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August 27, 2008

Mr. John Hill
U. S. Air Force Center for Engineering and the Environment
HQ AFCEE/IWA-COR
3300 Sidney Brooks, Building 532
Brooks City-Base, TD 78235-5112

SUBJECT: Final Record of Decision for the Defense Reutilization and Marketing Office (DRMO) Yard (SEAD-121C) and the Rumored Cosmoline Oil Disposal Area (SEAD-121I) at Seneca Army Depot Activity; Contract FA8903-04-D-8675, Delivery Order 0031, CDRL A001C

Dear Mr. Hill:

Parsons is pleased to submit the Final Record of Decision for the Defense Reutilization and Marketing Office (DRMO) Yard (SEAD-121C) and the Rumored Cosmoline Oil Disposal Area (SEAD-121I) located at the Seneca Army Depot Activity (SEDA) in Romulus, New York. An electronic copy of the complete Record of Decision is enclosed with this submittal.

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.
Project Manager

Enclosures

cc: S. Absolom, SEDA (3 paper copies, 1 electronic copy)
K. Hoddinott, USACHPPM (2 paper copies, 1 electronic copy)
R. Walton, USAEC (1 copy, paper and electronic)
R. Battaglia, USACE, NY District (1 copy, paper and electronic)
T. Battaglia, USACE, NY District (1 copy, paper and electronic)
Air Force CDL (letter only)

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August 27, 2008

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

SUBJECT: Final Record of Decision for the Defense Reutilization and Marketing Office (DRMO) Yard (SEAD-121C) and the Rumored Cosmoline Oil Disposal Area (SEAD-121I) at Seneca Army Depot Activity; EPA Site ID# NY0213820830 and NY Site ID# 8-50-006

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

Parsons is pleased to submit the Final Record of Decision for the Defense Reutilization and Marketing Office (DRMO) Yard (SEAD-121C) and the Rumored Cosmoline Oil Disposal Area (SEAD-121I) at Seneca Army Depot Activity (SEDA) in Romulus, 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.
Program Manager

Enclosures

cc: J. Hill, AFCEE
R. Walton, USAEC
M. Heaney, TechLaw
S. Absolom, SEDA
T. Battaglia, USACE, NY
K. Hoddinott, USACHPPM
R. Battaglia, USACE, NY

US Army Corps of Engineers

Air Force Center for Engineering and the Environment

Seneca Army Depot Activity
Romulus, New York

RECORD OF DECISION

THE DEFENSE REUTILIZATION AND MARKETING OFFICE YARD (SEAD-121C)
AND THE RUMORED COSMOLINE OIL DISPOSAL AREA (SEAD-121I)
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
JUNE 2008

RECORD OF DECISION

FOR

THE DEFENSE REUTILIZATION AND MARKETING OFFICE (DRMO) YARD (SEAD 121C) AND THE RUMORED COSMOLINE OIL DISPOSAL AREA (SEAD 121I)

SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK

Prepared for:

SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK

and

UNITED STATES AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT
3300 SYDNEY BROOKS
BROOKS CITY-BASE, TEXAS 78235

Prepared By:

PARSONS
150 Federal Street, 4th Floor
Boston, Massachusetts

Contract Number: FA8903-04-D-8675
Task Order: 0031
CDRL: A001C
EPA Site ID: NY0213820830; NY Site ID: 8-50-006 **June 2008**

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1 DECLARATION OF THE RECORD OF DECISION

Site Name and Location

The Defense Reutilization and Market Office (DRMO) Yard (SEAD 121C) and the Rumored Cosmoline Oil Disposal Area (SEAD 121I)
Seneca Army Depot Activity
CERCLIS ID# NY0213820830
Romulus, Seneca County, New York

Statement of Basis and Purpose

This decision document presents the U.S. Army's (Army's) and the U.S. Environmental Protection Agency's (EPA's) selected remedies for two areas of concern (AOCs), SEAD 121C and SEAD 121I located at the Seneca Army Depot Activity (SEDA or the Depot) in the Towns of Varick and Romulus, Seneca County, New York. The decisions were developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as amended, 42 U.S.C. §9601 et seq., and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300. The Base Realignment and Closure (BRAC) Environmental Coordinator, the Chief, Consolidations Branch, Army BRAC Division, and the Acting Director, EPA Region II have been delegated the authority to approve this Record of Decision (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**.

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

Site Assessment

The response actions selected in this ROD are necessary to protect human health and the environment from actual or threatened releases of hazardous substances into the environment or from actual or threatened releases of pollutants or contaminants from SEAD 121C and SEAD 121I, which may present an imminent and substantial endangerment to public health or welfare.

Description of the Selected Remedy

The selected remedies for SEAD 121C and SEAD 121I address contaminated soil and groundwater. The selected remedies will result in the elimination of soil and groundwater as exposure pathways for potential receptors.

The elements that compose the selected remedies at SEAD 121C and SEAD 121I include:

- Establish and maintain land use controls (LUCs) that prohibit residential housing, elementary and secondary schools, childcare facilities, and playgrounds until unrestricted use and unlimited exposure criteria are attained at the two AOCs; and,

- Establish and maintain LUCs that prohibit access to, and use of, groundwater until its quality allows for unrestricted use and unlimited exposure.

As the selected remedies for the AOCs do not allow unrestricted use and unlimited exposures, the Army or its successors will be required to complete a review of the selected remedies every 5 years (at minimum), in accordance with Section 121(c) of the CERCLA.

SEAD 121C and SEAD 121I Land Use Control (LUC) Performance Objectives

The LUC performance objectives for SEAD 121C and SEAD 121I are to:

- Prohibit access to or use of the groundwater until New York State's GA groundwater standards are achieved; and,

- Prohibit residential housing, elementary and secondary schools, childcare facilities and playgrounds activities.

The LUCs will be implemented over the land contained within the boundaries of SEAD 121C and SEAD 121I. Equivalent LUCs have been implemented over other land that is located within the greater Planned Industrial / Office Development and Warehousing Area (PID Area) at the Depot, but these LUCs were not imposed on parcels of land within the PID Area that were retained by the Army, pending completion of the CERCLA regulatory process. The existing PID Area-wide LUCs were implemented as a result of conditions identified in SEADs 27, 64A, and 66, and these conditions are presented in the Record of Decision entitled *Final ROD for Sites Requiring Institutional Controls in the Planned Industrial/Office Development or Warehousing Areas* (Parsons, 2004). The location of SEAD 121C, SEAD 121I, and the land that is subject to institutional controls in the PID Area are shown in **Figure 1-1**. Under the 2004 PID Area-wide ROD, LUCs have been implemented for those properties within the PID Area that are the subject of the 2004 PID ROD to prohibit residential housing, elementary and secondary schools, childcare facilities, and playground activities, and to prohibit access to and use of the groundwater. The restrictions may be removed at specific AOCs or specific portions of the PID Area upon a determination by the Army and EPA, with concurrence from the NYSDEC, that soil and groundwater constituent concentrations at such areas are at levels that allow for unrestricted exposure and unrestricted use.

To implement the remedies selected in this Record of Decision, which include the imposition of LUCs, a LUC Remedial Design for SEAD 121C and SEAD 121I will be prepared which is consistent with Paragraphs (a) and (c) of the New York State Environmental Conservation Law (ECL) Article 27, Section 1318: Institutional and Engineering Controls. In addition, the Army will prepare an environmental easement for SEAD 121C and

SEAD 121I, consistent with Section 27-1318(b) and Article 71, Title 36 of ECL, in favor of the State of New York, which will be recorded at the time of the property's transfer from federal ownership and which will require the owner and/or any person responsible for implementing the LUCs set forth in this ROD to periodically certify that such institutional controls are in place. The easement will provide that EPA and the Army will be third-party beneficiaries of the easement. A schedule for completion of the draft SEAD 121C and SEAD 121I LUC Remedial Design Plan (LUC RD) will be submitted within 21 days of the ROD signature, consistent with Section 14.4 of the Federal Facilities Agreement (FFA).

The Army shall implement, inspect, report, and enforce the LUCs described in this ROD in accordance with the approved LUC RD. Although the Army may later transfer these responsibilities to another party by contract, property transfer agreement, or through other means, the Army shall retain ultimate responsibility for remedy integrity.

State Concurrence

NYSDEC forwarded to EPA a letter of concurrence regarding the selection of a remedial action in the future. This letter of concurrence has been placed in **Appendix B**.

Declaration

CERCLA and the NCP require each selected remedy to be protective of human health and the environment; comply, unless waived, with applicable and appropriate requirements, criteria or limitations promulgated under Federal or State laws (ARARs); be cost effective; and use permanent solutions, alternative treatment technologies, and resource recovery options to the maximum extent possible. CERCLA and the NCP also state a preference for treatment as a principal element for the reduction of toxicity, mobility, or volume of the hazardous substances.

The selected remedies for SEAD121C and SEAD 121I are consistent with CERCLA and the NCP and are protective of human health and the environment, comply with Federal and State requirements that are applicable or relevant and appropriate to the remedial action, are cost-effective, and utilize permanent solutions.

The remedies identified will result in hazardous substances and pollutants or contaminants remaining on-site above levels that allow for unlimited use and unrestricted exposure for an indeterminate period. A review of the AOCs and the selected remedies will be conducted at least one time, every five years after initiation of the remedial action at each AOC to ensure that the remedy remains protective of human health and the environment, with consideration given to each AOC's continuing and planned future use.

The estimated cost for implementing, monitoring, assessing and reporting on the continued suitability of the recommended groundwater and land use restrictions at SEAD 121C, the DRMO Yard, and SEAD 121I, the Rumored Cosmoline Oil Disposal Area, are $74,460 for each AOC individually over a 30-year period. The total combined estimated cost of the selected remedial actions at both areas of concern included in this ROD is $148,920.

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

STEPHEN M. ABSOLOM
BRAC Environmental Coordinator

6/10/08

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:

12 Jun 08

JOSEPH J. VIGNALI
Chief, Consolidations Branch
BRAC Division

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:

8/7/08

GEORGE PAVLOU
Acting Director,
U.S. Environmental Protection Agency, Region II

Date

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2 SITE NAME, LOCATION, AND DESCRIPTION

The Seneca Army Depot 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.

A location map for SEDA is provided as **Figure 2-1**. **Figure 2-1** also shows that SEDA is bordered by New York State Highway 96 on the east and New York State Highway 96A on the west. 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 the SEDA site 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). Much of the land surrounding the Depot is sparsely populated farmland.

SEAD 121C, the DRMO Yard, is a triangular-shaped gravel lot, approximately 8.75 acres in size, located roughly 4,000 ft. southwest of the former Depot's main entrance off State Route 96. The DRMO Yard is surrounded by a chain-linked fence and access into the AOC is controlled through a single, normally locked gate located at its southeast corner. The surface of the DRMO Yard is graded to allow surface water to drain towards the man-made ditches that bound the AOC on its northwest and south sides. The major pathway of surface water flow is to these drainage ditches, which then flow to the west towards a wetland area and the headwaters of Kendaia Creek.

Several other man-made features are prominent within the DRMO Yard; these include: one storage building; an earthen-bottomed, open storage cell in the southwest corner of the AOC; an elongated, segmented, rectangular-shaped, open concrete storage structure immediately adjacent to, and located halfway along the northwest perimeter fence of the AOC; and a multi-chambered, open storage cell adjacent to the east perimeter fence, near the northern-most point of the DRMO Yard. This latter storage area sits between abandoned railroad tracks and is located in an area where broken asphalt pavement is present and intermixed with the soil.

The DRMO Yard was used by the Army to store scrap metal, vehicles, and other items that were no longer needed for national defense, or that did not comply with legislative and regulatory requirements. The group using the yard was responsible for property reuse (including resale), hazardous property disposal (off-site, at licensed/permitted facilities), precious metals recovery and recycling program support.

SEAD 121I, the Rumored Cosmoline Oil Disposal Area, encompasses four rectangular-shaped, open grass and dirt covered areas that are bounded by 3rd and 7th Streets (north and south ends, respectively)

and Avenues C and D (west and east sides, respectively). The northern end of SEAD 121I is located roughly 4,500 ft. south-southwest of the Depot's main entry off State Route 96. The AOC extends roughly 2,600 ft. further to the south from this point, and the AOC measures approximately 300 ft. in width throughout its length; the overall size of the AOC is approximately 16.8 acres. Approximately 1.2 acres of this area were previously used for the staging of strategic stockpiles of ferromanganese ore. This AOC is located 2,000 to 4,000 ft. northwest of the topographic high point within the Depot.

Buried reinforced concrete storm drains convey runoff storm water from east to west through the AOC along 3rd St., 4th St., 5th St., 6th St., and 7th St.

A railroad spur line enters SEAD 121I from the south and extends to the northern end of the AOC where it terminates near the intersection of 3rd St. and Avenue C. Two sidings branch off the main spur line; one terminates in the first (north to south) block and the other terminates in the third (north to south) block. There are concrete loading docks located in the first and third blocks next to the railroad lines.

The Army indicated that the rail spur and sidings were used for delivery of equipment and machinery that was frequently packed in Cosmoline (oil). Cosmoline oil is a commonly used substance that prevents corrosion on metal parts and components. During delivery and unpacking of the equipment and machinery, oil from the packing may have been deposited on the ground.

The U.S. Government historically staged strategic stockpiles of ferromanganese ore in portions of SEAD 121I, and these stockpiles were present during the Environmental Baseline Survey (EBS) and Remedial Investigation (RI) sampling events and into the early part of 2007. The strategic stockpiles were located in the second and fourth blocks (north to south) of the AOC, along the western edge of the AOC close to Avenue C. The Government recently sold and removed the stockpiles, and the historic staging areas have had all ore residuals removed. Parallel rows of warehouses border the eastern and western sides of the AOC, across the bounding north-south running Avenue C and Avenue D.

Habitat and Ecological Community Characterization

AOC-specific ecological evaluations of the plant and animal habitats and communities located at SEAD 121C and SEAD 121I were not conducted. The AOCs are generally void of characteristics and attributes that would make them an attractive habitat for most ecological receptors. As is indicated above, the DRMO Yard (SEAD 121C) is a gravel-covered, triangular lot located where historic short- to long-term storage of materials occurred. It is surrounded by a chain-linked fence with a single access gate to control vehicular and human traffic. Isolated growths of weed plants are currently observed at numerous locations immediately along the fence line and randomly at other locations within the Yard. No deciduous or coniferous trees or shrubs are located in the Yard, but they do exist at varying distances exterior of the Yard along the northwestern, western and southern borders of the AOC. Man-made drainage ditches that carry episodic flows of storm- and snow-melt waters are located along the northwest and south edges of the AOC. The Rumored Cosmoline Oil Disposal Area (SEAD 121I) is a four block expanse of open land, that is a surrounded by roads and by two opposing banks of warehouses.

Characterizations of the habitat and ecological communities present near, but exterior of, SEAD 121C and SEAD 121I are based on general observations made during the 1998 EBS and the 2002 RI, and on the results of the ecological evaluations and assessment that have been conducted at other solid waste management units (SWMUs) at the SEDA [e.g., SEADs 4, 12, 16, 17, 25 and 26, and the Open Burning (OB) Grounds] as part of remedial investigations. SEADs 16, 17, 25 and 26 are also located within the greater PID Area, in close proximity to SEADs 121C and 121I. Key aspects of these characterizations relevant to the risk assessments for SEAD 121C and 121I are presented below.

The methods used to characterize the ecological resources included AOC- and area-walkovers for the evaluation of existing wildlife and vegetative communities; interviews with local, state, and SEDA resource personnel; and review of environmental data obtained from previous Army reports. SEDA has a strong wildlife management program that is reviewed and approved by NYSDEC's Division of Fish, Wildlife and Marine Resources. The Depot manages an annual white-tailed deer (*Odocoileus virginiana*) harvest and has constructed a large wetland called the "Duck Pond" in the northeastern portion of the facility to provide a habitat for migrating waterfowl.

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 SEAD 121C. No species of special concern are documented within the Depot property.

The only significant terrestrial resource known to occur at SEDA is the population of white-pelaged white-tailed deer, which inhabits the fenced portion of the Depot, west of the PID area. Annual deer counting conducted at the Depot indicates that the size of the deer herd is approximately 600 animals of which approximately one-third (i.e., 200) are white-pelaged. Since the perimeter of the Depot is totally enclosed by fence, the white-pelaged deer is thought to result from inbreeding within the herd. The Depot maintains the herd through an annual hunting season to prevent overgrazing and starvation of the deer. The management plan of the herd is conducted by the NYSDEC Division of Fish, Wildlife and Marine Resources. The normal brown-pelaged deer are also common. White-tailed deer are not listed as a rare or endangered species.

Agricultural crops and deciduous forests comprise the vegetative resources used by humans near SEDA. Although no crops are grown at the Depot, farmland is the predominant land use of the surrounding private lands. Crops including corn, wheat, oats, beans and hay mixtures, are grown primarily for livestock feed. Deciduous forestland on the Depot and surrounding private lands is under active forest management. Timber and firewood are harvested from private woodlots that surround the Depot, but timber harvesting does not occur on the Depot.

Vegetation across the SEDA consists of successional old field, successional shrub, and successional hardwoods. The NYSDEC Natural Heritage Program Biological and Conservation Data System identifies no known occurrences of federal- or state-designated threatened or endangered plant. No species of special concern are documented within the Depot property. No rare or endangered species were observed during the site assessment.

Several wildlife species are hunted and trapped on private lands near SEDA. Game species hunted include the eastern cottontail, white-tailed deer, ruffed grouse, ring-necked pheasant, and various waterfowl. Gray squirrel and wild turkey are hunted to a lesser extent. At the Depot, deer, waterfowl, and small game hunting are allowed. Trapping is also permitted on the Depot.

Animals that have been identified at the Depot during various ecological surveys include the beaver, eastern coyote, deer, red and gray fox, eastern cottontail rabbit, muskrat, raccoon, gray squirrel, striped skunk, and the woodchuck. Bird species that have been identified include the blue jay, black-capped chickadee, American crow, mourning dove, northern flicker, ruffed grouse, ring-billed gull, red-tailed hawk, northern junco, American kestrel, white breasted nuthatch, ring-necked pheasant, American robin, eastern starling, turkey vulture, and pileated woodpecker.

There are no permanent lakes, ponds, streams or wetlands in SEAD 121C or SEAD 121I. Surface water only exists intermittently in man-made drainage ditches that abut the AOCs; thus, it does not directly support aquatic life.

There are signs of stressed vegetation in both AOCs resulting from the historic storage activities and vehicular movements through both of the areas.

3 SITE HISTORY AND ENFORCEMENT ACTIVITIES

3.1 LAND USE

Prior to the acquisition of the land and construction of SEDA in 1941, the property was privately owned and was used principally as homesteads and for agriculture. Between 1941 and 2000, SEDA was owned by the United States Government and operated by the Department of the Army. The Depot began its primary mission of receipt, maintenance and supply of ammunition in 1943. After the end of World War II, the Depot's mission shifted from supply to storage, maintenance and disposal of ammunition. SEDA was selected for closure by the Department of Defense (DoD) in 1995, and SEDA's military mission terminated in September 1999 and the installation was closed in September 2000.

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. In 2005, after it had acquired portions of the former Depot from the Army, the Seneca County Industrial Development Authority (SCIDA) changed the planned use of land in many portions of the Depot. **Figure 3-1** depicts the intended future land uses for SEDA, as modified by the SCIDA. The planned future land use within the greater PID Area, which encompasses SEAD 121C and SEAD 121I, remained unchanged, and calls for its use for Planned Industrial/Office Development or Warehousing. The PID Area, exclusive of retained property, was transferred to the SCIDA in March 2008, and the environmental easement for this area was recorded at the time of its transfer from the Army to the SCIDA.

Land within the Planned Industrial/Office-Development and Warehousing (PID) area is subject to LUCs that prohibit the use of the land for residential activities and that prohibit access to, and use of, groundwater. These LUCs were implemented on the PID Area via a separate Proposed Plan and ROD, which included ICs ["Final ROD for Sites Requiring Institutional Controls in the Planned Industrial/Office Development or Warehousing Areas" (Parsons, 2004) signed on September 30, 2004]. This ROD selects similar LUCs to be implemented for SEAD 121C and SEAD 121I.

3.2 RESPONSE AND ENFORCEMENT HISTORY

SEDA was proposed for the National Priorities List (NPL) in July 1989. In August 1990, the listing of SEDA as a NPL site was finalized in Group 14 on the Federal Section. After SEDA was listed on the NPL, the Army, EPA, and NYSDEC identified 57 SWMUs where data or information suggested, or evidence existed to support, that hazardous substances or hazardous wastes had been handled and where releases to the environment may have occurred. Additionally, the EPA, NYSDEC, and the Army negotiated and finalized a Federal Facilities Agreement (FFA) for the Site in 1993. The general purposes of the Agreement were to:

- "Ensure that the environmental impacts associated with past and present activities at the Site are thoroughly investigated and that appropriate remedial action is taken as necessary to protect human health and the environment;

- Establish a procedural framework and schedule for developing, implementing and monitoring appropriate response actions at the Site in accordance with CERCLA, the NCP, Superfund guidance and policy, RCRA, RCRA guidance and policy and applicable State law; and

- Facilitate cooperation, exchange of information and participation of the Parties in such actions."[1]

The number of SWMUs was subsequently expanded to include 72 AOCs once the Army finalized the *SWMU Classification Report* (Parsons, 1994) for the Depot in 1994.

The SEDA was a generator and treatment, storage and disposal facility (TSDF) for hazardous wastes and thus, subject to regulation under the Resource Conservation and Recovery Act (RCRA). Under the RCRA permit system, corrective action is required at all SWMUs, as needed. Remedial goals are the same for CERCLA and RCRA; thus, once the 72 SWMUs were listed, the Army recommended that they be identified as either areas requiring No Action or as AOCs, where additional; investigation, study, or actions were needed. SWMUs listed as AOCs were then scheduled for investigations based upon data and potential risks to the environment.

In October 1995, the SEDA was designated for closure under the DoD's 1995 Base Realignment and Closure (BRAC) process. In accordance with requirements of BRAC, the Army prepared an EBS for SEDA. Under the EBS, all areas at the Depot were evaluated and subdivided into one of seven standard environmental categories consistent with the Community Environmental Response Facilitation Act (CERFA – Public Law 102-426) guidance and the DoD's *BRAC Cleanup Plan Guidebook* (DoD, 1993). Based on the findings and conclusions of the EBS, SEAD 121C and SEAD 121I were both designated as AOCs where additional information and data were required before the land could be offered for transfer and reuse.

Once SEDA was added to the 1995 BRAC list, the Army's primary objective expanded from performing remedial investigations and completing necessary remedial actions to include the release of non-affected portions of the Depot to the surrounding community for their reuse for other, non-military purposes (i.e., industrial, municipal, and residential). The designated future use of land within the SEDA was first defined and approved by the Seneca County Local Redevelopment Authority in 1996. The planned use for portions of the SEDA was modified by SCIDA in 2005.

