.4 J	25.1 J	19.9 J	20.9 J	15.8	18.1 J
Potassium	MG/KG	1,750	100%		0	114	114	1250 J	1750 J	1140 J	1020 J	871	1180 J
Selenium	MG/KG	3.4	25%	390	0	28	114	1.9 J	2.3 J	1.6 J	1.4 J	0.72 U	1.6 J

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.16 UJ	0.18 UJ	0.17 UJ	0.17 UJ	0.06 U	0.19 UJ
Sodium	MG/KG	164	75%		0	86	114	42.6 J	34 UJ	39.5 J	35.6 J	30.1 U	35.9 UJ
Thallium	MG/KG	2.1	25%	5.2	0	28	114	1.6 J	1.5 J	1.5 J	1.5 J	0.79 U	1.6 J
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	27.6 J	24.7 J	20.3 J	16.9 J	16.1 J	18.7 J
Zinc	MG/KG	591	100%	23,500	0	114	114	103 J	85.7 J	131 J	69.1 J	59.1 J	75.1 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.

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.

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY													
LOCATION ID								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
MATRIX								11EXPRB202	11EXPRB301	11EXPRB801	11EXPRB901	11EXPRC001	11EXPRC1001
SAMPLE ID								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH TO TOP OF SAMPLE								11EXPRB202	11EXPRB301	11EXPRB801	11EXPRB901	11EXPRC001	11EXPRC1001
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0	0	0	0	0	0
SAMPLE DATE								0.2	0.2	0.2	0.2	0.2	0.2
QC CODE								11/15/2006	11/15/2006	11/15/2006	11/15/2006	12/15/2006	12/6/2006
STUDY ID								SA	SA	SA	SA	SA	SA
								IRA	IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	6 U	6 U	5 U	6 U		5 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	6 U	6 U	5 U	6 U		5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		0	0	114	6 UJ	6 UJ	5 UJ	6 UJ		5 U
1,1,2-Trichloroethane	UG/KG	0	0%		0	0	114	6 U	6 U	5 U	6 U		5 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	6 U	6 U	5 U	6 U		5 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	6 U	6 U	5 U	6 U		5 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		0	0	114	6 U	6 U	5 U	6 U		5 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	6 U	6 U	5 U	6 U		5 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		0	0	114	6 U	6 U	5 U	6 U		5 U
1,2-Dibromoethane	UG/KG	0	0%		0	0	114	6 U	6 U	5 U	6 U		5 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	6 U	6 U	5 U	6 U		5 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	6 U	6 U	5 U	6 U		5 U
1,2-Dichloropropane	UG/KG	0	0%		0	0	114	6 U	6 U	5 U	6 U		5 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	6 U	6 U	5 U	6 U		5 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	6 U	6 U	5 U	6 U		5 U
Acetone	UG/KG	67	2%	200	0	2	106	31 U	30 U	27 U	29 U		26 U
Benzene	UG/KG	0	0%	60	0	0	114	6 U	6 U	5 U	6 U		5 U
Bromochloromethane	UG/KG	0	0%		0	0	114	6 U	6 U	5 U	6 U		5 U
Bromodichloromethane	UG/KG	0	0%		0	0	114	6 U	6 U	5 U	6 U		5 U
Bromoform	UG/KG	0	0%		0	0	114	6 U	6 U	5 U	6 U		5 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	6 U	6 U	5 U	6 U		5 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	6 U	6 U	5 U	6 U		5 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	6 U	6 U	5 U	6 U		5 U
Chlorodibromomethane	UG/KG	0	0%		0	0	114	6 U	6 U	5 U	6 U		5 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	12 U	12 U	11 U	11 U		10 U
Chloroform	UG/KG	0	0%	300	0	0	114	6 U	6 U	5 U	6 U		5 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		0	1	114	6 U	6 U	5 U	6 U		5 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	6 U	6 U	5 U	6 U		5 U
Cyclohexane	UG/KG	0	0%		0	0	114	6 U	6 U	5 U	6 U		5 U
Dichlorodifluoromethane	UG/KG	2	4%		0	5	114	6 U	6 U	5 U	6 U		5 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	6 U	6 U	5 U	6 U		5 U
Isopropylbenzene	UG/KG	0	0%		0	0	114	6 U	6 U	5 U	6 U		5 U
Methyl Acetate	UG/KG	0	0%		0	0	114	6 U	6 U	5 U	6 U		5 U
Methyl Tertbutyl Ether	UG/KG	0	0%		0	0	114	6 U	6 U	5 U	6 U		5 U
Methyl bromide	UG/KG	0	0%		0	0	114	12 U	12 U	11 U	11 U		10 UJ
Methyl butyl ketone	UG/KG	0	0%		0	0	114	31 U	30 U	27 U	29 U		26 U
Methyl chloride	UG/KG	0	0%		0	0	114	12 U	12 U	11 U	11 U		10 U
Methyl cyclohexane	UG/KG	0	0%		0	0	114	6 U	6 U	5 U	6 U		5 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	31 U	30 U	27 U	29 U		26 U

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXPRB202	11EXPRB301	11EXPRB801	11EXPRB901	11EXPRC001	11EXPRC1001
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXPRB202	11EXPRB301	11EXPRB801	11EXPRB901	11EXPRC001	11EXPRC1001
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								11/15/2006	11/15/2006	11/15/2006	11/15/2006	12/15/2006	12/6/2006
QC CODE								SA	SA	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	31 U	30 U	27 U	29 U		26 U
Methylene chloride	UG/KG	49	90%	100	0	103	114	13 J	15 J	25 J	13 J		10 J
Styrene	UG/KG	0	0%		0	0	114	6 U	6 U	5 U	6 U		5 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	6 U	6 U	5 U	6 U		5 U
Toluene	UG/KG	0	0%	1,500	0	0	114	6 U	6 U	5 U	6 U		5 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	19 U	18 U	16 U	17 U		15 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	6 U	6 U	5 U	6 U		5 U
Trans-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	6 U	6 U	5 U	6 U		5 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	6 U	6 U	5 U	6 U		5 U
Trichlorofluoromethane	UG/KG	0	0%		0	0	114	6 UJ	6 UJ	5 UJ	6 UJ		5 UJ
Vinyl chloride	UG/KG	0	0%	200	0	0	114	12 U	12 U	11 U	11 U		10 U
Carcinogenic PAHs													
Benzo(a)anthracene	UG/KG	4,800	49%		0	58	119	410 U	410 U	360 U	290 J	510 U	760
Benzo(a)pyrene	UG/KG	4,500	45%		0	54	119	410 U	410 U	360 U	300 J	510 U	540
Benzo(b)fluoranthene	UG/KG	7,400	48%		0	57	119	410 U	410 U	360 U	520	510 U	1100 J
Benzo(k)fluoranthene	UG/KG	2,100	19%		0	23	119	410 U	410 U	360 U	160 J	510 U	380 UJ
Chrysene	UG/KG	5,500	47%		0	56	119	410 U	410 U	360 U	340 J	510 U	720
Dibenz(a,h)anthracene	UG/KG	850	30%		0	36	119	410 U	410 U	360 U	58 J	510 U	170 J
Indeno(1,2,3-cd)pyrene	UG/KG	2,800	42%		0	50	119	410 U	410 U	360 U	210 J	510 U	450
BTE (calculated)	MG/KG	7	100%	10 ^b	0	119	119	0.48	0.48	0.42	0.47	0.59	0.95
Metals													
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	9530 J	11700 J	5840 J	8640 J		12000 J
Antimony	MG/KG	11.3	18%	31	0	21	114	0.74 UJ	0.83 UJ	0.64 UJ	0.7 UJ		0.82 U
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	4.4 J	6 J	5.5 J	4.9 J		6
Barium	MG/KG	248	100%	5,370	0	114	114	87 J	96.8 J	31.2 J	47.1 J		69.4
Beryllium	MG/KG	1	100%	150	0	114	114	0.55 J	0.6 J	0.3 J	0.39 J		0.58
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.24 J	0.24 J	0.19 J	0.16 J		0.26
Calcium	MG/KG	216,000	100%		0	114	114	2500 J	2430 J	46100 J	8170 J		6990 J
Chromium	MG/KG	44.5	100%		0	113	113	13.3 J	17.6 J	10.1 J	14 J		18
Cobalt	MG/KG	16.8	100%	903	0	114	114	7 J	9.4 J	15.1 J	7.8 J		9.8 J
Copper	MG/KG	131	100%	3,130	0	114	114	13.7 J	18.8 J	25.1 J	14.1 J		21.9
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	17600 J	24300 J	25600 J	18700 J		23900 J
Lead	MG/KG	400	100%	400	0	113	113	10.5 J	15 J	8.9 J	11.4 J		13
Magnesium	MG/KG	25200 ¹	100%		0	114	114	2380 J	3180 J	6280 J	4430 J		5080
Manganese	MG/KG	1,540	100%	1,760	0	114	114	456 J	595 J	384 J	400 J		543
Mercury	MG/KG	0.327	99%	23	0	113	114	0.038	0.041	0.008	0.026		0.032 J
Nickel	MG/KG	38.6	100%	1,560	0	114	114	16.1 J	22.3 J	27.3 J	22 J		28.4 J
Potassium	MG/KG	1,750	100%		0	114	114	998 J	1270 J	678 J	817 J		1200
Selenium	MG/KG	3.4	25%	390	0	28	114	1.3 J	1.9 J	1.4 J	1.2 J		0.7 UJ

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

		SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11						
FACILITY		SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11						
LOCATION ID		11EXPRB202	11EXPRB301	11EXPRB801	11EXPRB901	11EXPRC001	11EXPRC1001						
MATRIX		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL						
SAMPLE ID		11EXPRB202	11EXPRB301	11EXPRB801	11EXPRB901	11EXPRC001	11EXPRC1001						
SAMPLE DEPTH TO TOP OF SAMPLE		0	0	0	0	0	0						
SAMPLE DEPTH TO BOTTOM OF SAMPLE		0.2	0.2	0.2	0.2	0.2	0.2						
SAMPLE DATE		11/15/2006	11/15/2006	11/15/2006	11/15/2006	12/15/2006	12/6/2006						
QC CODE		SA	SA	SA	SA	SA	SA						
STUDY ID		IRA	IRA	IRA	IRA	IRA	IRA						
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.16 UJ	0.18 UJ	0.14 UJ	0.15 UJ		0.59 U
Sodium	MG/KG	164	75%		0	86	114	41.9 J	37.2 J	67 J	42.6 J		42.8 J
Thallium	MG/KG	2.1	25%	5.2	0	28	114	1.1 J	2 J	1.4 J	1.2 J		0.78 U
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	16.4 J	21.2 J	11 J	13 J		20.2 J
Zinc	MG/KG	591	100%	23,500	0	114	114	58.9 J	85.3 J	72.8 J	75.5 J		96.9 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.

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.

Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11

					SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	
					11EXPRC101	11EXPRC1101	11EXPRD001	11EXPRD1101	11EXPRD1102	11EXPRE1101		
					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL		
					11EXPRC101	11EXPRC1101	11EXPRD001	11EXPRD1101	11EXPRD1102	11EXPRE1101		
					0	0	0	0	0	0		
					0.2	0.2	0.2	0.2	0.2	0.2		
					12/6/2006	12/6/2006	12/15/2006	12/6/2006	12/6/2006	12/6/2006		
					SA	SA	SA	SA	SA	SA		
					IRA	IRA	IRA	IRA	IRA	IRA		
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal²	Number of Exceedances³	Number of Times Detected	Number of Samples Analyzed⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds												
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	13 U	5 U	4 U	5 U	5 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	13 U	5 U	4 U	5 U	5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		0	0	114	13 U	5 U	4 U	5 U	5 U
1,1,2-Trichloroethane	UG/KG	0	0%		0	0	114	13 U	5 U	4 U	5 U	5 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	13 U	5 U	4 U	5 U	5 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	13 U	5 U	4 U	5 U	5 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		0	0	114	13 U	5 U	4 U	5 U	5 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	13 U	5 U	4 U	5 U	5 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		0	0	114	13 U	5 U	4 U	5 U	5 U
1,2-Dibromoethane	UG/KG	0	0%		0	0	114	13 U	5 U	4 U	5 U	5 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	13 U	5 U	4 U	5 U	5 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	13 U	5 U	4 U	5 U	5 U
1,2-Dichloropropane	UG/KG	0	0%		0	0	114	13 U	5 U	4 U	5 U	5 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	13 U	5 U	4 U	5 U	5 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	13 U	5 U	4 U	5 U	5 U
Acetone	UG/KG	67	2%	200	0	2	106	67	24 U	22 U	23 U	26 U
Benzene	UG/KG	0	0%	60	0	0	114	13 U	5 U	4 U	5 U	5 U
Bromochloromethane	UG/KG	0	0%		0	0	114	13 U	5 U	4 U	5 U	5 U
Bromodichloromethane	UG/KG	0	0%		0	0	114	13 U	5 U	4 U	5 U	5 U
Bromoform	UG/KG	0	0%		0	0	114	13 U	5 U	4 U	5 U	5 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	13 U	5 U	4 U	5 U	5 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	13 U	5 U	4 U	5 U	5 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	13 U	5 U	4 U	5 U	5 U
Chlorodibromomethane	UG/KG	0	0%		0	0	114	13 U	5 U	4 U	5 U	5 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	27 U	9 U	9 U	9 U	10 U
Chloroform	UG/KG	0	0%	300	0	0	114	13 U	5 U	4 U	5 U	5 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		0	1	114	13 U	5 U	4 U	5 U	5 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	13 U	5 U	4 U	5 U	5 U
Cyclohexane	UG/KG	0	0%		0	0	114	13 U	5 U	4 U	5 U	5 U
Dichlorodifluoromethane	UG/KG	2	4%		0	5	114	13 U	5 U	4 U	5 U	5 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	13 U	5 U	4 U	5 U	5 U
Isopropylbenzene	UG/KG	0	0%		0	0	114	13 U	5 U	4 U	5 U	5 U
Methyl Acetate	UG/KG	0	0%		0	0	114	13 U	5 U	4 U	5 U	5 U
Methyl Tertbutyl Ether	UG/KG	0	0%		0	0	114	13 U	5 U	4 U	5 U	5 U
Methyl bromide	UG/KG	0	0%		0	0	88	27 UJ	9 UJ	9 UJ	9 UJ	10 UJ
Methyl butyl ketone	UG/KG	0	0%		0	0	114	67 U	24 U	22 U	23 U	26 U
Methyl chloride	UG/KG	0	0%		0	0	114	27 U	9 U	9 U	9 U	10 U
Methyl cyclohexane	UG/KG	0	0%		0	0	114	13 U	5 U	4 U	5 U	5 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	67 U	24 U	22 U	23 U	26 U

Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXPRC101	11EXPRC1101	11EXPRD001	11EXPRD1101	11EXPRD1102	11EXPRE1101
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXPRC101	11EXPRC1101	11EXPRD001	11EXPRD1101	11EXPRD1102	11EXPRE1101
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								12/6/2006	12/6/2006	12/15/2006	12/6/2006	12/6/2006	12/6/2006
QC CODE								SA	SA	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal²	Number of Exceedances³	Number of Times Detected	Number of Samples Analyzed⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	67 U	24 U		22 U	23 U	26 U
Methylene chloride	UG/KG	49	90%	100	0	103	114	19 J	15 J		8 J	9 J	10 J
Styrene	UG/KG	0	0%		0	0	114	13 U	5 U		4 U	5 U	5 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	13 U	5 U		4 U	5 U	5 U
Toluene	UG/KG	0	0%	1,500	0	0	114	13 U	5 U		4 U	5 U	5 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	13 U	14 U		13 U	14 U	16 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	13 U	5 U		4 U	5 U	5 U
Trans-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	13 U	5 U		4 U	5 U	5 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	13 U	5 U		4 U	5 U	5 U
Trichlorofluoromethane	UG/KG	0	0%		0	0	114	13 UJ	5 UJ		4 UJ	5 UJ	5 UJ
Vinyl chloride	UG/KG	0	0%	200	0	0	114	27 U	9 U		9 U	9 U	10 U
Carcinogenic PAHs													
Benzo(a)anthracene	UG/KG	4,800	49%		0	58	119	320 J	990	480 U	840	880	1300
Benzo(a)pyrene	UG/KG	4,500	45%		0	54	119	330 J	730	480 U	620	650	1200
Benzo(b)fluoranthene	UG/KG	7,400	48%		0	57	119	490 J	1500 J	480 U	1300 J	1300 J	3200 J
Benzo(k)fluoranthene	UG/KG	2,100	19%		0	23	119	200 J	380 UJ	480 U	380 UJ	380 UJ	400 UJ
Chrysene	UG/KG	5,500	47%		0	56	119	360 J	960	480 U	820	870	1900
Dibenz(a,h)anthracene	UG/KG	850	30%		0	36	119	62 J	230 J	480 U	190 J	200 J	400
Indeno(1,2,3-cd)pyrene	UG/KG	2,800	42%		0	50	119	230 J	600	480 U	530	520	1200
BTE (calculated)	MG/KG	7	100%	10 ^b	0	119	119	0.50	1.3	0.56	1.1	1.1	2.2
Metals													
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	11500	11200 J		10000 J	11800 J	9330 J
Antimony	MG/KG	11.3	18%	31	0	21	114	0.91 U	0.75 U		0.83 U	0.78 U	0.89 U
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	5	5.3		5.2	5.8	7
Barium	MG/KG	248	100%	5,370	0	114	114	97.3	67.7		64.6	67.1	56.5
Beryllium	MG/KG	1	100%	150	0	114	114	0.74	0.56		0.53	0.58	0.47
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.21 J	0.24		0.21 J	0.22 J	0.29
Calcium	MG/KG	216,000	100%		0	114	114	7380 J	7220 J		7420 J	8920 J	31200 J
Chromium	MG/KG	44.5	100%		0	113	113	16.3 J	16.6		15.1	17.7	15.7
Cobalt	MG/KG	16.8	100%	903	0	114	114	6.6 J	9.4 J		8.8 J	10.3 J	9.3 J
Copper	MG/KG	131	100%	3,130	0	114	114	14.5	21.1		20.4	22.6	26
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	20400 J	22600 J		20800 J	24600 J	22300 J
Lead	MG/KG	400	100%	400	0	113	113	16.9 J	11.4		13.3	11.5	17.2
Magnesium	MG/KG	25200 ¹	100%		0	114	114	3090	4770		4400	5430	7680
Manganese	MG/KG	1,540	100%	1,760	0	114	114	373 J	547		531	581	493
Mercury	MG/KG	0.327	99%	23	0	113	114	0.064	0.028 J		0.02 J	0.028 J	0.02 J
Nickel	MG/KG	38.6	100%	1,560	0	114	114	19.2	26.2 J		24.4 J	29.4 J	27.6 J
Potassium	MG/KG	1,750	100%		0	114	114	1240	1090		1050	1090	1070
Selenium	MG/KG	3.4	25%	390	0	28	114	1.1 U	0.64 UJ		0.71 UJ	0.67 UJ	0.76 UJ

Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.09 U	0.54 U		0.6 U	0.56 U	0.19 U
Sodium	MG/KG	164	75%		0	86	114	45.4 U	31.6 U		44.5 J	47.6 J	76.9 J
Thallium	MG/KG	2.1	25%	5.2	0	28	114	1.2 U	0.72 U		0.79 U	0.75 U	0.85 U
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	19.7 J	18.9 J		17.7 J	19.6 J	15.7 J
Zinc	MG/KG	591	100%	23,500	0	114	114	76.2 J	85.4 J		92.6 J	85.8 J	76.1 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.