As required for sites on the NPL, an RI was completed for SEAD 121C and SEAD 121I. The Final RI was completed and submitted to EPA and NYSDEC in May 2006. At the time of the issuance of the RI Report, the Army had determined that there were no elevated carcinogenic risks for future human receptors (i.e.,

[1] Federal Facility Agreement under CERCLA Section 120 in the Matter of Seneca Army Depot, Romulus, New York, Docket Number: II-CERCLA-FFA-00202, Section 3, Page 4, January 1993.

adolescent trespasser, industrial worker, construction worker) at either SEAD 121C or SEAD 121I. The RI risk assessment had also indicated that there was no evidence of unacceptable non-carcinogenic hazard indices for future human receptors at SEAD 121C, but did indicate that there was the potential for elevated non-carcinogenic hazard levels for future industrial and construction workers at SEAD 121I due to the presence of manganese and other metals in the soils near the former strategic stockpiles of ferromanganese ores that were present at the AOC at the time.

Subsequent to their review of the RI report, the EPA requested that soil containing elevated concentrations of metals above NYSDEC soil cleanup objectives (SCOs) located in SEAD 121C and around the staging areas of the historic strategic ore piles be addressed. Specifically, at SEAD 121C, the EPA's focus was on soil that contained elevated levels of lead in excess of NYSDEC's Industrial Use SCO levels.

At SEAD 121C, the DRMO Yard, the objective of the removal action was to excavate, and dispose off-site, soil containing levels of lead in excess of 1,500 milligrams per Kilogram (mg/Kg), and to achieve an excavation-wide concentration for lead of 1,250 mg/Kg or less. The excavation-wide cleanup objective was defined as the 95th upper confidence limit (95th UCL) of the mean[2] of the confirmatory samples collected from the base and the perimeter of the excavation alone. Full details of the removal action are presented in the Draft Completion Report that has been prepared for the action.

Approximately 775 cubic yards (yd^3) of soil were excavated from the area shown in **Figure 3-2**. The location of all confirmatory soil samples and the resulting lead data is also shown on this figure. The lead results for samples collected from the SEAD 121C excavation area are presented and summarized in **Table 3-1**. The residual lead concentration (defined as the appropriate 95th UCL value) found in the excavation area at SEAD 121C was 598.8 mg/Kg , with a maximum sample concentrations detected of 1,450 mg/Kg.

At SEAD 121I, the EPA initially requested that engineering controls or other measures (e.g., security fences, warning signs, etc.) be implemented to lessen the potential exposure of human receptors to manganese and the other metals that were present in the soil around the strategic stockpiles that were located at the AOC. In early 2007, the Army's ferromanganese ore stockpile mission terminated, the stockpiles were sold, and they were removed from the area of SEAD 121I. As part of the overall stockpile mission termination process, the Army conducted a cleanup action around the historic staging areas of the stockpiles to address residual levels of manganese and other metals that were present in the soil. The focus of the Army's post-mission cleanup action was to remove concentrations of manganese in excess of New York's Commercial and Industrial Use SCO levels and EPA's Region IX Preliminary Remediation Goals (PRGs) for industrial soil, which were the principal reason for the identified elevated non-carcinogenic hazard indices (HIs) determined for current and future industrial and construction workers.

[2] 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.

At SEAD 121I, the cleanup objective established by the Army specified that the level of manganese left in the soil at the former stockpiles locations was to be 10,000 mg/Kg or less (defined as the 95th UCL of the mean of the dataset), and that no individual sample could contain a concentration of greater than 19,500 mg/Kg of manganese. A cleanup level of 100,000 mg/Kg was also set for iron in the soil at the former stockpile areas. Full details of the site activity are presented in the Draft letter Completion Report prepared for the action.

The locations of the former ore stockpiles are shown in **Figure 3-3**. Approximately 4,150 yd^3 of soil, asphalt and ore residuals were excavated and disposed off-site from the areas of the two former stockpiles. The location and results of all confirmatory soil samples are also shown on this figure. Confirmation samples collected from the base of the SEAD 121I excavation areas were mixtures of ore fragments and native soils that could not be mechanically excavated because they were lodged in the crevices and valleys that existed in the exposed shale bedrock surface. The residual manganese concentration (defined as the appropriate 95th UCL value) found in the excavation area at SEAD 121I was 3550 mg/Kg , with a maximum sample concentrations detected of 11,100 mg/Kg. The manganese and iron results for samples collected from the SEAD 121I excavation area are also presented and summarized in **Table 3-2**. Subsequent to the completion of the cleanup action at SEAD 121I, the Army recalculated the non-cancer HIs for future industrial and construction workers. The results of this re-evaluation indicated that the future industrial worker's HI decreased to less than 1. The construction worker's HI is currently estimated to be 1.5e+00 (i.e., 1.50). This value is considered to be a ceiling level for the HI that overestimates the level of potential non-carcinogenic hazard that remains at the AOC. This belief is supported by the fact that the levels of manganese left in the soil at the AOC are lower than published State and Federal soil cleanup guidance values for commercial and industrial properties, which is consistent with the planned use of this SEAD. The major pathway driving risk is the inhalation of manganese which has a high degree of uncertainty (i.e., uncertainty factor of 1000) assigned to the inhalation reference dose. The EPA assigns larger uncertainty factors to reference doses of chemicals which they have less confidence of it health effects to provide a margin of safety. The reference dose is also significantly lower than the occupational exposure levels specified by the American Conference of Governmental Industrial Hygienists (ACGIH) for industrial exposures in the workplace. Additional discussions of this matter are provided in **Section 7.3.1.4** of this ROD.

4 COMMUNITY PARTICIPATION

The Army and the EPA rely on public input to ensure that community concerns are considered in selecting an effective remedy for each Superfund site. To this end, the RI/FS Report, the Construction Completion Reports, the Proposed Plan and the supporting documentation have been made available to the public for a public comment period, which began on January 14, 2008 and concluded on February 12, 2008. Copies of the RI/FS Report, the Construction Completion Reports, the Proposed Plan, the Record of Decision, and supporting documentation are available at the following repository:

Seneca Army Depot Activity
Building 123
Romulus, NY 14541
(607) 869-1309
Hours are Mon-Thurs 8:30 am to 4:30 pm

A public meeting was held during the public comment period at the Seneca County Office Building on January 29, 2008 beginning at 7 p.m. to present the conclusions of the EBS, RI and the interim actions performed, to elaborate further on the reasons for recommending the preferred remedial option, and to receive public comments. Comments received at the public meeting, as well as written comments received during the comment period, are documented in the Responsiveness Summary Section of the ROD, **Appendix C**.

The primary responsibility assigned to the LRA was the preparation of a plan for the redevelopment of the Depot. During the BRAC process, periodic presentations were given to the LRA. In addition, the SEDA Restoration Advisory Board (RAB) was established to facilitate the exchange of information between SEDA and the community. RAB members include the representatives from the Army, EPA, NYSDEC, NYSDOH, and the community. After 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 Reuse Plan was subsequently approved by the Seneca County Board of Supervisors on October 22, 1996. The planned uses for portions of the SEDA have been modified by the Seneca County Industrial Development Agency (SCIDA) since 1996.

During the BRAC process there have been, and continue to be, monthly presentations to the RAB regarding the progress of SEAD 121C and SEAD 121I and other investigations related to the closure of SEDA.

5 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 or lease of any property at the Depot, the Army is required to ensure that the property is suitable for release and reuse. 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 approval 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 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.

SEAD 121C, the DRMO Yard, and SEAD 121I are designated AOCs that are located in the PID Area of the former SEDA. The Army is currently leasing other property located in the PID Area to outside parties for reuse as warehousing, commercial use and light industrial operation property. It is the Army's goal to demonstrate that SEAD 121C and SEAD 121I are available for reuse, either via lease or transfer to other public or private parties.

Conditions identified in SEAD 121C indicate that carcinogenic and non-carcinogenic risks for future industrial receptors are within or below EPA's acceptable limits (i.e., 10^{-4} to 10^{-6} or less for carcinogenic risk; non-carcinogenic hazard index [HI] of 1 or less). However, concentrations of selected chemicals have been identified in the soil at levels that exceed the New York's Restricted Industrial Use SCOs, as are listed in Title 6 New York Code of Rules and Regulations (6NYCRR) Part 375-6.8 . Of these chemicals, lead was the one observed most frequently at elevated concentrations, and this was found concentrated in one portion of the AOC.

Conditions identified in SEAD 121I at the conclusion of the RI indicated that carcinogenic risks for future industrial receptors were within or below EPA's acceptable limits (i.e., 10^{-4} to 10^{-6} or less). However, non-carcinogenic hazards determined for future industrial and construction workers were estimated to be above the EPA's HI limit of 1.

The principal contaminant identified at the AOC that caused the non-carcinogenic hazard was manganese, which was concentrated in the soil around two portions of the AOC where the U.S. Government historically stored strategic stockpiles of ferromanganese ore. The contaminant levels were reduced when the ore piles were removed, and a post-removal cleanup action was completed. A recalculation of the HIs for SEAD

121I indicate that the industrial worker's HI is now less than 1, and that the construction worker's HI is 1.5e+00. As is discussed in **Section 7.3.1.4**, both of these HI values are considered ceiling levels and overestimate the HI that is likely to be present at the AOC after the stockpile cleanup action.

Exposure to lead contaminated soils at SEAD 121C has been addressed via an interim removal action that was completed for this AOC during the summer of 2007 prior to the issue of this ROD. Exposure to manganese contaminated soil found at SEAD 121I has been mitigated by removal of ore residuals, contaminated soil, and the underlying asphalt pads where the stockpiles were previously located, and by comparing confirmatory sampling results to EPA Region IX PRGs and NYSDEC Restricted Commercial and Industrial SCO levels.

To further limit potential future risks at both of the AOCs, this ROD requires that the PID Area-wide LUCs that prohibit the use of the land for residential activities and that prohibit access to and use of groundwater be formally imposed at both SEAD 121C and SEAD 121I to control future uses of the property. These AOCs are not currently subject to the PID Area-wide LUCs because they were retained by the Army pending completion of investigations and the development and implementation of necessary remedial actions.

The remedies selected for SEAD 121C and SEAD 121I are cost-effective, readily available alternatives that will provide effective and efficient solutions to environmental concerns identified at both AOCs. The selected remedies are discussed in greater detail in **Section 9**.

6 SITE CHARACTERISTICS

Two environmental investigations were conducted to document the environmental conditions present at SEAD 121C, the DRMO Yard, and at SEAD 121I, the Rumored Cosmoline Oil Disposal Area. In addition, removal actions were also performed independently at SEAD 121C and SEAD 121I, and confirmatory soil sample data were developed as part of these removal action efforts.

Initially, a limited EBS was performed to determine if hazardous substances were present in select environmental media at the two AOCs. The EBS work was limited to the collection and analysis of surface and subsurface soil and groundwater samples at SEAD 121C, and the collection of surface soil and sediment samples at SEAD 121I. This work was performed in 1998 – 1999 and is reported in the document *Final Investigation of Environmental Baseline Survey Non-Evaluated Sites [SEAD 119A, SEAD 122 (A, B, C, D, E), SEAD 123 (A, B, C, D, E, F), SEAD 46, SEAD 68, SEAD 120 (A, B, C, D, E, F, G, H, I, J), and SEAD 121 (A, B, C, D, E, F, G, H, I)]* (Parsons, 1999). In the conclusions of this effort, the Army recommended "that additional soil and groundwater sampling be performed to determine the extent of the impacts from semivolatiles, pesticides, and metals at SEAD 121C. At this time, there are an insufficient number of data points to perform a Mini Risk Assessment."[3] Comparably for SEAD 121I, the Army recommended "that additional soil sampling be performed to determine the extent of the impacts from semivolatiles. At this time there are an insufficient number of data points to perform a Mini Risk Assessment"[4]

Conditions present at both AOCs were more thoroughly investigated during a multimedia RI at both AOCs in 2002 and 2003. Samples of surface and subsurface soil, groundwater (SEAD 121C only), surface water and "ditch soil" found in man-made culverts adjacent to the AOCs were collected and analyzed for Target Compound and Target Analyte List (TCL/TAL) compounds. The results of this effort were reported in the *Remedial Investigation Report for Two EBS Sites in the Planned Industrial Development Area (SEAD 121C and SEAD 121I)* Final (Parsons, 2006).

Additional data pertinent to the existing environmental conditions remaining at the two AOCs was subsequently developed during the interim removal actions that were performed for the two AOCs. These data are provided in the Construction Completion Report for SEAD 121C and the Removal Action Letter for SEAD 121I that describes and summarizes the results of the interim removal action that has been performed at SEAD 121C for the elevated levels of lead, and at the former stockpile locations in SEAD 121I to address manganese residuals.

Analytical data collected during the site investigations and construction efforts were compared to prevailing state and federal standards and reference values. State reference values and standards considered included New York's Technical and Guidance Memorandum (TAGM) No. 94-HRW-4046 SCOs and Title 6 New York Code of Rules and Regulations (6NYCRR) Subpart 375-6.8 Remedial

[3] Parsons, May 1999, pg. 38
[4] Parsons, May 1999, pg. 48

Program SCOs for soil; and New York's Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (Technical and Operation Guidance Series [TOG] 1.1.1) for groundwater and surface water. The TAGM soil guidance values were recently replaced by New York's 6NYCRR Subpart 375-6.8 regulations, and data comparisons previously made to the TAGM values have been eliminated from all material presented in this ROD.

Federal reference values considered during the evaluation of analytical data included EPA Region IX PRGs for residential and industrial soils and PRGs for tap water, as well as Maximum Contaminant Limits (MCLs) for Drinking Water.

Results obtained from the analysis of all of the samples and sample duplicates are provided in the appendices of this ROD. Summary tables presenting results obtained by comparing sample data to regulatory reference values merges sample and its associated sample-duplicate results into a single value for each compound that is reflective of the average condition found at a sampling location. The combined analytical results of the EBS, the RI, and completed construction activities are summarized and discussed below.

6.1 SEAD 121C, THE DRMO YARD

Samples of surface soil, ditch soil, groundwater and surface water were collected and analyzed as part of the EBS and RI at SEAD 121C, the Rumored Cosmoline Oil Disposal Area. Confirmation soil samples were collected and analyzed during the lead removal action that was performed in 2007. The sampling and analyses were performed in 1998 (EBS) and between 2002 and 2003 (RI); the results of this effort were reported in the RI Report (Parsons, 2006). The sampling and analysis conducted during the cleanup action are presented in the Completion Report for SEAD 121C, and are summarized in Section 3 of this ROD. The combined analytical results of the EBS and the RI are summarized and discussed below.

6.1.1 Soil Investigations

The EBS and remedial investigation of soil at SEAD 121C initially included the collection and analysis of samples from 48 surface soil, 10 ditch soil and 20 subsurface soil locations. A total of 53 surface soil samples and duplicates, 20 subsurface soil samples, and 11 ditch soil and duplicates were collected and characterized. Eight surface soil samples and four subsurface soil samples were collected during the EBS. Forty surface soil samples, 10 ditch soil samples, and 16 subsurface soils were collected during the RI. **Figure 6-1** shows the locations where the soil and ditch soil samples were collected. A compilation of all the EBS and RI sample and sample duplicate results for surface, subsurface, and ditch soil samples is provided in **Appendix D, Table 1.**

Lead contaminated soil in the northern corner of SEAD 121C was removed during the interim remedial action. Analytical results for lead only associated with soil that was excavated from five locations during the interim action were removed from the SEAD 121C dataset as a result of the action. Additionally, confirmatory sample results for lead from 31 new locations were added to the SEAD 121C data to update the estimate of the level of lead that now remains at SEAD 121C. The lead results from confirmatory

samples are presented in **Table 3-1**, and displayed in **Figure 3-2**. Analytical data from the updated and original SEAD 121C dataset are reported below for lead, while data summaries for the original dataset only are provided for all other chemicals identified in the soil at SEAD 121C.**Tables 6-1**, **6-2**, and **6-3** provide the summary soil results for SEAD 121C compared to three sets of reference values, NYSDEC's Unrestricted Use and Industrial Use SCOs, and EPA Region IX Industrial Soil PRGs. Each of the listed tables identifies the compounds that were detected in total soil, surface soil only, subsurface soil only, and ditch soil only; identifies the number of times the detected compounds were found in one of the categories of soil; and, identifies how many samples contained a concentration in excess of the referenced reference value. In addition, the 95th UCL of the mean is computed for the total soil data set developed, and this value is compared directly with each regulatory reference value.

Volatile Organic Compounds (VOCs)

Eleven volatile organic compounds (VOCs) were detected at the 78 total soil locations characterized during the EBS and the RI at SEAD 121C. The identified VOCs included acetone, benzene, carbon disulfide, chloroform, ethyl benzene, meta/para xylene, methyl ethyl ketone, methylene chloride, ortho xylene, styrene, and toluene. Acetone and toluene were the two VOCs most frequently detected, present in 37% and 17% of the total soil samples, respectively. Acetone was found in all types of soil analyzed (i.e., surface, subsurface, and ditch soil), while toluene was only found in surface and subsurface soils characterized. Five VOCs (acetone, benzene, ethyl benzene, meta/para xylene, and methyl ethyl ketone) were detected in one or more samples each at concentrations in excess of the NYSDEC Unrestricted Use reference values. Three of these compounds (benzene, ethyl benzene, and meta/para xylene) had 95th UCL values that exceeded their respective Unrestricted Use SCOs, but in each case the elevated UCL value was driven by one or two sample concentrations that were above the reference value.

Ethyl benzene and meta/para xylene were found collocated in one surface soil sample collected from location SBDRMO-9, which is located in the southeastern corner of the DRMO yard at concentrations of 3,300 "J"[5] µg/Kg for ethyl benzene, and 4,400 J µg/Kg for meta/para xylenes. Benzene, ethyl benzene, and meta/para xylenes also were observed to exceed NYSDEC's Unrestricted Use SCOs once each in subsurface soil, and each of the elevated concentrations were found collocated in a sample collected at SBDRMO-9, which is near the southeastern corner of the DRMO Yard.

Benzene was the only VOC that was observed to exceed its EPA PRGs for industrial soil, with an exceedance in the subsurface soil collected from location SBDRMO-9.

None of the detected VOCs were found in any sample at concentrations that exceeded NYSDEC's Industrial Use SCO values.

[5] The "J" is a data qualifier that indicates that the concentration is estimated.

Semivolatile Organic Compounds (SVOCs)

Twenty-seven semivolatile organic compounds (SVOCs), including most of the polycyclic aromatic hydrocarbons (PAHs), some phthalates, and other compounds were detected in the 78 soil sample locations characterized at SEAD 121C. **Tables 6-1**, **6-2**, and **6-3** present summary statistics and results of the comparison of sample concentrations to the various comparative cleanup objectives.

Seven of the detected PAHs [i.e., benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene] are known as carcinogenic PAHs (cPAHs). Generally, the PAHs and the cPAHs were the most frequently detected SVOCs, the analytes found at the highest concentrations, and the analytes most frequently found at levels above the various cleanup objective values. Pyrene was the PAH found at the highest overall concentration (34,000 µg/Kg); Fluoranthene was the PAH found most frequently, present in 45 of the 78 soil sample locations analyzed; while benzo(a)pyrene and benzo(b)fluoranthene, both cPAHs, were the two compounds found to exceed their comparative cleanup objectives most frequently. Benzo(a)pyrene concentrations detected were above NYSDEC's Industrial Use reference values and EPA's Industrial Soil PRGs most frequently, while measured concentrations of benzo(b)fluoranthene were most frequently above NYSDEC's Unrestricted Use SCOs.

The seven cPAHs and 3 or 4-methylphenol were the only SVOCs that were found at levels above any of their respective SCO levels. Each of the eight SVOCs was detected in at least one sample at a concentration above its NYSDEC's Unrestricted Use SCO value. Benzo(b)fluoranthene exceeded its Unrestricted Use SCO value in eight samples. Benzo(a)pyrene and benzo(b)fluoranthene were the only two compounds to exceed NYSDEC's Industrial Use SCO values in any soil samples, while four of the cPAHs were detected at concentration above their respected Industrial Soil PRG levels in one or more samples.

The 95th UCL computed for five of the cPAHs [i.e., benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, and chrysene] were higher than NYSDEC's Unrestricted Use SCO value, while three surpassed EPA's Industrial Soil PRGs, and only benzo(a)pyrene was higher then its NYSDEC Industrial Use SCO level.

Further review of the data indicates that the semivolatile organic compounds are generally found most frequently and at higher concentrations in the shallower soil samples. Based on the ditch soil sample results, it appears that higher concentrations are found exterior to the DRMO yard at locations that are upgradient of the AOC.

Pesticides and Polychlorinated Biphenyls (PCBs)

Fourteen pesticides and three polychlorinated biphenyls (PCBs) were found in one or more of the soil samples collected from SEAD 121C. The most frequently detected pesticide was endosulfan I, which is

an insecticide and an acaricide[6] that is used extensively on crops and as a wood preserver. This analyte was found in 19 of the 78 sample locations characterized at SEAD 121C, with a maximum concentration of 185 µg/Kg. Other frequently detected pesticides included 4,4'-DDE, and 4,4'-DDT, present in 18, and 16 samples, respectively.

The most frequently detected PCB was aroclor-1254, which was found nine times; this analyte also exhibited the maximum concentration for PCBs in SEAD 121C, with a concentration of 930 µg/Kg. Aroclor-1260 was found in eight of the samples characterized.

Six pesticides (4,4'-DDD, 4,4'-DDE, 4,4'-DDT, aldrin, dieldrin and endrin) and aroclor-1254 and aroclor-1260 were found at concentrations that exceeded NYSDEC's Unrestricted Use SCO values. The pesticides 4,4'-DDE (15 times) and 4,4'-DDT (11 times) were the pesticides most frequently found at concentrations above their respective Unrestricted Use SCOs. Aroclor-1254 ranked third in the number of times it was detected in soil samples at concentrations above its Unrestricted Use SCO. Aroclor-1254 was also the only pesticide or PCB compound that was detected above its Industrial Soil PRG reference value. None of the pesticides or PCBs were detected in soil samples at concentrations that exceeded their respective Industrial Use SCO values.

Review of the data also indicates that the pesticides and PCB compounds are found most frequently and at higher concentrations in the shallower soil samples. All but three (endrin, endrin ketone, and aroclor-1260) of the maximum concentrations detected for pesticides and PCBs in soils at SEAD 121C were found in the surface soil samples. The highest levels of the other three compounds were found in subsurface soil samples.

Metals and Cyanide (CN^-)

Twenty-three metals were detected in one or more of the 78 soil sample locations collected from SEAD 121C during the EBS and RI. **Tables 6-1**, **6-2**, and **6-3** provide summary statistics and a summary of comparison of soil sample data to the three comparative cleanup objective values.

Fourteen metals (aluminum, arsenic, barium, calcium, chromium, copper, iron, lead, magnesium, manganese, nickel, potassium, vanadium, and zinc) were detected in every soil sample analyzed. The frequency of detection in samples for the remaining eight metals ranged from a low of 15% for thallium to a high of 97% for beryllium. A majority (14) of the maximum concentrations measured for the individual metals were found in shallow soil samples, while five maximum concentrations were found in the ditch soil samples, and four were found in subsurface soils.

Nine metals were found in one or more soil samples at concentrations that exceeded NYSDEC's Unrestricted Use comparative values. Of these metals, nickel was most frequently (52 times) found at concentrations above the Unrestricted Use SCO. Zinc was found at concentrations above the Unrestricted

[6] Acaricide: a chemical agent used to kill mites, a pesticide.

Use reference value second most frequently, followed by lead at third. All nine of the metals that surpassed NYSDEC's Unrestricted Use levels were found in surface soils; seven of the nine metals observed to surpass the Unrestricted Use SCO levels were observed at elevated concentrations in subsurface soil and ditch soil samples.

Two metals, arsenic and lead, were observed to exceed EPA Industrial Soil PRG levels in soil samples, and only lead was observed to surpass NYSDEC's Industrial Use SCO value in soil samples collected from SEAD 1211C. Arsenic surpassed the Region IX Industrial Soil PRG value (1.59 mg/Kg) in 76 of the 78 sample locations characterized. Lead exceeded the EPA's Industrial Soil PRG in five samples and NYSDEC's Industrial Use SCO level in two samples.

As is discussed previously, soil containing elevated concentrations of lead was removed during the interim removal action that was performed at SEAD 121C. Lead results associated with this soil were eliminated from the original EBS/RI dataset, and lead data reflecting the new confirmatory soil samples were added to update the SEAD 121C dataset. The confirmatory sample data are independently presented and summarized in **Table 3-1** of this ROD. A review of the blended dataset developed for residual levels of lead present at the site indicates that there are no concentrations in excess of 1,780 mg/Kg in soil, which is below the New York's Industrial SCO of 3,900 mg/Kg.

6.1.2 Groundwater Investigation

Two temporary groundwater monitoring wells (i.e., MW121C-1 and MW121C–2) were installed and sampled using bailers during the EBS in 1998. During the RI, four permanent monitoring wells were installed, and two rounds (i.e., February and May of 2003) of groundwater samples were collected and analyzed at three of the permanent wells (MW121C-3, MW121C-4, and MW121C-6) using low flow sampling techniques. Samples could not be collected from the fourth permanent monitoring well (i.e., MW121C-5) during either of the 2003 sampling events because the well was dry. The locations of the monitoring wells are shown on **Figure 6-1**.

Analytical results collected during the EBS sampling event are not considered representative of the conditions that exist at the AOC because both wells were temporary installations, the wells were not fully developed and stabilized before sampling, and samples were collected using bailers. The collection of samples using bailers is likely to introduce silt and sediment into the samples analyzed, which can lead to exaggerated analyte concentrations due to the presence of materials sorbed onto the surface of the entrained silt and sediment. The results of the EBS groundwater sampling did provide the basis for the installation of the permanent monitoring wells, and the use of the EPA's recommended low-flow, purge and pump sampling process. Nevertheless, brief summaries of the EBS and RI sampling events are provided below. The RI results are discussed first, due to their higher degree of credibility.

Appendix D Table 2 presents all of the groundwater data collected at SEAD 121C. **Table 6-4** summarizes the results for the 1998 EBS groundwater sampling event; **Table 6-5** provides a similar summary of results for the 2003 RI sampling events. Groundwater data developed for SEAD 121C were

compared to Federal and State guidance values including New York State Class GA Groundwater Standards, Maximum Contaminant Levels (MCLs), and EPA Region IX PRGs for tap water. The MCLs and the State's GA Standards are ARARs, while the Region IX PRGs are considered TBC values.

VOCs

VOCs were not detected in groundwater samples characterized during the 2003 RI sampling program.

Seven VOCs (i.e., 1,4-dichlorobenzene, acetone, bromochloromethane, bromoform, carbon disulfide, chlorobenzene, and vinyl chloride) were detected in the groundwater samples collected during the EBS. All of the noted VOCs were each detected once. Summary statistics for the identified VOCs found in EBS groundwater samples are shown in **Table 6-4**.

The compound 1,4-dichlorobenzene, which was detected once at 36 µg/L at sample location MW121C-2 was the only VOC observed to exceed a promulgated standard (i.e., GA standard of 3 µg/L. Monitoring well MW121C-2 is located within the AOC and situated near the southwestern corner of the AOC. Four other VOCs (bromochloromethane, bromoform, chlorobenzene, and vinyl chloride) were also detected once in the sample collected from MW121C-2, but each of these analytes was present at a concentration less than any identified standard.

SVOCs

Two SVOCs, bis(2-ethylhexyl)phthalate and di-n-butylphthalate were each detected once during the 2003 RI groundwater sampling events. Neither SVOC exceeded its respective GA standard or EPA's Region IX PRGs for tap water. Both of the concentrations measured for these compounds were detected at levels slightly above their respective detection limits.

Eight SVOCs [i.e., bis(2-ethylhexyl)phthalate, butylbenzylphthalate, diethylphthalate, di-n-butylphthalate, fluorene, hexachlorobutadiene, phenanthrene, and pyrene] were detected in the groundwater samples collected during the EBS at SEAD 121C. None of the compounds identified exceeded state or federal standards.

Pesticides and PCBs

No pesticides or PCBs were detected in groundwater samples collected from the permanent wells during the RI (**Table 6-5**).

Nineteen pesticides were detected in one or two of the groundwater samples collected during the EBS; PCB congeners were not identified in any groundwater sample collected during the EBS. Summary statistics for the identified pesticides and PCBs found during the EBS groundwater sampling event are shown in **Table 6-4**.

Seven pesticides (i.e., 4,4'-DDD, 4,4'-DDT, alpha-BHC, beta-BHC, delta-BHC, dieldrin, and heptachlor epoxide) were found at concentrations exceeding their respective GA standard in both of the EBS

groundwater samples collected. Two other pesticides (i.e., 4,4'-DDE and heptachlor) were found at concentrations exceeding their respective GA standard once each. The exceedance of heptachlor was detected in monitoring well MW121C-1, while the exceedance of the GA standard for 4,4'-DDE was observed in the groundwater sample collected from well MW121C-2. The maximum concentration of dieldrin (0.2 J μg/L) was 50 times its GA standard (0.004 μg/L); the maximum concentration of beta-BHC (0.33 J μg/L) was eight times greater than its GA standard (0.04 μg/L); the maximum concentration of delta-BHC (0.16 J μg/L) was four times its GA standard (0.04 μg/L); the maximum concentrations of heptachlor (0.14 J μg/L) and 4,4'-DDD (0.81 J μg/L) were approximately three times their respective GA standard (0.04 μg/L and 0.3 μg/L, respectively).

Metals and Cyanide

Nineteen metals (identified below) were detected in samples collected from the permanent wells at the DRMO Yard during the RI. Summary statistics for the identified metals found during the RI groundwater sampling events are shown in **Table 6-5**.

Aluminum, antimony, iron, manganese, and sodium exceeded their respective groundwater standard in two or more of the groundwater samples characterized during the RI sampling events. None of the groundwater concentrations measured for metals exceeded EPA's Region IX PRGs for tap water.

Figure 6-2 graphically summarizes where, and during which sampling event, the noted exceedances of groundwater standards for metals occurred. . Antimony exceeded the GA standard twice during the February 2003 sampling round. Iron exceeded its GA standard three times; twice during the February 2003 sampling event, and once in May 2003. Sodium exceeded its GA standard in three samples; twice in February and once in May 2003. Manganese exceeded its GA standard once during the February 2003 sampling event, in one member of a sample-duplicate pair; the average for the two samples was less than the GA standard (i.e., 286 μg/L). Sample results reported for samples collected in February 2003 were higher than the results from the round conducted in May 2003, which is likely due to more complete stabilization of the water in the wells and seasonal variation.

6.1.3 Surface Water Investigation

No permanent surface water body is located within the bounds of the DRMO Yard. Drainage ditches are located exterior of SEAD 121C, along the southern and northwestern bounds. The man-made drainage culverts convey storm and snow-melt runoff waters away from land located within the SEDA's former administrative, maintenance and warehousing areas, which are located to the north-northeast, east, and south-southeast, of SEAD 121C to Kendaia Creek that is located to the west. Land within the DRMO Yard is sloped towards the bordering drainage ditches so runoff from the site flows into these ditches as well. Surface water flow in the abutting drainage ditches is an episodic event, and thus, there is no NYSDEC designation assigned to surface water (i.e., runoff) found in the channels.

Surface water samples were collected from 10 locations during the SEAD 121C RI; nine of these samples were collected exterior to the DRMO Yard, while the last was collected from a puddle that accumulated after a storm event. Summary statistics for the surface water analyses are shown in **Table 6-6**. Surface water data were compared to New York State's Class C Ambient Water Quality Standards (AWQS) and to the EPA's Region IX PRGs for tap water for comparative purposes. All analytical results for surface water samples collected from SEAD 121C are presented in **Appendix D Table 3**.

VOCs

VOCs were not detected in any of the surface water samples collected and characterized from the vicinity of the DRMO Yard.

SVOCs

Bis(2-ethylhexyl)phthalate was detected in one sample collected from location, SWDRMO-2, at a concentration of 4.2 J µg/L. SWDRMO-2 is located upgradient of, exterior to, and southwest of the AOC in drainage ditch #2. Surface water found at this location originates from locations to the east and southeast of SEAD 121C, the DRMO Yard. This value exceeds the NYSDEC Class C AWQS (i.e., 0.6 µg/L), but is below EPA's Region IX PRG for tap water.

Pesticides and PCBs

Pesticides and PCBs were not detected in the surface water collected form locations in the vicinity of the DRMO Yard.

Metals and Cyanide^{-}

Twenty-two metals were detected in surface water samples collected from the vicinity of the DRMO Yard. Summary statistics for the identified metals found during the RI surface water sampling event are shown in **Table 6-6**.

Ten metals (i.e., aluminum, barium, calcium, copper, iron, lead, magnesium, potassium, sodium, and zinc) were detected in every sample analyzed; two others (i.e., arsenic and selenium) were observed in one sample each. Eleven metals (aluminum, cadmium, cobalt, copper, iron, lead, manganese, mercury, nickel, silver, vanadium, and zinc) exceeded their respective Class C AWQS for surface water. Lead exceeded its Class C criteria in every sample analyzed, while aluminum and iron was found above their respective Class C criteria value in five samples each. All the other metals listed were found at concentrations above their respective Class C criteria value in two samples, apiece. Six metals (arsenic, cadmium, iron, manganese, thallium, and vanadium) exceeded their respective Region IX PRGs for tap water. Iron and thallium concentrations exceeded the Tap Water criteria values in two samples each, while the other four metals were observed at concentrations above their respective Tap Water PRG values in one sample each.

Locations where metal exceedances of NYSDEC's Class C AWQSs or Region IX PRGs are observed are shown on **Figure 6-3**.

The surface water sample collected from location SWDRMO-2 contained the maximum concentration recorded for metals in surface water for 18 of the 22 metals detected in samples. Location SWDRMO-2 is upgradient of, exterior to, and southwest of the AOC. Surface water concentrations found for 13 metals in this sample also exceeded their respective Class C AWQSs, Regions IX PRGs for Tap Water or both criteria. The location immediately downstream of SWDRMO-2 (i.e., SWDRMO-3) contained the next highest number of metal exceedances of the Class C AWQSs and Region IX PRGs for tap water for 11 metals, and the second highest measured concentrations found in surface water samples for 16 metals; it also contained the highest reported concentrations of calcium and potassium reported in surface water for the AOC. These results suggest that the source of most of the metals observed in the bordering southern drainage culvert originate upgradient and decrease as they move past the AOC, probably due to dilution effects.

Only aluminum, iron, lead, and thallium were detected in samples from locations other than SWDRMO-2 and SWDRMO-3 at levels greater than Class C or Region IX PRGs.

6.2 SEAD 121I, THE RUMORED COSMOLINE OIL DISPOSAL AREA

Samples of surface soil, ditch soil and surface water were collected and analyzed as part of the EBS and RI at SEAD 121I, the Rumored Cosmoline Oil Disposal Area. Confirmation soil samples were collected and analyzed during the post strategic stockpile termination cleanup action that was performed in 2007. The sampling and analyses were performed in 1998 (EBS) and between 2002 and 2003 (RI); the results of this effort were reported in the RI Report (Parsons, 2006). The sampling and analysis conducted during the cleanup action are presented in the Completion Report for SEAD 121I, and are summarized in Section 3 of this ROD. The combined analytical results of the EBS and the RI are summarized and discussed below.

6.2.1 Soil Investigation

Fifty-five samples and duplicates were collected from five soil boring, 34 surface soil, and 12 ditch soil locations and analyzed as part of the investigation of soil at SEAD 121I. As the exact operating practices used at the Rumored Cosmoline Oil Disposal Area are unknown, the implemented soil investigation included the collection and analysis of soil samples from within the AOC and beyond the defined bounds of the AOC to identify areas of impacted soil.

Four surface soil samples and two ditch soil samples were collected during the EBS. Thirty surface soil samples, 10 ditch soil samples, and five shallow soil samples from soil borings were collected during the RI. **Figure 6-4** shows the locations where the soil and ditch soil samples were collected. The results for all 51 of the soil sample locations are discussed together as field observations indicate that all of these environmental "media" are equivalent in characteristic and nature. Generally, the ditch soil samples were

collected from locations on the AOCs surface where erosion channels were observed due to surface water flow off the AOC's surface to the underlying storm sewer locations. Similarly, the soil boring sampling was terminated at relatively shallow depths because bedrock was encountered very close to the grounds surface throughout the AOC.

Ore residuals, soil and asphalt were excavated from the historic stockpile locations in SEAD 121I during the post-mission removal action. Analytical results for manganese and iron associated with soil that was excavated from 10 locations during the removal action were removed from the SEAD 121I dataset as a result of the action. Additionally, confirmatory sample results for lead from 16 new locations were added to the SEAD 121I data to update the estimate of the level of these metals that now remains at SEAD 121I. The lead results from confirmatory samples are presented in **Table 3-2**, and displayed in **Figure 3-3**. Analytical data from the updated and original SEAD 121I dataset are reported below for manganese and iron, while data summaries for the original dataset only are provided for all other chemicals identified in the soil at SEAD 121I.

Table 6-7 presents a summary of all of the samples results compared versus EPA Region IX Industrial Soil PRGs and New York's Unrestricted, Commercial, and Industrial Use SCOs. The results for soil and ditch soil samples collected during the EBS and RI are provided in **Appendix D Table 4**. The manganese and iron results for confirmatory soil samples collected during the removal action are provided in Table 3-2.

Volatile Organic Compounds (VOCs)

Eight VOCs were detected in the soil samples analyzed. The eight VOCs detected included: acetone, benzene, ethyl benzene, meta/para xylene, methyl ethyl ketone, methylene chloride, ortho xylene, and toluene. **Table 6-7** presents summary statistics for the soil samples and compares the results to four different cleanup criteria.

Acetone was the VOC most frequently detected, present in 36 of the samples characterized. The highest reported concentration for acetone was 150 µg/Kg. Acetone was the only VOC that was observed to exceed any of the comparative cleanup criteria evaluated; it was found at concentrations in excess of NYSDEC's Unrestricted Use SCO level in three of the samples characterized. The 95th UCL computed for acetone also exceeded NYSDEC's Unrestricted Use criteria value for soil. Acetone is a common laboratory contaminant and the level found in most of the soil samples characterized are within the range that is considered to be associated with laboratory contamination. It is also noted that acetone is an artifact of the soil sample collection, preservation, and preparation procedure used for these samples.

Each of the remaining VOCs was observed in fewer than 25 percent of the samples and at relatively low concentrations. None of the measured concentrations exceeded any of NYSDEC's or EPA's comparative criteria. The maximum concentration measured for benzene was 41 µg/Kg. The maximum concentration measured for toluene was 31 µg/Kg, and the maximum concentration measured for all other VOCs was below 10 µg/Kg.

Semivolatile Organic Compounds (SVOCs)

Twenty-eight semivolatile organic compounds (SVOCs), including PAHs, the cPAHs, and mixed phthalates, were detected in the surface soil samples collected from SEAD 121I. **Table 6-7** presents summary statistics developed for the SVOCs found in surface soil samples, as well as results for the comparison of sample data to cleanup values.

Four of the SVOCs [benzo(b)fluoranthene, fluoranthene, phenanthrene and pyrene] were each found in 48 of the 51 samples analyzed. Conversely, five SVOCs (3'3-dichlorobenzidine, di-n-octylphthalate, isophorone, nitrobenzene, and phenol) were only found once, each collocated in the sample collected from location SD121I-7. Generally, the seven cPAH compounds were found most frequently in the soil samples, while the phthalates were generally detected least frequently.

The seven cPAHs [i.e., benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k) fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene] were the only SVOCs observed to exceed their respective state and federal cleanup levels. Generally, benzo(a)pyrene exceeded its comparative criteria most frequently, found at concentrations above EPA's Industrial Soil PRG 30 times, NYSDEC's Unrestricted and Commercial Use criteria 15 times, and NYSDEC's Industrial Use Criteria 14 times.

Each of the cPAHs was found at a concentration that exceeded NYSDEC's Unrestricted Use criteria in at least nine of the 51 sample locations characterized, and concentrations reported for benzo(k)fluoranthene and chrysene were found at levels above their respective Unrestricted Use criteria values 16 times. The 95th UCL values computed for each of the seven cPAH compounds based on the collected soil samples from SEAD 121I also surpassed their respective Unrestricted Use SCO values. Five of the cPAHs were also observed to exceed NYSDEC's Commercial and Industrial Use criteria in at least one of the samples characterized, while six (all but chrysene) were found at concentrations above EPA's Industrial Soil PRGs. Four of the computed 95th UCL values [i.e., benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and dibenzo(a,h)anthracene] computed based on the collected data surpassed their respective Commercial Use SCOs, and the 95th UCL values computed for benzo(a)pyrene and dibenz(a,h)anthracene also surpassed NYSDEC's Industrial Use values. Five of the 95th UCL concentrations computed for cPAHs [i.e., benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene] surpassed their respective Industrial Soil PRG values.

Pesticides and PCBs

Seven pesticides and two PCBs were detected in the soils at SEAD 121I (see **Table 6-7)**. Frequency of detection for pesticides ranged from a low of 4% for dieldrin and endrin to a high of 53% for endosulfan I. Most of pesticides detected were found at locations along the edge of Avenue C and Avenue D at low concentrations. Pesticides and PCBs were not detected in the downgradient ditch soil locations. Endosulfan I was the pesticide compound found most frequently, present in 24 of the 45

samples characterized. All of the other pesticides and PCBs were found in fewer than nine samples analyzed.

None of the pesticides or PCBs detected in the soil samples from SEAD 121I were found at concentrations that exceeded their respective Industrial Soil PRG value or their respective Commercial or Industrial Use SCOs. Five of the pesticides were detected at concentrations in one or more samples that exceeded their respective Unrestricted Use SCOs. 4,4'-DDE was found at concentrations above NYSDEC's Unrestricted Use criteria in five samples, followed by aldrin in three samples, 4,4'-DDT and dieldrin in two samples and endrin in one sample. The 95th UCL value computed for four of the pesticides (all except endrin) that showed individual sample exceedances for samples also surpassed their respective Unrestricted Use criteria levels.

Metals and Cyanide

Twenty-three metals plus cyanide were detected in the soil samples collected at or around SEAD 121I. **Table 6-7** presents summary statistics developed for the soil samples.

Thirteen metals (aluminum, arsenic, calcium, chromium, cobalt, iron, lead, magnesium, manganese, nickel, potassium, vanadium, and zinc) were detected in all samples. The frequency of detection for the remaining ten detected metals ranged from a low of 14% for silver to a high of 96% for beryllium and mercury. Cyanide was detected with a frequency of 8%.

Ten metals (arsenic, cadmium, chromium, copper, lead, manganese, nickel, selenium, silver, and zinc) found in soils at SEAD 121I were found at concentrations that exceeded their respective NYSDEC Unrestricted Use in at least three samples each. Nickel (17 times) was the metal observed to exceed its Unrestricted Use SCO most frequently, followed by zinc (14 times) and manganese (11 times). The 95th UCL values computed for eight of the ten metals (all except cadmium and lead) observed to be present in individual samples within the AOC also exceeded their respective Industrial Soil PRG criteria levels.

Three metals (arsenic, manganese and thallium) were detected at concentrations that exceeded EPA PRGs for Industrial soil in at least one sample. Of these metals, arsenic was found at concentrations above its Industrial Soil PRG in 34 samples while the other two metals were found at elevated concentration in four or fewer samples, each. The 95th UCL of the mean computed for arsenic and manganese exceeded their respective Industrial Soil PRGs. Similarly, three metals (arsenic, manganese and nickel) were also detected at concentrations that exceeded NYSDEC's Commercial Use SCO in one or more samples. Manganese exceeded its Commercial Use SCO value most frequently (6 times). Arsenic and manganese were also detected in some samples at levels that exceeded NYSDEC's Industrial Use SCOs. Manganese was again found at concentrations above its Industrial Use SCO value in six samples. The 95th UCL computed for arsenic and manganese also exceeded their respective Commercial and Industrial Use SCOs.

Manganese (310,000 mg/Kg), calcium (298,000 mg/Kg) and iron (58,400 mg/Kg), respectively, were the metals that exhibited the highest single sample concentrations in soil samples collected at SEAD 121I. Most of the higher concentrations observed for iron and manganese were found collocated in samples collected in the immediate vicinity of the two strategic ferromanganese ore piles, while most of the higher concentrations of calcium were observed in samples at locations away from the two ore piles. **Figure 6-5** presents the distribution of iron and manganese found in soils at SEAD 121I.

Site observations and historic records note the long-term staging of a strategic stockpile of ferrous-manganese ore in the second and fourth blocks at SEAD 121I, in close proximity of where the elevated iron and manganese concentrations are found. As such, the stockpiles are presumed to be the source of the elevated levels of these metals in the AOC soils. **Figures 6-6** and **6-7** also show that many of the elevated concentrations of arsenic, chromium, thallium and zinc that are observed at SEAD 121I, are also located in close proximity to the ore piles.

Residual levels of manganese and iron left at SEAD 121I decreased once the strategic stockpiles or ore were removed and the underlying storage pads and surrounding soils were excavated. The maximum concentration of manganese now found at SEAD 121I decreases from 310,000 mg/Kg to 11,100 mg/Kg, Similarly, the 95th UCL concentration determined for manganese at SEAD 121I after the removal action was completed fell from 89,533 mg/Kg to 2,438 mg/Kg. The maximum level of iron now found at SEAD 121 is 31,300 mg/Kg. The post cleanup action non-carcinogenic HIs for future industrial workers is now estimated to be less than 1, while the HI for future construction workers is estimated at approximately 1.5.

6.2.2 Surface Water Investigation

Seven surface water samples were collected and analyzed as part of the investigation of SEAD 121I. Results of the surface water analyses were compared to State of New York ambient water quality standards for Class C surface waters and EPA's Region IX PRGs for tap water. **Table 6-8** presents summary statistics developed for the surface water samples and compares the results to regulatory criteria values. The full data for surface water samples collected from SEAD 121I are provided in **Appendix D Table 5**.

VOCs

VOCs were not detected in the surface water at SEAD 121I.

SVOCs

Two SVOCs were detected in the surface water at SEAD 121I. Butylbenzylphthalate was detected in one sample at the northwestern corner of SEAD 121I, SW121I-10, at a maximum concentration of 1.1 J µg/L. Fluoranthene was also detected at a maximum concentration of 1.1 J µg/L in one sample, SW121I-6, located inside SEAD 121I. Neither of these values exceeded their respective Tap Water PRG value. There are no Class C surface water criteria for these compounds.

Pesticides and PCBs

Pesticides and PCBs were not detected in the surface water samples collected from SEAD 121I.