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.

Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXPRE201	11EXPRE201	11EXPRF1101	11EXPRF201	11EXPRG101	11EXPRG1201
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXPRE201	11EXFLD002	11EXPRF1101	11EXPRF201	11EXPRG101	11EXPRG1201
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								12/6/2006	12/21/2006	12/6/2006	12/6/2006	12/7/2006	12/6/2006
QC CODE								SA	SA	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	15 U		5 U	10 U	6 U	5 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	15 U		5 U	10 U	6 U	5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		0	0	114	15 U		5 U	10 U	6 U	5 U
1,1,2-Trichloroethane	UG/KG	0	0%		0	0	114	15 U		5 U	10 U	6 U	5 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	15 U		5 U	10 U	6 U	5 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	15 U		5 U	10 U	6 U	5 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		0	0	114	15 U		5 U	10 U	6 U	5 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	15 U		5 U	10 U	6 U	5 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		0	0	114	15 U		5 U	10 U	6 U	5 U
1,2-Dibromoethane	UG/KG	0	0%		0	0	114	15 U		5 U	10 U	6 U	5 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	15 U		5 U	10 U	6 U	5 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	15 U		5 U	10 U	6 U	5 U
1,2-Dichloropropane	UG/KG	0	0%		0	0	114	15 U		5 U	10 U	6 U	5 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	15 U		5 U	10 U	6 U	5 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	15 U		5 U	10 U	6 U	5 U
Acetone	UG/KG	67	2%	200	0	2	106	77 U		21 J	51 U	31 U	27 U
Benzene	UG/KG	0	0%	60	0	0	114	15 U		5 U	10 U	6 U	5 U
Bromochloromethane	UG/KG	0	0%		0	0	114	15 U		5 U	10 U	6 U	5 U
Bromodichloromethane	UG/KG	0	0%		0	0	114	15 U		5 U	10 U	6 U	5 U
Bromoform	UG/KG	0	0%		0	0	114	15 U		5 U	10 U	6 U	5 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	15 U		5 U	10 U	6 U	5 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	15 U		5 U	10 U	6 U	5 U
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	15 U		5 U	10 U	6 U	5 U
Chlorodibromomethane	UG/KG	0	0%		0	0	114	15 U		5 U	10 U	6 U	5 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	31 U		10 U	20 U	12 U	11 U
Chloroform	UG/KG	0	0%	300	0	0	114	15 U		5 U	10 U	6 U	5 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		0	1	114	15 U		5 U	10 U	6 U	5 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	15 U		5 U	10 U	6 U	5 U
Cyclohexane	UG/KG	0	0%		0	0	114	15 U		5 U	10 U	6 U	5 U
Dichlorodifluoromethane	UG/KG	2	4%		0	5	114	15 U		5 U	10 U	6 U	5 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	15 U		5 U	10 U	6 U	5 U
Isopropylbenzene	UG/KG	0	0%		0	0	114	15 U		5 U	10 U	6 U	5 U
Methyl Acetate	UG/KG	0	0%		0	0	114	15 U		5 U	10 U	6 U	5 U
Methyl Tertbutyl Ether	UG/KG	0	0%		0	0	114	15 U		5 U	10 U	6 U	5 U
Methyl bromide	UG/KG	0	0%		0	0	88	31 UJ		10 UJ	20 UJ	12 UJ	11 UJ
Methyl butyl ketone	UG/KG	0	0%		0	0	114	77 U		26 U	51 U	31 U	27 U
Methyl chloride	UG/KG	0	0%		0	0	114	31 U		10 U	20 U	12 U	11 U
Methyl cyclohexane	UG/KG	0	0%		0	0	114	15 U		5 U	10 U	6 U	5 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	77 U		26 U	51 U	31 U	27 U

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY							SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	
LOCATION ID							11EXPRE201	11EXPRE201	11EXPRF1101	11EXPRF201	11EXPRG101	11EXPRG1201	
MATRIX							SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
SAMPLE ID							11EXPRE201	11EXFLD002	11EXPRF1101	11EXPRF201	11EXPRG101	11EXPRG1201	
SAMPLE DEPTH TO TOP OF SAMPLE							0	0	0	0	0	0	
SAMPLE DEPTH TO BOTTOM OF SAMPLE							0.2	0.2	0.2	0.2	0.2	0.2	
SAMPLE DATE							12/6/2006	12/21/2006	12/6/2006	12/6/2006	12/7/2006	12/6/2006	
QC CODE							SA	SA	SA	SA	SA	SA	
STUDY ID							IRA	IRA	IRA	IRA	IRA	IRA	
Parameter	Units	Maximum	Frequency	Cleanup	Number	Number	Number	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	
		Value	of Detection	Goal ²	of Exceedances ³	of Times Detected	of Samples Analyzed ⁴						
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	77 U		26 U	51 U	31 U	27 U
Methylene chloride	UG/KG	49	90%	100	0	103	114	25 J	12 J	12 J	8 J	10 J	10 J
Styrene	UG/KG	0	0%		0	0	114	15 U	5 U	10 U	6 U	5 U	5 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	15 U	5 U	10 U	6 U	5 U	5 U
Toluene	UG/KG	0	0%	1,500	0	0	114	15 U	5 U	10 U	6 U	5 U	5 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	46 U	16 U	31 U	18 U	16 U	16 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	15 U	5 U	10 U	6 U	5 U	5 U
Trans-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	15 U	5 U	10 U	6 U	5 U	5 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	15 U	5 U	10 U	6 U	5 U	5 U
Trichlorofluoromethane	UG/KG	0	0%		0	0	114	15 UJ	5 UJ	10 UJ	6 U	5 UJ	5 UJ
Vinyl chloride	UG/KG	0	0%	200	0	0	114	31 U		10 U	20 U	12 U	11 U
Carcinogenic PAHs													
Benzo(a)anthracene	UG/KG	4,800	49%		0	58	119		33 J	470	710	80 J	79 J
Benzo(a)pyrene	UG/KG	4,500	45%		0	54	119		29 J	340 J	650	83 J	50 J
Benzo(b)fluoranthene	UG/KG	7,400	48%		0	57	119		39 J	880 J	1200 J	160 J	140 J
Benzo(k)fluoranthene	UG/KG	2,100	19%		0	23	119		400 U	410 UJ	590 UJ	450 UJ	390 UJ
Chrysene	UG/KG	5,500	47%		0	56	119		35 J	530	690	96 J	92 J
Dibenz(a,h)anthracene	UG/KG	850	30%		0	36	119		400 U	110 J	110 J	450 U	390 U
Indeno(1,2,3-cd)pyrene	UG/KG	2,800	42%		0	50	119		400 U	310 J	400 J	60 J	44 J
BTE (calculated)	MG/KG	7	100%	10 ^b	0	119	119		0.26	0.62	1.0	0.34	0.27
Metals													
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	9730		9510 J	11700	11900 J	10300 J
Antimony	MG/KG	11.3	18%	31	0	21	114	0.74 U		0.76 U	0.89 U	1.1 J	0.78 U
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	4.6		5.4	4.4	7.1	4.5
Barium	MG/KG	248	100%	5,370	0	114	114	84.7		81.7	99.6	125 J	62.8
Beryllium	MG/KG	1	100%	150	0	114	114	0.58		0.51	0.6	0.69	0.53
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.73		0.25	0.42	0.51	0.12 J
Calcium	MG/KG	216,000	100%		0	114	114	75400 J		26500 J	7160 J	4820 J	17300 J
Chromium	MG/KG	44.5	100%		0	113	113	14.6		14.6	16.8 J	17.3 J	15.4
Cobalt	MG/KG	16.8	100%	903	0	114	114	6.1 J		8.7 J	6.8 J	10 J	7.5 J
Copper	MG/KG	131	100%	3,130	0	114	114	22		19.5	22.6	18.6	20.6
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	17600 J		20600 J	20100 J	23500 J	20500 J
Lead	MG/KG	400	100%	400	0	113	113	55.6 J		16.9	22 J	32.6 J	11.8
Magnesium	MG/KG	25200 ¹	100%		0	114	114	4200		9360	3480	3600 J	7180
Manganese	MG/KG	1,540	100%	1,760	0	114	114	429 J		715	338 J	666 J	280
Mercury	MG/KG	0.327	99%	23	0	113	114	0.157		0.016 J	0.067	0.046 J	0.029 J
Nickel	MG/KG	38.6	100%	1,560	0	114	114	18		26.2 J	20.9	21.7 J	23.6 J
Potassium	MG/KG	1,750	100%		0	114	114	1260		932	1600	1310 J	891
Selenium	MG/KG	3.4	25%	390	0	28	114	0.89 U		0.65 UJ	1.1 U	0.78 UJ	0.67 UJ

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.73 U		0.55 U	0.17 U	0.2 U	0.57 U
Sodium	MG/KG	164	75%		0	86	114	73.9 J	66.9 J	44.4 U	71.2 J	49.9 J	
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.98 U	0.73 U	1.2 U	0.88 U	0.75 U	
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	18.8 J	15.9 J	20.2 J	22.8 J	17.1 J	
Zinc	MG/KG	591	100%	23,500	0	114	114	119 J	81.9 J	91.7 J	92.9 J	73.8 J	

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.

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.

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXPRG201	11EXPRG201	11EXPRH1201	11EXPRH201	11EXPRH301	11EXPRH401
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXPRG202	11EXPRG201	11EXPRH1201	11EXPRH201	11EXPRH301	11EXPRH401
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								12/6/2006	12/6/2006	12/6/2006	12/7/2006	12/6/2006	12/21/2006
QC CODE								DU	SA	SA	SA	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	8 U	9 U	7 U	9 U	6 U	7 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	8 U	9 U	7 U	9 U	6 U	7 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		0	0	114	8 U	9 U	7 U	9 U	6 U	7 U
1,1,2-Trichloroethane	UG/KG	0	0%		0	0	114	8 U	9 U	7 U	9 U	6 U	7 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	8 U	9 U	7 U	9 U	6 U	7 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	8 U	9 U	7 U	9 U	6 U	7 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		0	0	114	8 U	9 U	7 U	9 UJ	6 U	7 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	8 U	9 U	7 U	9 UJ	6 U	7 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		0	0	114	8 U	9 U	7 U	9 U	6 U	7 U
1,2-Dibromoethane	UG/KG	0	0%		0	0	114	8 U	9 U	7 U	9 U	6 U	7 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	8 U	9 U	7 U	9 U	6 U	7 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	8 U	9 U	7 U	9 U	6 U	7 U
1,2-Dichloropropane	UG/KG	0	0%		0	0	114	8 U	9 U	7 U	9 U	6 U	7 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	8 U	9 U	7 U	9 U	6 U	7 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	8 U	9 U	7 U	9 U	6 U	7 U
Acetone	UG/KG	67	2%	200	0	2	106	41 U	46 UJ	33 U	46 U	30 U	34 U
Benzene	UG/KG	0	0%	60	0	0	114	8 U	9 U	7 U	9 U	6 U	7 U
Bromochloromethane	UG/KG	0	0%		0	0	114	8 U	9 U	7 U	9 U	6 U	7 U
Bromodichloromethane	UG/KG	0	0%		0	0	114	8 U	9 U	7 U	9 U	6 U	7 U
Bromoform	UG/KG	0	0%		0	0	114	8 U	9 U	7 U	9 U	6 U	7 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	8 U	9 U	7 U	9 U	6 U	7 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	8 U	9 UJ	7 U	9 UJ	6 U	7 UJ
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	8 U	9 U	7 U	9 U	6 U	7 U
Chlorodibromomethane	UG/KG	0	0%		0	0	114	8 U	9 U	7 U	9 U	6 U	7 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	16 U	18 U	13 U	18 U	12 U	14 UJ
Chloroform	UG/KG	0	0%	300	0	0	114	8 U	9 U	7 U	9 U	6 U	7 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		0	1	114	8 U	9 U	7 U	9 U	6 U	7 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	8 U	9 U	7 U	9 U	6 U	7 U
Cyclohexane	UG/KG	0	0%		0	0	114	8 U	9 U	7 U	9 U	6 U	7 U
Dichlorodifluoromethane	UG/KG	2	4%		0	5	114	8 U	9 U	7 U	9 U	6 U	7 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	8 U	9 U	7 U	9 U	6 U	7 U
Isopropylbenzene	UG/KG	0	0%		0	0	114	8 U	9 U	7 U	9 U	6 U	7 U
Methyl Acetate	UG/KG	0	0%		0	0	114	8 U	9 UJ	7 U	9 U	6 U	7 U
Methyl Tertbutyl Ether	UG/KG	0	0%		0	0	114	8 U	9 UJ	7 U	9 UJ	6 U	7 U
Methyl bromide	UG/KG	0	0%		0	0	88	16 UJ	18 UR	13 UJ	18 UJ	12 UJ	14 UR
Methyl butyl ketone	UG/KG	0	0%		0	0	114	41 U	46 U	33 U	46 U	30 U	34 U
Methyl chloride	UG/KG	0	0%		0	0	114	16 U	18 U	13 U	18 U	12 U	14 U
Methyl cyclohexane	UG/KG	0	0%		0	0	114	8 U	9 U	7 U	9 U	6 U	7 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	41 U	46 U	33 U	46 U	30 U	34 U

Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11

FACILITY							SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	
LOCATION ID							11EXPRG201	11EXPRG201	11EXPRH1201	11EXPRH201	11EXPRH301	11EXPRH401	
MATRIX							SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
SAMPLE ID							11EXPRG202	11EXPRG201	11EXPRH1201	11EXPRH201	11EXPRH301	11EXPRH401	
SAMPLE DEPTH TO TOP OF SAMPLE							0	0	0	0	0	0	
SAMPLE DEPTH TO BOTTOM OF SAMPLE							0.2	0.2	0.2	0.2	0.2	0.2	
SAMPLE DATE							12/6/2006	12/6/2006	12/6/2006	12/7/2006	12/6/2006	12/21/2006	
QC CODE							DU	SA	SA	SA	SA	SA	
STUDY ID							IRA	IRA	IRA	IRA	IRA	IRA	
Parameter	Units	Maximum	Frequency	Cleanup	Number	Number	Number	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
		Value	of Detection	Goal ²	of Exceedances ³	of Times Detected	of Samples Analyzed ⁴						
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	41 U	46 U	33 U	46 U	30 U	34 U
Methylene chloride	UG/KG	49	90%	100	0	103	114	8 J	10 J	18 J	13 J	8 J	15 J
Styrene	UG/KG	0	0%		0	0	114	8 U	9 U	7 U	9 U	6 U	7 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	8 U	9 U	7 U	9 U	6 U	7 U
Toluene	UG/KG	0	0%	1,500	0	0	114	8 U	9 U	7 U	9 U	6 U	7 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	24 U	28 U	20 U	27 U	18 U	21 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	8 U	9 UJ	7 U	9 UJ	6 U	7 U
Trans-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	8 U	9 U	7 U	9 U	6 U	7 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	8 U	9 U	7 U	9 U	6 U	7 U
Trichlorofluoromethane	UG/KG	0	0%		0	0	114	8 UJ	9 U	7 UJ	9 U	6 UJ	7 U
Vinyl chloride	UG/KG	0	0%	200	0	0	114	16 U	18 U	13 U	18 U	12 U	14 U
Carcinogenic PAHs													
Benzo(a)anthracene	UG/KG	4,800	49%		0	58	119	5500 J	1000 J	530	1500	220 J	
Benzo(a)pyrene	UG/KG	4,500	45%		0	54	119	5200 J	880 J	350 J	1300	210 J	
Benzo(b)fluoranthene	UG/KG	7,400	48%		0	57	119	9700 J	1400 J	740 J	2300 J	300 J	
Benzo(k)fluoranthene	UG/KG	2,100	19%		0	23	119	4800 UJ	340 J	430 UJ	500 UJ	120 J	
Chrysene	UG/KG	5,500	47%		0	56	119	5700 J	920 J	520	1600	230 J	
Dibenz(a,h)anthracene	UG/KG	850	30%		0	36	119	940 J	160 J	91 J	260 J	44 J	
Indeno(1,2,3-cd)pyrene	UG/KG	2,800	42%		0	50	119	3400 J	550 J	250 J	810	140 J	
BTE (calculated)	MG/KG	7	100%	10 ^b	0	119	119	8.1	1.3	0.60	2.0	0.32	
Metals													
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	11600	11000	9360 J	11000 J	11500	11600 J
Antimony	MG/KG	11.3	18%	31	0	21	114	0.71 U	0.72 U	0.87 U	1.1 UJ	0.69 U	1.7 J
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	6.1	5.2	4.7	4.8	4.9	5.5 J
Barium	MG/KG	248	100%	5,370	0	114	114	88	87.9	61	102 J	96	98.5 J
Beryllium	MG/KG	1	100%	150	0	114	114	0.58	0.56	0.49	0.57	0.57	0.66 J
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.46	0.4	0.19 J	0.5	0.41	1 J
Calcium	MG/KG	216,000	100%		0	114	114	5080 J	4820 J	9120 J	7860 J	4570 J	8820 J
Chromium	MG/KG	44.5	100%		0	113	113	17.7 J	16.4 J	14.2	16.8 J	16 J	19.8 J
Cobalt	MG/KG	16.8	100%	903	0	114	114	8.6 J	7.6 J	7.4 J	7 J	6.8 J	8.4 J
Copper	MG/KG	131	100%	3,130	0	114	114	22.7	22	19.5	22.4	19.3	44.8 J
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	22700 J	19900 J	18700 J	19000 J	19600 J	20900 J
Lead	MG/KG	400	100%	400	0	113	113	26.2 J	25.3 J	26.4	36.2 J	15.7 J	57.3 J
Magnesium	MG/KG	25200 ¹	100%		0	114	114	4160	3580	5070	3480 J	2940	3750 J
Manganese	MG/KG	1,540	100%	1,760	0	114	114	376 J	360 J	299	875 J	279 J	229 J
Mercury	MG/KG	0.327	99%	23	0	113	114	0.029	0.059	0.03 J	0.061 J	0.046	0.144 J
Nickel	MG/KG	38.6	100%	1,560	0	114	114	24.3	21.5	21.5 J	20.2 J	19	24.1 J
Potassium	MG/KG	1,750	100%		0	114	114	1180	1170	998	1430 J	1200	1380 J
Selenium	MG/KG	3.4	25%	390	0	28	114	0.85 U	0.86 U	0.74 UJ	0.97 UJ	0.83 U	2.1 J

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

		SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11						
FACILITY		SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11						
LOCATION ID		11EXPRG201	11EXPRG201	11EXPRH1201	11EXPRH201	11EXPRH301	11EXPRH401						
MATRIX		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL						
SAMPLE ID		11EXPRG202	11EXPRG201	11EXPRH1201	11EXPRH201	11EXPRH301	11EXPRH401						
SAMPLE DEPTH TO TOP OF SAMPLE		0	0	0	0	0	0						
SAMPLE DEPTH TO BOTTOM OF SAMPLE		0.2	0.2	0.2	0.2	0.2	0.2						
SAMPLE DATE		12/6/2006	12/6/2006	12/6/2006	12/7/2006	12/6/2006	12/21/2006						
QC CODE		DU	SA	SA	SA	SA	SA						
STUDY ID		IRA	IRA	IRA	IRA	IRA	IRA						
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.14 U	0.7 U	0.63 U	0.25 U	0.14 U	0.43 J
Sodium	MG/KG	164	75%		0	86	114	48.8 J	60.9 J	36.4 U	51.1 J	41.1 J	227 UJ
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.93 U	0.94 U	0.83 U	1.1 U	0.91 U	0.85 J
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	21.3 J	19.7 J	15.8 J	19.4 J	22.1 J	21.5 J
Zinc	MG/KG	591	100%	23,500	0	114	114	94.2 J	84.4 J	74.2 J	103 J	73.3 J	207 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.