Metals

Eighteen metals were detected in the surface water at SEAD 121I; of the 18 metals, seven (i.e., aluminum, calcium, magnesium, manganese, potassium, sodium, and zinc) were found in every sample (see **Table 6-8)**. Four of the identified metals [aluminum (3 times), iron (2 times), lead (4 times), and zinc (1 time)] exceeded their respective AWQS Class C standards. None of the surface water concentrations measured exceeded the EPA's Region IX PRG for tap water. Aluminum and zinc were detected in all seven samples, iron was detected in five samples, and lead was detected in four samples. The maximum detections of aluminum, iron, lead, and zinc (2,050 µg/L, 3,410 µg/L, 26.3 µg/L, and 190 µg/L, respectively) were collocated at SW121I-6, which is located immediately north of the southern ore pile inside SEAD 121I. The second highest concentrations of aluminum, iron, and lead (1,490 µg/L, 3,080 µg/L, and 21 µg/L, respectively) were found at SW121I-10, which is located north of the northern ore pile within the boundary of SEAD 121I. The locations where metals exceeded their respective AWQS are shown on **Figure 6-8**.

Based on the data, the Army has concluded that hazardous substances do exist at both of the AOCs at concentrations above defined cleanup objectives. There is no strong and direct correlation between the hazardous substances found in AOC-specific soils and groundwater as no definitive plumes have been identified at SEAD 121C, and no groundwater was encountered at SEAD 121I. There is some evidence that identified hazardous substances have been mobilized by overland flow of storm-event water.

7 SUMMARY OF HUMAN HEALTH AND ECOLOGICAL RISKS

Human health and ecological risk assessments were performed for SEAD 121C and SEAD 121I using the analytical data developed during the EBS and the RI of the AOCs, summarized above, and fully reported in the RI Report (Parsons, 2006).

7.1 METHODOLOGY

7.1.1 Human Health Risk Assessment

The baseline human health risk assessments were conducted in accordance with the EPA's *Risk Assessment Guidance for Superfund* (*RAGS*) (EPA, 1989) and the supplemental guidance and updates to the RAGS. Technical judgment, consultation with EPA staff, and recent publications were used in the development of the risk assessment. The overall objective of the baseline human health risk assessment was to assess potential risks to current and reasonably anticipated future human receptors resulting from the release of, and exposure to, hazardous substances at SEAD 121C and SEAD 121I. The results of the risk assessment were used to identify whether a remedial action may be warranted at the AOCs.

The reasonable maximum exposure (RME) was evaluated during the human health risk assessment. The human health risk assessment methodology is shown in **Figure 7-1**. A four-step process was used for assessing site-related human health risks for RME and CT exposure scenarios:

- *Hazard Identification* – identified the contaminants of concern based on several factors such as toxicity, frequency of occurrence, and concentration;

- *Exposure Assessment* – estimated the magnitude of actual and/or potential human exposures, the frequency and duration of these exposures, and the pathways by which humans are potentially exposed;

- *Toxicity Assessment* – determined the types of adverse health effects associated with chemical exposures, and the relationship between magnitude of exposure (dose) and severity of adverse effects (response); and

- *Risk Characterization* – summarized and combined the outputs of the exposure and toxicity assessments to provide a quantitative assessment of site-related risks (for example, one-in-a-million excess cancer risk).

As part of the Exposure Assessment component of the risk assessment, conceptual site models were developed for both AOCs which considered the contaminants of concern (COCs) identified at the AOC, the media affected, the most probable future receptors, and the duration each receptor would be exposed to hazardous substances identified in the area.

7.1.1.1 Carcinogenic and Non-Carcinogenic Effects

Under current EPA guidelines, the likelihood of carcinogenic and non-carcinogenic effects due to exposure to site-related chemicals is considered separately. Non-carcinogenic hazards were assessed by the calculation of a Hazard Index (HI), which is an expression of the chronic daily intake of a chemical divided by its safe or Reference Dose (RfD). An HI that exceeds 1.0 indicates the potential for non-carcinogenic effects to occur. Carcinogenic risks were evaluated using a cancer Slope Factor (SF), which is a measure of the cancer-causing potential of a chemical. Slope Factors are multiplied by daily intake estimates to generate an upper-bound estimate of excess lifetime cancer risk. For known or suspected carcinogens, EPA has defined an acceptable cancer risk range of 10^{-4} to 10^{-6} (one-in-ten thousand to one-in-one million) or less.

7.1.1.2 Evaluation of Lead Exposure

Lead was identified as a COC in surface soil, subsurface soil, ditch soil, and surface water at SEAD 121C, and from ditch soil, surface soil and surface water at SEAD 121I.

Surface water has elevated levels of lead; however quantification of dermal exposure to lead in surface water could not be completed since a model is not currently available to quantify such risk and exposure. Due to the episodic nature of surface water flow through the drainage ditches that are exterior to SEAD 121C and SEAD 121I, human exposure to surface water is expected to be infrequent and therefore potential risks are expected to be minor.

Risk associated with lead in surface and ditch soils were evaluated using the *Recommendations of the Technical Review Workgroup for Lead for an Interim Approach to Assessing Risks Associated with Adult Exposures to Lead in Soil* (EPA, 2003b) for the industrial worker. The central tendency exposure factors for industrial workers were used to evaluate potential risks associated with lead in soil. The industrial worker was assumed to accidentally intake 50 mg of soil each day while working at the SWMU for 219 days each year. This assumption is consistent with the default assumptions used in the adult lead model (EPA, 2003b).

This model provides an assessment of non-residential exposure by relating soil lead intake to blood lead concentrations in women of childbearing age. The methodology focuses on estimating fetal blood lead levels in women exposed to site soils. It should be noted that the adult lead model is based on the assumption of continuing long-term exposure. As construction workers are expected to work at the site for only a short-term (i.e., approximately 1 year), risk associated with lead exposure is expected to be minor and therefore it was not evaluated in the risk assessment.

For an adolescent trespasser, the Integrated Exposure Uptake Biokinetic Model for Lead in Children (IEUBK) developed by EPA was used to evaluate receptor lead level via exposure to surface soil and ditch soil at SEAD 121C. The IEUBK model results, based on residential exposure assumptions, can only be used as a screening tool as the exposure frequency for the adolescent trespasser is much less than

the residential child. In addition, a child receptor is considered more sensitive than an adolescent receptor. The IEUBK windows version software package was developed based on the IEUBK Guidance Manual (EPA 1994). The model utilizes four interrelated modules (exposure, uptake, biokinetic, and probability distribution) to estimate blood lead (PbB) levels in children exposed to lead-contaminated media.

For the industrial worker and the adolescent trespasser, the AOC-specific exposure point concentrations (EPCs) and CT exposure factors were used along with the default assumptions presented in the models to derive the lead level estimation for the receptors. Risk characterization for lead exposure was conducted based on a comparison between the estimated blood lead level and the target PbB level of concern. Blood lead level was estimated based on the EPA IEUBK model or the Adult Lead Model. The target PbB level of concern is 10.0 micrograms per deciliter (μg/dL) for a child (EPA, 1994, 2003b).

7.1.2 Screening Level Ecological Risk Assessment (SLERA)

Screening-level ecological risk assessments (SLERAs) were also performed for SEAD 121C and SEAD 121I to evaluate whether hazardous substances found at either of the AOCs have the potential to cause adverse effects to ecological resources. The SLERAs were conducted in accordance with several EPA and NYSDEC guidance documents including *Ecological Risk Assessment Guidance for Superfund (ERAGS): Process for Designing and Conducting Ecological Risk Assessments* (EPA, 1997), *Guidelines for Ecological Risk Assessment* (EPA, 1998), *Fish and Wildlife Impact Analysis* (NYSDEC, 1994b), and *The Role of Screening-Level Risk Assessments and Refining Contaminants of Concern in Baseline Ecological Risk Assessments* (EPA, 2001).

The current EPA (1997) ecological risk assessment paradigm includes eight general steps:

1. Screening-Level Problem Formulation and Ecological Effects Evaluation;
2. Screening-Level Exposure Estimate and Risk Calculation;
3. Baseline Risk Assessment Problem Formulation;
4. Study Design and Data Quality Objective (DQO) Process;
5. Field Verification of Sampling Design;
6. Site Investigation and Analysis Phase;
7. Risk Characterization; and
8. Risk Management.

The ecological risk assessments completed for SEAD 121C and SEAD 121I included a screening-level ecological risk assessment (SLERA, Steps 1 and 2) and further refinement of chemicals of concern (COCs) (Step 3.2). Step 3.2, COC refinement, was performed in accordance with the EPA's ERAGS (1997) and the supplemental guidance of ERAGS (EPA, 2001). The SLERA process is summarized in **Figure 7-2**.

Upon completion of screening-level Ecological Risk Assessment (ERA) Step 2, there is a Scientific Management Decision Point (SMDP) with four possible decisions according to the ERAGS (EPA, 1997) and the supplemental guidance (EPA, 2001):

- There is adequate information to conclude that ecological risks are negligible and therefore there is no need for remediation on the basis of ecological risks;
- The information is not adequate to make a decision at this point and the ERA process should continue to a baseline ERA;
- The information indicates a potential for adverse ecological effects, and a more thorough assessment is warranted; or
- In cases where contamination has sharply defined borders or where the extent of contamination is limited, it may be preferable to cleanup the area to the screening values rather than spending time and resources determining a less conservative cleanup number.

The results of the SLERA indicate which contaminants found at the AOC can be eliminated from further consideration and which should be evaluated further. The refinement of COCs helps streamline the overall ERA process by considering additional components early in the baseline ERA. The results of the ecological risk assessment presented will be used to determine the need for further study. The baseline ERA, if conducted, will further evaluate potential or actual adverse ecological effects associated with site-related contaminants and results will be used to develop appropriate remedial measures, if required.

7.1.2.1 Ecological Conceptual Model

Preliminary conceptual site models (CSMs) were developed separately for both AOCs. Each CSM provided an overall assessment of the primary and secondary sources of contamination at the AOCs, and the corresponding release mechanisms and affected media. Potential sources of contamination; potentially complete exposure pathways; and ecological receptors are depicted in the CSM.

A complete exposure pathway consists of a source and mechanism of contaminant release, a transport mechanism for the released contaminants, a point of contact, and a route of contaminant entry into the receptor. If any of these elements is missing, the pathway is incomplete. In addition, potential receptors were identified to allow evaluation of potentially complete pathways.

For most terrestrial receptors, soil exposure intervals are limited to the upper 2 feet of the soil column. For purposes of this SLERA, surface soil was defined as the 0-2 ft. below ground surface (bgs). Surface and subsurface soil (0-4 ft. bgs, hereafter referred to as total soil) may be uncovered during future excavation activities and therefore, may result in contaminants in the soil becoming available for contact. Therefore, exposure to total soil (0-4 ft. bgs) was also evaluated in the SLERAs.

Ecological receptors are not directly exposed to contaminants in groundwater.

There are no permanent lakes, ponds, streams or wetlands in SEAD 121C or SEAD 121I. Exposure to ditch soil and surface water was evaluated for wildlife receptors identified for the two SLERAs.

7.1.2.2 Identification of Ecological COPCs

Chemicals of potential concern (COPCs) were identified by comparing the maximum detected concentrations in each impacted medium at each AOC to ecological risk-based screening values. For each data set selected, the maximum detected concentration was compared to the ecological screening value. For soil, the maximum detected concentration of all results (including surface and subsurface soil results) was used for the screening purposes, and the COPCs identified were used for both the surface soil and the total soil data sets. The ecological screening values are based on conservative (i.e., environmentally protective) generic values derived by various agencies. In brief, the following sources (cited in order of preference) were consulted for screening value selection for soil:

- EPA (2000a, 2003c, 2005) Ecological Soil Screening Levels;
- EPA Region III (1995) Biological Technical Assistance Group (BTAG) Screening Levels;
- EPA Region V (2003) Ecological Screening Levels;
- Oak Ridge National Laboratory (ORNL) Screening Benchmarks for Soil and Litter Invertebrates and Heterotrophic Process (Efroymson et al., 1997a), and Terrestrial Plants (Efroymson et al., 1997b);
- Canadian Environmental Quality Guidelines developed by the Canadian Council of Ministers of the Environment (2003); and
- Circular on Target Values and Intervention Values for Soil Remediation developed by the Netherlands (2000).

For surface water, the New York State Ambient Water Quality Standards (NYS AWQS) and Guidance Values for Class C surface water and the National Recommended Water Quality Criteria (EPA, 2006) (whichever is lower) were used as screening values. If screening values are not provided by either of the above documents, the EPA Region III (1995) BTAG screening levels were used for the screening.

Constituents with maximum detected concentrations exceeding the corresponding screening values were retained as COPCs. With the exception of the nutrients (i.e., calcium, magnesium, potassium, and sodium), constituents with no screening values available were retained as COPCs. In addition, all bioaccumulative compounds identified in the report *Bioaccumulation Testing and Interpretation for the Purpose of Sediment Quality Assessment* (EPA, 2000b) as important bioaccumulative compounds were retained as COPCs as a conservative approach, which is consistent with the ecological risk assessment guidance set forth by EPA for the Mid-Atlantic Hazardous Site Cleanup program.

7.1.2.3 Assessment Endpoints

The assessment endpoints selected for the SLERA were the survival and reproduction of wildlife populations (associated with suitable habitat) that may be affected by previous site operations. Specifically, assessment endpoints were provided for populations at two trophic levels: small mammals

and ground-feeding birds, and higher level predators. The assessment endpoints are addressed through the survival and reproduction of mammal and bird populations at the AOCs.

7.1.2.4 Receptors

The following species were selected as ecological receptors for SEAD 121C and SEAD 121I. These species were selected because they either have been observed at, or are likely to be present in the vicinity of the AOCs and the Depot, given habitat conditions.

- Deer mouse (*Peromycus maniculatus*);
- Short-tail shrew (*Blarina brevicauda*);
- Meadow vole (*Microtus pennsylvanicus*);
- Red fox (*Vulpes vulpes*);
- American robin (*Turdus migratorius*); and
- Great blue heron (*Ardea herodias*).

7.1.2.5 Characterization of Exposure Pathways

The identified ecological receptors are potentially exposed to COPCs in the soil, in the ditch soil, and in surface water via direct and biota intake. The most likely exposure interval for which characterization data were collected is shallow soils [0 to 2 feet, below grade surface (bgs)], where receptor exposure could result from surface-foraging, shallow burrowing, and due to uptake by many forage plants (e.g., grasses and forbs). The 0 to 4 foot bgs soil interval was also assessed to assess potential future burrowing and deep-rooted plant site conditions. Animals may be exposed directly to site-related contaminants through ingestion, dermal contact and inhalation. In addition, animals may be indirectly exposed to site-related contaminants through ingestion of plants, invertebrates and other animals that have bioaccumulated chemicals.

7.1.2.6 Screening-Level Effects Evaluation

The SLERA for mammalian and avian receptors was conducted by comparing potential exposures to COPCs to screening ecotoxicity values (SEVs). SEVs for those analytes identified as COPCs were derived from studies reported in the literature, in the absence of site-specific data, by establishing data selection criteria such that SEVs would be as relevant as possible to assessment endpoints at the sites. In accordance with EPA guidance (1997), the lowest available, appropriate toxicity values were used with modifying factors to ensure a conservative (i.e., health protective) screening-level evaluation.

7.1.2.7 Screening-Level Exposure Estimate

Estimates of contaminant exposures, expressed as daily dose ingested of contaminated food items (i.e., plants, invertebrates, and animals) and media, were calculated to compare potential wildlife exposures to adverse effect levels. COPC daily dose ingested (expressed as the mass of COPC ingested per kilogram

body weight per day) depends on the COPC concentration in food items and media, the receptor's trophic level, the trophic level of food items, and the receptor's ingestion rate of each food item and media.

EPA (1993b, 1999b, and 2005) has provided a variety of exposure information for numerous avian and mammalian species. Data are directly available for body weights of various species. Similarly, information regarding feeding rates, and dietary composition, including incidental soil ingestion, are also available for many species. Such exposure parameters were compiled for the selected receptor species (i.e., deer mouse, short-tailed shrew, meadow vole, red fox, American robin, and great blue heron). Feeding rates for receptors were based upon EPA (1999b, 2005) or allometric equations presented in Nagy (1999). Literature values for diet fraction and body weights were taken from EPA (1993b, 1999b, 2005).

For the screening-level exposure estimate, site foraging frequency factors for all receptors were assigned as 1, in accordance with the EPA (1997) guidance. That is, all receptors were assumed to be exposed 100% of the time to the COPCs at the AOC. This is a very conservative assumption as most receptors will spend at least part of the time outside of the AOC boundaries, either by having a larger home range than the AOC area, seasonal migration patterns, and/or winter dormancy periods. For example, the red fox has a much larger foraging range than the size of either SEAD 121C or SEAD 121I(i.e., over 200 acres vs. approximately 5 and 34 acres, respectively), yet the SLERA assumes that the fox spends all of its time at SEAD 121C or 121I.

The soil-to-plant uptake factors and soil-to-soil invertebrate uptake factors were obtained from the *"Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities"* (EPA 1999b). Small mammal bioaccumulation factors were obtained from published literature or were calculated based on chemical-specific partitioning coefficients provided in the literature.

The exposure point concentration (EPC) evaluated for each soil COPC was determined based on the maximum detected concentration, in accordance with the EPA (1997) guidance.

7.1.2.8 Screening-Level Risk Calculation

For wildlife receptors, the risk calculation step uses the results of the wildlife exposure and toxicity effects assessments to calculate a hazard quotient for each COPC. A hazard quotient (HQ) is a ratio of the estimated exposure dose (for mammal and bird receptors) of a contaminant to the SEV. Generally, the greater this ratio or quotient, the greater the likelihood of an effect. A HQ less than 1 indicates that the contaminant alone is unlikely to cause adverse ecological effects. Because conservative (i.e., health protective) estimates of potential chronic exposures and toxicity were used, screening-level HQs tend to overestimate actual risks. Cumulative effects of COPCs were not quantitatively evaluated in this SLERA.

For the screening level ERA, NOAEL toxicity values, the maximum detected COPC concentrations, and conservative exposure assumptions were used to calculate the screening level HQs. Each of these assumptions adds to the conservative nature of the HQ calculated.

7.1.2.9 Further Refinement of Chemicals of Concern

Due to the conservative nature of the assumptions used in the screening-level ecological risk assessment, additional evaluation was completed to refine the contaminants of concern. The refinement of COCs streamlines the overall ERA process to determine if further evaluation is warranted. Lines of evidence (COC refinement) evaluated include:

- COC detection frequency;
- Risk results based on reasonable site average concentration and/or LOAEL SEVs;
- Size of site relative to foraging area of receptors;
- Site risk relative to background risk;
- Relative uncertainties of SLERA results;
- Sufficiency and quality of literature toxicity data and experimental designs;
- Strength of cause/effect relationships; and
- Quality of habitat for receptors.

Alternative toxicity values and mean exposures based on mean concentrations of contaminants detected in a media at an AOC were considered for the refinement of COCs. Utilizing the mean concentration instead of the maximum concentration presents a more realistic approach to evaluate exposure for a receptor that comes into contact with a COPC. The receptor is likely to range over the entire site and not be continuously exposed to the maximum concentration at all times. Thus, the mean is more representative of the actual exposure concentration for a receptor to contact on a continual basis. This additional risk characterization performed as part of the ERA Step 3, together with the other lines of evidence, can be used to refine the COCs and support a decision for either additional evaluation or no further evaluation of environmental risk.

In accordance with the EPA ERAGs, this SLERA was conducted using very conservative assumptions. Therefore, as completed, the SLERA is likely to lead to an overestimation of the risks posed to the ecosystem. The following briefly highlights three factors that may heavily impact the degree of conservatism that is built into the SLEAR.

Relative Bioavailability

The relative bioavailability of contaminants found at SEAD 121C and SEAD 121I were assumed to be 100% during the SLERA. However, contaminants in environmental media are generally less available to biological organisms compared with the same contaminants in the experimental medium (i.e., diet, water, etc.).

Site Foraging Frequency Factor

The site foraging frequency factors (or area-use factors) were assumed to be 1 for the mammalian receptors, and 100% for the avian receptors for the avian receptors at both AOCs. That is, the receptors

were assumed to live within each AOC at all times, and not range or forage beyond the boundaries of the AOC being evaluated. Again, this is a very conservative assumption as most ecological receptors will spend at least part of the time outside of the AOC boundaries, either by having a larger home range than the AOC area, seasonal migration patterns, and/or winter dormancy periods.

A site foraging frequency factors of 0.025 would be more appropriate for the red fox for SEAD 121C. Similarly, a site foraging frequency factor of 0.5 would be a more appropriate estimate for the American robin or great blue heron.

NOAEL/LOAEL Multiplier

A NOAEL is preferred to a LOAEL as a screening ecotoxicity value to ensure that risk is not underestimated (EPA, 1997). However, NOAELs currently are not available for many groups of organisms and many chemicals. When a LOAEL value, but not a NOAEL value, is available from the literature, a standard practice is to multiply the LOAEL by a NOAEL/LOAEL multiplier (0.1) and to use the product as the NOAEL for the screening evaluation. Although a NOAEL/LOAEL multiplier of 0.1 was used, the true NOAEL may be only slightly lower than the experimental LOAEL, particularly if the observed effect is of low severity (Sample et al., 1996). The data review referred to in the ERAGS that is used to support the use of 0.1 as the NOAEL/LOAEL multiplier indicates that 96% of chemicals included in the review had a NOAEL/LOAEL multiplier no less than 0.2. Therefore, using a default NOAEL/LOAEL multiplier of 0.1 may result in an overestimation of the HQs. LOAEL values were used in Step 3.2 as alternative SEV values.

Maximum Detected Concentration

The use of the maximum detected concentration as the EPC may overestimate risk since the receptor is actually exposed to a broader range of contaminant concentrations rather than the maximum detected concentrations. Exposure would occur throughout the AOC at various levels, including the EPC. Thus, actual risks may be lower than those presented in the assessment.

7.2 RISK ASSESSMENT FOR SEAD 121C, THE DRMO YARD

7.2.1 Human Health

7.2.1.1 Conceptual Site Model

Potential sources of contamination, exposure pathways, and receptors for SEAD 121C are depicted graphically in the conceptual site model (CSM) shown in **Figure 7-3**. The CSM provides an overall assessment of the primary and secondary sources of contamination found at the AOC, and the corresponding release mechanisms and the affected media. The CSM also identifies the potential human receptors and the associated pathways of exposure to the affected media.

7.2.1.2 Human Receptors and Exposure Pathways

The baseline risk assessment evaluated the potential health effects that may result from hazardous substance exposure for the following three receptor groups:

- Current/Future Construction Worker;
- Current/Future Industrial Worker; and,
- Current/Future Adolescent Trespasser/Visitor.

The following exposure pathways were considered:

1. Inhalation of dust from surface soil and ditch soil in ambient air (construction worker, adolescent trespasser / visitor, industrial worker);
2. Ingestion of surface soil and ditch soil (construction worker, adolescent trespasser / visitor, industrial worker);
3. Dermal contact to surface soil and ditch soils (construction worker, adolescent trespasser / visitor, industrial worker);
4. Ingestion of subsurface soils (construction worker);
5. Dermal contact to subsurface soils (construction worker);
6. Ingestion of groundwater (daily) (construction worker, adolescent trespasser / visitor, industrial worker);
7. Dermal contact to groundwater (construction worker);
8. Dermal contact to surface water (construction worker, adolescent trespasser / visitor).

7.2.1.3 Constituents of Concern

Constituents of potential concern (COPCs) were then identified for possible inclusion in the human health BRA. The screening process used is summarized below.

- The maximum detected concentration of each chemical detected in each soil data set (i.e., surface soil, total soil, and ditch soil data sets) was compared to the EPA Region IX PRGs for Residential Soil or other appropriate EPA screening values (e.g., Region III PRGs risk-based screening values for residential soil) if Region IX PRGs were not available. The residential PRG value is a chemical concentration that corresponds to a risk level of 1×10^{-6} (for carcinogens) or hazard quotient level of 1 (for non-carcinogens), whichever is lower.

  Chemicals were eliminated as COPCs in soil for human exposure if the maximum detected concentration was less than the screening level or if no screening level was available. A chemical was considered a COPC in soil if the maximum detected concentration was greater than the screening level. For closely related chemicals (structure and mode of toxicity), screening criteria for surrogate chemicals were used.

- For groundwater and surface water, the maximum detected concentration of each data set was compared to the Region IX PRGs for tap water corresponding to a risk level of 1 x 10^{-6} (for carcinogens) or hazard quotient level of 1 (for non-carcinogens). Other appropriate EPA screening values [e.g., EPA Region III Risk-Based Concentrations for tap water, and EPA Maximum Contaminant Level (MCL) for drinking water] were used if Region IX PRGs were not available. Chemicals were eliminated as COPCs for human exposure if concentrations were less than the screening level or if there was no screening value available. A chemical was considered a COPC if the maximum detected concentration was greater than the screening value.

- Essential nutrients were eliminated as COPCs in all media, if applicable. Essential nutrients include calcium, magnesium, sodium, and potassium. The recommended dietary allowances and adequate intakes by Wright (2001) and other resources were evaluated to determine whether the concentration is within the recommended daily requirements for essential nutrients.

- An evaluation was made to determine whether any previously eliminated chemical or medium should be included due to other considerations (e.g., potential break-down products, chemicals with detection limits above health-based levels). In addition, any member of a chemical class that has other members selected as COPCs was retained (e.g., detected carcinogenic PAHs).

- For each medium, a determination was made as to whether there were any COPCs identified. If no COPCs identified, the medium was dropped from further consideration in the risk assessment.

The primary human health constituents of concern (COCs) identified at the DRMO Yard are summarized in **Table 7-1**. These include benzene, the seven cPAHs, dieldrin, three aroclor congeners (i.e., 1242, 1254, and 1260) and several metals (e.g., arsenic, lead, etc.). Several of these compounds, including the cPAHs, dieldrin, the aroclor congeners, and arsenic, are known to cause cancer in laboratory animals and are suspected to be human carcinogens.

No groundwater COPCs were identified for SEAD 121C or SEAD 121I. Chemicals detected in the groundwater at SEAD 121C were not found at levels that surpassed EPA's risk assessment screening values, while groundwater was not encountered in the thin overburden layer that overlies the bedrock in SEAD 121I.

7.2.1.4 Exposure Assessment

The objective of the exposure assessment is to estimate the type and magnitude of exposures that are present at, or migrating from, the AOCs. The exposure assessment consists of three steps:

1. Characterize exposure Setting – Information pertinent to the physical characteristics of the site that may influence exposure are considered and evaluated.

2. Identify Exposure Pathways – All exposure pathways, ways in which receptors may be exposed to contaminants that originate from the source, are reviewed in this step.

3. Quantify Exposure – Exposure levels are calculated for each exposure pathway and receptor.

After COPCs were identified, exposure point concentrations (EPCs) were calculated for each of the COPCs in each medium at SEAD 121C and SEAD 121I. The reasonable maximum exposure (RME) concentration was determined for each of the COPCs and was defined either as the appropriate UCL (95^{th}, 97^{th}, 99^{th}, etc.) of the dataset's mean for soil and ditch soil where sufficient data points existed, or as the maximum concentration detected in each of the AOC's media datasets for surface water and groundwater , where the number of samples was limited. The RME is defined as the highest exposure that could reasonably be expected to occur for a given exposure pathway at a site, and is intended to account for both uncertainty in the contaminant concentration and variability in the exposure parameters (such as exposure frequency or averaging time).

The EPCs were derived for the following exposure points:

- SEAD 121C total soil;
- SEAD 121C and SEAD 121I surface soil;
- SEAD 121C and SEAD 121I ditch soil;
- SEAD 121C and SEAD 121I surface water.

7.2.1.5 Non-Carcinogenic and Carcinogenic Risk Results

The non-carcinogenic and carcinogenic risk results for the above scenarios are summarized in **Table 7-2**. Complete details of the human health risk assessment for each exposure route are presented in Appendix E of the Final RI report (Parsons, 2006) for soil, ditch soil, groundwater, and surface water exposure.

RME non-carcinogenic risks calculated for the construction worker, industrial worker, and adolescent trespasser/visitor at SEAD 121C are all below HIs of 1. RME carcinogenic risks calculated for the construction worker, industrial worker, and adolescent trespasser/visitor are all within or below the EPA's recommended range of 10^{-4} to 10^{-6}.

7.2.1.6 Lead Risk Characterization Results

Soil

Lead risk characterization results for surface soil exposure for the industrial worker at SEAD 121C are presented in **Table 7-3**. The 95^{th} percentile PbB among fetuses of adult industrial workers are 7.8 and 9.8 µg/dL, for a homogeneous and a heterogeneous population, respectively. Both estimates are below the EPA target PbB level of concern (i.e., 10 µg/dL).

The results are presented in **Table 7-4**. Nevertheless, the 95^{th} percentile PbB levels among residential children are below the EPA target PbB level of concern (i.e., 10 µg/dL).

Ditch Soil

The lead risk characterization results for SEAD 121C ditch soil exposure are presented in **Tables 7-5** for the industrial worker. The 95th percentile PbB levels among fetuses of adult industrial worker are 5.2 and 6.8 μg/dL, assuming a homogeneous and a heterogeneous population, respectively. Both estimates are below the EPA target PbB level of concern (i.e., 10 μg/dL).

The results for the adolescent trespasser are presented in **Table 7-6**. The 95th percentile PbB levels among residential children are below the EPA target PbB level of concern (i.e., 10 μg/dL).

7.2.2 Ecological Risk Assessment, SEAD 121C

7.2.2.1 Preliminary Ecological Conceptual Site Model

The preliminary ecological CSM developed for SEAD 121C is presented in **Figure 7-4**.

7.2.2.2 Identification of Ecological COPCs

Chemicals of potential concern (COPCs) were identified by comparing the maximum detected concentrations in each impacted medium to ecological risk-based screening values. The following four data sets were used for the screening-level ecological risk assessment at SEAD 121C:

- SEAD 121C surface soil (0-2 ft. bgs.);
- SEAD 121C total soil (0-4 ft. bgs,);
- SEAD 121C ditch soil (0-2 ft. bgs.); and
- SEAD 121C surface water.

7.2.2.3 Receptors

The deer mouse, short-tailed shrew, meadow vole, red fox, American robin and great blue heron were selected as ecological receptors for SEAD 121C.

7.2.2.4 Summary of SLERA Risk Results

Preliminary HQ results computed based on Steps 1 and 2 of the SLERA process, which assume the use of maximum detected site concentrations, 100 percent bioavailability, that all food is derived from the SWMU, and the use of the NOAEL values as the screening ecotoxicity value are presented in **Table 7-7A** for SEAD 121C soil and surface water exposure, **Table 7-7B** for SEAD 121C ditch soil and surface water exposure.

Once the screening level HQs were computed, the Army applied the EPA's recommended refinement of COC process to the results of the SLERA to determine if evaluation of ecological risks was warranted at SEAD 121C, the DRMO Yard.

7.2.2.5 Summary of Ecological Risks after the Refinement of COC Process

After application of the refinement of COC process, no COCs were identified for SEAD 121C soil, SEAD 121C ditch soil, or SEAD 121C surface water and the rationales are summarized below. The reader is referred to the Final RI Report (Parsons 2006) Section 7.6.2 through 7.6.4 for specific details of the Refinement of COC Process.

1. Preliminary COCs were identified for SEAD 121C soil, ditch soil, and surface water. However, alternative HQs calculated during the refinement of COCs (Step 3.2), especially the HQs based on the mean concentrations and LOAEL SEVs are either below 1 or close to 1 (with the highest at 5). Therefore, no final COCs were identified for any medium at SEAD 121C.

2. The planned future land use for SEAD 121C is industrial / office development. Thus, the AOC is not expected to support, sustain, or attract ecological receptors and therefore is not expected to be a wildlife habitat. The presence of ecological receptors is expected to be generally curtailed at SEAD 121C where habitat conditions are poor and current and future human activity levels are sufficiently disruptive to discourage wildlife use.

Based on the above discussion, soil, ditch soil, surface water, and groundwater at SEAD 121C are not expected to significantly impact ecological receptors and no further action is warranted at SEAD 121C based on the ecological risk assessment.

7.3 RISK ASSESSMENT FOR SEAD 121I, THE RUMORED COSMOLINE OIL DISPOSAL AREA

7.3.1 Human Health

7.3.1.1 Conceptual Site Model

Potential sources of contamination, exposure pathways, and receptors for SEAD 121I are depicted graphically in the conceptual site model (CSM) shown in **Figure 7-5**. The CSM provides an overall assessment of the primary and secondary sources of contamination found at the AOC, and the corresponding release mechanisms and the affected media. The CSM also identifies the potential human receptors and the associated pathways of exposure to the affected media.

7.3.1.2 Human Receptors and Exposure Pathways

The baseline risk assessment evaluated the potential health effects that may result from hazardous substance exposure for the following three receptor groups:

- Current/Future Construction Worker;
- Current/Future Industrial Worker; and,
- Current/Future Adolescent Trespasser/Visitor.

The following exposure pathways were considered:

1. Inhalation of dust from surface soil and ditch soil in ambient air (construction worker, adolescent trespasser / visitor, industrial worker);
2. Ingestion of surface soil and ditch soil (construction worker, adolescent trespasser / visitor, industrial worker);
3. Dermal contact to surface soil and ditch soils (construction worker, adolescent trespasser / visitor, industrial worker);
4. Dermal contact to surface water (construction worker, adolescent trespasser / visitor).

7.3.1.3 Constituents of Concern

The primary human health constituents of concern (COCs) identified at the Rumored Cosmoline Disposal Area are summarized in **Table 7-8**. These include the seven cPAHs, dieldrin, heptachlor epoxide, and six metals (e.g., arsenic, chromium, iron, manganese, thallium, and vanadium). Several of these compounds, including the cPAHs, dieldrin, and arsenic, are known to cause cancer in laboratory animals and are suspected to be human carcinogens.

7.3.1.4 Non-Carcinogenic and Carcinogenic Risk Results

The post-cleanup action non-carcinogenic hazard indices and carcinogenic risk results for the above scenarios are summarized in **Table 7-9**. Details of the revised human health risk assessment for each exposure route are presented in **Appendix E** of this ROD for soil, ditch soil, and surface water exposure.

The RME non-carcinogenic hazard index calculated for the construction worker at SEAD 121I (i.e., 1.5e+00 or 1.50) is above EPA's desired HI of 1. The HI for the industrial worker and the adolescent trespasser are both less than the EPA's target HI of 1. RME carcinogenic risks calculated for the construction worker, industrial worker, and adolescent trespasser/visitor are all within or below the EPA's recommended range of 10^{-4} to 10^{-6}.

The construction worker's HI results principally due to apparent hazards due to the inhalation of dusts contaminated with manganese, and due to the ingestion of soils contaminated with manganese and other metals. Of these exposure pathways, inhalation of dusts represents the largest identified HI (8.3e-01), which represents roughly 56 percent of the overall HI identified. The construction worker's ingestion of soil represents another 42 percent (i.e., 6.3e-01) of the construction worker's overall, while dermal contact with contaminated soils representing the balance (i.e., ~2%) of the overall HI. **Table 7-10** shows the contributions of the primary contributors to the construction worker's HI.

With specific reference to the inhalation pathway, the inhalation of manganese contaminated dust accounts for more than 99 percent of the estimated inhalation HI. The HI calculated for manganese is based on a reference concentration for chronic inhalation exposure (RfC) derived in study that deals with the inhalation of manganese dioxide dust, and to which the EPA assigns an uncertainty factor of 1000, which is indicative of a low degree of confidence in its value.

The exact composition of the manganese identified in the confirmatory samples collected in SEAD 121I is unknown, but it is highly unlikely that all of the manganese in the soil exists as manganese dioxide. The known source of manganese at SEAD 121I was the HC (high carbon) ferromanganese ore that was previously stockpiled at the AOC. As such, the ore was a complex mixture of various naturally occurring minerals, including various oxide, salt, carbonate, and silicate forms. Thus, while manganese dioxide may be a component of ferromanganese ore, it is not the only constituent, and the use of an RfC that is derived solely from a study of industrial worker's exposure to manganese dioxide at a battery manufacturing facility is not fully accurate, and is likely to over-estimate impacts to outside workers at a location where other forms of manganese are present. However, since the exact composition of the manganese ore is unknown, no quantitative adjustments to the HI can be made. Further, it is important to note that the inhalation reference dose used as the basis of the inhalation portion of the risk assessment is 4000 times lower than the ACGIH's threshold limit value[7] for manganese exposure in industrial situations, further emphasizing the very conservative nature of the RfC used in the calculation of risk at this site.

Additionally, observations made in the field indicated that a large portion of the residuals left after the removal of the ore piles were present as small ore fragments, and these fragments range in size from grains of sand to pea and pebble sized debris. In these forms, the high density characteristic (i.e., between 4 and 6) of the native ore would limit the amount of material that becomes airborne as fugitive dusts. Furthermore, much of the debris and soil sampled during the post-excavation confirmatory process was trapped in the abundant crevices and valleys that are evident in the exposed shale bedrock surface underlying the former staging pads. The presence of this mixture in the crevices and valleys of the jagged bedrock surface also works against it becoming airborne, as the bedrock ridges protect the finer particles from surface winds. Additionally, the irregular and jagged nature of the exposed bedrock surface makes a poor road surface, and it is likely that vehicle tires will be damaged if they are exposed to repeated trips over the rough and jagged surface.

Additional factors that add further conservatism to this HI value is the fact that the construction worker's HI was also based on a 250-day exposure period (i.e., one calendar year, exclusive of weekend days and two weeks of vacation), which represents EPA's default value. At present, there are no known plans for the development of this location, so the exact duration of the exposure period is also unknown, and could be either shorter or longer that also affects the level of uncertainty that is associated with the observed HI. Further, the dust loading factor used in the calculation of the HI assumes dry conditions, which is again very conservative as it ignores rainy periods and times when the ground at the Depot is frozen, snow-covered, or muddy due to snowmelt or storm water. Finally, most of historic construction in the vicinity of SEAD 121I is slab on grade due to the shallow nature of the irregular underlying bedrock, and once a slab was poured over the bedrock, future exposures to material trapped in crevices and valleys of the bedrock would become inaccessible to workers located above grade.

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

Given the large degree of uncertainty that is associated with the HI computed for inhalation of manganese contaminated dust, it is likely that the construction worker's overall HI is an overestimate of the real conditions that exist at SEAD 121I now that the ore piles have been removed, and the areas cleaned up. Therefore, it is concluded that no further action is required at SEAD 121I due to the possible presence of trace metals, including manganese in the soil.

While the results of the risk assessment suggest that current and future construction workers may be subject to elevated non-cancer health impacts associated with residual levels of manganese in the soil at SEAD 121I, these probable impact represent a ceiling level, and one that is likely to be overstated. The predominant contributor to the observed elevated HI is inhalation of dusts containing manganese, and this impact is associated with a compound (i.e., manganese dioxide) which while it may be present at the site at some levels is not present as a pure material at the AOC. Further, the reference dose used in the calculation of the inhalation portion of the construction worker's HI is approximately 4000 less than is permitted in industrial workspaces for occupational exposures to manganese. Therefore, now that the ore piles have been removed and the former staging areas cleaned up, the most significant contributing COPC (i.e., manganese) was reduced to levels below commercial and industrial cleanup objective levels, and the associated risk at SEAD 121I is considered suitable for its continuing use as industrial or commercial property.

7.3.1.5 Lead Risk Characterization Results

Lead was not identified as a COC in soil or ditch soil. Lead was identified as a COC in surface water, but there is no reliable model for quantifying risk from lead due to contact with surface water.

7.3.2 Ecological Risk Assessment, SEAD 121I

7.3.2.1 Preliminary Ecological Conceptual Site Model

The preliminary CSM developed for SEAD 121I, the Rumored Cosmoline Oil Disposal Area is presented in **Figure 7-4**.

7.3.2.2 Identification of Ecological COPCs

Chemicals of potential concern (COPCs) were identified by comparing the maximum detected concentrations in each impacted medium to ecological risk-based screening values. The following four data sets were used for the screening-level ecological risk assessment at SEAD 121I:

- SEAD 121C surface soil (0-2 ft. bgs.);
- SEAD 121C ditch soil (0-2 ft. bgs.); and
- SEAD 121C surface water.

7.3.2.3 Receptors

The deer mouse, short-tailed shrew, meadow vole, red fox, American robin and great blue heron were selected as ecological receptors for SEAD 121I.

7.3.2.4 Summary of Risk Results and Preliminary Contaminant of Concern Identification

Preliminary HQ results computed based on Steps 1 and 2 of the SLERA process, which assume the use of maximum detected site concentrations, 100 percent bioavailability, that all food is derived from the SWMU, and the use of the NOAEL values as the screening ecotoxicity value are presented in **Table 7-11A** for SEAD 121I soil and surface water exposure, **Table 7-11B** for SEAD 121I ditch soil and surface water exposure.

Once the screening level HQs were computed, the Army applied the EPA's recommended refinement of COC process to the results of the SLERA to determine if evaluation of ecological risks was warranted at SEAD 121I, the Rumored Cosmoline Oil Disposal Area.

7.3.2.5 Summary of Ecological Risks after the Refinement of COC Process

After application of the refinement of COC process, no COCs were identified for SEAD 121I soil, ditch soil, or surface water and the rationales are summarized below. The reader is referred to the Final RI Report (Parsons 2006) Section 7.6.5 through 7.6.7 for specific details of the Refinement of COC Process.

1. Preliminary COCs were identified for SEAD 121I soil, ditch soil, and surface water. However, alternative HQs calculated during the refinement of COCs (Step 3.2), especially the HQs based on the mean concentrations and LOAEL SEVs are either below 1 or close to 1 (with the highest at 5). Therefore, no final COCs were identified for any medium at SEAD 121I.

2. The planned future land use for SEAD 121I is industrial / office development. Thus, the AOC is not expected to support, sustain, or attract ecological receptors and therefore is not expected to be a wildlife habitat. The presence of ecological receptors is expected to be generally curtailed at SEAD 121I where habitat conditions are poor and current and future human activity levels are sufficiently disruptive to discourage wildlife use.

The source of the metal contamination at SEAD 121I was the strategic stockpiles of ferrous-manganese ore previously stored at the AOC. These stockpiles were removed in 2007, and a post-mission cleanup action was taken to remove residues associated with the historic stockpiling activities. Based on the above discussion, soil, ditch soil, and surface water at SEAD 121I are not expected to significantly impact ecological receptors and no further action is warranted at SEAD 121I based on the ecological risk assessment.

8 REMEDIAL ACTION OBJECTIVES

Remedial action objectives are specific goals to protect human health and the environment. These objectives are based on available information and standards such as applicable or relevant and appropriate requirements (ARARs) and risk-based levels established in the risk assessment. These objectives are also based upon current and intended future land use, which is planned Industrial/Office Development and Warehousing for SEAD 121C and SEAD121I.

Remedial action objectives have been developed that consist of media-specific objectives for protection of human health and the environment. New York's General Remedial Program goal is to restore a specific site to pre-disposal conditions, to the extent feasible. Unrestricted land use was considered at SEAD 121C and SEAD 121I to compare the costs of remediating the AOCs for this land use versus the costs to implement a more restricted land use. Unrestricted use was also considered to comply with Army guidance, which states that alternatives consistent with property use without any restriction should be considered to compare life-cycle institutional control costs with more conservative cleanup alternatives (DAIM-BO, *Army Guidance for Using Institutional Controls in the CERCLA Process*) (Army, 1998).

Remedial action objectives are specific goals to protect human health and the environment; they specify the contaminant(s) of concern, the exposure route(s), receptor(s), and acceptable contaminant level(s) for each exposure route. These objectives are based on risk levels established in the risk assessment and should comply with ARARs, unless a waiver is necessitated. A list of ARARs and TBCs is provided in **Appendix F**.

Results of the risk assessment conducted at the end of the RI for SEAD 121I suggested that remedial action was required at the AOC due to the determination of elevated non-carcinogenic hazard indices (HIs) for future industrial workers and future construction workers. The elevated HIs resulted primarily from inhalation of dusts and ingestion of soil containing metals, with manganese being the principal component. The manganese was associated with the U.S. Government's strategic stockpiles of ferromanganese ore that were stored at staged at the AOC. The Government's strategic stockpile mission terminated in 2007, and the Army performed a post-mission cleanup action at SEAD 121I during which the former storage pads and surrounding soils were excavated, and shipped off-site for disposal at licensed landfills.

After the ore pile cleanup action was completed, the non-cancer HIs were recalculated for all future receptors, and the HIs determined for industrial workers and adolescent receptors were below the EPA's HI target value of 1. The HI calculated for the construction worker was estimated at 1.5e+00 (i.e., 1.50), which is significantly reduced from prior levels, but above EPA's target HI level. However, sampling results indicate that concentrations of manganese left in the soil at the AOC are below State and Federal soil cleanup guidance levels for commercial and industrial sites. The construction worker's HI is a ceiling level, and is likely to overestimate the actual hazard that remains at SEAD 121I. Please refer to the risk assessment discussion presented in **Section 7.3.1.4** of this ROD for specific details of HI

calculation method and conservative input parameters. Given these facts, no further excavations or soil removal are needed at SEAD 121I, and the AOC is considered suitable for continuing use as commercial or industrial land.

Results of the risk assessment completed during the RI for SEAD 121C did not indicate that risks to human health existed at the AOC for future commercial or industrial users or occupants. However, there was an area in the northern portion of this AOC where soil concentrations of lead were present at levels in excess of NYSDEC's Restricted Commercial and Industrial Use SCOs, and where prudent management decisions indicated that a focused removal action should be performed to lessen future exposures to users or occupants of the land. Confirmatory soil sampling results indicate that the identified area of elevated lead was removed; this action is summarized in **Section 3** of this ROD. Given these facts, no further excavations or soil removal are needed at SEAD 121C, and the AOC is considered suitable for continuing use as commercial or industrial land.

Although risks to future commercial and industrial users or occupants of SEAD 121C and SEAD 121I are within a range deemed to be acceptable for such use, the land is not currently acceptable for unrestricted use and unlimited exposures by all possible future populations. Residual levels of contaminants are present in the soil at both AOCs that probably would pose potential risks to residential-type populations and require ongoing and future management. Further, groundwater samples collected from wells at SEAD 121C indicate that there are contaminants present at levels in excess of New York's GA groundwater standards. The presence of these contaminants prevents use of the groundwater as a potable water supply source. Groundwater was not found in the shallow overburden at SEAD 121I, so no information is available to describe the nature of this area's groundwater.