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.

Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11

FACILITY		SEAD-11						SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	
LOCATION ID		11EXPRI1201						11EXPRI401	11EXPRI402	11EXPRI501	11EXPRI601	11EXPRI701	
MATRIX		SOIL						SOIL	SOIL	SOIL	SOIL	SOIL	
SAMPLE ID		11EXPRI1201						11EXPRI401	11EXPRI402	11EXPRI501	11EXPRI601	11EXPRI701	
SAMPLE DEPTH TO TOP OF SAMPLE		0						0	0	0	0	0	
SAMPLE DEPTH TO BOTTOM OF SAMPLE		0.2						0.2	0.2	0.2	0.2	0.2	
SAMPLE DATE		12/6/2006						12/6/2006	1/5/2007	12/6/2006	12/6/2006	12/6/2006	
QC CODE		SA						SA	SA	SA	SA	SA	
STUDY ID		IRA						IRA	IRA	IRA	IRA	IRA	
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	5 U	10 U	5 U	6 U	5 U	5 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	5 U	10 U	5 U	6 U	5 U	5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		0	0	114	5 U	10 U	5 U	6 U	5 U	5 U
1,1,2-Trichloroethane	UG/KG	0	0%		0	0	114	5 U	10 U	5 U	6 U	5 U	5 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	5 U	10 U	5 U	6 U	5 U	5 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	5 U	10 U	5 U	6 U	5 U	5 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		0	0	114	5 U	10 U	5 U	6 U	5 U	5 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	5 U	10 U	5 U	6 U	5 U	5 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		0	0	114	5 U	10 U	5 U	6 U	5 U	5 U
1,2-Dibromoethane	UG/KG	0	0%		0	0	114	5 U	10 U	5 U	6 U	5 U	5 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	5 U	10 U	5 U	6 U	5 U	5 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	5 U	10 U	5 U	6 U	5 U	5 U
1,2-Dichloropropane	UG/KG	0	0%		0	0	114	5 U	10 U	5 U	6 U	5 U	5 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	5 U	10 U	5 U	6 U	5 U	5 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	5 U	10 U	5 U	6 U	5 U	5 U
Acetone	UG/KG	67	2%	200	0	2	106	23 U	48 UJ	25 UJ	28 UJ	26 UJ	26 UJ
Benzene	UG/KG	0	0%	60	0	0	114	5 U	10 U	5 U	6 U	5 U	5 U
Bromochloromethane	UG/KG	0	0%		0	0	114	5 U	10 U	5 U	6 U	5 U	5 U
Bromodichloromethane	UG/KG	0	0%		0	0	114	5 U	10 U	5 U	6 U	5 U	5 U
Bromoform	UG/KG	0	0%		0	0	114	5 U	10 U	5 U	6 U	5 U	5 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	5 U	10 U	5 U	6 U	5 U	5 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	5 U	10 UJ	5 UJ	6 UJ	5 UJ	5 UJ
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	5 U	10 U	5 U	6 U	5 U	5 U
Chlorodibromomethane	UG/KG	0	0%		0	0	114	5 U	10 U	5 U	6 U	5 U	5 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	9 U	19 U	10 U	11 U	10 U	10 U
Chloroform	UG/KG	0	0%	300	0	0	114	5 U	10 U	5 U	6 U	5 U	5 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		0	1	114	5 U	10 U	5 U	6 U	5 U	5 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	5 U	10 U	5 U	6 U	5 U	5 U
Cyclohexane	UG/KG	0	0%		0	0	114	5 U	10 U	5 U	6 U	5 U	5 U
Dichlorodifluoromethane	UG/KG	2	4%		0	5	114	5 U	10 U	5 U	6 U	5 U	5 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	5 U	10 U	5 U	6 U	5 U	5 U
Isopropylbenzene	UG/KG	0	0%		0	0	114	5 U	10 U	5 U	6 U	5 U	5 U
Methyl Acetate	UG/KG	0	0%		0	0	114	5 U	10 UJ	5 UJ	6 UJ	5 UJ	5 UJ
Methyl Tertbutyl Ether	UG/KG	0	0%		0	0	114	5 U	10 UJ	5 UJ	6 UJ	5 UJ	5 UJ
Methyl bromide	UG/KG	0	0%		0	0	88	9 UJ	19 UR	10 UR	11 UR	10 UR	10 UR
Methyl butyl ketone	UG/KG	0	0%		0	0	114	23 U	48 U	25 U	28 U	26 U	26 U
Methyl chloride	UG/KG	0	0%		0	0	114	9 U	19 U	10 U	11 U	10 U	10 U
Methyl cyclohexane	UG/KG	0	0%		0	0	114	5 U	10 U	5 U	6 U	5 U	5 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	23 U	48 U	25 U	28 U	26 U	26 U

Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11

FACILITY		SEAD-11						SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID		11EXPRI1201						11EXPRI401	11EXPRI402	11EXPRI501	11EXPRI601	11EXPRI701	
MATRIX		SOIL						SOIL	SOIL	SOIL	SOIL	SOIL	
SAMPLE ID		11EXPRI1201						11EXPRI401	11EXPRI402	11EXPRI501	11EXPRI601	11EXPRI701	
SAMPLE DEPTH TO TOP OF SAMPLE		0						0	0	0	0	0	
SAMPLE DEPTH TO BOTTOM OF SAMPLE		0.2						0.2	0.2	0.2	0.2	0.2	
SAMPLE DATE		12/6/2006						12/6/2006	1/5/2007	12/6/2006	12/6/2006	12/6/2006	
QC CODE		SA						SA	SA	SA	SA	SA	
STUDY ID		IRA						IRA	IRA	IRA	IRA	IRA	
Parameter	Units	Maximum	Frequency	Cleanup	Number	Number	Number	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
		Value	of Detection	Goal ²	of Exceedances ³	of Times Detected	of Samples Analyzed ⁴						
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	23 U	48 U		25 U	28 U	26 U
Methylene chloride	UG/KG	49	90%	100	0	103	114	17 J	14 J		12 J	9 J	7 J
Styrene	UG/KG	0	0%		0	0	114	5 U	10 U		5 U	6 U	5 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	5 U	10 U		5 U	6 U	5 U
Toluene	UG/KG	0	0%	1,500	0	0	114	5 U	10 U		5 U	6 U	5 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	14 U	29 U		15 U	17 U	16 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	5 U	10 UJ		5 UJ	6 UJ	5 UJ
Trans-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	5 U	10 U		5 U	6 U	5 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	5 U	10 U		5 U	6 U	5 U
Trichlorofluoromethane	UG/KG	0	0%		0	0	114	5 UJ	10 U		5 U	6 U	5 U
Vinyl chloride	UG/KG	0	0%	200	0	0	114	9 U	19 U		10 U	11 U	10 U
Carcinogenic PAHs													
Benzo(a)anthracene	UG/KG	4,800	49%		0	58	119	380 U	2000 J	340	680	31 J	72 J
Benzo(a)pyrene	UG/KG	4,500	45%		0	54	119	380 U	1800 J	280	630	22 J	61 J
Benzo(b)fluoranthene	UG/KG	7,400	48%		0	57	119	380 U	2600 J	510 J	930	32 J	84 J
Benzo(k)fluoranthene	UG/KG	2,100	19%		0	23	119	380 U	1100 J	190 UJ	240 J	420 U	27 J
Chrysene	UG/KG	5,500	47%		0	56	119	380 U	2100 J	300	630	24 J	60 J
Dibenz(a,h)anthracene	UG/KG	850	30%		0	36	119	380 U	340 J	46 J	110 J	420 U	13 J
Indeno(1,2,3-cd)pyrene	UG/KG	2,800	42%		0	50	119	380 U	1200 J	160 J	400	16 J	46 J
BTE (calculated)	MG/KG	7	100%	10 ^b	0	119	119	0.44	2.8	0.43	0.95	0.24	0.10
Metals													
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	10100 J	12400		11200	12000	12600
Antimony	MG/KG	11.3	18%	31	0	21	114	0.75 U	1.3 J		0.64 U	0.66 U	0.63 U
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	5.6	4.7		5.2	6	5.6
Barium	MG/KG	248	100%	5,370	0	114	114	60.6	109		88.7	86.1	111
Beryllium	MG/KG	1	100%	150	0	114	114	0.58	0.61		0.58	0.62	0.68
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.2 J	0.77		0.42	0.35	0.4
Calcium	MG/KG	216,000	100%		0	114	114	14900 J	8070 J		24400 J	15500 J	3270 J
Chromium	MG/KG	44.5	100%		0	113	113	16.6	20.2 J		16.6 J	17.3 J	18.1 J
Cobalt	MG/KG	16.8	100%	903	0	114	114	11.1 J	7.5 J		8.3 J	8.6 J	10.7 J
Copper	MG/KG	131	100%	3,130	0	114	114	20.2	32.1		17.1	17.8	16.3
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	24500 J	20900 J		22100 J	23900 J	25500 J
Lead	MG/KG	400	100%	400	0	113	113	16.9	42.7 J		15.2 J	13.5 J	15.2 J
Magnesium	MG/KG	25200 ¹	100%		0	114	114	6070	3910		7570	4780	3430
Manganese	MG/KG	1,540	100%	1,760	0	114	114	524	334 J		728 J	455 J	844 J
Mercury	MG/KG	0.327	99%	23	0	113	114	0.02 J	0.09		0.017 J	0.035	0.041
Nickel	MG/KG	38.6	100%	1,560	0	114	114	29.7 J	23.9		24	23.7	24
Potassium	MG/KG	1,750	100%		0	114	114	933	1550		1180	1290	1050
Selenium	MG/KG	3.4	25%	390	0	28	114	0.64 UJ	1.1 U		0.77 U	0.79 U	0.76 U

**Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11**

Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
FACILITY													
LOCATION ID								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
MATRIX								11EXPRI1201	11EXPRI401	11EXPRI402	11EXPRI501	11EXPRI601	11EXPRI701
SAMPLE ID								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH TO TOP OF SAMPLE								11EXPRI1201	11EXPRI401	11EXPRI402	11EXPRI501	11EXPRI601	11EXPRI701
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0	0	0	0	0	0
SAMPLE DATE								0.2	0.2	0.2	0.2	0.2	0.2
QC CODE								12/6/2006	12/6/2006	1/5/2007	12/6/2006	12/6/2006	12/6/2006
STUDY ID								SA	SA	SA	SA	SA	SA
								IRA	IRA	IRA	IRA	IRA	IRA
Silver	MG/KG	2.2	5%	390	0	6	114	0.54 U	0.88 U		0.13 U	0.13 U	0.62 U
Sodium	MG/KG	164	75%		0	86	114	42.8 J	54.5 J		63 J	64.8 J	43.2 J
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.72 U	1.2 U		0.85 U	0.86 U	0.83 U
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	16.1 J	22.3 J		18.9 J	19.8 J	21.2 J
Zinc	MG/KG	591	100%	23,500	0	114	114	63.9 J	161 J		98 J	103 J	86.9 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.

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.

Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11

FACILITY		SEAD-11						SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID		11EXPRJ1801						11EXPRJ1001	11EXPRJ1001	11EXPRJ1001	11EXPRJ1201	11EXPRJ1201	11EXPRJ901
MATRIX		SOIL						SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID		11EXPRJ1801						11EXPRJ1001	11EXPRJ1101	11EXPRJ1202	11EXPRJ1201	11EXPRJ901	
SAMPLE DEPTH TO TOP OF SAMPLE		0						0	0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE		0.2						0.2	0.2	0.2	0.2	0.2	0.2
SAMPLE DATE		12/6/2006						12/6/2006	12/6/2006	12/6/2006	12/6/2006	12/6/2006	12/6/2006
QC CODE		SA						SA	SA	SA	DU	SA	SA
STUDY ID		IRA						IRA	IRA	IRA	IRA	IRA	IRA
Parameter	Units	Maximum Value	Frequency of Detection	Cleanup Goal ²	Number of Exceedances ³	Number of Times Detected	Number of Samples Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/KG	0	0%	800	0	0	114	5 U	4 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	600	0	0	114	5 U	4 U	5 U	5 U	5 U	5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/KG	0	0%		0	0	114	5 U	4 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	UG/KG	0	0%		0	0	114	5 U	4 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	UG/KG	0	0%	200	0	0	114	5 U	4 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene	UG/KG	0	0%	400	0	0	114	5 U	4 U	5 U	5 U	5 U	5 U
1,2,3-Trichlorobenzene	UG/KG	0	0%		0	0	114	5 U	4 U	5 U	5 U	5 U	5 U
1,2,4-Trichlorobenzene	UG/KG	0	0%	3,400	0	0	114	5 U	4 U	5 U	5 U	5 U	5 U
1,2-Dibromo-3-chloropropane	UG/KG	0	0%		0	0	114	5 U	4 U	5 U	5 U	5 U	5 U
1,2-Dibromoethane	UG/KG	0	0%		0	0	114	5 U	4 U	5 U	5 U	5 U	5 U
1,2-Dichlorobenzene	UG/KG	0	0%	7,900	0	0	114	5 U	4 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	UG/KG	0	0%	100	0	0	114	5 U	4 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	UG/KG	0	0%		0	0	114	5 U	4 U	5 U	5 U	5 U	5 U
1,3-Dichlorobenzene	UG/KG	0	0%	1,600	0	0	114	5 U	4 U	5 U	5 U	5 U	5 U
1,4-Dichlorobenzene	UG/KG	0	0%	8,500	0	0	114	5 U	4 U	5 U	5 U	5 U	5 U
Acetone	UG/KG	67	2%	200	0	2	106	27 UJ	21 UJ	26 UJ	25 U	23 U	26 UJ
Benzene	UG/KG	0	0%	60	0	0	114	5 U	4 U	5 U	5 U	5 U	5 U
Bromochloromethane	UG/KG	0	0%		0	0	114	5 U	4 U	5 U	5 U	5 U	5 U
Bromodichloromethane	UG/KG	0	0%		0	0	114	5 U	4 U	5 U	5 U	5 U	5 U
Bromoform	UG/KG	0	0%		0	0	114	5 U	4 U	5 U	5 U	5 U	5 U
Carbon disulfide	UG/KG	0	0%	2,700	0	0	114	5 U	4 U	5 U	5 U	5 U	5 U
Carbon tetrachloride	UG/KG	0	0%	600	0	0	114	5 UJ	4 UJ	5 UJ	5 U	5 U	5 UJ
Chlorobenzene	UG/KG	0	0%	1,700	0	0	114	5 U	4 U	5 U	5 U	5 U	5 U
Chlorodibromomethane	UG/KG	0	0%		0	0	114	5 U	4 U	5 U	5 U	5 U	5 U
Chloroethane	UG/KG	0	0%	1,900	0	0	114	11 U	8 U	10 U	10 U	9 U	10 U
Chloroform	UG/KG	0	0%	300	0	0	114	5 U	4 U	5 U	5 U	5 U	5 U
Cis-1,2-Dichloroethene	UG/KG	2	1%		0	1	114	5 U	4 U	5 U	5 U	5 U	5 U
Cis-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	5 U	4 U	5 U	5 U	5 U	5 U
Cyclohexane	UG/KG	0	0%		0	0	114	5 U	4 U	5 U	5 U	5 U	5 U
Dichlorodifluoromethane	UG/KG	2	4%		0	5	114	5 U	4 U	5 U	5 U	5 U	5 U
Ethyl benzene	UG/KG	0	0%	5,500	0	0	114	5 U	4 U	5 U	5 U	5 U	5 U
Isopropylbenzene	UG/KG	0	0%		0	0	114	5 U	4 U	5 U	5 U	5 U	5 U
Methyl Acetate	UG/KG	0	0%		0	0	114	5 UJ	4 UJ	5 UJ	5 U	5 U	5 UJ
Methyl Tertbutyl Ether	UG/KG	0	0%		0	0	114	5 UJ	4 UJ	5 UJ	5 U	5 U	5 UJ
Methyl bromide	UG/KG	0	0%		0	0	88	11 UR	8 UR	10 UR	10 UJ	9 UJ	10 UR
Methyl butyl ketone	UG/KG	0	0%		0	0	114	27 U	21 U	26 U	25 U	23 U	26 U
Methyl chloride	UG/KG	0	0%		0	0	114	11 U	8 U	10 U	10 U	9 U	10 U
Methyl cyclohexane	UG/KG	0	0%		0	0	114	5 U	4 U	5 U	5 U	5 U	5 U
Methyl ethyl ketone	UG/KG	0	0%	300	0	0	114	27 U	21 U	26 U	25 U	23 U	26 U

Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11

FACILITY							SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	
LOCATION ID							11EXPRJ1801	11EXPRJ1001	11EXPRJ1101	11EXPRJ1201	11EXPRJ1201	11EXPRJ901	
MATRIX							SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
SAMPLE ID							11EXPRJ1801	11EXPRJ1001	11EXPRJ1101	11EXPRJ1202	11EXPRJ1201	11EXPRJ901	
SAMPLE DEPTH TO TOP OF SAMPLE							0	0	0	0	0	0	
SAMPLE DEPTH TO BOTTOM OF SAMPLE							0.2	0.2	0.2	0.2	0.2	0.2	
SAMPLE DATE							12/6/2006	12/6/2006	12/6/2006	12/6/2006	12/6/2006	12/6/2006	
QC CODE							SA	SA	SA	DU	SA	SA	
STUDY ID							IRA	IRA	IRA	IRA	IRA	IRA	
Parameter	Units	Maximum	Frequency	Cleanup	Number	Number	Number	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
		Value	of Detection	Goal ²	of Exceedances ³	of Times Detected	of Samples Analyzed ⁴						
Methyl isobutyl ketone	UG/KG	0	0%	1,000	0	0	114	27 U	21 U	26 U	25 U	23 U	26 U
Methylene chloride	UG/KG	49	90%	100	0	103	114	6 J	5 J	9 J	9 J	10 J	5 J
Styrene	UG/KG	0	0%		0	0	114	5 U	4 U	5 U	5 U	5 U	5 U
Tetrachloroethene	UG/KG	2	2%	1,400	0	2	114	5 U	4 U	5 U	5 U	5 U	5 U
Toluene	UG/KG	0	0%	1,500	0	0	114	5 U	4 U	5 U	5 U	5 U	5 U
Total Xylenes	UG/KG	0	0%	1,200	0	0	114	16 U	13 U	16 U	15 U	14 U	15 U
Trans-1,2-Dichloroethene	UG/KG	0	0%	300	0	0	114	5 UJ	4 UJ	5 UJ	5 U	5 U	5 UJ
Trans-1,3-Dichloropropene	UG/KG	0	0%		0	0	114	5 U	4 U	5 U	5 U	5 U	5 U
Trichloroethene	UG/KG	77	19%	700	0	22	114	5 U	4 U	5 U	5 U	5 U	5 U
Trichlorofluoromethane	UG/KG	0	0%		0	0	114	5 U	4 U	5 U	5 UJ	5 UJ	5 U
Vinyl chloride	UG/KG	0	0%	200	0	0	114	11 U	8 U	10 U	10 U	9 U	10 U
Carcinogenic PAHs													
Benzo(a)anthracene	UG/KG	4,800	49%		0	58	119	75 J	400 J	190 J	59 J	27 J	26 J
Benzo(a)pyrene	UG/KG	4,500	45%		0	54	119	59 J	380 J	190 J	53 J	26 J	20 J
Benzo(b)fluoranthene	UG/KG	7,400	48%		0	57	119	70 J	360 J	180 J	98 J	28 J	29 J
Benzo(k)fluoranthene	UG/KG	2,100	19%		0	23	119	37 J	120 J	55 J	370 UJ	20 J	8 J
Chrysene	UG/KG	5,500	47%		0	56	119	57 J	470 J	260 J	61 J	32 J	16 J
Dibenz(a,h)anthracene	UG/KG	850	30%		0	36	119	12 J	91 J	42 J	370 U	370 U	400 U
Indeno(1,2,3-cd)pyrene	UG/KG	2,800	42%		0	50	119	39 J	220 J	120 J	44 J	22 J	17 J
BTE (calculated)	MG/KG	7	100%	10 ^b	0	119	119	0.09	0.57	0.28	0.26	0.22	0.23
Metals													
Aluminum	MG/KG	17,500	100%	76,100	0	114	114	12000	7750	12500	6440 J	6450 J	11600
Antimony	MG/KG	11.3	18%	31	0	21	114	3.2 J	0.59 U	0.6 U	3.4 J	0.72 U	0.68 J
Arsenic	MG/KG	19.5	100%	21.5 ^d	0	114	114	5.5	3.9	5.1	4.1	3.7	6.1
Barium	MG/KG	248	100%	5,370	0	114	114	119	46.5	62.4	35.2	34.3	80
Beryllium	MG/KG	1	100%	150	0	114	114	0.66	0.41	0.63	0.34	0.35	0.61
Cadmium	MG/KG	2.5	94%	37	0	107	114	0.49	0.22 J	0.36	0.16 J	0.27	0.41
Calcium	MG/KG	216,000	100%		0	114	114	3830 J	40300 J	29500 J	32600 J	53200 J	5680 J
Chromium	MG/KG	44.5	100%		0	113	113	19.9 J	11.6 J	19 J	10.3	10.7	17.2 J
Cobalt	MG/KG	16.8	100%	903	0	114	114	9.2 J	6.9 J	11.1 J	6.9 J	6 J	9.9 J
Copper	MG/KG	131	100%	3,130	0	114	114	25.6	19.3	23.8	17.8	17.3	24.7
Iron	MG/KG	51,100	100%	38,600 ^d	2	114	114	24100 J	16400 J	25000 J	14400 J	14300 J	24100 J
Lead	MG/KG	400	100%	400	0	113	113	101 J	14 J	20.8 J	64 J	16.4 J	93.3 J
Magnesium	MG/KG	25200 ¹	100%		0	114	114	3310	11200	7900	8940 J	13700 J	4880
Manganese	MG/KG	1,540	100%	1,760	0	114	114	785 J	393 J	607 J	325	330	706 J
Mercury	MG/KG	0.327	99%	23	0	113	114	0.051	0.053	0.03	0.016 J	0.022 J	0.065
Nickel	MG/KG	38.6	100%	1,560	0	114	114	22.7	19.1	28.9	17.1 J	17 J	28.9
Potassium	MG/KG	1,750	100%		0	114	114	1160	955	1200	800	869	1040
Selenium	MG/KG	3.4	25%	390	0	28	114	0.77 U	0.7 U	0.72 U	0.61 UJ	0.62 UJ	0.73 U

Appendix A
Table A1
Risk Assessment Soil Dataset
SEAD-11

								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
FACILITY								SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID								11EXPR1801	11EXPRJ1001	11EXPRJ1101	11EXPRJ1201	11EXPRJ1201	11EXPRJ1201
MATRIX								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE ID								11EXPR1801	11EXPRJ1001	11EXPRJ1101	11EXPRJ1202	11EXPRJ1201	11EXPRJ1201
SAMPLE DEPTH TO TOP OF SAMPLE								0	0	0	0	0	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE								0.2	0.2	0.2	0.2	0.2	0.2
SAMPLE DATE								12/6/2006	12/6/2006	12/6/2006	12/6/2006	12/6/2006	12/6/2006
QC CODE								SA	SA	SA	DU	SA	SA
STUDY ID								IRA	IRA	IRA	IRA	IRA	IRA
		Maximum	Frequency	Cleanup	Number	Number	Number						
Parameter	Units	Value	of	Goal ²	of	of Times	of Samples						
		Value	Detection	Goal ²	Exceedances ³	Detected	Analyzed ⁴	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Silver	MG/KG	2.2	5%	390	0	6	114	0.63 U	0.11 U	0.12 U	0.52 U	0.16 U	0.12 U
Sodium	MG/KG	164	75%		0	86	114	32.1 U	82.9 J	89.7 J	57.1 J	113 J	36.3 J
Thallium	MG/KG	2.1	25%	5.2	0	28	114	0.84 U	0.77 U	0.79 U	0.69 U	0.69 U	0.81 U
Vanadium	MG/KG	31.6	100%	78.2	0	114	114	20.5 J	14.1 J	22.2 J	11.7 J	13.2 J	21.1 J
Zinc	MG/KG	591	100%	23,500	0	114	114	149 J	82.7 J	102 J	58.3 J	59.1 J	155 J

Notes:

- (1) Maximum value came from sample-duplicate pair averaged value.
- (2) The cleanup goal (CUG) values were based on the following criteria:
 - a. VOCs: NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, Revised January 24, 1994.
 - b. cPAHs: Benzo(a)pyrene Toxicity Equivalence (BTE) calculation.
 - c. Metals: USEPA Region IX PRGs for soil for a residential scenario.
 - d. Since the PRGs for arsenic and iron were lower than the maximum SEDA site-wide background values, the CUGs for these parameters were replaced with the SEDA maximum background value.
- (3) The number of exceedances is not applicable (NA) for parameters without site-specific CUGs.
- (4) Sample-duplicate pairs were averaged and the average results were used in the summary statistics presented in this table. Note that this table includes data from all confirmatory soil sample collected, including failed samples.
- (5) A bolded and outlined cell indicates a concentration that exceeded the site-specific CUGs.

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.

Appendix A
Table A2
Risk Assessment Groundwater Dataset
SEAD-11

	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
FACILITY	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID	MW11-1	MW11-1	MW11-1	MW11-2	MW11-2	MW11-2	MW11-3	MW11-3	MW11-3
MATRIX	GW	GW	GW	GW	GW	GW	GW	GW	GW
SAMPLE ID	112101	112200	11RA20000	112100	112201	11RA20001	112102	112202	112202
SAMPLE DEPTH TO TOP OF SAMPLE	0	13	0	0	10	0	9	9	9
SAMPLE DEPTH TO BOTTOM OF SAMPLE	0	13	0	0	10	0	9	9	9
SAMPLE DATE	11/21/2000	2/27/2001	2/22/2007	11/21/2000	2/27/2001	2/21/2007	11/20/2000	2/27/2001	2/27/2001
QC CODE	SA	SA	SA	SA	SA	SA	SA	SA	SA
STUDY ID	SEAD-11 EECA	SEAD-11 EECA	LTM	SEAD-11 EECA	SEAD-11 EECA	LTM	SEAD-11 EECA	SEAD-11 EECA	SEAD-11 EECA
SAMPLING ROUND	1	2	1	1	2	1	1	2	2

Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds									
1,1,1,2-Tetrachloroethane	UG/L		0.5 U			0.5 U			0.5 U
1,1,1-Trichloroethane	UG/L	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U
1,1,2,2-Tetrachloroethane	UG/L	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L			1.8				1 U	
1,1,2-Trichloroethane	UG/L	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U
1,1-Dichloroethane	UG/L	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U
1,1-Dichloroethene	UG/L	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U
1,1-Dichloropropene	UG/L		0.5 U			0.5 U			0.5 U
1,2,3-Trichlorobenzene	UG/L		0.5 U	1 UJ		0.5 U	1 UJ		0.5 U
1,2,3-Trichloropropane	UG/L		0.5 U			0.5 U			0.5 U
1,2,4-Trichlorobenzene	UG/L	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U
1,2,4-Trimethylbenzene	UG/L		0.5 U			0.5 U			0.5 U
1,2-Dibromo-3-chloropropane	UG/L	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U
1,2-Dibromoethane	UG/L	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U
1,2-Dichlorobenzene	UG/L	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U
1,2-Dichloroethane	UG/L	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U
1,2-Dichloroethene (total)	UG/L								
1,2-Dichloropropane	UG/L	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U
1,3,5-Trimethylbenzene	UG/L		0.5 U			0.5 U			0.5 U
1,3-Dichlorobenzene	UG/L	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U
1,3-Dichloropropane	UG/L		0.5 U			0.5 U			0.5 U
1,4-Dichlorobenzene	UG/L	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U
2,2-Dichloropropane	UG/L		0.5 U			0.5 U			0.5 U
2-Chlorotoluene	UG/L		0.5 U			0.5 U			0.5 U
2-Nitropropane	UG/L		25 U			25 U			25 U
Acetone	UG/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acrylonitrile	UG/L		0.5 U			0.5 U			0.5 U
Allyl chloride	UG/L		0.5 U			0.5 U			0.5 U
Benzene	UG/L	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U
Bromobenzene	UG/L		0.5 U			0.5 U			0.5 U
Bromochloromethane	UG/L	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U
Bromodichloromethane	UG/L	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U
Bromoform	UG/L	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U
Butyl chloride	UG/L		0.5 U			0.5 U			0.5 U
Carbon disulfide	UG/L	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U
Carbon tetrachloride	UG/L	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U
Chloroacetonitrile	UG/L		25 U			25 U			25 U
Chlorobenzene	UG/L	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U
Chlorodibromomethane	UG/L	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U
Chloroethane	UG/L	1 U	0.5 U	1 UJ	1 U	0.5 U	1 UJ	1 U	0.5 U
Chloroform	UG/L	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U

Note: All results (except the shaded ones) were included in the risk assessment.

Appendix A
Table A2
Risk Assessment Groundwater Dataset
SEAD-11

FACILITY	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID	MW11-1	MW11-1	MW11-1	MW11-2	MW11-2	MW11-2	MW11-2	MW11-3	MW11-3
MATRIX	GW	GW	GW	GW	GW	GW	GW	GW	GW
SAMPLE ID	112101	112200	11RA20000	112100	112201	11RA20001	112102	112202	112202
SAMPLE DEPTH TO TOP OF SAMPLE	0	13	0	0	10	0	9	9	9
SAMPLE DEPTH TO BOTTOM OF SAMPLE	0	13	0	0	10	0	9	9	9
SAMPLE DATE	11/21/2000	2/27/2001	2/22/2007	11/21/2000	2/27/2001	2/21/2007	11/20/2000	2/27/2001	2/27/2001
QC CODE	SA	SA	SA	SA	SA	SA	SA	SA	SA
STUDY ID	SEAD-11 EECA	SEAD-11 EECA	LTM	SEAD-11 EECA	SEAD-11 EECA	LTM	SEAD-11 EECA	SEAD-11 EECA	SEAD-11 EECA
SAMPLING ROUND	1	2	1	1	2	1	1	2	2
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Cis-1,2-Dichloroethene	UG/L	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U
Cis-1,3-Dichloropropene	UG/L	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U
Cyclohexane	UG/L			1 U			1 U		
Dichlorodifluoromethane	UG/L		0.5 U	1 U		0.5 U	1 U		0.5 U
Dichloromethyl methyl ketone	UG/L		25 UR			25 UR			25 UR
Ethyl benzene	UG/L	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U
Ethyl ether	UG/L		0.5 U			0.5 U			0.5 U
Ethyl methacrylate	UG/L		0.5 U			0.5 U			0.5 U
Hexachlorobutadiene	UG/L		0.5 U			0.5 U			0.5 U
Hexachloroethane	UG/L		0.5 U			0.5 U			0.5 U
Isopropylbenzene	UG/L		0.5 U	1 U		0.5 U	1 U		0.5 U
Meta/Para Xylene	UG/L		0.5 U			0.5 U			0.5 U
Methacrylonitrile	UG/L		0.5 U			0.5 U			0.5 U
Methyl 2-propenoate	UG/L		0.5 UJ			0.5 UJ			0.5 UJ
Methyl Acetate	UG/L			1 UJ			1 UJ		
Methyl Tertbutyl Ether	UG/L		0.5 U	1 U		0.5 U	1 U		0.5 U
Methyl bromide	UG/L	1 U	0.5 U	1 UJ		0.5 U	1 UJ	1 U	0.5 U
Methyl butyl ketone	UG/L	5 U	2.5 U	5 U	5 U	2.5 U	5 U	5 U	2.5 U
Methyl chloride	UG/L	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U
Methyl cyclohexane	UG/L			1 U			1 U		
Methyl ethyl ketone	UG/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Methyl iodide	UG/L		0.5 U			0.5 U			0.5 U
Methyl isobutyl ketone	UG/L	5 U	2.5 UJ	5 U	5 U	2.5 UJ	5 U	5 U	2.5 UJ
Methyl methacrylate	UG/L		0.5 U			0.5 U			0.5 U
Methylene bromide	UG/L		0.5 U			0.5 U			0.5 U
Methylene chloride	UG/L	2 U	0.5 U	1 U	2 U	0.5 U	1 U	2 U	0.5 U
Naphthalene	UG/L		0.5 U			0.5 U			0.5 U
Nitrobenzene	UG/L		25 UR			25 UR			25 UR
Ortho Xylene	UG/L		0.5 U			0.5 U			0.5 U
Pentachloroethane	UG/L		0.5 U			0.5 U			0.5 U
Propionitrile	UG/L		25 U			25 U			25 U
Propylbenzene	UG/L		0.5 U			0.5 U			0.5 U
Styrene	UG/L	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U
Tetrachloroethene	UG/L	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U
Tetrahydrofuran	UG/L		2.5 U			2.5 U			2.5 U
Toluene	UG/L	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U
Total Xylenes	UG/L	1 U	0.5 U	3 U	1 U	0.5 U	3 U	1 U	0.5 U
Trans-1,2-Dichloroethene	UG/L	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U
Trans-1,3-Dichloropropene	UG/L	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U
Trans-1,4-Dichloro-2-butene	UG/L		0.5 U			0.5 U			0.5 U
Trichloroethene	UG/L	1 U	0.5 U	1 U	1 U	0.5 U	1 U	0.7 J	0.5 U
Trichlorofluoromethane	UG/L		0.5 U	1 UJ		0.5 U	1 UJ		0.5 U

Note: All results (except the shaded ones) were included in the risk assessment.

Appendix A
Table A2
Risk Assessment Groundwater Dataset
SEAD-11

	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
FACILITY	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID	MW11-1	MW11-1	MW11-1	MW11-2	MW11-2	MW11-2	MW11-2	MW11-3	MW11-3
MATRIX	GW	GW	GW	GW	GW	GW	GW	GW	GW
SAMPLE ID	112101	112200	11RA20000	112100	112201	11RA20001	112102	112202	112202
SAMPLE DEPTH TO TOP OF SAMPLE	0	13	0	0	10	0	9	9	9
SAMPLE DEPTH TO BOTTOM OF SAMPLE	0	13	0	0	10	0	9	9	9
SAMPLE DATE	11/21/2000	2/27/2001	2/22/2007	11/21/2000	2/27/2001	2/21/2007	11/20/2000	2/27/2001	2/27/2001
QC CODE	SA	SA	SA	SA	SA	SA	SA	SA	SA
STUDY ID	SEAD-11 EECA	SEAD-11 EECA	LTM	SEAD-11 EECA	SEAD-11 EECA	LTM	SEAD-11 EECA	SEAD-11 EECA	SEAD-11 EECA
SAMPLING ROUND	1	2	1	1	2	1	1	2	2
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Vinyl chloride	UG/L	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U
n-Butylbenzene	UG/L		0.5 U			0.5 U			0.5 U
p-Chlorotoluene	UG/L		0.5 U			0.5 U			0.5 U
p-Isopropyltoluene	UG/L		0.5 U			0.5 U			0.5 U
sec-Butylbenzene	UG/L		0.5 U			0.5 U			0.5 U
tert-Butylbenzene	UG/L		0.5 U			0.5 U			0.5 U
Semi Volatile Organic Compounds									
1,2,4-Trichlorobenzene	UG/L	1.1 U	1.1 U		1.1 U	1 U		1 U	1 U
1,2-Dichlorobenzene	UG/L	1.1 U	1.1 U		1.1 U	1 U		1 U	1 U
1,3-Dichlorobenzene	UG/L	1.1 U	1.1 U		1.1 U	1 U		1 U	1 U
1,4-Dichlorobenzene	UG/L	1.1 U	1.1 U		1.1 U	1 U		1 U	1 U
2,2'-oxybis(1-Chloropropane)	UG/L								
2,4,5-Trichlorophenol	UG/L	2.7 U	2.6 U		2.8 U	2.5 U		2.6 U	2.6 U
2,4,6-Trichlorophenol	UG/L	1.1 U	1.1 U		1.1 U	1 U		1 U	1 U
2,4-Dichlorophenol	UG/L	1.1 U	1.1 U		1.1 U	1 U		1 U	1 U
2,4-Dimethylphenol	UG/L	1.1 U	1.1 U		1.1 U	1 U		1 U	1 U
2,4-Dinitrophenol	UG/L	2.7 UJ	2.6 UJ		2.8 UJ	2.5 UJ		2.6 UJ	2.6 UJ
2,4-Dinitrotoluene	UG/L	1.1 U	1.1 U		1.1 U	1 U		1 U	1 U
2,6-Dinitrotoluene	UG/L	1.1 U	1.1 U		1.1 U	1 U		1 U	1 U
2-Chloronaphthalene	UG/L	1.1 U	1.1 UJ		1.1 U	1 UJ		1 U	1 UJ
2-Chlorophenol	UG/L	1.1 U	1.1 U		1.1 U	1 U		1 U	1 U
2-Methylnaphthalene	UG/L	1.1 U	1.1 U		1.1 U	1 U		1 U	1 U
2-Methylphenol	UG/L	1.1 U	1.1 U		1.1 U	1 U		1 U	1 U
2-Nitroaniline	UG/L	2.7 U	2.6 U		2.8 U	2.5 U		2.6 U	2.6 UJ
2-Nitrophenol	UG/L	1.1 U	1.1 U		1.1 U	1 U		1 U	1 U
3,3'-Dichlorobenzidine	UG/L	1.1 U	1.1 U		1.1 U	1 U		1 U	1 U
3-Nitroaniline	UG/L	2.7 U	2.6 UJ		2.8 U	2.5 UJ		2.6 U	2.6 UJ
4,6-Dinitro-2-methylphenol	UG/L	2.7 UJ	2.6 UJ		2.8 UJ	2.5 UJ		2.6 UJ	2.6 UJ
4-Bromophenyl phenyl ether	UG/L	1.1 U	1.1 U		1.1 U	1 U		1 U	1 U
4-Chloro-3-methylphenol	UG/L	1.1 U	1.1 U		1.1 U	1 U		1 U	1 U
4-Chloroaniline	UG/L	1.1 U	1.1 U		1.1 U	1 U		1 U	1 U
4-Chlorophenyl phenyl ether	UG/L	1.1 U	1.1 U		1.1 U	1 U		1 U	1 U
4-Methylphenol	UG/L	1.1 U	1.1 U		1.1 U	1 U		1 U	1 U
4-Nitroaniline	UG/L	2.7 U	2.6 UJ		2.8 U	2.5 UJ		2.6 U	2.6 UJ
4-Nitrophenol	UG/L	2.7 U	2.6 UJ		2.8 U	2.5 UJ		2.6 U	2.6 UJ
Acenaphthene	UG/L	1.1 U	1.1 U		1.1 U	1 U		1 U	1 U
Acenaphthylene	UG/L	1.1 U	1.1 U		1.1 U	1 U		1 U	1 U
Anthracene	UG/L	1.1 U	1.1 U		1.1 U	1 U		1 U	1 U
Benzo(a)anthracene	UG/L	1.1 U	1.1 U		1.1 U	1 U		1 U	1 U
Benzo(a)pyrene	UG/L	1.1 U	1.1 U		1.1 U	1 U		1 U	1 U
Benzo(b)fluoranthene	UG/L	1.1 U	1.1 U		1.1 U	1 U		1 U	1 U
Benzo(ghi)perylene	UG/L	1.1 U	1.1 U		1.1 U	1 U		1 U	1 U

Note: All results (except the shaded ones) were included in the risk assessment.

Appendix A
Table A2
Risk Assessment Groundwater Dataset
SEAD-11

FACILITY	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID	MW11-1	MW11-1	MW11-1	MW11-2	MW11-2	MW11-2	MW11-2	MW11-3	MW11-3
MATRIX	GW	GW	GW	GW	GW	GW	GW	GW	GW
SAMPLE ID	112101	112200	11RA20000	112100	112201	11RA20001	112102	112202	112202
SAMPLE DEPTH TO TOP OF SAMPLE	0	13	0	0	10	0	9	9	9
SAMPLE DEPTH TO BOTTOM OF SAMPLE	0	13	0	0	10	0	9	9	9
SAMPLE DATE	11/21/2000	2/27/2001	2/22/2007	11/21/2000	2/27/2001	2/21/2007	11/20/2000	2/27/2001	2/27/2001
QC CODE	SA	SA	SA	SA	SA	SA	SA	SA	SA
STUDY ID	SEAD-11 EECA	SEAD-11 EECA	LTM	SEAD-11 EECA	SEAD-11 EECA	LTM	SEAD-11 EECA	SEAD-11 EECA	SEAD-11 EECA
SAMPLING ROUND	1	2	1	1	2	1	1	2	2
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Benzo(k)fluoranthene	UG/L	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1 U
Bis(2-Chloroethoxy)methane	UG/L	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1 U
Bis(2-Chloroethyl)ether	UG/L	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1 U
Bis(2-Chloroisopropyl)ether	UG/L	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1 U
Bis(2-Ethylhexyl)phthalate	UG/L	1.1 U	1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U
Butylbenzylphthalate	UG/L	1.1 U	1.1 U	0.07 J	1.1 U	1 U	1 U	1 U	1 U
Carbazole	UG/L	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1 U
Chrysene	UG/L	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1 U
Di-n-butylphthalate	UG/L	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1 U
Di-n-octylphthalate	UG/L	1.1 U	1.1 U	1.1 U	1.1 U	0.072 J	1 U	1 U	1 U
Dibenz(a,h)anthracene	UG/L	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1 U
Dibenzofuran	UG/L	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1 U
Diethyl phthalate	UG/L	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1 U
Dimethylphthalate	UG/L	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1 U
Fluoranthene	UG/L	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1 U
Fluorene	UG/L	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1 U
Hexachlorobenzene	UG/L	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1 U
Hexachlorobutadiene	UG/L	1.1 U	1.1 UJ	1.1 U	1.1 U	1 UJ	1 U	1 UJ	1 UJ
Hexachlorocyclopentadiene	UG/L	1.1 U	1 UJ	1.1 U	1.1 U	1.1 UJ	1 U	1 UJ	1 UJ
Hexachloroethane	UG/L	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1 U
Indeno(1,2,3-cd)pyrene	UG/L	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1 U
Isophorone	UG/L	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1 U
N-Nitrosodiphenylamine	UG/L	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1 U
N-Nitrosodipropylamine	UG/L	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1 U
Naphthalene	UG/L	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1 U
Nitrobenzene	UG/L	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1 U
Pentachlorophenol	UG/L	2.7 U	2.6 UJ	2.8 U	2.7 U	2.5 UJ	2.6 U	2.6 UJ	2.6 UJ
Phenanthrene	UG/L	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1 U
Phenol	UG/L	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1 U
Pyrene	UG/L	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1 U
Explosives									
1,3,5-Trinitrobenzene	UG/L	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,3-Dinitrobenzene	UG/L	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	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
2,4-Dinitrotoluene	UG/L	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
2,6-Dinitrotoluene	UG/L	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-Nitrotoluene	UG/L	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-amino-4,6-Dinitrotoluene	UG/L	0.25 U	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	0.25 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	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
4-amino-2,6-Dinitrotoluene	UG/L	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
HMX	UG/L	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U

Note: All results (except the shaded ones) were included in the risk assessment.

Appendix A
Table A2
Risk Assessment Groundwater Dataset
SEAD-11

FACILITY	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID	MW11-1	MW11-1	MW11-1	MW11-2	MW11-2	MW11-2	MW11-3	MW11-3	MW11-3
MATRIX	GW	GW	GW	GW	GW	GW	GW	GW	GW
SAMPLE ID	112101	112200	11RA20000	112100	112201	11RA20001	112102	112202	112202
SAMPLE DEPTH TO TOP OF SAMPLE	0	13	0	0	10	0	9	9	9
SAMPLE DEPTH TO BOTTOM OF SAMPLE	0	13	0	0	10	0	9	9	9
SAMPLE DATE	11/21/2000	2/27/2001	2/22/2007	11/21/2000	2/27/2001	2/21/2007	11/20/2000	2/27/2001	2/27/2001
QC CODE	SA	SA	SA	SA	SA	SA	SA	SA	SA
STUDY ID	SEAD-11 EECA	SEAD-11 EECA	LTM	SEAD-11 EECA	SEAD-11 EECA	LTM	SEAD-11 EECA	SEAD-11 EECA	SEAD-11 EECA
SAMPLING ROUND	1	2	1	1	2	1	1	2	2
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Nitrobenzene	UG/L	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
RDX	UG/L	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Tetryl	UG/L	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Pesticides									
4,4'-DDD	UG/L	0.011 U	0.11 U	0.011 U	0.11 U	0.01 U	0.11 U	0.01 U	0.11 U
4,4'-DDE	UG/L	0.011 U	0.11 U	0.011 U	0.11 U	0.01 U	0.11 U	0.01 U	0.11 U
4,4'-DDT	UG/L	0.011 U	0.11 U	0.011 U	0.11 U	0.01 U	0.11 U	0.01 U	0.11 U
Aldrin	UG/L	0.0055 U	0.056 U	0.0055 U	0.054 U	0.0052 U	0.057 U	0.0052 U	0.057 U
Alpha-BHC	UG/L	0.0055 U	0.056 U	0.0055 U	0.054 U	0.0052 U	0.057 U	0.0052 U	0.057 U
Alpha-Chlordane	UG/L	0.0055 U	0.056 U	0.0055 U	0.054 U	0.0052 U	0.057 U	0.0052 U	0.057 U
Beta-BHC	UG/L	0.0055 U	0.056 U	0.0055 U	0.054 U	0.0052 U	0.057 U	0.0052 U	0.057 U
Delta-BHC	UG/L	0.0055 U	0.056 U	0.0055 U	0.054 U	0.0052 U	0.057 U	0.0052 U	0.057 U
Dieldrin	UG/L	0.011 U	0.11 U	0.011 U	0.11 U	0.01 U	0.11 U	0.01 U	0.11 U
Endosulfan I	UG/L	0.0055 U	0.056 U	0.0055 U	0.054 U	0.0052 U	0.057 U	0.0052 U	0.057 U
Endosulfan II	UG/L	0.011 U	0.11 U	0.011 U	0.11 U	0.01 U	0.11 U	0.01 U	0.11 U
Endosulfan sulfate	UG/L	0.011 U	0.11 U	0.011 U	0.11 U	0.01 U	0.11 U	0.01 U	0.11 U
Endrin	UG/L	0.011 U	0.11 U	0.011 U	0.11 U	0.01 U	0.11 U	0.01 U	0.11 U
Endrin aldehyde	UG/L	0.011 U	0.11 U	0.011 U	0.11 U	0.01 U	0.11 U	0.01 U	0.11 U
Endrin ketone	UG/L	0.011 U	0.11 U	0.011 U	0.11 U	0.01 U	0.11 U	0.01 U	0.11 U
Gamma-BHC/Lindane	UG/L	0.0055 U	0.056 U	0.0055 U	0.054 U	0.0052 U	0.057 U	0.0052 U	0.057 U
Gamma-Chlordane	UG/L	0.0055 U	0.056 U	0.0055 U	0.054 U	0.0052 U	0.057 U	0.0052 U	0.057 U
Heptachlor	UG/L	0.0055 U	0.056 U	0.0055 U	0.054 U	0.0052 U	0.057 U	0.0052 U	0.057 U
Heptachlor epoxide	UG/L	0.0055 U	0.056 U	0.0055 U	0.054 U	0.0052 U	0.057 U	0.0052 U	0.057 U
Hexachlorobenzene	UG/L	0.011 UJ	0.11 U	0.011 UJ	0.11 U	0.01 UJ	0.11 U	0.01 UJ	0.11 U
Methoxychlor	UG/L	0.055 U	0.56 U	0.055 U	0.54 U	0.052 U	0.57 U	0.052 U	0.57 U
Toxaphene	UG/L	0.55 U	5.6 U	0.55 U	5.4 U	0.52 U	5.7 U	0.52 U	5.7 U
PCBs									
Aroclor-1016	UG/L	0.11 U	1.1 U	0.11 U	1.1 U	0.1 U	1.1 U	0.1 U	1.1 U
Aroclor-1221	UG/L	0.22 U	2.2 U	0.22 U	2.2 U	0.21 U	2.3 U	0.21 U	2.3 U
Aroclor-1232	UG/L	0.11 U	1.1 U	0.11 U	1.1 U	0.1 U	1.1 U	0.1 U	1.1 U
Aroclor-1242	UG/L	0.11 U	1.1 U	0.11 U	1.1 U	0.1 U	1.1 U	0.1 U	1.1 U
Aroclor-1248	UG/L	0.11 U	1.1 U	0.11 U	1.1 U	0.1 U	1.1 U	0.1 U	1.1 U
Aroclor-1254	UG/L	0.11 U	1.1 U	0.11 U	1.1 U	0.1 U	1.1 U	0.1 U	1.1 U
Aroclor-1260	UG/L	0.11 U	1.1 U	0.11 U	1.1 U	0.1 U	1.1 U	0.1 U	1.1 U
Metals									
Aluminum	UG/L	53.9 J	103 J	340	27.2 J	46.7 J	200 U	12.4 U	28.4 U
Antimony	UG/L	7.9 U	2.4 U	5.6 U	7.9 U	2.4 U	5.6 U	7.9 U	2.4 U
Arsenic	UG/L	4.2 U	2.9 J	4.2 U	4.2 U	2.8 J	4.2 U	4.2 U	3 J
Barium	UG/L	32.5 J	30.7 J	36.4	49.9 J	50.4 J	57.8	62.5 J	39.8 J
Beryllium	UG/L	0.1 U	0.2 U	0.25 U	0.16 J	0.2 U	0.25 U	0.1 U	0.2 U
Cadmium	UG/L	0.3 U	0.3 U	0.36 U	0.35 J	0.3 U	0.36 U	0.3 U	0.3 U
Calcium	UG/L	89000	87800	80300	103000	106000	102000	122000	175000

Note: All results (except the shaded ones) were included in the risk assessment.

Appendix A
Table A2
Risk Assessment Groundwater Dataset
SEAD-11

FACILITY	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID	MW11-1	MW11-1	MW11-1	MW11-2	MW11-2	MW11-2	MW11-3	MW11-3	MW11-3
MATRIX	GW	GW	GW	GW	GW	GW	GW	GW	GW
SAMPLE ID	112101	112200	11RA20000	112100	112201	11RA20001	112102	112202	112202
SAMPLE DEPTH TO TOP OF SAMPLE	0	13	0	0	10	0	9	9	9
SAMPLE DEPTH TO BOTTOM OF SAMPLE	0	13	0	0	10	0	9	9	9
SAMPLE DATE	11/21/2000	2/27/2001	2/22/2007	11/21/2000	2/27/2001	2/21/2007	11/20/2000	2/27/2001	2/27/2001
QC CODE	SA	SA	SA	SA	SA	SA	SA	SA	SA
STUDY ID	SEAD-11 EECA	SEAD-11 EECA	LTM	SEAD-11 EECA	SEAD-11 EECA	LTM	SEAD-11 EECA	SEAD-11 EECA	SEAD-11 EECA
SAMPLING ROUND	1	2	1	1	2	1	1	2	2

Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Chromium	UG/L	1.1 U	0.84 J	3.5 J	1.1 U	0.96 J	0.44 U	1.1 U	0.7 U
Cobalt	UG/L	1.6 U	0.9 U	0.79 U	1.6 U	0.9 U	0.79 U	1.6 U	0.9 U
Copper	UG/L	3.3 U	1.5 UJ	2.2 J	3.3 U	1.5 UJ	2 U	4.6 J	1.5 UJ
Cyanide	UG/L	10 U	10 U		10 U	10 U		10 U	10 U
Iron	UG/L	67 J	181	427	102	107	85.8	21.2 U	42.1 J
Iron+Manganese	UG/L	114.7 J	207.2	467.8	128.8	115.4 J	97.3	13.7 J	105.5 J
Lead	UG/L	1.8 U	1.6 U	2.2 U	1.8 U	1.6 U	2.2 U	1.8 U	1.6 U
Magnesium	UG/L	24600	24600	23800	20200	19300	22100	19200	31500
Manganese	UG/L	47.7	26.2	40.8	26.8	8.4 J	11.5	3.1 J	63.4
Mercury	UG/L	0.1 U	0.1 U	0.12 U	0.1 U	0.1 U	0.12 U	0.1 U	0.1 U
Nickel	UG/L	2.1 U	1.3 U	3.2 J	2.1 U	1.3 U	1.4 U	2.1 U	1.3 U
Potassium	UG/L	2220 J	2100 J	1880	2160 J	2850 J	1200	3700 J	3260 J
Selenium	UG/L	3.7 U	2.3 UJ	6.1 U	3.7 U	2.3 UJ	6.1 U	3.7 U	2.3 UJ
Silver	UG/L	1.6 U	1.1 U	3 U	1.6 U	1.3 J	3 U	1.6 U	1.1 U
Sodium	UG/L	4520 J	4160 J	4410 J	36800	26500	14400	15300	9760
Thallium	UG/L	4.5 U	2.5 J	6.7 U	4.5 U	3.3 J	6.7 U	4.5 U	1.9 U
Vanadium	UG/L	2 U	1.2 U	0.98 U	2 U	1.2 U	0.98 U	2 U	1.2 U
Zinc	UG/L	7.9 J	3.2 J	10.8	9.2 J	5.9 J	3.6 U	3.5 U	33.4

Note: All results (except the shaded ones) were included in the risk assessment.

Appendix A
Table A2
Risk Assessment Groundwater Dataset
SEAD-11

FACILITY	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID	MW11-3	MW11-4	MW11-4	MW11-4	MW11-4	MW11-5	MW11-5	MW11-5	MW11-6
MATRIX	GW	GW	GW	GW	GW	GW	GW	GW	GW
SAMPLE ID	11RA20007	112104	112203	11RA20002	112103/112107	112204	11RA20003	112105	
SAMPLE DEPTH TO TOP OF SAMPLE	0	11	11	0	10	10	0	8	
SAMPLE DEPTH TO BOTTOM OF SAMPLE	0	11	11	0	10	10	0	8	
SAMPLE DATE	2/21/2007	11/20/2000	2/27/2001	2/20/2007	11/21/2000	2/27/2001	2/20/2007	11/20/2000	
QC CODE	SA	SA	SA	SA	SADU	SA	SA	SA	
STUDY ID	LTM	SEAD-11 EECA	SEAD-11 EECA	LTM	SEAD-11 EECA	SEAD-11 EECA	LTM	SEAD-11 EECA	
SAMPLING ROUND	1	1	2	1	1	2	1	1	

Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds									
1,1,1,2-Tetrachloroethane	UG/L			0.5 U			0.5 U		
1,1,1-Trichloroethane	UG/L	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U
1,1,2,2-Tetrachloroethane	UG/L	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	1 U			1 U			1 U	
1,1,2-Trichloroethane	UG/L	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U
1,1-Dichloroethane	UG/L	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U
1,1-Dichloroethene	UG/L	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U
1,1-Dichloropropene	UG/L			0.5 U			0.5 U		
1,2,3-Trichlorobenzene	UG/L	1 UJ		0.5 U	1 UJ		0.5 U	1 UJ	
1,2,3-Trichloropropane	UG/L			0.5 U			0.5 U		
1,2,4-Trichlorobenzene	UG/L	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U
1,2,4-Trimethylbenzene	UG/L			0.5 U			0.5 U		
1,2-Dibromo-3-chloropropane	UG/L	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U
1,2-Dibromoethane	UG/L	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U
1,2-Dichlorobenzene	UG/L	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U
1,2-Dichloroethane	UG/L	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U
1,2-Dichloroethene (total)	UG/L								
1,2-Dichloropropane	UG/L	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U
1,3,5-Trimethylbenzene	UG/L			0.5 U			0.5 U		
1,3-Dichlorobenzene	UG/L	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U
1,3-Dichloropropane	UG/L			0.5 U			0.5 U		
1,4-Dichlorobenzene	UG/L	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U
2,2-Dichloropropane	UG/L			0.5 U			0.5 U		
2-Chlorotoluene	UG/L			0.5 U			0.5 U		
2-Nitropropane	UG/L			25 U			25 U		
Acetone	UG/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acrylonitrile	UG/L			0.5 U			0.5 U		
Allyl chloride	UG/L			0.5 U			0.5 U		
Benzene	UG/L	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U
Bromobenzene	UG/L			0.5 U			0.5 U		
Bromochloromethane	UG/L	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U
Bromodichloromethane	UG/L	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U
Bromoform	UG/L	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U
Butyl chloride	UG/L			0.5 U			0.5 U		
Carbon disulfide	UG/L	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U
Carbon tetrachloride	UG/L	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U
Chloroacetonitrile	UG/L			25 U			25 U		
Chlorobenzene	UG/L	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U
Chlorodibromomethane	UG/L	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U
Chloroethane	UG/L	1 UJ	1 U	0.5 U	1 UJ	1 U	0.5 U	1 UJ	1 U
Chloroform	UG/L	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U

Note: All results (except the shaded ones) were included in the risk assessment.