Given this information the remedial action objectives for SEAD 121C and SEAD 121I are as follows:

- Reduce or eliminate future human direct contact, ingestion and the inhalation threats to soils containing hazardous substances by restricting future land uses to commercial and industrial categories that are consistent with the redevelopment authority's anticipated and documented future use; and,

- Protect human health by preventing exposures of future users to groundwater that may contain hazardous substances and other contaminants.

9 DESCRIPTION OF ALTERNATIVES

CERCLA § 121(b)(1), 42 U.S.C. § 9621 (b)(1) and the NCP require that each selected remedy be protective of human health and the environment; be cost effective; comply with ARARs; and use permanent solutions, alternative treatment technologies, and resource recovery options to the maximum extent possible. In addition, there is a statutory preference for treatment as a principal element for the reduction of toxicity, mobility, or volume of the hazardous substances.

Four remedial alternatives were identified for the soils at SEAD 121C and SEAD 121I. Two alternatives were considered for the groundwater at both of the AOCs. The soil alternatives, along with the technologies and processes that make up each alternative, considered are:

- Soil Alternative 1: No-Action
- Soil Alternative 2: Excavate, stabilize (as needed), off-site disposal and backfill of areas where identified soil contamination exceed NYSDEC Unrestricted Use SCO levels
- Soil Alternative 3: Excavate, stabilize (as needed), off-site disposal and backfill of areas where identified soil contamination exceed NYSDEC Restricted Industrial Use SCO levels
- Soil Alternative 4: Land Use Controls

The remedial alternatives considered for groundwater are:

- Groundwater Alternative 1: No Action
- Groundwater Alternative 2: Groundwater Access/Use Restriction

Each of the alternatives was evaluated against the NCP's evaluation criteria including:

- Overall protectiveness of the public health and the environment
- Compliance with ARARs
- Long-term effectiveness and permanence
- Reduction in toxicity, mobility or volume of contamination through treatment
- Short-term impacts and effectiveness
- Implementability
- Cost
- State acceptance
- Community acceptance

Descriptions of each of the soil and the groundwater alternatives considered for SEADs 121C and 121I are provided below. As there are only two alternatives considered for groundwater, the discussion of the groundwater alternatives is presented first.

9.1 GROUNDWATER REMEDIAL ACTION ALTERNATIVES

9.1.1 Groundwater Alternative 1 (GwA 1) – No Action

The Superfund program requires that the "no-action" alternative be considered and serve as the baseline to which other alternatives evaluated are compared. The "no action" remedial alternative for groundwater does not include the design or implementation of any remedial measures to address types of groundwater contamination identified.

A poor yielding supply of groundwater does exist in the overburden beneath SEAD-121C, and it is known to contain chemical contaminants at concentrations in excess of New York's GA groundwater quality standards. Groundwater was not found in the shallow overburden beneath SEAD 121I; and as such, there is no knowledge of its quality. Therefore, as a conservative measure, it is presumed that any shallow groundwater eventually identified at SEAD 121I may resemble groundwater identified in other portions of the greater PID Area, which contains chemicals, including CERCLA hazardous substances, at levels in excess of the State's GA standards. No presumption has been made as to the point of origin of the presumed groundwater contamination.

A municipal, potable water distribution system, which derives its raw water from a non-groundwater source, is present within the entire PID Area. The presence of this alternative supply of water eliminates any reason to consider use of groundwater underlying the PID Area, and SEAD 121C and SEAD 121I for domestic purposes.

The selection and application of this alternative at SEAD 121C would allow, and at SEAD 121I might allow, for certain chemicals, including hazardous substances, to remain in groundwater at concentrations above levels that permit unrestricted use and unlimited exposures. As such, CERCLA requires that conditions at the AOCs be reviewed at least once every five years to assess whether changes are occurring at the AOCs. If justified by the periodic reviews, subsequent remedial actions may be implemented to remove, treat or contain the contaminated groundwater. The likely costs associated with the application of the "no action" alternative for groundwater is identified below.

SEAD 121C and SEAD 121I, GwA 1 (No Action) Costs

Capital Cost:	$0
Annual Operation, Maintenance, and Monitoring (OM&M) Costs (groundwater):	$0
Present-Worth Costs:	$0
Construction Time:	0 months
Completion Time	0 months

9.1.2 Groundwater Alternative 2 (GwA 2) – Groundwater Access/Use Restriction

This alternative is generally equivalent to GwA 1 stated above, except in this case, the ROD will formally impose the groundwater access/use restriction that has been implemented over other land that is located

within the greater PID Area. The groundwater access/use restriction was not previously imposed on the parcels of land constituting SEAD 121C and SEAD 121I because they were retained by the Army, pending completion of the CERCLA regulatory process. Given the groundwater results obtained for SEAD 121C and the uncertainty of the quality of the groundwater that may exist beneath SEAD 121I, the groundwater access/use restriction will be formally imposed on SEAD 121C and SEAD 121I.

The existing PID Area-wide groundwater access/use restrictions were implemented as a result of groundwater conditions identified in SEADs 27, 64A, and 66, which are reported and summarized in the Record of Decision entitled *Final ROD for Sites Requiring Institutional Controls in the Planned Industrial/Office Development or Warehousing Areas* (Parsons, 2004) and its associated administrative record. Under the 2004 PID Area-wide ROD, the groundwater restriction will be implemented for those properties within the PID Area that are the subject of the 2004 PID ROD to prohibit access to and use of the groundwater. This restriction may be removed at specific AOCs or specific portions of the PID Area if, and when, groundwater constituent concentrations have been reduced at such areas to levels that allow for unrestricted exposure and unrestricted use.

CERCLA requires that conditions at the AOCs be reviewed at least once every five years. If justified by the periodic reviews, subsequent remedial actions may be implemented to remove, treat or contain the contaminated groundwater. The likely costs associated with the application of this alternative for groundwater is included in each of the cost estimates provided for soil alternatives below.

SEAD 121C and SEAD 121I, GwA 2 (Groundwater Restriction) Costs

Capital Cost:	$0
Annual Operation, Maintenance, and Monitoring (OM&M) Costs (groundwater):	$3,000
Present-Worth Costs:	$37,230
Construction Time:	0 months
Completion Time	1 month

9.2 SOIL REMEDIAL ACTION ALTERNATIVES

9.2.1 Soil Alternative 1 (SA 1) – No Action

The "no action" remedial alternative for soil does not include the design or implementation of any physical remedial measures to address types of contamination identified at the AOCs. The "no-action" alternative (SA 1) is identical for work that might be considered for either SEAD 121C or SEAD 121I. Again, the "no action" alternative must be considered and evaluated for Superfund sites.

Application of this alternative would allow for hazardous substances at concentrations above levels that permit unrestricted use and unlimited exposures to remain in the soils at both AOCs. As such, CERCLA requires that conditions at the AOCs be reviewed at least once every five years to assess whether the remedy selected in the ROD remains protective. If justified by the periodic reviews, subsequent remedial actions may be implemented to remove, treat or contain the contaminated soils.

SEAD 121C and SEAD 121I, SA 1 (No Action) Costs

Capital Cost:	$0
OM&M Costs (soil)	$0
Present-Worth Costs:	$0
Construction Time:	0 months
Completion Time	1 month

9.2.2 Soil Alternative 2 (SA 2) – Excavation of Contaminated Soil to Achieve Unrestricted Use Cleanup Objectives, Treatment/Disposal and Soil Backfill

SEAD 121C, the DRMO Yard

This alternative involves the excavation of soil containing substances at levels in excess of the New York's Unrestricted Use SCO levels. A summary listing of hazardous substances identified in surface, subsurface and ditch soils present at SEAD 121C after completion of the RI at concentrations in excess of New York's Unrestricted Use SCOs is provided in **Table 6-1**. **Figure 9-1** shows the locations of soil samples that contain contaminants at concentrations that exceed New York's Unrestricted Use SCOs.

Further analysis of the available analytical data indicates that substances are found at concentrations exceeding New York's Unrestricted Use SCO in most surface soil samples collected from SEAD 121C. Additionally, hazardous substances at concentrations that exceed the Unrestricted Use SCO levels are present in many samples collected from the 2 to 6 foot depth range at locations around the AOC. Given this distribution of contaminants in the soil, the Army anticipates that a minimum of six feet of soil would need to be excavated from the entire DRMO Yard surface, as well as into areas beyond the fenced yard to achieve post-removal action soil concentrations that are consistent with the Unrestricted Use SCO levels. Based on these dimensions, the estimated volume of contaminated soil requiring excavation at the DRMO Yard is 173,600 yd^3.

As part of the construction work, the soil exterior to three permanent buildings (Buildings 316, 360 and 355) would be excavated, as would soil adjacent to, but not beneath, two railroad tracks that service this portion of the former Depot. Extra care and time would be required during the excavations around these structures to ensure that their structural integrity was not impacted by the excavation or backfill operations. Local utility lines servicing this portion of the former Depot would need to be diverted or possibly eliminated during the planned excavation. The temporary storage pads and cells, their surrounding walls or barriers, and the security fence surrounding the yard would be dismantled or demolished, and materials would be decontaminated and disposed, or recycled, as necessary and appropriate. Further, episodic water flow through the four drainage ditches that surround the Yard would need to be diverted during the construction process to preclude inflow of storm-event run-off water into the excavation. Finally, air and fugitive dust monitoring would need to be performed during the active phases of excavation, waste soil and debris loading and transport, and excavation backfill.

Silt fencing would be erected around the excavation site to minimize storm water run-on and runoff and to limit the transport of soil via erosion. Episodic storm water run on flows into excavation areas would be captured, tested, treated as necessary, and then discharged to the Seneca County Sewer District system. All excavated soil and associated demolition debris would be characterized and transported for disposal at off-site landfills.

Once the excavation was completed and its extent confirmed by the collection and analysis of confirmatory samples, the area of the excavation would need to be backfilled, compacted, and graded.

Once this action was completed, the soil in the area excavated would be appropriate for unrestricted use and unlimited exposures, and no land use restrictions would be imposed on the soil found in this area.

SEAD 121C SA 2 (Unrestricted Use) Costs

Capital Cost	$17,600,000
Annual OM&M Cost (soil)	$0
Present-Worth Costs:	$17,600,000
Construction time	12 Months
Completion Time	24 Months

SEAD 121I, the Rumored Cosmoline Oil Disposal Area

Alternative 2 for soil at SEAD 121I is generally identical to that which is discussed above for SEAD 121C. This alternative involves the excavation of soil containing hazardous substances at levels in excess of the New York's Unrestricted Use SCO levels. A summary listing of hazardous substances identified in the surface, subsurface and ditch soils remaining at SEAD 121I after the RI at concentrations in excess of New York's Unrestricted Use SCOs is provided in **Table 6-7**. **Figure 9-2** shows the locations of soil samples that contain contaminants that exceed the New York's Unrestricted Use SCO levels at SEAD 121I.

Analysis of the available data indicates that one or more of the identified hazardous substances are found in most soil samples collected and characterized during the RI at levels that exceed the Unrestricted Use SCO levels. The identified substances were generally found in shallow soils (0 to 2 ft.) because only a thin layer of soil exists above the underlying bedrock in this portion of the Depot.

The Army believes that Avenue C and D and 3rd and 7th Street physically constrain the area where historic unloading of equipment and removal of Cosmoline oil occurred. Based on the distribution of hazardous substances identified and the limits of the AOC, most of the four blocks that define the Rumored Cosmoline Oil Disposal Area would require excavation to an average depth of 2 feet. Based on this excavation area, 45,425 yd^3 of soil and roadway would need to be excavated, characterized, treated (as necessary), transported and disposed of off site at a non-hazardous waste landfill.

The area across the constraining road surfaces (Avenue C and D) to the face of the parallel, north-south oriented rows of warehouses would not be excavated. The land surrounding the Rumored Cosmoline Oil Disposal Area that the Army does not consider to be associated with the historic equipment unloading and cleaning operation would be subject to the land use control that prohibits residential activities within the greater PID Area, per the conditions of the Final *ROD for Sites Requiring Institutional Controls in the Planned Industrial/Office Development and Warehousing Area, SEADs 27, 64A, and 66, Seneca Army Depot Activity* (Parsons, 2004). Since most soil samples collected from the surrounding Warehouse Area contained contaminants that exceeded one or more of New York's Unrestricted Use SCO levels, the Army believes that the entire Warehousing Area must be covered by the existing residential activities use restriction that has been imposed on the greater PID Area.

SEAD 12I's underlying stormwater collection and conveyance system may be compromised by the excavation of soil, requiring subsequent repair or replacement. Further, buried utility lines that run through the area (telephone, electricity, gas and water) would possibly need to be addressed. Finally, the railroad line and sidings servicing the warehouse area may also have to be removed, limiting reuse potentials

Silt fencing would be erected around the excavation site to minimize storm water run-on and runoff and to limit the transport of soil via erosion. Episodic storm water run-on flows into excavation areas would be captured, tested, treated as necessary, and then discharged to the Seneca County Sewer District system. All excavated soil and associated demolition debris would be characterized and transported for disposal at off-site landfills.

The area of the excavation would then be backfilled with clean fill, the fill would be compacted, and the site would be regraded. As a result of this action, the land excavated would be appropriate for unrestricted use and unlimited exposures, and no further land use restriction for soil would be imposed on the area.

SEAD 121I, SA 2 (Unrestricted Use) Costs

Capital Cost	$4,542,500
Annual OM&M Cost (soil)	$0
Present-Worth Costs	$4,542,500
Construction Time	15 Months
Completion Time	27 Months

9.2.3 Soil Alternative 3 (SA 3) – Excavation of Contaminated Soil to Achieve Industrial Use Cleanup Objectives, Treatment/Disposal and Soil Backfill

<u>SEAD 121C, the DRMO Yard</u>

This alternative involves the excavation of soil containing substances at levels that exceed NYSDEC's Industrial Use SCO levels. A summary listing of substances identified in the surface, subsurface and

ditch soils remaining at SEAD 121C after the RI at concentrations in excess of New York's Industrial Use SCOs is provided in **Table 6-3**. **Figure 9-3** shows the location of soil samples that contain contaminants that exceed New York's Industrial Use SCO levels.

Two separate areas of the former DRMO Yard would be excavated to remove soil containing hazardous substances above Industrial Use SCO levels under this alternative. The first area centers around an isolated surficial (approximately 1 foot deep) detection of benzo(a)pyrene exceeding the Industrial Use SCO that is located partway along the northwest facing fence line that separates the Yard from the abutting drainage ditch. Approximately 1,315 yd^3 of soil would be removed from this location.

The second excavation area would be located to the east and almost entirely outside the former DRMO Yard where soil samples indicate that levels of benzo(a)pyrene exceeding industrial standards are present in soils to a depth of at least 2 ft. This area is approximated by results from three samples along the southern edge of the investigated area and one near the former storage cells that are located to the north of Building 316 inside the DRMO Yard. Approximately 12,000 yd^3 of soil would be excavated from this area.

The total excavation volume for this alternative is approximately 13,300 yd^3.

As part of the construction work, the soil exterior to three permanent buildings would be excavated, as would soil in the vicinity of two railroad spur lines that service this portion of the former Depot. A portion of the storage cells and security fence surrounding the yard would be dismantled or demolished, and materials would be decontaminated as necessary. All excavated soil and demolition debris would be characterized and transported for disposal at an off-site non-hazardous landfill.

Silt fencing would be erected around the area of excavation to minimize storm water run-on and runoff and to limit the amount of erosion that would occur. Episodic storm water run on flows into excavation areas would be captured, tested, treated as necessary, and then discharged to the Seneca County Wastewater Authority for final treatment and discharge.

If any of the soil was found to be hazardous, on-site treatment would be used prior to transport to the off-site landfill. Water generated from the collection of runoff would be captured, tested, and treated on-site, as necessary. It would be discharged to the Seneca County Sewer District in conformance with their requirements.

The area of the excavation would need to be backfilled, compacted, and graded. As a result of this action, the land comprising the former DRMO Yard would be appropriate for future industrial use. Institutional controls in the form of an environmental easement would be used to prohibit the use of the property for non-industrial purposes.

Because this alternative would result in substances remaining on site above levels that allow for unrestricted use and unlimited exposure, CERCLA requires that the site be reviewed at least once every

five years. If justified by the review, further remedial actions may be implemented to remove or treat the identified wastes.

SEAD 121C, SA 3(Industrial Use) Costs

Capital Cost	$1,330,000
Annual OM&M Cost (soil)	$3,000
Present-Worth Costs	$1,367,230
Construction Time	9 Months
Completion Time	21 Months

SEAD 121I, the Rumored Cosmoline Oil Disposal Area

Soil containing substances at levels in excess of the New York's Commercial Use SCO levels that are exterior to the former strategic ore pile staging areas would be excavated from SEAD 121I, characterized, treated on-site as necessary, and then transported off-site for disposal at a licensed landfill. A summary listing of hazardous substances identified in the surface, subsurface and ditch soils remaining at SEAD 121C at concentrations in excess of New York's Commercial Use SCOs is provided in **Table 6-7**. **Figure 9-4** shows the location of soil samples that contain contaminants that exceed the New York's Commercial Use SCO levels.

Based on a review of analytical data collected at SEAD 121I, the Army estimates that approximately 1,275 yd^3 of soil would be excavated from southern most block of the AOC; another 2,850 yd^3 would be excavated from next block; over 1,575 yd^3 would need to be excavated from the third block of the AOC; and, roughly 4,760 yd^3 would be excavated from the northern most block of the AOC. Each excavation would extend to an average depth of 2 ft bgs. The existing roadways would again serve as physical barriers that bound to outward extent of all of the proposed excavations.

Approximately 10,460 yd^3 of soil would be excavated, characterized, treated (as necessary), transported and disposed of off-site at a non-hazardous waste landfill.

During the construction work, uses of the warehouse facilities in proximity to the excavations might need to be interrupted or terminated. As part of the construction work, many of the adjacent roadways surfaces might be affected, and the integrity of the underlying storm water diversion system may be compromised, requiring subsequent repair or replacement. Further, portions of the railroad line and sidings servicing the warehouse area would also be removed, requiring replacement.

Silt fencing would be erected around the area of excavation to minimize storm water run-on and runoff and to limit the amount of erosion that would occur. Episodic storm water run-on flows into excavation areas would be captured, tested, treated as necessary, and then discharged to the Seneca County Sewer District for final treatment and discharge. All excavated soil and associated demolition debris would be characterized and transported for disposal at off-site landfills.

The area of the excavation would need to be backfilled with clean fill and regraded. As a result of this action, the land excavated would be appropriate for commercial use.

Because this alternative would result in hazardous substances remaining on site above levels that allow for unrestricted use and unlimited exposure, CERCLA requires that the site be reviewed at least once every five years. If justified by the review, further remedial actions may be implemented to remove or treat the identified wastes.

SEAD 121I, SA 3 (Industrial Use) Costs

Capital Cost	$1,046,000
Annual OM&M Cost (soil)	$3,000
Present-Worth Cost	$1,083,230
Construction Time	12 Months
Completion Time	24 Months

9.2.4 Soil Alternative 4 (SA 4) – Land Use Controls

SEAD 121C, the DRMO Yard

The Army prepared human health and ecological risk assessments based on sampling results for soil and surface water at SEAD 121C, in accordance with Superfund guidance. The results of the risk assessments indicated that SEAD 121C is suitable for the continued use as an industrial area. Nevertheless, soil containing concentrations of lead in excess of 1,500 mg/Kg were removed from the northern portion of the AOC in July and August 2007 to enhance the overall acceptability of the area for future owners or users. The successful completion of the removal action was verified by determining that the 95th UCL of the data set was less than 1,250 mg/Kg and that no individual confirmatory sample exhibited a sample concentration in excess of 1,500 mg/Kg for lead. A figure showing the extent of the excavation completed is presented as **Figure 3-2**. Analytical results confirming the successful completion of the removal action for lead are presented in **Table 3-1**.

Even though the residual concentration of lead found in the soil in the northernmost portion of the former DRMO Yard has been successfully reduced, contaminants still remain in the soil at levels above New York's Unrestricted, Residential, and Restricted Residential Use SCO levels. However, as is presented above, results of the risk assessment, which included data representing the higher levels of lead previously encountered at the AOC, indicate that continued use of the land for industrial purposes is acceptable. Given these facts, institutional controls in the form of land use restrictions that prohibit the use of the land for residential housing, elementary or secondary schools, childcare facilities, and playgrounds would be implemented.

Now that the removal action is completed, it is estimated that this alternative will take approximately one month to implement. This alternative allows substances to remain at the site above levels that would allow for unrestricted use and unlimited exposures. Therefore, CERCLA requires that the site be

reviewed at least once every five years. If justified by the review, further remedial actions may be implemented to remove or treat the identified wastes.

SEAD 121C, SA 4 Costs

Capital Cost	$0
Annual OM&M Cost (soil)	$3,000
Present Worth Cost	$37,230
Construction Time	0 Months
Completion Time	1 Month

SEAD 121I, the Rumored Cosmoline Oil Disposal Area.

The Army conducted human health and ecological risk assessments for SEAD 121I. The SLERA indicated that no final ecological COCs were identified and that the area is not an attractive habitat for ecological receptors. The human-health risk assessment performed after the strategic ore pile cleanup action was complete indicated that the potential carcinogenic risks associated with the exposure to hazardous substances found in the soils at, and in the vicinity of the AOC, are within the EPA's recommended risk range of 10^{-4} – 10^{-6}. The human-health risk assessment further indicated that non-carcinogenic hazard indices for industrial workers and adolescent trespassers were below EPA's target of 1, but the HI for construction workers was 1.5e+00.

The construction worker's HI is primarily affected by the estimated manganese concentration used for inhaled dusts and ingested soils, with inhalation of manganese contaminated dusts being the largest single component of the HI. The SEAD 121I risk calculation assumes that the dust inhaled contains pure manganese dioxide. Manganese found in SEAD 121I results from the prior stockpile and storage of high carbon, ferromanganese ore that is used in steel making. Ferromanganese ore exists primarily as gravel to rock size chunks, and is very dense. High carbon ferromanganese ore is not pure manganese dioxide, but is comprised of a mix of mineral forms, which include manganese oxides, manganese salts and other manganese-co metal mixtures. As such, while manganese dioxide may be present at some level, it is not the only component of the ore and thus the assumption that all of the manganese is present as manganese dioxide overestimates the hazard that is likely to exist. Further, the EPA has assigned an uncertainty factor of 1000 to the inhalation reference dose that was used in the risk assessment, suggesting that the hazard indices that result are very conservative and overestimate the risk that is likely to be present. Finally, the reference dose used as the basis of the inhalation HI is approximately 4000 times lower than the occupational exposure level that is allowed for other workers in the workplace. As such, the elevated HI computed for the construction worker at SEAD 121I is considered a ceiling level.

Summary results of the post-stockpile mission termination cleanup action indicate that residual levels of manganese in the vicinity of the former ore piles are lower than New York's Commercial and Industrial Use SCO levels and lower than EPA's iron and manganese Region IX PRGs for Industrial Soil. A figure showing the extent of the excavation completed is presented as **Figure 3-3**. The completion of the

excavation was confirmed by the collection and analysis of confirmatory soil samples for iron and manganese from the base and perimeter of the excavation. Analytical results from the manganese and iron analyses are presented in **Table 3-2**.