Appendix A
Table A2
Risk Assessment Groundwater Dataset
SEAD-11

FACILITY	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID	MW11-3	MW11-4	MW11-4	MW11-4	MW11-5	MW11-5	MW11-5	MW11-5	MW11-6
MATRIX	GW	GW	GW	GW	GW	GW	GW	GW	GW
SAMPLE ID	11RA20007	112104	112203	11RA20002	112103/112107	112204	11RA20003	112105	
SAMPLE DEPTH TO TOP OF SAMPLE	0	11	11	0	10	10	0	8	
SAMPLE DEPTH TO BOTTOM OF SAMPLE	0	11	11	0	10	10	0	8	
SAMPLE DATE	2/21/2007	11/20/2000	2/27/2001	2/20/2007	11/21/2000	2/27/2001	2/20/2007	11/20/2000	
QC CODE	SA	SA	SA	SA	SADU	SA	SA	SA	
STUDY ID	LTM	SEAD-11 EECA	SEAD-11 EECA	LTM	SEAD-11 EECA	SEAD-11 EECA	LTM	SEAD-11 EECA	
SAMPLING ROUND	1	1	2	1	1	2	1	1	

Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Cis-1,2-Dichloroethene	UG/L	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U
Cis-1,3-Dichloropropene	UG/L	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U
Cyclohexane	UG/L	1 U			1 U			1 U	
Dichlorodifluoromethane	UG/L	1 U		0.5 U	1 U		0.5 U	1 U	
Dichloromethyl methyl ketone	UG/L			25 UR			25 UR		
Ethyl benzene	UG/L	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U
Ethyl ether	UG/L			0.5 U			0.5 U		
Ethyl methacrylate	UG/L			0.5 U			0.5 U		
Hexachlorobutadiene	UG/L			0.5 U			0.5 U		
Hexachloroethane	UG/L			0.5 U			0.5 U		
Isopropylbenzene	UG/L	1 U		0.5 U	1 U		0.5 U	1 U	
Meta/Para Xylene	UG/L			0.5 U			0.5 U		
Methacrylonitrile	UG/L			0.5 U			0.5 U		
Methyl 2-propenoate	UG/L			0.5 UJ			0.5 UJ		
Methyl Acetate	UG/L	1 UJ			1 UJ			1 UJ	
Methyl Tertbutyl Ether	UG/L	1 U		0.5 U	1 U		0.5 U	1 U	
Methyl bromide	UG/L	1 UJ	1 U	0.5 U	1 UJ	1 U	0.5 U	1 UJ	1 U
Methyl butyl ketone	UG/L	5 U	5 U	2.5 U	5 U	5 U	2.5 U	5 U	5 U
Methyl chloride	UG/L	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U
Methyl cyclohexane	UG/L	1 U			1 U			1 U	
Methyl ethyl ketone	UG/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Methyl iodide	UG/L			0.5 U			0.5 U		
Methyl isobutyl ketone	UG/L	5 U	5 U	2.5 UJ	5 U	5 U	2.5 UJ	5 U	5 U
Methyl methacrylate	UG/L			0.5 U			0.5 U		
Methylene bromide	UG/L			0.5 U			0.5 U		
Methylene chloride	UG/L	1 U	2 U	0.5 U	1 U	2 U	0.5 U	1 U	2 U
Naphthalene	UG/L			0.5 U			0.5 U		
Nitrobenzene	UG/L			25 UR			25 UR		
Ortho Xylene	UG/L			0.5 U			0.5 U		
Pentachloroethane	UG/L			0.5 U			0.5 U		
Propionitrile	UG/L			25 U			25 U		
Propylbenzene	UG/L			0.5 U			0.5 U		
Styrene	UG/L	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U
Tetrachloroethene	UG/L	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	2
Tetrahydrofuran	UG/L			2.5 U			2.5 U		
Toluene	UG/L	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U
Total Xylenes	UG/L	3 U	1 U	0.5 U	3 U	1 U	0.5 U	3 U	1 U
Trans-1,2-Dichloroethene	UG/L	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U
Trans-1,3-Dichloropropene	UG/L	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U
Trans-1,4-Dichloro-2-butene	UG/L			0.5 U			0.5 U		
Trichloroethene	UG/L	1 U	1 U	0.64	1 U	1 U	0.5 U	1.4	2
Trichlorofluoromethane	UG/L	1 UJ		0.5 U	1 UJ		0.5 U	1 UJ	

Note: All results (except the shaded ones) were included in the risk assessment.

Appendix A
Table A2
Risk Assessment Groundwater Dataset
SEAD-11

	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
FACILITY	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID	MW11-3	MW11-4	MW11-4	MW11-4	MW11-5	MW11-5	MW11-5	MW11-5	MW11-6
MATRIX	GW	GW	GW	GW	GW	GW	GW	GW	GW
SAMPLE ID	11RA20007	112104	112203	11RA20002	112103/112107	112204	11RA20003	112105	
SAMPLE DEPTH TO TOP OF SAMPLE	0	11	11	0	10	10	0	8	
SAMPLE DEPTH TO BOTTOM OF SAMPLE	0	11	11	0	10	10	0	8	
SAMPLE DATE	2/21/2007	11/20/2000	2/27/2001	2/20/2007	11/21/2000	2/27/2001	2/20/2007	11/20/2000	
QC CODE	SA	SA	SA	SA	SADU	SA	SA	SA	
STUDY ID	LTM	SEAD-11 EECA	SEAD-11 EECA	LTM	SEAD-11 EECA	SEAD-11 EECA	LTM	SEAD-11 EECA	
SAMPLING ROUND	1	1	2	1	1	2	1	1	

Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Vinyl chloride	UG/L	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	1 U
n-Butylbenzene	UG/L			0.5 U			0.5 U		
p-Chlorotoluene	UG/L			0.5 U			0.5 U		
p-Isopropyltoluene	UG/L			0.5 U			0.5 U		
sec-Butylbenzene	UG/L			0.5 U			0.5 U		
tert-Butylbenzene	UG/L			0.5 U			0.5 U		
Semi Volatile Organic Compounds									
1,2,4-Trichlorobenzene	UG/L		1 U	1 U		1 U	1 U		1 U
1,2-Dichlorobenzene	UG/L		1 U	1 U		1 U	1 U		1 U
1,3-Dichlorobenzene	UG/L		1 U	1 U		1 U	1 U		1 U
1,4-Dichlorobenzene	UG/L		1 U	1 U		1 U	1 U		1 U
2,2'-oxybis(1-Chloropropane)	UG/L								
2,4,5-Trichlorophenol	UG/L		2.6 U	2.5 U		0.6865 J	2.6 U		2.6 U
2,4,6-Trichlorophenol	UG/L		1 U	1 U		0.299 J	1 U		1 U
2,4-Dichlorophenol	UG/L		1 U	1 U		1 U	1 U		1 U
2,4-Dimethylphenol	UG/L		1 U	1 U		1 U	1 U		1 U
2,4-Dinitrophenol	UG/L		2.6 UJ	2.5 UJ		2.6 UJ	2.6 UJ		2.6 UJ
2,4-Dinitrotoluene	UG/L		1 U	1 U		1 U	1 U		1 U
2,6-Dinitrotoluene	UG/L		1 U	1 U		1 U	1 U		1 U
2-Chloronaphthalene	UG/L		1 U	1 UJ		1 U	1 UJ		1 U
2-Chlorophenol	UG/L		1 U	1 U		1 U	1 U		1 U
2-Methylnaphthalene	UG/L		1 U	1 U		1 U	1 U		1 U
2-Methylphenol	UG/L		1 U	1 U		1 U	1 U		1 U
2-Nitroaniline	UG/L		2.6 U	2.5 U		2.6 U	2.6 U		2.6 U
2-Nitrophenol	UG/L		1 U	1 U		1 U	1 U		1 U
3,3'-Dichlorobenzidine	UG/L		1 U	1 U		1 U	1 U		1 U
3-Nitroaniline	UG/L		2.6 U	2.5 UJ		2.6 U	2.6 UJ		2.6 U
4,6-Dinitro-2-methylphenol	UG/L		2.6 UJ	2.5 UJ		2.6 UJ	2.6 UJ		2.6 UJ
4-Bromophenyl phenyl ether	UG/L		1 U	1 U		1 U	1 U		1 U
4-Chloro-3-methylphenol	UG/L		1 U	1 U		1 U	1 U		1 U
4-Chloroaniline	UG/L		1 U	1 U		1 U	1 U		1 U
4-Chlorophenyl phenyl ether	UG/L		1 U	1 U		1 U	1 U		1 U
4-Methylphenol	UG/L		1 U	1 U		1 U	1 U		1 U
4-Nitroaniline	UG/L		2.6 U	2.5 UJ		2.6 U	2.6 UJ		2.6 U
4-Nitrophenol	UG/L		2.6 U	2.5 UJ		2.6 U	2.6 UJ		2.6 U
Acenaphthene	UG/L		1 U	1 U		1 U	1 U		1 U
Acenaphthylene	UG/L		1 U	1 U		1 U	1 U		1 U
Anthracene	UG/L		1 U	1 U		1 U	1 U		1 U
Benzo(a)anthracene	UG/L		1 U	1 U		1 U	1 U		1 U
Benzo(a)pyrene	UG/L		1 U	1 U		1 U	1 U		1 U
Benzo(b)fluoranthene	UG/L		1 U	1 U		1 U	1 U		1 U
Benzo(ghi)perylene	UG/L		1 U	1 U		1 U	1 U		1 U

Note: All results (except the shaded ones) were included in the risk assessment.

Appendix A
Table A2
Risk Assessment Groundwater Dataset
SEAD-11

	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
FACILITY	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID	MW11-3	MW11-4	MW11-4	MW11-4	MW11-5	MW11-5	MW11-5	MW11-5	MW11-6
MATRIX	GW	GW	GW	GW	GW	GW	GW	GW	GW
SAMPLE ID	11RA20007	112104	112203	11RA20002	112103/112107	112204	11RA20003	112105	
SAMPLE DEPTH TO TOP OF SAMPLE	0	11	11	0	10	10	0	8	
SAMPLE DEPTH TO BOTTOM OF SAMPLE	0	11	11	0	10	10	0	8	
SAMPLE DATE	2/21/2007	11/20/2000	2/27/2001	2/20/2007	11/21/2000	2/27/2001	2/20/2007	11/20/2000	
QC CODE	SA	SA	SA	SA	SADU	SA	SA	SA	
STUDY ID	LTM	SEAD-11 EECA	SEAD-11 EECA	LTM	SEAD-11 EECA	SEAD-11 EECA	LTM	SEAD-11 EECA	
SAMPLING ROUND	1	1	2	1	1	2	1	1	

Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Benzo(k)fluoranthene	UG/L		1 U	1 U		1 U	1 U		1 U
Bis(2-Chloroethoxy)methane	UG/L		1 U	1 U		1 U	1 U		1 U
Bis(2-Chloroethyl)ether	UG/L		1 U	1 U		1 U	1 U		1 U
Bis(2-Chloroisopropyl)ether	UG/L		1 U	1 U		1 U	1 U		1 U
Bis(2-Ethylhexyl)phthalate	UG/L		1 U	1.1 U		1 U	1 U		1 U
Butylbenzylphthalate	UG/L		1 U	1 U		1 U	1 U		1 U
Carbazole	UG/L		1 U	1 U		1 U	1 U		1 U
Chrysene	UG/L		1 U	1 U		1 U	1 U		1 U
Di-n-butylphthalate	UG/L		1 U	1 U		1 U	1 U		1 U
Di-n-octylphthalate	UG/L		1 U	1 U		1 U	1 U		1 U
Dibenz(a,h)anthracene	UG/L		1 U	1 U		1 U	1 U		1 U
Dibenzofuran	UG/L		1 U	1 U		1 U	1 U		1 U
Diethyl phthalate	UG/L		1 U	1 U		1 U	1 U		1 U
Dimethylphthalate	UG/L		1 U	1 U		3	1 U		1 U
Fluoranthene	UG/L		1 U	1 U		1 U	1 U		1 U
Fluorene	UG/L		1 U	1 U		1 U	1 U		1 U
Hexachlorobenzene	UG/L		1 U	1 U		1 U	1 U		1 U
Hexachlorobutadiene	UG/L		1 U	1 UJ		1 U	1 UJ		1 U
Hexachlorocyclopentadiene	UG/L		1 U	1.1 UJ		1 U	1 UJ		1 U
Hexachloroethane	UG/L		1 U	1 U		1 U	1 U		1 U
Indeno(1,2,3-cd)pyrene	UG/L		1 U	1 U		1 U	1 U		1 U
Isophorone	UG/L		1 U	1 U		1 U	1 U		1 U
N-Nitrosodiphenylamine	UG/L		1 U	1 U		1 U	1 U		1 U
N-Nitrosodipropylamine	UG/L		1 U	1 U		1 U	1 U		1 U
Naphthalene	UG/L		1 U	1 U		1 U	1 U		1 U
Nitrobenzene	UG/L		1 U	1 U		1 U	1 U		1 U
Pentachlorophenol	UG/L		2.6 U	2.5 UJ		2.6 U	2.6 UJ		2.6 U
Phenanthrene	UG/L		1 U	1 U		1 U	1 U		1 U
Phenol	UG/L		1 U	1 U		1 U	1 U		1 U
Pyrene	UG/L		1 U	1 U		1 U	1 U		0.082 J
Explosives									
1,3,5-Trinitrobenzene	UG/L		0.25 U	0.25 U		0.25 U	0.25 U		0.25 U
1,3-Dinitrobenzene	UG/L		0.25 U	0.25 U		0.25 U	0.25 U		0.25 U
2,4,6-Trinitrotoluene	UG/L		0.25 U	0.25 U		0.25 U	0.25 U		0.25 U
2,4-Dinitrotoluene	UG/L		0.25 U	0.25 U		0.25 U	0.25 U		0.25 U
2,6-Dinitrotoluene	UG/L		0.25 U	0.25 U		0.25 U	0.25 U		0.25 U
2-Nitrotoluene	UG/L		0.25 U	0.25 U		0.25 U	0.25 U		0.25 U
2-amino-4,6-Dinitrotoluene	UG/L		0.25 U	0.25 U		0.25 U	0.25 U		0.25 U
3-Nitrotoluene	UG/L		0.25 U	0.25 U		0.25 U	0.25 U		0.25 U
4-Nitrotoluene	UG/L		0.25 U	0.25 U		0.25 U	0.25 U		0.25 U
4-amino-2,6-Dinitrotoluene	UG/L		0.25 U	0.25 U		0.25 U	0.25 U		0.25 U
HMX	UG/L		0.25 U	0.25 U		0.25 U	0.25 U		0.25 U

Note: All results (except the shaded ones) were included in the risk assessment.

Appendix A
Table A2
Risk Assessment Groundwater Dataset
SEAD-11

	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
FACILITY	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID	MW11-3	MW11-4	MW11-4	MW11-4	MW11-5	MW11-5	MW11-5	MW11-5	MW11-6
MATRIX	GW	GW	GW	GW	GW	GW	GW	GW	GW
SAMPLE ID	11RA20007	112104	112203	11RA20002	112103/112107	112204	11RA20003	112105	
SAMPLE DEPTH TO TOP OF SAMPLE	0	11	11	0	10	10	0	8	
SAMPLE DEPTH TO BOTTOM OF SAMPLE	0	11	11	0	10	10	0	8	
SAMPLE DATE	2/21/2007	11/20/2000	2/27/2001	2/20/2007	11/21/2000	2/27/2001	2/20/2007	11/20/2000	
QC CODE	SA	SA	SA	SA	SADU	SA	SA	SA	
STUDY ID	LTM	SEAD-11 EECA	SEAD-11 EECA	LTM	SEAD-11 EECA	SEAD-11 EECA	LTM	SEAD-11 EECA	
SAMPLING ROUND	1	1	2	1	1	2	1	1	
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Nitrobenzene	UG/L		0.25 U	0.25 U		0.25 U	0.25 U		0.25 U
RDX	UG/L		0.25 U	0.25 U		0.25 U	0.25 U		0.25 U
Tetryl	UG/L		0.25 U	0.25 U		0.25 U	0.25 U		0.25 U
Pesticides									
4,4'-DDD	UG/L		0.01 U	0.11 U		0.0105 U	0.1 U		0.01 U
4,4'-DDE	UG/L		0.01 U	0.11 U		0.0105 U	0.1 U		0.01 U
4,4'-DDT	UG/L		0.01 U	0.11 U		0.0105 U	0.1 U		0.006 J
Aldrin	UG/L		0.0052 U	0.057 U		0.0053 U	0.05 U		0.0052 U
Alpha-BHC	UG/L		0.0052 U	0.057 U		0.0053 U	0.05 U		0.0052 U
Alpha-Chlordane	UG/L		0.0052 U	0.057 U		0.0053 U	0.05 U		0.0052 U
Beta-BHC	UG/L		0.0052 U	0.057 U		0.0053 U	0.05 U		0.0052 U
Delta-BHC	UG/L		0.0052 U	0.057 U		0.0053 U	0.05 U		0.0052 U
Dieldrin	UG/L		0.01 U	0.11 U		0.0105 U	0.1 U		0.01 U
Endosulfan I	UG/L		0.0052 U	0.057 U		0.0053 U	0.05 U		0.0052 U
Endosulfan II	UG/L		0.01 U	0.11 U		0.0105 U	0.1 U		0.01 U
Endosulfan sulfate	UG/L		0.01 U	0.11 U		0.0105 U	0.1 U		0.01 U
Endrin	UG/L		0.01 U	0.11 U		0.0105 U	0.1 U		0.01 U
Endrin aldehyde	UG/L		0.01 U	0.11 U		0.0105 U	0.1 U		0.01 U
Endrin ketone	UG/L		0.01 U	0.11 U		0.0105 U	0.1 U		0.01 U
Gamma-BHC/Lindane	UG/L		0.0052 U	0.057 U		0.0053 U	0.05 U		0.0052 U
Gamma-Chlordane	UG/L		0.0052 U	0.057 U		0.0053 U	0.05 U		0.0052 U
Heptachlor	UG/L		0.0052 U	0.057 U		0.0053 U	0.05 U		0.0052 U
Heptachlor epoxide	UG/L		0.0052 U	0.057 U		0.0053 U	0.05 U		0.0052 U
Hexachlorobenzene	UG/L		0.01 UJ	0.11 U		0.0105 UJ	0.1 U		0.01 UJ
Methoxychlor	UG/L		0.052 U	0.57 U		0.053 U	0.5 U		0.052 U
Toxaphene	UG/L		0.52 U	5.7 U		0.53 U	5 U		0.52 U
PCBs									
Aroclor-1016	UG/L		0.1 U	1.1 U		0.105 U	1 U		0.1 U
Aroclor-1221	UG/L		0.21 U	2.3 U		0.215 U	2 U		0.21 U
Aroclor-1232	UG/L		0.1 U	1.1 U		0.105 U	1 U		0.1 U
Aroclor-1242	UG/L		0.1 U	1.1 U		0.105 U	1 U		0.1 U
Aroclor-1248	UG/L		0.1 U	1.1 U		0.105 U	1 U		0.1 U
Aroclor-1254	UG/L		0.1 U	1.1 U		0.105 U	1 U		0.1 U
Aroclor-1260	UG/L		0.1 U	1.1 U		0.105 U	1 U		0.1 U
Metals									
Aluminum	UG/L	200 U	12.4 U	52.8 J	200 U	145.5 J	284	200 U	51.4 J
Antimony	UG/L	5.6 U	7.9 U	2.4 U	5.6 U	7.9 U	2.4 U	5.6 U	7.9 U
Arsenic	UG/L	4.2 U	4.2 U	3.1 J	4.2 U	4.2 U	2.5 U	4.2 U	4.2 U
Barium	UG/L	29.4	48.7 J	55.1 J	68.6	68.65 J	71.2 J	64.8	48.9 J
Beryllium	UG/L	2 U	0.1 U	0.2 U	0.25 U	0.1 U	0.2 U	2 U	0.1 U
Cadmium	UG/L	0.36 U	0.3 U	0.3 U	0.36 U	0.3 U	0.3 U	0.36 U	0.3 U
Calcium	UG/L	134000	193000	104000	134000	132500	117000	124000	184000

Note: All results (except the shaded ones) were included in the risk assessment.

Appendix A
Table A2
Risk Assessment Groundwater Dataset
SEAD-11

FACILITY	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID	MW11-3	MW11-4	MW11-4	MW11-4	MW11-5	MW11-5	MW11-5	MW11-5	MW11-6
MATRIX	GW	GW	GW	GW	GW	GW	GW	GW	GW
SAMPLE ID	11RA20007	112104	112203	11RA20002	112103/112107	112204	11RA20003	112105	
SAMPLE DEPTH TO TOP OF SAMPLE	0	11	11	0	10	10	0	8	
SAMPLE DEPTH TO BOTTOM OF SAMPLE	0	11	11	0	10	10	0	8	
SAMPLE DATE	2/21/2007	11/20/2000	2/27/2001	2/20/2007	11/21/2000	2/27/2001	2/20/2007	11/20/2000	
QC CODE	SA	SA	SA	SA	SADU	SA	SA	SA	
STUDY ID	LTM	SEAD-11 EECA	SEAD-11 EECA	LTM	SEAD-11 EECA	SEAD-11 EECA	LTM	SEAD-11 EECA	
SAMPLING ROUND	1	1	2	1	1	2	1	1	

Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Chromium	UG/L	0.44 U	1.1 U	1.3 J	0.44 U	1.1 U	1.8 J	0.44 U	1.1 U
Cobalt	UG/L	2 J	1.6 U	0.9 U	0.79 U	1.6 U	0.9 U	0.79 U	1.6 U
Copper	UG/L	2 U	3.3 U	1.7 J	2 U	10.425 J	2 J	2 U	3.3 U
Cyanide	UG/L		10 U	10 U		10 U	10 U		10 U
Iron	UG/L	727	21.2 U	85.7 J	17 U	249	533	59.7	59.7 J
Iron+Manganese	UG/L	1068	22.7 J	90.8 J	17 J	400	715	70.5	73.5 J
Lead	UG/L	2.2 U	1.8 U	1.6 U	2.2 U	1.8 U	1.6 U	2.2 U	1.8 U
Magnesium	UG/L	23100	32900	16900	21000	23100	21600	20700	32200
Manganese	UG/L	341	12.1 J	5.1 J	8.5	151	182	10.8	13.8 J
Mercury	UG/L	0.12 U	0.1 U	0.1 U	0.12 U	0.1 U	0.1 U	0.12 U	0.1 U
Nickel	UG/L	2 J	2.1 U	1.3 U	1.4 U	2.1 U	1.8 J	1.4 U	2.1 U
Potassium	UG/L	1210	3470 J	3370 J	1590	2805 J	4050 J	2270	6750
Selenium	UG/L	6.1 U	3.7 U	2.3 UJ	6.1 U	3.7 U	2.3 U	6.1 U	3.7 UJ
Silver	UG/L	3 U	1.6 U	1.6 J	1 U	1.6 U	1.5 J	3 U	1.6 U
Sodium	UG/L	6540 J	10200	13000	8070 J	23550	28900	9190 J	12800
Thallium	UG/L	6.7 U	4.5 U	2.6 J	6.7 U	4.5 U	1.9 U	6.7 U	4.5 U
Vanadium	UG/L	0.98 U	2 U	1.2 U	1.6 J	2 U	1.3 J	0.98 U	2 U
Zinc	UG/L	5.2 J	3.5 U	2.2 J	8.7 J	3.5 U	13.5 J	3.6 U	3.5 U

Note: All results (except the shaded ones) were included in the risk assessment.

Appendix A
Table A2
Risk Assessment Groundwater Dataset
SEAD-11

Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
FACILITY		SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID		MW11-6	MW11-6	MW11-7	MW11-7	MW11-7
MATRIX		GW	GW	GW	GW	GW
SAMPLE ID		112205/112207	11RA20004/11RA20005	112106	112206	11RA20006
SAMPLE DEPTH TO TOP OF SAMPLE		8	0	7.2	7.2	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE		8	0	7.2	7.2	0
SAMPLE DATE		2/28/2001	2/21/2007	11/20/2000	2/27/2001	2/21/2007
QC CODE		SADU	SADU	SA	SA	SA
STUDY ID		SEAD-11 EECA	LTM	SEAD-11 EECA	SEAD-11 EECA	LTM
SAMPLING ROUND		2	1	1	2	1
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	UG/L	0.5 U			0.5 U	
1,1,1-Trichloroethane	UG/L	0.5 U	1 U	1 U	0.5 U	1 U
1,1,2,2-Tetrachloroethane	UG/L	0.5 U	1 U	1 U	0.5 U	1 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L		1 U			1 U
1,1,2-Trichloroethane	UG/L	0.5 U	1 U	1 U	0.5 U	1 U
1,1-Dichloroethane	UG/L	0.5 U	1 U	1 U	0.5 U	1 U
1,1-Dichloroethene	UG/L	0.5 U	1 U	1 U	0.5 U	1 U
1,1-Dichloropropene	UG/L	0.5 U			0.5 U	
1,2,3-Trichlorobenzene	UG/L	0.5 U	1 UJ		0.5 U	1 UJ
1,2,3-Trichloropropane	UG/L	0.5 U			0.5 U	
1,2,4-Trichlorobenzene	UG/L	0.5 U	1 U	1 U	0.5 U	1 U
1,2,4-Trimethylbenzene	UG/L	0.5 U			0.5 U	
1,2-Dibromo-3-chloropropane	UG/L	0.5 U	1 U	1 U	0.5 U	1 U
1,2-Dibromoethane	UG/L	0.5 U	1 U	1 U	0.5 U	1 U
1,2-Dichlorobenzene	UG/L	0.5 U	1 U	1 U	0.5 U	1 U
1,2-Dichloroethane	UG/L	0.5 U	1 U	1 U	0.5 U	1 U
1,2-Dichloroethene (total)	UG/L					
1,2-Dichloropropane	UG/L	0.5 U	1 U	1 U	0.5 U	1 U
1,3,5-Trimethylbenzene	UG/L	0.5 U			0.5 U	
1,3-Dichlorobenzene	UG/L	0.5 U	1 U	1 U	0.5 U	1 U
1,3-Dichloropropane	UG/L	0.5 U			0.5 U	
1,4-Dichlorobenzene	UG/L	0.5 U	1 U	1 U	0.5 U	1 U
2,2-Dichloropropane	UG/L	0.5 U			0.5 U	
2-Chlorotoluene	UG/L	0.5 U			0.5 U	
2-Nitropropane	UG/L	25 U			25 U	
Acetone	UG/L	5 U	5 U	5 U	5 U	5 U
Acrylonitrile	UG/L	0.5 U			0.5 U	
Allyl chloride	UG/L	0.5 U			0.5 U	
Benzene	UG/L	0.5 U	1 U	1 U	0.5 U	1 U
Bromobenzene	UG/L	0.5 U			0.5 U	
Bromochloromethane	UG/L	0.5 U	1 U	1 U	0.5 U	1 U
Bromodichloromethane	UG/L	0.5 U	1 U	1 U	0.5 U	1 U
Bromoform	UG/L	0.5 U	1 U	1 U	0.5 U	1 U
Butyl chloride	UG/L	0.5 U			0.5 U	
Carbon disulfide	UG/L	0.5 U	1 U	1 U	0.5 U	1 U
Carbon tetrachloride	UG/L	0.5 U	1 U	1 U	0.5 U	1 U
Chloroacetonitrile	UG/L	25 U			25 U	
Chlorobenzene	UG/L	0.5 U	1 U	1 U	0.5 U	1 U
Chlorodibromomethane	UG/L	0.5 U	1 U	1 U	0.5 U	1 U
Chloroethane	UG/L	0.5 U	1 UJ	1 U	0.5 U	1 UJ
Chloroform	UG/L	0.5 U	1 U	1 U	0.5 U	1 U

Note: All results (except the shaded ones) were included in the risk assessment.

Appendix A
Table A2
Risk Assessment Groundwater Dataset
SEAD-11

Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Cis-1,2-Dichloroethene	UG/L	0.5 U	1 U	1 U	0.5 U	1 U
Cis-1,3-Dichloropropene	UG/L	0.5 U	1 U	1 U	0.5 U	1 U
Cyclohexane	UG/L		1 U			1 U
Dichlorodifluoromethane	UG/L	0.5 U	1 U		0.5 U	1 U
Dichloromethyl methyl ketone	UG/L	25 UR			25 UR	
Ethyl benzene	UG/L	0.5 U	1 U	1 U	0.5 U	1 U
Ethyl ether	UG/L	0.5 U			0.5 U	
Ethyl methacrylate	UG/L	0.5 U			0.5 U	
Hexachlorobutadiene	UG/L	0.5 U			0.5 U	
Hexachloroethane	UG/L	0.5 U			0.5 U	
Isopropylbenzene	UG/L	0.5 U	1 U		0.5 U	1 U
Meta/Para Xylene	UG/L	0.5 U			0.5 U	
Methacrylonitrile	UG/L	0.5 U			0.5 U	
Methyl 2-propenoate	UG/L	0.5 UJ			0.5 UJ	
Methyl Acetate	UG/L		1 UJ			1 UJ
Methyl Tertbutyl Ether	UG/L	0.5 U	1 U		0.5 U	1 U
Methyl bromide	UG/L	0.5 U	1 UJ	1 U	0.5 U	1 UJ
Methyl butyl ketone	UG/L	2.5 UJ	5 U	5 U	2.5 U	5 U
Methyl chloride	UG/L	0.5 U	1 U	1 U	0.5 U	1 U
Methyl cyclohexane	UG/L	1 U			1 U	
Methyl ethyl ketone	UG/L	5 U	5 U	5 U	5 U	5 U
Methyl iodide	UG/L	0.5 U			0.5 U	
Methyl isobutyl ketone	UG/L	2.5 UJ	5 U	5 U	2.5 UJ	5 U
Methyl methacrylate	UG/L	0.5 U			0.5 U	
Methylene bromide	UG/L	0.5 U			0.5 U	
Methylene chloride	UG/L	0.5 U	1 U	2 U	0.5 U	1 U
Naphthalene	UG/L	0.5 U			0.5 U	
Nitrobenzene	UG/L	25 UR			25 UR	
Ortho Xylene	UG/L	0.5 U			0.5 U	
Pentachloroethane	UG/L	0.5 U			0.5 U	
Propionitrile	UG/L	25 U			25 U	
Propylbenzene	UG/L	0.5 U			0.5 U	
Styrene	UG/L	0.5 U	1 U	1 U	0.5 U	1 U
Tetrachloroethene	UG/L	1.95	2.05	0.4 J	0.42 J	1 U
Tetrahydrofuran	UG/L	2.5 U			2.5 U	
Toluene	UG/L	0.5 U	1 U	1 U	0.5 U	1 U
Total Xylenes	UG/L	0.5 U	3 U	1 U	0.5 U	3 U
Trans-1,2-Dichloroethene	UG/L	0.5 U	1 U	1 U	0.5 U	1 U
Trans-1,3-Dichloropropene	UG/L	0.5 U	1 U	1 U	0.5 U	1 U
Trans-1,4-Dichloro-2-butene	UG/L	0.5 U			0.5 U	
Trichloroethene	UG/L	2.2	3.1	1 U	0.5 U	1 U
Trichlorofluoromethane	UG/L	0.5 U	1 UJ		0.5 U	1 UJ

Note: All results (except the shaded ones) were included in the risk assessment.

Appendix A
Table A2
Risk Assessment Groundwater Dataset
SEAD-11

Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
FACILITY		SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID		MW11-6	MW11-6	MW11-7	MW11-7	MW11-7
MATRIX		GW	GW	GW	GW	GW
SAMPLE ID		112205/112207	11RA20004/11RA20005	112106	112206	11RA20006
SAMPLE DEPTH TO TOP OF SAMPLE		8	0	7.2	7.2	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE		8	0	7.2	7.2	0
SAMPLE DATE		2/28/2001	2/21/2007	11/20/2000	2/27/2001	2/21/2007
QC CODE		SADU	SADU	SA	SA	SA
STUDY ID		SEAD-11 EECA	LTM	SEAD-11 EECA	SEAD-11 EECA	LTM
SAMPLING ROUND		2	1	1	2	1
Vinyl chloride	UG/L	0.5 U	1 U	1 U	0.5 U	1 U
n-Butylbenzene	UG/L	0.5 U			0.5 U	
p-Chlorotoluene	UG/L	0.5 U			0.5 U	
p-Isopropyltoluene	UG/L	0.5 U			0.5 U	
sec-Butylbenzene	UG/L	0.5 U			0.5 U	
tert-Butylbenzene	UG/L	0.5 U			0.5 U	
Semi Volatile Organic Compounds						
1,2,4-Trichlorobenzene	UG/L	1 U		1 U	1.1 U	
1,2-Dichlorobenzene	UG/L	1 U		1 U	1.1 U	
1,3-Dichlorobenzene	UG/L	1 U		1 U	1.1 U	
1,4-Dichlorobenzene	UG/L	1 U		1 U	1.1 U	
2,2'-oxybis(1-Chloropropane)	UG/L					
2,4,5-Trichlorophenol	UG/L	2.5 U		2.6 U	2.8 U	
2,4,6-Trichlorophenol	UG/L	1 U		1 U	1.1 U	
2,4-Dichlorophenol	UG/L	1 U		1 U	1.1 U	
2,4-Dimethylphenol	UG/L	1 U		1 U	1.1 U	
2,4-Dinitrophenol	UG/L	2.5 UJ		2.6 UJ	2.8 UJ	
2,4-Dinitrotoluene	UG/L	1 U		1 U	1.1 U	
2,6-Dinitrotoluene	UG/L	1 U		1 U	1.1 U	
2-Chloronaphthalene	UG/L	1 UJ		1 U	1.1 UJ	
2-Chlorophenol	UG/L	1 U		1 U	1.1 U	
2-Methylnaphthalene	UG/L	1 U		1 U	1.1 U	
2-Methylphenol	UG/L	1 U		1 U	1.1 U	
2-Nitroaniline	UG/L	2.5 U		2.6 U	2.8 U	
2-Nitrophenol	UG/L	1 U		1 U	1.1 U	
3,3'-Dichlorobenzidine	UG/L	1 U		1 U	1.1 U	
3-Nitroaniline	UG/L	2.5 UJ		2.6 U	2.8 UJ	
4,6-Dinitro-2-methylphenol	UG/L	2.5 UJ		2.6 UJ	2.8 UJ	
4-Bromophenyl phenyl ether	UG/L	1 U		1 U	1.1 U	
4-Chloro-3-methylphenol	UG/L	1 U		1 U	1.1 U	
4-Chloroaniline	UG/L	1 U		1 U	1.1 U	
4-Chlorophenyl phenyl ether	UG/L	1 U		1 U	1.1 U	
4-Methylphenol	UG/L	1 U		1 U	1.1 U	
4-Nitroaniline	UG/L	2.5 UJ		2.6 U	2.8 UJ	
4-Nitrophenol	UG/L	2.5 UJ		2.6 U	2.8 UJ	
Acenaphthene	UG/L	1 U		1 U	1.1 U	
Acenaphthylene	UG/L	1 U		1 U	1.1 U	
Anthracene	UG/L	1 U		1 U	1.1 U	
Benzo(a)anthracene	UG/L	1 U		1 U	1.1 U	
Benzo(a)pyrene	UG/L	1 U		1 U	1.1 U	
Benzo(b)fluoranthene	UG/L	1 U		1 U	1.1 U	
Benzo(ghi)perylene	UG/L	1 U		1 U	1.1 U	

Note: All results (except the shaded ones) were included in the risk assessment.

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Appendix A
Table A2
Risk Assessment Groundwater Dataset
SEAD-11

Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
FACILITY		SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID		MW11-6	MW11-6	MW11-7	MW11-7	MW11-7
MATRIX		GW	GW	GW	GW	GW
SAMPLE ID		112205/112207	11RA20004/11RA20005	112106	112206	11RA20006
SAMPLE DEPTH TO TOP OF SAMPLE		8	0	7.2	7.2	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE		8	0	7.2	7.2	0
SAMPLE DATE		2/28/2001	2/21/2007	11/20/2000	2/27/2001	2/21/2007
QC CODE		SADU	SADU	SA	SA	SA
STUDY ID		SEAD-11 EECA	LTM	SEAD-11 EECA	SEAD-11 EECA	LTM
SAMPLING ROUND		2	1	1	2	1
Benzo(k)fluoranthene	UG/L	1 U		1 U	1.1 U	
Bis(2-Chloroethoxy)methane	UG/L	1 U		1 U	1.1 U	
Bis(2-Chloroethyl)ether	UG/L	1 U		1 U	1.1 U	
Bis(2-Chloroisopropyl)ether	UG/L	1 U		1 U	1.1 U	
Bis(2-Ethylhexyl)phthalate	UG/L	1.05 U		1 U	1 U	
Butylbenzylphthalate	UG/L	1 U		0.16 J	1.1 U	
Carbazole	UG/L	1 U		1 U	1.1 U	
Chrysene	UG/L	1 U		1 U	1.1 U	
Di-n-butylphthalate	UG/L	1 U		1 U	1.1 U	
Di-n-octylphthalate	UG/L	0.281 J		1 U	1.1 U	
Dibenz(a,h)anthracene	UG/L	1 U		1 U	1.1 U	
Dibenzofuran	UG/L	1 U		1 U	1.1 U	
Diethyl phthalate	UG/L	1 U		1 U	1.1 U	
Dimethylphthalate	UG/L	1 U		0.36 J	1.1 U	
Fluoranthene	UG/L	1 U		1 U	1.1 U	
Fluorene	UG/L	1 U		1 U	1.1 U	
Hexachlorobenzene	UG/L	1 U		1 U	1.1 U	
Hexachlorobutadiene	UG/L	1 UJ		1 U	1.1 UJ	
Hexachlorocyclopentadiene	UG/L	1.05 UJ		1 U	1 UJ	
Hexachloroethane	UG/L	1 U		1 U	1.1 U	
Indeno(1,2,3-cd)pyrene	UG/L	1 U		1 U	1.1 U	
Isophorone	UG/L	1 U		1 U	1.1 U	
N-Nitrosodiphenylamine	UG/L	1 U		1 U	1.1 U	
N-Nitrosodipropylamine	UG/L	1 U		1 U	1.1 U	
Naphthalene	UG/L	1 U		1 U	1.1 U	
Nitrobenzene	UG/L	1 U		1 U	1.1 U	
Pentachlorophenol	UG/L	2.5 UJ		2.6 U	2.8 UJ	
Phenanthrene	UG/L	1 U		1 U	1.1 U	
Phenol	UG/L	1 U		1 U	1.1 U	
Pyrene	UG/L	1 U		1 U	1.1 U	
Explosives						
1,3,5-Trinitrobenzene	UG/L	0.25 U		0.25 U	0.25 U	
1,3-Dinitrobenzene	UG/L	0.25 U		0.25 U	0.25 U	
2,4,6-Trinitrotoluene	UG/L	0.25 U		0.25 U	0.25 U	
2,4-Dinitrotoluene	UG/L	0.25 U		0.25 U	0.25 U	
2,6-Dinitrotoluene	UG/L	0.25 U		0.25 U	0.25 U	
2-Nitrotoluene	UG/L	0.25 U		0.25 U	0.25 U	
2-amino-4,6-Dinitrotoluene	UG/L	0.25 U		0.25 U	0.25 U	
3-Nitrotoluene	UG/L	0.25 U		0.25 U	0.25 U	
4-Nitrotoluene	UG/L	0.25 U		0.25 U	0.25 U	
4-amino-2,6-Dinitrotoluene	UG/L	0.25 U		0.25 U	0.25 U	
HMX	UG/L	0.25 U		0.25 U	0.25 U	

Note: All results (except the shaded ones) were included in the risk assessment.