Despite, the successful completion of the ore pile cleanup action, hazardous substances and other contaminants remain in the soil at SEAD 121I at levels that are likely to prohibit unrestricted use and unlimited exposures, and at levels that are in excess of various NYSDEC's SCOs. Therefore, the Army will also impose LUCs that prohibit the use of the land for residential housing, elementary and secondary schools, childcare facilities and playgrounds. Since this alternative allows hazardous substances to remain at the AOC above levels that allows for unrestricted use and unlimited exposures, CERCLA requires that the site be reviewed at least once every five years. If justified by the review, further remedial actions may be implemented to remove or treat the identified wastes.

SEAD 121I, Alternative 4 Costs

Capital Cost	$0
Annual OM&M Cost (soil)	$3,000
Present Worth Cost	$37,230
Construction Time	0 Months
Completion Time	1 Month

10 COMPARATIVE ANALYSIS OF ALTERNATIVES

The evaluation criteria are described below.

- Overall protection of human health and the environment assesses whether or not a remedy provides adequate protection and describes how risks posed through each exposure pathway (based on a reasonable maximum exposure scenario) are eliminated, reduced or controlled through treatment, engineering controls or institutional controls.

- Compliance with ARARs addresses whether or not a remedy would meet all of the applicable or relevant and appropriate requirements of other federal and state environmental statutes and requirements or provide grounds for invoking a waiver.

- Long-Term effectiveness and permanence refers to the ability of a remedy to maintain reliable protections of human health and the environment over time, once cleanup goals have been met. It also addresses the magnitude and effectiveness of the measures that may be required to manage the risk posed by treatment residuals and/or untreated wastes.

- Reduction of toxicity, mobility, or volume through treatment refers to the statutory preference for selecting remedial actions and that reduce the principal threats at a site through destruction of contaminants that reduce the total mass of the contaminants, that provide irreversible reduction in contaminant mobility, or that reduce the total contaminated media at a site.

- Short-Term effectiveness addresses the period of time needed to achieve protection, and any adverse impacts on human health and the environment that may be posed during the construction and implementation period until cleanup goals are achieved.

- Implementability is the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.

- Cost includes the estimated capital and OM&M costs and net present-worth costs.

- State acceptance indicates if, based on its review of the RI/FS and Proposed Plan, the state concurs with the preferred remedy at the present time.

- Community acceptance will be assessed in the ROD and refers to the public's general response to the alternatives described in the Proposed Plan and the RI/FS reports.

A comparative analysis of these alternatives based upon the evaluation criteria noted above is presented below. Since the remedial alternatives considered for both sites are identical, the following discussion applies to both AOCs, except where AOC specific variations are noted.

10.1 OVERALL PROTECTIVENESS OF HUMAN HEALTH AND THE ENVIRONMENT

Soil Alternative (SA) 1 is not protective of human health or the environment since it does not address the soils that have been found to contain hazardous substances at concentrations above those that allow for unrestricted use and unlimited exposures. SA 2 is protective of human health and the environment as its objective is to removal all soil that contains hazardous substances in excess of State levels that would allow for unrestricted use and unlimited exposures. SAs 3 and 4 are protective of future human use of the land for commercial/industrial scenarios. SA 3 is slightly more protective of human health than SA 4 since SA 3 includes removal of certain contaminated soils, while SA 4 does not require more soil removal. While the elevated levels of lead previously found at SEAD 121C have been removed, other chemicals and hazardous substances remain in the soil at SEAD 121C at levels that prohibit unrestricted use and unlimited exposures, and at levels that exceed various New York SCOs (e.g., Unrestricted, Residential, Restricted Residential, Commercial and Industrial). Similarly, while the soil at SEAD 121I containing concentrations of manganese in excess of Federal and State cleanup objectives have been excavated, removed, and disposed off-site at licensed facilities, other hazardous substances and chemicals are present at the AOC at levels that prohibit unrestricted use and unlimited exposures, and at levels that exceed various State's SCOs (e.g., Unrestricted, Residential, Restricted Residential, Commercial and Industrial).

Groundwater Alternative (GwA) 1 is not protective of human health or the environment since it does not address the contaminants identified in groundwater that have been found, or are suspected likely to be found, to contain hazardous substances at concentrations above those that allow for unrestricted use and unlimited exposures. GwA 2 is protective of human health or the environment since it does acknowledge that contaminants are or may be present in the groundwater at the two AOCs, and therefore, prohibits access to or use of it for all purposes.

10.2 COMPLIANCE WITH 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. These requirements were considered in connection with the selection of the remedy in this Record of Decision.

SA 1 does not comply with New York's Remedial Program Requirements. SAs 2 and 3 define remedial actions that are intended to comply with different levels of the State's promulgated SCO requirements for the future use of the site anticipated under each alternative (i.e., Unrestricted and Commercial/Industrial, respectively). Under SA 4 for SEAD 121C, New York's Industrial Use SCO for lead is achieved, but other contaminants remain at the AOC at concentrations that exceed the State's Industrial Use SCOs. However, a risk assessment performed in accordance with procedures accepted under CERCLA guidance

documents demonstrates that there is no unacceptable human health risk for the planned future use of SEAD 121C (commercial/industrial). Further SA 4 recommends that LUCs be implemented to prohibit residential activities at SEAD 121C.

Non-carcinogenic hazards were identified at SEAD 121I after the completion of the RI, due to the presence of manganese in the soil at locations around the historic ore stockpiles. The SEAD 121I stockpile cleanup action, presented and described in **Section 3** above, provides data that indicates that the post-mission termination removal action successfully removed soil and debris from the area of the former stockpiles containing concentrations of manganese in excess of the State's Industrial and Commercial Use SCOs at SEAD 121I. However, other contaminants still exist at concentrations above New York's SCOs at SEAD 121I. Therefore, under SA 4 for SEAD 121I, LUCs will be implemented to prohibit residential activities at SEAD-121I.

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. Groundwater was not encountered in the overburden soils at SEAD 121I, so no groundwater quality assessment (risk assessment or comparison to standards) can be made. Groundwater was sampled at SEAD 121C and the available analytical data indicates that there are some contaminants present in the samples that are found at concentrations above State GA standards. However, a further review of these data does not reveal evidence of a continuous or cohesive contaminant plume within or downgradient of the AOC. Further, as has been indicated earlier in this document, and in other documents pertinent to the SEDA, the shallow aquifer that underlies the PID Area and the a majority of the overall Depot is subject to large seasonal elevation variations and is poor yielding due to the low permeability glacial till formation that defines the shallow overburden. The PID Area of SEDA is serviced by a municipal water supply that derives its raw water from a non-groundwater source, which makes the future use of the poor yielding, shallow groundwater aquifer that underlies portions of the PID Area unnecessary. Finally, the general poor quality of the PID Area-wide groundwater has already been identified and acknowledged, and access to and use of the groundwater in the greater PID Area, exclusive of Army retained properties, has been restricted in a separate ROD that was finalized in 2004 [*Final ROD for Sites Requiring Institutional Controls in the Planned Industrial/Office Development or Warehousing Areas* (Parsons, 2004)]. Alternative GwA 2 will impose the same groundwater use restriction on SEAD 121C and SEAD 121I at the time they are transferred from the Army to another user or occupant.

GwA 1 does not address New York's groundwater standards, and does not place any restrictions that prohibit the use of the groundwater for domestic purposes. GwA 2 also does not address New York's GA groundwater standards in the PID Area, but it does protect human health by requiring that the general PID Area-wide groundwater access/use restriction be formally placed on SEAD 121C and SEAD 121I.

10.3 LONG-TERM EFFECTIVENESS

GwA 1 is expected to have minimal long-term effectiveness on groundwater quality since it prescribes "no action" to restore groundwater quality. However, since an alternative potable water supply that does not rely on local groundwater exists within the PID Area, the groundwater access and use of restriction proposed under GwA 2 acknowledges the likely presence of chemicals of concern in the groundwater and prohibits access to/use of the groundwater as a water supply. Historic information indicates that the shallow, overburden aquifer throughout the Depot is generally subject to large seasonal variability, both in terms of quantity and quality of yield. Many of the metals identified in historic groundwater samples are indigenous to the native soil found at the Depot, which are entrained as final particles in groundwater recovered from monitoring wells at the Depot, and these impact the general usefulness of the upper aquifer as a source of potable groundwater without pre-treatment.

SA 1 (i.e., "no action") for soil at SEAD 121C and SEAD 121I does not involve active remedial measures, and thus it would be ineffective at both AOCs for eliminating future receptor's potential exposures to contaminants in the soil. The excavation of soil to New York's Unrestricted Use SCO levels for SEAD 121C and SEAD 121I (i.e. as proposed under SA 2) would be the most protective alternative for human health as it would allow for unrestricted use and unlimited exposures to the land at both of the AOCs. Implementation of SA 3 (i.e., excavation of soil containing contaminants above Restricted Commercial/Industrial Use levels) at both sites would be more effective than SA 1 ("no action"), but less effective than SA 2 which proposes excavating soils to New York's Unrestricted Use levels. As a result, the land at both AOCs would be restricted to non-residential-type activities only. Implementation of SA 4 for both AOCs also allows use of the land at both AOCs for non-residential-type operations and is protective of human health at this level of use. SA 4 is more protective of human health than SA 1 at both AOCs, as the highest concentrations of lead have been removed and the alternative formally adopts the PID Area-wide residential activity use restriction for the AOC, in recognition that contaminants remain at the AOC at levels that do not allow for unrestricted use and unlimited exposures. The remaining contaminants have been shown not to pose potential risk to the future industrial/commercial users.

10.4 REDUCTION IN TOXICITY, MOBILITY, OR VOLUME THROUGH TREATMENT

SA 1 would provide no reduction in the toxicity, mobility or volume of hazardous substances found in soil at either AOC. Under SA 2, soils containing hazardous substances in excess of the State's Unrestricted Use SCOs would be excavated and transported off-site for disposal. This would reduce the toxicity and mobility of hazardous substances left at the AOCs. Comparably, SA 3 would also reduce the toxicity and mobility of hazardous substances left at the AOCs, but not to the same extent as would be achieved under SA 2. In either case, if excavated soil needed to be stabilized prior to off-site disposal, the volume of the material disposed at the off site facility would increase. If the excavated soil were not treated, the volume and toxicity would probably remain close to the same, the potential mobility of the contaminants would be placed into a more controlled environment than currently are found at either SEAD 121C or SEAD 121I. The application of SA 4 at SEAD121C and at SEAD 121I provides no reduction in the toxicity, mobility or volume of hazardous substances found in soil at either AOC.

Comparably, neither GwA 1 nor the application of GwA 2 would provide reduction in the toxicity, mobility or volume of hazardous substances that are likely to be contained in groundwater at either of the AOCs.

10.5 SHORT-TERM EFFECTIVENESS

SAs 1 and 4 would not pose any additional short term hazards to workers at the AOCs or the community as physical construction is not included in either of these remedies. Alternatives 2 and 3 would both pose some additional short-term hazards to neighboring site workers and the community through dermal contact, ingestion or inhalation of hazardous constituents and other chemicals during the excavation, loading, transporting, and unloading operations that are needed to complete these construction efforts. Further, noise from the heavy equipment used for excavation, loading and hauling may also impact employees of neighboring industries and companies, and local residents. Excavation noise levels at SEAD 121I are expected to be more significant because it is likely that the underlying bedrock will be encountered and repeatedly scraped during the work, and there are more industrial and residential units in close proximity to this AOC than SEAD 121C. In addition, interim and post-removal remediation sampling activities would pose some risk to site workers. Potential risks to nearby employees of local companies and nearby residents could be controlled by developing and implementing sound engineering controls, health and safety procedures, monitoring practices.

Since soil and debris will be transported off-site under SAs 2 and 3, there will be an increase in traffic on the roads within and surrounding the Depot and the receiving landfills. This could translate into an increased likelihood of vehicular accidents, and potential releases of soil and debris containing hazardous constituents at other locations along the driving routes. Since more material is being excavated and disposed under SA 2, there is a greater potential under this option than SA 3. SAs 2 and 3 also require varying amounts of soil disturbance that could affect the surface water hydrology in the areas being excavated.

At SEAD 121C, SA 2, which involves the excavation of a larger amount of soil overall, and involves the excavation of soil from areas within or very close to four existing drainage ditches that service the greater PID Area, has a greater likelihood of impacting the surface water hydrology than does SAs 1, 3, or 4. At SEAD 121I, SA 2 also involves the excavation of more soil and this is expected to include more soil to the depth of bedrock, and the exposure of bedrock may significantly impact surface water flow. SA 2's disturbance of soil across larger areas at both AOCs also increases the likelihood of soil erosion and transport, both via surface water flow and as fugitive dusts. Therefore, appropriate silt and dust containment measures would need to be implemented and monitored during the excavation, loading, and hauling activities. Lesser levels of controls would also need to be implemented, maintained and monitored during the work associated with SA 3.

Neither GwA 1 nor 2 are expected to cause any short-term effectiveness concerns, as neither require any physical action and there are no anticipated disturbances to the activities or operations performed within or around SEAD 121C or SEAD 121I.

10.6 IMPLEMENTABILITY

SA 1, the "no action" alternative, would be the easiest alternative to implement, since there are no actions to undertake. SA 4 will only be slightly more difficult to implement than SA 1 because it only requires the implementation, maintenance, oversight and annual reporting of the continuing effectiveness of land use controls and the preparation, submittal and approval of a land use control implementation plan. The excavation; stabilization, as necessary; characterization; transport; and disposal of soil and debris excavated under either SAs 2 or 3 are readily available and mature technologies and can be accomplished. The increased volume of soil/debris requiring excavation under SA 2 at both AOCs would increase the difficulty of completing this alternative above those anticipated for SA 3.

GwA 1, the "no action" alternative would be the easiest to implement since there are no actions to undertake. GwA 2 will only be slightly more difficult to implement because it only requires the implementation, maintenance, oversight, and annual reporting of the continuing effectiveness of the groundwater access/use restriction and the preparation, submittal and approval of the restriction implementation plan.

10.7 COST

The present-worth cost associated with SAs 1, 2, 3, and 4 and GwAs 1 and 2 are calculated using a discount rate of seven percent (7%) and a 30-year time interval. The estimated capital, operation, maintenance, and monitoring, and the present worth costs are presented in **Table 10-1**.

The combination of SA 1 and GwA 1 (i.e., the "no action" alternatives) are the least expensive remedial action alternatives at both AOCs with an estimated present-worth cost of $0. Selection of SA 2 coupled with GwA 2 at both AOCs represents the most expensive remedial action alternative combination at both AOCs, with expected costs of $17,637,230 for SEAD 121C and $4,579,730 for SEAD 121I. Costs of other alternative combinations (e.g., GwA 1 and SA 2, GwA 2 and SA 3, etc.) are shown in **Table 10-1** and are between the least and most expensive alternatives determined for each of the AOCs.

10.8 STATE ACCEPTANCE

NYSDEC concurs with the preferred remedial soil and groundwater alternatives

10.9 COMMUNITY ACCEPTANCE

Community acceptance of the preferred alternative for SEAD 121C and SEAD 121I are assessed in this ROD following review of the public comments received on the Proposed Plan.

11 SELECTED REMEDY

The selected remedy for any site should, at a minimum, eliminate or mitigate significant threats to the public health or the environment presented by the hazardous substances or waste present at the site. Based on the data presented and summarized earlier within the Remedial Investigation Report, the Completion Reports and the Proposed Plan for SEAD 121C and SEAD 121I, this Record of Decision documents the selection of the formal application of land use controls for soil on the lands that are designated as SEAD 121C, the DRMO Yard, and SEAD 121I, the Rumored Cosmoline Oil Disposal Area and other institutional controls for groundwater beneath such lands. The selected LUCs and institutional controls will:

- Prohibit use of the land for residential housing, elementary or secondary schools, child care facilities, playgrounds, etc; and,

- Prohibit access to, and use of, groundwater at the two AOCs.

Results of the site investigations and risk assessment performed using data developed from SEAD 121C and SEAD 121I indicate that hazardous substances have been identified to exist at, or in the vicinity of, the AOCs. Some residual concentrations of contaminants found are higher than New York SCO values for Unrestricted, Residential, and Restricted Residential Use, and it is likely that the identified concentrations would pose a threat to residential populations, if they were allowed to use the land. Thus, the levels measured do not allow for unlimited exposure and unrestricted use of the land comprising these two AOCs.

Individual concentrations of selected other contaminants found in the soil at the two AOCs were also observed to exceed NYSDEC's Industrial Use SCO levels; however, these levels of contaminants do not pose a potential risk to the human receptors that are considered most likely to use the land (i.e., industrial worker, construction worker, adolescent trespasser) for the foreseeable future at SEAD 121C or SEAD 121I.

Although some hazardous substances and contaminants were identified in the groundwater at concentrations above New York's GA standards at SEAD 121C, there were no risks to human health or the environment determined to be associated with their presence. Groundwater was not encountered at SEAD 121I, and thus no equivalent evidence of poor groundwater quality exists for this AOC. However, knowledge from other AOCs in the greater PID Area indicates that the groundwater quality is also unacceptable for domestic purposes and that the likely yield is inadequate to support any sustained use. As such, this ROD documents the decision that a groundwater access and use restriction will be formally imposed at the two AOCs, until such time as additional data is developed and provided to all parties for review and approval that such access and use can be allowed. The presence of an alternative, non-groundwater derived, municipal supply of potable water in the greater PID Area minimizes the potential impact that this decision has on the two AOCs.

Finally, since land within the greater PID Area surrounding these AOCs already has groundwater and soil land use controls in effect, the decision for these AOCs should stay consistent with the surrounding land uses.

The residential use and groundwater access/use LUCs proposed as the remedies for these AOCs already have been selected for imposition by the Army and the EPA throughout the PID Area pursuant to the 2004 PID ROD. These LUCs were not applied to SEAD 121C or SEAD 121I because they were retained by the Army, pending completion of investigation and the CERCLA process. The LUCs were established as a result of conditions found at other AOCs (i.e., SEADs 27, 64A, and 66) and they were formally imposed on the greater PID Area in March 2008. SEAD 27 is immediately adjacent to SEAD 121C. These LUCs may be lifted on a location-by-location basis at some time in the future, with the consent and approval of the Army, the EPA, and the NYSDEC, if a future owner/user/occupant provides additional data that indicates that the selected location is suitable for unlimited exposure and unrestricted use.

The remedial actions selected in this Record of Decision for SEAD 121C, the DRMO Yard, and SEAD 121I, the Rumored Cosmoline Oil Disposal Area include LUCs. To implement the remedy at the AOCs, a LUC Remedial Design (RD) will be prepared. The LUC RD Plan will include: a Site Description; the Land Use Restrictions; the LUC Mechanism to ensure that the land and groundwater use restrictions are not violated in the future; implementation and maintenance actions, including periodic inspections; and, Reporting/Notification requirements. In addition, the Army will prepare an environmental easement for the AOC, consistent with Section 27 1318(b) and Article 71, Title 36 of ECL, in favor of the State of New York, which will be recorded at the time of transfer of the AOCs from federal ownership. The easement will provide that EPA and the Army will be third-party beneficiaries of the easement. A schedule for completion of the draft LUC RD covering the AOC will be completed within 21 days of the ROD signature, consistent with Section 14.4 of the Federal Facilities Agreement (FFA). In accordance with the FFA and CERCLA §121(c), the remedial action (including LUCs) will be reviewed no less often than every 5 years. After such reviews, modifications may be implemented to the remedial program, if appropriate.

The Army shall implement, inspect, maintain, report, and enforce the LUCs described in this ROD in accordance with the approved LUC RD. Although the Army may later transfer these responsibilities to another party by contract, property transfer agreement, or through other means, the Army shall retain ultimate responsibility for remedy integrity.

12 DOCUMENTATION OF SIGNIFICANT CHANGES

Not applicable.

13 STATE ROLE

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

TABLES

TABLE 3-1
SEAD-121C CONFIRMATORY SAMPLE LEAD RESULTS

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

Sample Idenfification	Sample Location	Lead Result	Units
121CEXSW-01	Sidewall	106	mg/Kg
121CEXSW-02	Sidewall	161	mg/Kg
S121CEXFL-01	floor-sample	444	mg/Kg
S121CEXFL-02	floor-sample	881	mg/Kg
S121CEXFL-03	floor-sample	28.6	mg/Kg
S121CEXFL-04	floor-sample	306	mg/Kg
S121CEXFL-05	floor-sample	25.6	mg/Kg
S121CEXFL-06	floor-sample	48.4	mg/Kg
S121CEXFL-08	floor-sample	1450	mg/Kg
S121CEXFL-09	floor-sample	617	mg/Kg
S121CEXFL-10	floor-sample	347	mg/Kg
S121CEXFL-12	floor-sample	13	mg/Kg
S121CEXFL-13	floor-sample	7.4	mg/Kg
S121CEXFL-14	floor-sample	1340	mg/Kg
S121CEXFL-16	floor-sample	291	mg/Kg
S121CEXPR-01	perimeter-sample	960	mg/Kg
S121CEXPR-02	perimeter-sample	403	mg/Kg
S121CEXPR-03	perimeter-sample	658	mg/Kg
S121CEXPR-04	perimeter-sample	373	mg/Kg
S121CEXPR-05	perimeter-sample	253	mg/Kg
S121CEXPR-06	perimeter-sample	135	mg/Kg
S121CEXPR-09	perimeter-sample	635	mg/Kg
S121CEXPR-10	perimeter-sample	333.5	mg/Kg
S121CEXPR-11	perimeter-sample	75.9	mg/Kg
S121CEXPR-12	perimeter-sample	183	mg/Kg
S121CEXPR-13	perimeter-sample	318	mg/Kg
S121CEXPR-14	perimeter-sample	248	mg/Kg
S121CEXPR-15	perimeter-sample	1260	mg/Kg
S121CEXPR-17	perimeter-sample	589	mg/Kg
S121CEXPR-18	perimeter-sample	453	mg/Kg
S121CEXPR-19	perimeter-sample	318	mg/Kg
Minimum		7.4	
Maximum		1450	
Mean		427.8	
95th UCL of the Mean	(Approx Gamma UCL)	598.8	

TABLE 3-2
SEAD-121I CONFIRMATORY SAMPLE IRON AND MANGANESE RESULTS

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

Sample Idenfification	Sample Location	Iron Result	Manganese Result	Units
121IEXPR-02	perimeter	16400	1900	mg/Kg
121IEXPR-03	perimeter	22700	1690	mg/Kg
121IEXPR-08	perimeter	23000	2960	mg/Kg
121IEXPR-14	perimeter	31300	2140	mg/Kg
121IEXPR-15/16	perimeter	27750	1393	mg/Kg
121IEXPR-17	perimeter	20300	2900	mg/Kg
121IEXFL-01	floor	23800	3360	mg/Kg
121IEXFL-02	floor	19200	1690	mg/Kg
121IEXFL-04	floor	20700	1550	mg/Kg
121IEXFL-05	floor	25100	1330	mg/Kg
121IEXFL-06	floor	13200	11100	mg/Kg
121IEXFL-07	floor	15000	4240	mg/Kg
121IEXFL-08	floor	16400	944	mg/Kg
121IEXFL-09	floor	10700	1120	mg/Kg
121IEXFL-10	floor	10450	1620	mg/Kg
121IEXFL-12	floor	16100	1030	mg/Kg
Minimum		10450	944	mg/Kg
Maximum		31300	11100	mg/Kg
Mean		19506	2560	mg/Kg
95th UCL of the Mean		22116 (1)	3550 (2)	mg/Kg