Appendix A
Table A2
Risk Assessment Groundwater Dataset
SEAD-11

Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
FACILITY		SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID		MW11-6	MW11-6	MW11-7	MW11-7	MW11-7
MATRIX		GW	GW	GW	GW	GW
SAMPLE ID		112205/112207	11RA20004/11RA20005	112106	112206	11RA20006
SAMPLE DEPTH TO TOP OF SAMPLE		8	0	7.2	7.2	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE		8	0	7.2	7.2	0
SAMPLE DATE		2/28/2001	2/21/2007	11/20/2000	2/27/2001	2/21/2007
QC CODE		SADU	SADU	SA	SA	SA
STUDY ID		SEAD-11 EECA	LTM	SEAD-11 EECA	SEAD-11 EECA	LTM
SAMPLING ROUND		2	1	1	2	1
Nitrobenzene	UG/L	0.25 U		0.25 U	0.25 U	
RDX	UG/L	0.25 U		0.25 U	0.25 U	
Tetryl	UG/L	0.25 U		0.25 U	0.25 U	
Pesticides						
4,4'-DDD	UG/L	0.11 U		0.01 U	0.11 U	
4,4'-DDE	UG/L	0.11 U		0.01 U	0.11 U	
4,4'-DDT	UG/L	0.11 U		0.01 U	0.11 U	
Aldrin	UG/L	0.054 U		0.0052 U	0.054 U	
Alpha-BHC	UG/L	0.054 U		0.0052 U	0.054 U	
Alpha-Chlordane	UG/L	0.054 U		0.0052 U	0.054 U	
Beta-BHC	UG/L	0.054 U		0.0052 U	0.054 U	
Delta-BHC	UG/L	0.054 U		0.0052 U	0.054 U	
Dieldrin	UG/L	0.11 U		0.01 U	0.11 U	
Endosulfan I	UG/L	0.054 U		0.0052 U	0.054 U	
Endosulfan II	UG/L	0.11 U		0.01 U	0.11 U	
Endosulfan sulfate	UG/L	0.11 U		0.01 U	0.11 U	
Endrin	UG/L	0.11 U		0.01 U	0.11 U	
Endrin aldehyde	UG/L	0.11 U		0.01 U	0.11 U	
Endrin ketone	UG/L	0.11 U		0.01 U	0.11 U	
Gamma-BHC/Lindane	UG/L	0.054 U		0.0052 U	0.054 U	
Gamma-Chlordane	UG/L	0.054 U		0.0052 U	0.054 U	
Heptachlor	UG/L	0.054 U		0.0052 U	0.054 U	
Heptachlor epoxide	UG/L	0.054 U		0.0052 U	0.054 U	
Hexachlorobenzene	UG/L	0.11 U		0.01 UJ	0.11 U	
Methoxychlor	UG/L	0.54 U		0.052 U	0.54 U	
Toxaphene	UG/L	5.4 U		0.52 U	5.4 U	
PCBs						
Aroclor-1016	UG/L	1.1 U		0.1 U	1.1 U	
Aroclor-1221	UG/L	2.15 U		0.21 U	2.2 U	
Aroclor-1232	UG/L	1.1 U		0.1 U	1.1 U	
Aroclor-1242	UG/L	1.1 U		0.1 U	1.1 U	
Aroclor-1248	UG/L	1.1 U		0.1 U	1.1 U	
Aroclor-1254	UG/L	1.1 U		0.1 U	1.1 U	
Aroclor-1260	UG/L	1.1 U		0.1 U	1.1 U	
Metals						
Aluminum	UG/L	59.95 J	200 U	147 J	165 J	200 U
Antimony	UG/L	2.4 U	5.6 U	8 J	2.4 U	5.6 U
Arsenic	UG/L	3.65 J	4.2 U	4.2 U	3.8 J	4.2 U
Barium	UG/L	42.5 J	32	55.2 J	39.6 J	30.9
Beryllium	UG/L	0.2 U	1.125 U	0.27 J	0.2 U	2 U
Cadmium	UG/L	0.235 J	0.36 U	0.3 U	0.3 U	0.36 U
Calcium	UG/L	188000	140000	236000	193000	169000

Note: All results (except the shaded ones) were included in the risk assessment.

Appendix A
Table A2
Risk Assessment Groundwater Dataset
SEAD-11

FACILITY	SEAD-11	SEAD-11	SEAD-11	SEAD-11	SEAD-11
LOCATION ID	MW11-6	MW11-6	MW11-7	MW11-7	MW11-7
MATRIX	GW	GW	GW	GW	GW
SAMPLE ID	112205/112207	11RA20004/11RA20005	112106	112206	11RA20006
SAMPLE DEPTH TO TOP OF SAMPLE	8	0	7.2	7.2	0
SAMPLE DEPTH TO BOTTOM OF SAMPLE	8	0	7.2	7.2	0
SAMPLE DATE	2/28/2001	2/21/2007	11/20/2000	2/27/2001	2/21/2007
QC CODE	SADU	SADU	SA	SA	SA
STUDY ID	SEAD-11 EECA	LTM	SEAD-11 EECA	SEAD-11 EECA	LTM
SAMPLING ROUND	2	1	1	2	1

Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Chromium	UG/L	0.7 U	0.44 U	1.1 U	0.7 U	0.53 J
Cobalt	UG/L	0.9 U	0.79 U	1.8 J	0.9 U	1.4 J
Copper	UG/L	1.5 UJ	2 U	3.3 U	1.5 UJ	2 U
Cyanide	UG/L	10 U		10 U	10 U	
Iron	UG/L	115.05 J	46.2 J	223	245	374
Iron+Manganese	UG/L	122 J	52.35 J	995	539	604
Lead	UG/L	1.45 J	2.2 U	1.8 U	1.6 U	2.2 U
Magnesium	UG/L	33900	23900	41000	35800	30300
Manganese	UG/L	6.95 J	6.15	772	294	230
Mercury	UG/L	0.1 U	0.12 U	0.1 U	0.1 U	0.12 U
Nickel	UG/L	1.025 J	1.4 U	2.5 J	1.9 J	1.4 J
Potassium	UG/L	6290	4485	4160 J	3150 J	2070
Selenium	UG/L	2.3 UJ	6.1 U	3.7 U	2.3 UJ	6.1 U
Silver	UG/L	1.075 J	2 U	1.6 U	1.1 U	1 U
Sodium	UG/L	9370	7010 J	16500	13300	7220 J
Thallium	UG/L	2.575 J	6.7 U	4.5 U	1.9 U	6.7 U
Vanadium	UG/L	1.2 U	0.98 U	2 U	1.2 U	0.98 U
Zinc	UG/L	0.75 J	2.75 J	3.5 U	2.1 J	4.2 J

Note: All results (except the shaded ones) were included in the risk assessment.

Appendix B - Derivation of EPC in Air for Construction Worker

The EPC in air was calculated based on the soil EPC and PM₁₀ concentration. PM₁₀ represents smaller particles which can be inhaled (particles larger than 10µm diameter typically cannot enter the narrow airways in the lung). Ambient PM₁₀ 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 PM₁₀ produced by the construction activity.

$$EPC_{air} = EPC_{soil} \times \frac{1}{PEF_{sc}}$$

Where:

EPC_{air} = Exposure Point Concentration of chemicals in air associated with fugitive dust (mg/m³);

EPC_{soil} = Exposure Point Concentration of chemicals in soil (mg/kg);

PEF_{sc} = 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/m²-s per kg/m³)

F_D = Dispersion correction factor (unitless), 0.185

T = Total time over which construction occurs (s)

A_R = Surface area of contaminated road segment (m²)

$$A_R = L_R \times W_R \times 0.092903 \text{ m}^2/\text{ft}^2$$

- L_R = Length of road segment (ft), assumed 424 ft for SEAD-11
 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
 ΣVKT = Sum 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_s = Area extent of site surface soil contamination (acres), for SEAD-11, A_s was assumed to be 4 acres as a conservative estimate
 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 SEAD-11, assuming that the daily unpaved road traffic consists of 10 two-ton cars and 2 twenty-ton trucks, the mean vehicle weight would be:

$$W = [(10 \text{ cars} \times 2 \text{ tons} / \text{car}) + (2 \text{ trucks} \times 20 \text{ tons} / \text{truck})] / 12 \text{ vehicles} = 5 \text{ tons}$$

The sum of the fleet vehicle kilometers traveled during construction (ΣVKT) 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. The area of soil contamination at SEAD-11 was assumed to be 4 acres (or 16,723 m²), the total SEAD-11 area. 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 16,723 m², 129 m (or 0.129 km, or 424 ft). 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:

$$\Sigma VKT = 12 \text{ vehicles} \times 0.129 \text{ km} / \text{day} \times 12 \text{ wks} / \text{yr} \times 5 \text{ days} / \text{wk} = 93 \text{ km}$$

The PM₁₀ concentration estimated for the construction scenario is 303 ug/m³ based on the above assumptions. The ambient air exposure point concentrations for construction workers are presented in **Tables 2D** for SEAD-11.

APPENDIX F

APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARs)

APPENDIX F

LIST OF ARARs

There are currently no promulgated Federal standards for hazardous substance levels in soils, and risk-based decisions are used to determine if cleanup is warranted or necessary. New York has recently published Remedial Program Requirements, which include numeric soil cleanup objectives for five categories of future land use (i.e., Unrestricted, Residential, Restricted-Residential, Commercial, and Industrial), as well as procedures for proposing alternative cleanup objectives, for waste sites located within its bounds and these were considered during the development of this Record of Decision to represent “to be considered” (TBC) values and procedures.

New York designates all groundwater as a possible source of drinking water. Further, New York has promulgated standards for groundwater that is designated as GA. The groundwater at SEDA is designated as GA, and thus New York’s groundwater standards are ARARs. The potential use of groundwater that is classified as GA in New York is as drinking water. As a potential supply of drinking water, the maximum contaminant levels (MCLs) established under the Safe Drinking Water Act are ARARs for GA groundwater.

Groundwater samples collected from the area of SEAD-11 after the completion of the IRA showed the presence of iron and manganese (and total iron plus manganese) at levels that exceeded State of New York GA Groundwater Standards. These metals are both present in the native soils at reasonable levels, and the elevated readings of iron and manganese found in the Depot-wide groundwater are likely associated with turbidity and entrained particles that are contained in the raw groundwater samples. The shallow aquifer that underlies a majority of the overall Depot is subject to large seasonal elevation variations and is poor yielding due to the low permeability glacial till, clay and silt formation that defines the shallow overburden. Several portions of the former Depot currently are currently serviced by a municipal water supply that derives its water from a non-groundwater source. At present, there are no potable water production wells located at the Depot, and none are likely due to the presence of the poor yielding shallow aquifer that exists beneath the site.

There are no permanent surface bodies within the bounds of SEAD-11, which is discussed in this Record of Decision. Indian Creek does flow exterior of the AOC along the northern and western sides of the former site before it empties into Seneca Lake; and the western leg of flow is hydraulically and topographically downgradient of the former landfill site. Storm-event water does fall on SEAD-11 and then either runs off towards the west and southwest either into the man-made drainage culvert that runs parallel to Indian Creek Road or via overland flow. Surface water may also be captured in topographic low areas that are now present within the footprint of the former landfill site, and this captured water either evaporates or infiltrates through the soil and into the groundwater. The surface water captured in the drainage ditches has not been classified by NYSDEC since these ditches are not recognized as an established stream or creek. However, because the drainage ditches adjacent to SEAD-11 does potentially release water to Indian Creek, the lower portions of which are designated as Class C surface

water by NYSDEC, the Class C surface water ambient water quality criteria were used to provide a basis of comparison for the on-site chemical data. The Class C standards are not strictly applicable to the surface water in the drainage ditches found on the sites and thus are treated as TBCs.

The sediment found in the drainage ditches at SEDA results from overland flow and the erosion and subsequent accumulation native soil, debris and dead vegetation. The man-made drainage ditches located throughout the Depot were subject to a periodic inspection and maintenance (i.e., dredging) program during the active days of the military operation. Drainage ditches found around both of these AOCs are generally void of fish and aquatic animal life. As such, sediment at both of these AOCs has been evaluated as “ditch soil” and compared to the New York State soil cleanup objectives presented in Title 6 NYCRR Subpart 375-6.

Chemical-Specific ARARs, and other pertinent advisories or guidance to be considered (TBCs)

Soil

- Title 6 New York Code of Rules and Regulations Part 375-6 Remedial Program Soil Cleanup Objectives, Soil Cleanup Objectives, June 14, 2006 was considered during the development of this Record of Decision.
- U.S. EPA Regional Screening Levels, September 2008 were considered during the development of this Record of Decision. Source (<http://www.epa.gov/region09/waste/sfund/prg/>)
- U.S. EPA Region IX Preliminary Remedial Goals, October 2004 was considered during the development of this Record of Decision. Source (<http://www.epa.gov/region09/waste/sfund/prg/>)
- U.S. EPA Region III Risk Based Concentrations, October 2007 was considered during the development of this Record of Decision.
Source: <http://www.epa.gov/reg3hwmd/risk/human/rbc/RBCoct07.pdf>

Groundwater

- Title 40 Code of Federal Regulations, Part 141 – National Primary Drinking Water Regulations.
- Title 6 New York Code of Rules and Regulations Part 703 Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations.
- Title 6 New York Code of Rules and Regulations Part 375-6 Remedial Program Soil Cleanup Objectives, Protection of Groundwater, June 14, 2006 was considered during the development of this Record of Decision.

Surface Water:

- Title 6 New York Code of Rules and Regulations Part 703 Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations was considered during the development of this Record of Decision.

Federal Location-Specific ARARs

- Executive Orders 11593, Floodplain Management (May 24, 1977), and 11990, Protection of Wetlands (May 24, 1977).

- National Historic Preservation Act (16 USC 470) Section 106 and 110(f), and the associated regulations (*i.e.*, 36 CFR part 800) (requires Federal agencies to identify all affected properties on or eligible for the National Register of Historic Places and consult with the State Historic Preservation Office and Advisory Council on Historic Presentation).
- RCRA Location and 100-year Floodplains Requirements (40 CFR 264.18(b)).
- Clean Water Act, section 404, and Rivers and Harbor Act, section 10 (requirements for dredge and fill activities) and the associated regulations (*i.e.*, 40 CFR part 230).
- Wetlands Construction and Management Procedures (40 CFR part 6, Appendix A).
- Endangered Species Act of 1973 (16 USC 1531 - 1544).
- Fish and Wildlife Coordination Act of 1934 (16 USC 661).
- Wilderness Act of 1964 (16 USC 1131 - 1136).

New York Location-Specific ARARs

- New York State Freshwater Wetlands Law (New York Environmental Conservation Law (ECL) articles 24 and 71).
- New York State Freshwater Wetlands Permit and Classification Requirements (6 NYCRR 663 and 664).
- New York State Floodplain Management Act, ECL, article 36, and Floodplain Management regulations (6 NYCRR Part 500).
- Endangered and Threatened Species of Fish and Wildlife, Species of Special Concern Requirements (6 NYCRR part 182).
- New York State Inactive Hazardous Waste Disposal Sites—Remedy Selection (6 NYCRR 375.10(b) (“goal of the program for a specific site is to restore that site to pre-disposal conditions, to the extent feasible and authorized by law.”)).
- New York State Flood Hazard Area Construction Standards.

Federal Action-Specific ARARs

- RCRA subtitle C, Hazardous Waste Treatment Facility Design and Operating Standards for Treatment and Disposal systems, (*i.e.*, landfill, incinerators, tanks, containers, etc.) (*i.e.*, 40 CFR part 264); RCRA section 3004(o), 42 USC 6924(o) (RCRA statutory minimum technology requirements.)
- RCRA, Closure and Post-Closure Standards (40 CFR 264, subpart G).
- RCRA Groundwater Monitoring and Protection Standards (40 CFR 264.92 and 264.97 – 264.99).
- RCRA Generator Requirements for Manifesting Waste for Off-site Disposal (40 CFR part 262, subpart B).
- RCRA Transporter Requirements for Off-Site Disposal (40 CFR part 263).
- RCRA, Subtitle D, Non-Hazardous Waste Management Standards (40 CFR part 257).
- RCRA Land Disposal Restrictions (40 CFR part 268) (on and off-site disposal of excavated soil).
- CWA--NPDES Permitting Requirements for Discharge of Treatment System Effluent (40 CFR parts 122-125).

- CWA--Effluent Guidelines for Organic Chemicals, Plastics and Synthetic Fibers (discharge limits) (40 CFR part 414).
- CWA--Discharge to POTW—general Pretreatment regulations (40 CFR part 403).
- DOT Rules for Hazardous Materials Transport (49 CFR part 107, and 171.1-171.500).
- OSHA Standards for Hazardous Waste Operations and Emergency Response, 29 CFR 1910.120, and procedures for General Construction Activities (29 CFR parts 1910 and 1926).
- RCRA Air Emission Standards for Process Vents, Equipment Leaks, and Tanks, Surface Impoundments, and Containers (40 CFR part 264, subparts AA, BB, and CC).

New York Action-Specific ARARs

- New York State Pollution Discharge Elimination System (SPDES) Permit Requirements (Standards for Stormwater Runoff, Surface Water, and Groundwater Discharges (6 NYCRR 750-757)).
- New York State Hazardous Waste Regulations—identification, generators, transportation, treatment/storage/disposal, land disposal restrictions, and minimum technology requirements (6 NYCRR 370-376)
- New York State Solid Waste Management and Siting Restrictions (6 NYCRR 360-361).
- New York State Hazardous Waste Generator and Transporter Requirements for Manifesting Waste for Off-Site Disposal (6 NYCRR 364 and 372).
- New York State Inactive Hazardous Waste Disposal Sites—Remedy Selection (6 NYCRR 375.10(b)(“At a minimum, the remedy selected shall eliminate or mitigate all significant threats to the public health and to the environment presented by hazardous waste disposed at the site through the proper application of scientific and engineering principles.”).
- New York State Inactive Hazardous Waste Disposal Sites--Interim Remedial Measures (IRMs) (6 NYCRR 375-1.3(n) and 375.1.11)