(1) Student t UCL
(2) Approximate Gamma UCL

Table 6-1
SEAD-121C Summary Results - Surface Soil, Subsurface Soil and Ditch Soil versus NYSDEC Unrestricted Use Criteria

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

		TOTAL SOIL						SURFACE SOIL					SUBSURFACE SOIL					SEDIMENT / DITCH SOIL				
Parameter	Units	Maximum Concentration	Frequency of Detection	Unrestricted Use Value	Number of Times Exceeded	Number of Times Detected	Number of Analyses	Maximum Concentration	Frequency of Detection	Number of Times Exceeded	Number of Times Detected	Number of Analyses	Maximum Concentration	Frequency of Detection	Number of Times Exceeded	Number of Times Detected	Number of Analyses	Maximum Concentration	Frequency of Detection	Number of Times Exceeded	Number of Times Detected	Number of Analyses
Volatile Organic Compounds																						
Acetone	UG/KG	150	37%	50	2	29	78	13	27%	0	13	48	28	45%	0	9	20	150	70%	2	7	10
Benzene	UG/KG	1800	4%	60	1	3	78	41	2%	0	1	48	1800	10%	1	2	20	0	0%	0	0	10
Carbon disulfide	UG/KG	12	5%		0	4	78	4.7	4%	0	2	48	0	0%	0	0	20	12	20%	0	2	10
Chloroform	UG/KG	4.75	5%	370	0	4	78	4.75	4%	0	2	48	4	10%	0	2	20	0	0%	0	0	10
Ethyl benzene	UG/KG	24000	4%	1000	2	3	78	3300	4%	1	2	48	24000	5%	1	1	20	0	0%	0	0	10
Meta/Para Xylene	UG/KG	130000	6%	260	2	4	66	4400	8%	1	3	40	130000	6%	1	1	16	0	0%	0	0	10
Methyl ethyl ketone	UG/KG	130	6%	120	1	5	78	0	0%	0	0	48	7.6	10%	0	2	20	130	30%	1	3	10
Methylene chloride	UG/KG	3.5	4%	50	0	3	78	2.6	2%	0	1	48	3.5	10%	0	2	20	0	0%	0	0	10
Ortho Xylene	UG/KG	75	3%	260	0	2	66	16	3%	0	1	40	75	6%	0	1	16	0	0%	0	0	10
Styrene	UG/KG	2.7	1%		0	1	78	0	0%	0	0	48	2.7	5%	0	1	20	0	0%	0	0	10
Toluene	UG/KG	84	17%	700	0	13	78	28	19%	0	9	48	84	20%	0	4	20	0	0%	0	0	10
Semivolatile Organic Compounds																						
2,4-Dinitrotoluene	UG/KG	45	1%		0	1	78	45	2%	0	1	48	0	0%	0	0	20	0	0%	0	0	10
2-Methylnaphthalene	UG/KG	2500	17%		0	13	78	610	19%	0	9	48	2500	20%	0	4	20	0	0%	0	0	10
3 or 4-Methylphenol	UG/KG	790	2%	330	1	1	66	0	0%	0	0	40	0	0%	0	0	16	790	10%	1	1	10
Acenaphthene	UG/KG	2600	18%	20000	0	14	78	2600	23%	0	11	48	50	15%	0	3	20	0	0%	0	0	10
Acenaphthylene	UG/KG	2500	15%	100000	0	12	78	2500	21%	0	10	48	220	10%	0	2	20	0	0%	0	0	10
Anthracene	UG/KG	7100	32%	100000	0	25	78	7100	42%	0	20	48	240	15%	0	3	20	250	20%	0	2	10
Benzo(a)anthracene	UG/KG	10000	45%	1000	5	35	77	10000	55%	3	26	47	5200	35%	1	7	20	1100	20%	1	2	10
Benzo(a)pyrene	UG/KG	8700	41%	1000	5	32	78	8700	50%	5	24	48	920	30%	0	6	20	900	20%	0	2	10
Benzo(b)fluoranthene	UG/KG	12000	51%	1000	8	40	78	12000	63%	6	30	48	1300	40%	1	8	20	1100	20%	1	2	10
Benzo(ghi)perylene	UG/KG	3150	42%	100000	0	33	78	3150	52%	0	25	48	210	35%	0	7	20	290	10%	0	1	10
Benzo(k)fluoranthene	UG/KG	7500	37%	800	5	29	78	7500	46%	5	22	48	490	30%	0	6	20	580	10%	0	1	10
Bis(2-Ethylhexyl)phthalate	UG/KG	200	45%		0	35	78	200	56%	0	27	48	87	40%	0	8	20	0	0%	0	0	10
Butylbenzylphthalate	UG/KG	120	10%		0	8	78	120	13%	0	6	48	39	10%	0	2	20	0	0%	0	0	10
Carbazole	UG/KG	4200	26%		0	20	78	4200	35%	0	17	48	56	15%	0	3	20	0	0%	0	0	10
Chrysene	UG/KG	9100	44%	1000	5	34	77	9100	53%	3	25	47	4900	35%	1	7	20	1200	20%	1	2	10
Di-n-butylphthalate	UG/KG	131.5	9%		0	7	78	131.5	10%	0	5	48	19	10%	0	2	20	0	0%	0	0	10
Di-n-octylphthalate	UG/KG	23.2	6%		0	5	78	23.2	4%	0	2	48	17	15%	0	3	20	0	0%	0	0	10
Dibenz(a,h)anthracene	UG/KG	470	19%	330	2	15	78	470	25%	2	12	48	33	15%	0	3	20	0	0%	0	0	10
Dibenzofuran	UG/KG	1700	17%	7000	0	13	78	1700	21%	0	10	48	45	15%	0	3	20	0	0%	0	0	10
Diethyl phthalate	UG/KG	250	14%		0	11	78	21.15	13%	0	6	48	250	25%	0	5	20	0	0%	0	0	10
Fluoranthene	UG/KG	27000	58%	100000	0	45	78	27000	73%	0	35	48	1600	40%	0	8	20	2100	20%	0	2	10
Fluorene	UG/KG	3500	22%	30000	0	17	78	3500	27%	0	13	48	160	20%	0	4	20	0	0%	0	0	10
Hexachlorobenzene	UG/KG	8.5	1%	330	0	1	78	8.5	2%	0	1	48	0	0%	0	0	20	0	0%	0	0	10
Indeno(1,2,3-cd)pyrene	UG/KG	970	37%	500	4	29	78	970	46%	4	22	48	150	30%	0	6	20	270	10%	0	1	10
N-Nitrosodiphenylamine	UG/KG	4.8	1%		0	1	78	4.8	2%	0	1	48	0	0%	0	0	20	0	0%	0	0	10
Naphthalene	UG/KG	1900	17%	12000	0	13	78	400	19%	0	9	48	1900	20%	0	4	20	0	0%	0	0	10
Phenanthrene	UG/KG	29000	45%	100000	0	35	78	29000	52%	0	25	48	1000	40%	0	8	20	1100	20%	0	2	10
Pyrene	UG/KG	34000	54%	100000	0	42	78	34000	67%	0	32	48	1700	40%	0	8	20	2100	20%	0	2	10

Table 6-1
SEAD-121C Summary Results - Surface Soil, Subsurface Soil and Ditch Soil versus NYSDEC Unrestricted Use Criteria

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

		TOTAL SOIL						SURFACE SOIL					SUBSURFACE SOIL					SEDIMENT / DITCH SOIL				
Parameter	Units	Maximum Concentration	Frequency of Detection	Unrestricted Use Value	Number of Times Exceeded	Number of Times Detected	Number of Analyses	Maximum Concentration	Frequency of Detection	Number of Times Exceeded	Number of Times Detected	Number of Analyses	Maximum Concentration	Frequency of Detection	Number of Times Exceeded	Number of Times Detected	Number of Analyses	Maximum Concentration	Frequency of Detection	Number of Times Exceeded	Number of Times Detected	Number of Analyses
Pesticides and PCBs																						
4,4'-DDD	UG/KG	44	6%	3.3	4	5	78	44	10%	4	5	48	0	0%	0	0	20	0	0%	0	0	10
4,4'-DDE	UG/KG	69	23%	3.3	17	18	78	69	31%	15	15	48	17	15%	2	3	20	0	0%	0	0	10
4,4'-DDT	UG/KG	100	21%	3.3	14	16	78	100	27%	11	13	48	16	15%	3	3	20	0	0%	0	0	10
Aldrin	UG/KG	14.45	5%	5	3	4	78	14.45	6%	2	3	48	11	5%	1	1	20	0	0%	0	0	10
Alpha-Chlordane	UG/KG	63	5%	94	0	4	78	63	8%	0	4	48	0	0%	0	0	20	0	0%	0	0	10
Delta-BHC	UG/KG	2	5%	40	0	4	78	2	6%	0	3	48	1.3	5%	0	1	20	0	0%	0	0	10
Dieldrin	UG/KG	41	3%	5	2	2	78	41	4%	2	2	48	0	0%	0	0	20	0	0%	0	0	10
Endosulfan I	UG/KG	185	24%	2400	0	19	78	185	38%	0	18	48	78	5%	0	1	20	0	0%	0	0	10
Endosulfan II	UG/KG	9	1%	2400	0	1	78	9	2%	0	1	48	0	0%	0	0	20	0	0%	0	0	10
Endrin	UG/KG	23	3%	14	2	2	78	21.5	2%	1	1	48	23	5%	1	1	20	0	0%	0	0	10
Endrin ketone	UG/KG	9.7	5%		0	4	78	7.5	6%	0	3	48	9.7	5%	0	1	20	0	0%	0	0	10
Gamma-Chlordane	UG/KG	1.2	1%		0	1	78	1.2	2%	0	1	48	0	0%	0	0	20	0	0%	0	0	10
Heptachlor	UG/KG	14	3%	42	0	2	78	14	4%	0	2	48	0	0%	0	0	20	0	0%	0	0	10
Heptachlor epoxide	UG/KG	2.8	4%		0	3	78	2.8	4%	0	2	48	1.1	5%	0	1	20	0	0%	0	0	10
Aroclor-1242	UG/KG	58	1%	100	0	1	78	58	2%	0	1	48	0	0%	0	0	20	0	0%	0	0	10
Aroclor-1254	UG/KG	930	12%	100	5	9	78	930	19%	5	9	48	0	0%	0	0	20	0	0%	0	0	10
Aroclor-1260	UG/KG	200	10%	100	1	8	78	85	10%	0	5	48	200	15%	1	3	20	0	0%	0	0	10
Metals																						
Aluminum	MG/KG	21500	100%		0	78	78	17000	100%	0	48	48	17600	100%	0	20	20	21500	100%	0	10	10
Antimony	MG/KG	236	62%		0	48	78	236	81%	0	39	48	11.5	20%	0	4	20	4.9	50%	0	5	10
Arsenic	MG/KG	11.6	100%	13	0	78	78	11.6	100%	0	48	48	8.1	100%	0	20	20	6.1	100%	0	10	10
Barium	MG/KG	2030	100%	350	7	78	78	2030	100%	6	48	48	1050	100%	1	20	20	291	100%	0	10	10
Beryllium	MG/KG	1.2	97%	7.2	0	76	78	1.2	100%	0	48	48	1	100%	0	20	20	0.815	80%	0	8	10
Cadmium	MG/KG	29.1	46%	2.5	18	36	78	29.1	60%	14	29	48	8.1	10%	1	2	20	14.3	50%	3	5	10
Calcium	MG/KG	296000	100%		0	78	78	296000	100%	0	48	48	97200	100%	0	20	20	161000	100%	0	10	10
Chromium	MG/KG	74.8	100%	30	13	78	78	74.8	100%	11	48	48	37	100%	2	20	20	29.8	100%	0	10	10
Cobalt	MG/KG	19.7	84%		0	65	77	17	74%	0	35	47	19.7	100%	0	20	20	15.8	100%	0	10	10
Copper	MG/KG	9750	100%	50	27	78	78	9750	100%	19	48	48	2440	100%	2	20	20	1190	100%	6	10	10
Cyanide, Amenable	MG/KG	2.36	2%	27	0	1	66	0	0%	0	0	40	0	0%	0	0	16	2.36	10%	0	1	10
Cyanide, Total	MG/KG	2.36	2%	27	0	1	66	0	0%	0	0	40	0	0%	0	0	16	2.36	10%	0	1	10
Iron	MG/KG	54100	100%		0	78	78	51700	100%	0	48	48	54100	100%	0	20	20	27300	100%	0	10	10
Lead	MG/KG	18900	100%	63	31	78	78	18900	100%	23	48	48	1780	100%	1	20	20	436	100%	7	10	10
Lead [After IRA (1)]	MG/KG	1780	100%	63	52	104	104	1450	100%	40	68	68	1780	100%	5	26	26	436	100%	7	10	10
Magnesium	MG/KG	24900	100%		0	78	78	20700	100%	0	48	48	24900	100%	0	20	20	17600	100%	0	10	10
Manganese	MG/KG	918	100%	1600	0	78	78	858	100%	0	48	48	790	100%	0	20	20	918	100%	0	10	10
Mercury	MG/KG	0.47	94%	0.18	7	72	77	0.47	92%	4	44	48	0.07	95%	0	18	19	0.3	100%	3	10	10
Nickel	MG/KG	224	100%	30	52	78	78	224	100%	31	48	48	69.7	100%	17	20	20	42.7	100%	4	10	10
Potassium	MG/KG	1990	100%		0	78	78	1990	100%	0	48	48	1870	100%	0	20	20	1410	100%	0	10	10
Selenium	MG/KG	2.5	18%	3.9	0	14	78	1.3	21%	0	10	48	0	0%	0	0	20	2.5	40%	0	4	10
Silver	MG/KG	21.8	32%	2	11	25	78	21.8	38%	9	18	48	0.72	10%	0	2	20	2.6	50%	2	5	10
Sodium	MG/KG	1120	85%		0	66	78	478	88%	0	42	48	214	70%	0	14	20	1120	100%	0	10	10
Thallium	MG/KG	1.8	15%		0	12	78	1.1	21%	0	10	48	1.8	10%	0	2	20	0	0%	0	0	10
Vanadium	MG/KG	29.1	100%		0	78	78	25.4	100%	0	48	48	27	100%	0	20	20	29.1	100%	0	10	10
Zinc	MG/KG	3610	100%	109	43	78	78	3610	100%	28	48	48	691	100%	8	20	20	566	100%	7	10	10
Other Analyses																						
Total Organic Carbon	MG/KG	9500	100%	0	0	66	66	9000	100%	0	40	40	9500	100%	0	16	16	9100	100%	0	10	10
Total Petroleum Hydrocarbons	MG/KG	7600	24%	0	0	16	66	7600	25%	0	10	40	3700	25%	0	4	16	2600	20%	0	2	10

Note
(1) IRA = Interim Removal Action. Data summarizes residual lead at AOC after Interim Removal Action was complete

Table 6-2
SEAD-121C Summary Results - Surface Soil, Subsurface Soil and Ditch Soil versus NYSDEC Restricted Industrial Criteria

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

		TOTAL SOIL						SURFACE SOIL					SUBSURFACE SOIL					SEDIMENT / DITCH SOIL				
Parameter	Units	Maximum Concentration	Frequency of Detection	Industrial Use Value	Number of Times Exceeded	Number of Times Detected	Number of Analyses	Maximum Concentration	Frequency of Detection	Number of Times Exceeded	Number of Times Detected	Number of Analyses	Maximum Concentration	Frequency of Detection	Number of Times Exceeded	Number of Times Detected	Number of Analyses	Maximum Concentration	Frequency of Detection	Number of Times Exceeded	Number of Times Detected	Number of Analyses
Volatile Organic Compounds																						
Acetone	UG/KG	150	37%	1000000	0	29	78	13	27%	0	13	48	28	45%	0	9	20	150	70%	0	7	10
Benzene	UG/KG	1800	4%	89000	0	3	78	41	2%	0	1	48	1800	10%	0	2	20	0	0%	0	0	10
Carbon disulfide	UG/KG	12	5%		0	4	78	4.7	4%	0	2	48	0	0%	0	0	20	12	20%	0	2	10
Chloroform	UG/KG	4.75	5%	700000	0	4	78	4.75	4%	0	2	48	4	10%	0	2	20	0	0%	0	0	10
Ethyl benzene	UG/KG	24000	4%	780000	0	3	78	3300	4%	0	2	48	24000	5%	0	1	20	0	0%	0	0	10
Meta/Para Xylene	UG/KG	130000	6%	1000000	0	4	66	4400	8%	0	3	40	130000	6%	0	1	16	0	0%	0	0	10
Methyl ethyl ketone	UG/KG	130	6%	1000000	0	5	78	0	0%	0	0	48	7.6	10%	0	2	20	130	30%	0	3	10
Methylene chloride	UG/KG	3.5	4%	1000000	0	3	78	2.6	2%	0	1	48	3.5	10%	0	2	20	0	0%	0	0	10
Ortho Xylene	UG/KG	75	3%	1000000	0	2	66	16	3%	0	1	40	75	6%	0	1	16	0	0%	0	0	10
Styrene	UG/KG	2.7	1%		0	1	78	0	0%	0	0	48	2.7	5%	0	1	20	0	0%	0	0	10
Toluene	UG/KG	84	17%	1000000	0	13	78	28	19%	0	9	48	84	20%	0	4	20	0	0%	0	0	10
Semivolatile Organic Compounds																						
2,4-Dinitrotoluene	UG/KG	45	1%		0	1	78	45	2%	0	1	48	0	0%	0	0	20	0	0%	0	0	10
2-Methylnaphthalene	UG/KG	2500	17%		0	13	78	610	19%	0	9	48	2500	20%	0	4	20	0	0%	0	0	10
3 or 4-Methylphenol	UG/KG	790	2%	1000000	0	1	66	0	0%	0	0	40	0	0%	0	0	16	790	10%	0	1	10
Acenaphthene	UG/KG	2600	18%	1000000	0	14	78	2600	23%	0	11	48	50	15%	0	3	20	0	0%	0	0	10
Acenaphthylene	UG/KG	2500	15%	1000000	0	12	78	2500	21%	0	10	48	220	10%	0	2	20	0	0%	0	0	10
Anthracene	UG/KG	7100	32%	1000000	0	25	78	7100	42%	0	20	48	240	15%	0	3	20	250	20%	0	2	10
Benzo(a)anthracene	UG/KG	10000	45%	11000	0	35	77	10000	55%	0	26	47	5200	35%	0	7	20	1100	20%	0	2	10
Benzo(a)pyrene	UG/KG	8700	41%	1100	5	32	78	8700	50%	5	24	48	920	30%	0	6	20	900	20%	0	2	10
Benzo(b)fluoranthene	UG/KG	12000	51%	11000	1	40	78	12000	63%	1	30	48	1300	40%	0	8	20	1100	20%	0	2	10
Benzo(ghi)perylene	UG/KG	3150	42%	1000000	0	33	78	3150	52%	0	25	48	210	35%	0	7	20	290	10%	0	1	10
Benzo(k)fluoranthene	UG/KG	7500	37%	110000	0	29	78	7500	46%	0	22	48	490	30%	0	6	20	580	10%	0	1	10
Bis(2-Ethylhexyl)phthalate	UG/KG	200	45%		0	35	78	200	56%	0	27	48	87	40%	0	8	20	0	0%	0	0	10
Butylbenzylphthalate	UG/KG	120	10%		0	8	78	120	13%	0	6	48	39	10%	0	2	20	0	0%	0	0	10
Carbazole	UG/KG	4200	26%		0	20	78	4200	35%	0	17	48	56	15%	0	3	20	0	0%	0	0	10
Chrysene	UG/KG	9100	44%	110000	0	34	77	9100	53%	0	25	47	4900	35%	0	7	20	1200	20%	0	2	10
Di-n-butylphthalate	UG/KG	131.5	9%		0	7	78	131.5	10%	0	5	48	19	10%	0	2	20	0	0%	0	0	10
Di-n-octylphthalate	UG/KG	23.2	6%		0	5	78	23.2	4%	0	2	48	17	15%	0	3	20	0	0%	0	0	10
Dibenz(a,h)anthracene	UG/KG	470	19%	1100	0	15	78	470	25%	0	12	48	33	15%	0	3	20	0	0%	0	0	10
Dibenzofuran	UG/KG	1700	17%	1000000	0	13	78	1700	21%	0	10	48	45	15%	0	3	20	0	0%	0	0	10
Diethyl phthalate	UG/KG	250	14%		0	11	78	21.15	13%	0	6	48	250	25%	0	5	20	0	0%	0	0	10
Fluoranthene	UG/KG	27000	58%	1000000	0	45	78	27000	73%	0	35	48	1600	40%	0	8	20	2100	20%	0	2	10
Fluorene	UG/KG	3500	22%	1000000	0	17	78	3500	27%	0	13	48	160	20%	0	4	20	0	0%	0	0	10
Hexachlorobenzene	UG/KG	8.5	1%	12000	0	1	78	8.5	2%	0	1	48	0	0%	0	0	20	0	0%	0	0	10
Indeno(1,2,3-cd)pyrene	UG/KG	970	37%	11000	0	29	78	970	46%	0	22	48	150	30%	0	6	20	270	10%	0	1	10
N-Nitrosodiphenylamine	UG/KG	4.8	1%		0	1	78	4.8	2%	0	1	48	0	0%	0	0	20	0	0%	0	0	10
Naphthalene	UG/KG	1900	17%	1000000	0	13	78	400	19%	0	9	48	1900	20%	0	4	20	0	0%	0	0	10
Phenanthrene	UG/KG	29000	45%	1000000	0	35	78	29000	52%	0	25	48	1000	40%	0	8	20	1100	20%	0	2	10
Pyrene	UG/KG	34000	54%	1000000	0	42	78	34000	67%	0	32	48	1700	40%	0	8	20	2100	20%	0	2	10
Pesticides and PCBs																						
4,4'-DDD	UG/KG	44	6%	180000	0	5	78	44	10%	0	5	48	0	0%	0	0	20	0	0%	0	0	10
4,4'-DDE	UG/KG	69	23%	120000	0	18	78	69	31%	0	15	48	17	15%	0	3	20	0	0%	0	0	10
4,4'-DDT	UG/KG	100	21%	94000	0	16	78	100	27%	0	13	48	16	15%	0	3	20	0	0%	0	0	10
Aldrin	UG/KG	14.45	5%	1400	0	4	78	14.45	6%	0	3	48	11	5%	0	1	20	0	0%	0	0	10
Alpha-Chlordane	UG/KG	63	5%	47000	0	4	78	63	8%	0	4	48	0	0%	0	0	20	0	0%	0	0	10
Delta-BHC	UG/KG	2	5%	1000000	0	4	78	2	6%	0	3	48	1.3	5%	0	1	20	0	0%	0	0	10
Dieldrin	UG/KG	41	3%	2800	0	2	78	41	4%	0	2	48	0	0%	0	0	20	0	0%	0	0	10
Endosulfan I	UG/KG	185	24%	920000	0	19	78	185	38%	0	18	48	78	5%	0	1	20	0	0%	0	0	10
Endosulfan II	UG/KG	9	1%	920000	0	1	78	9	2%	0	1	48	0	0%	0	0	20	0	0%	0	0	10
Endrin	UG/KG	23	3%	410000	0	2	78	21.5	2%	0	1	48	23	5%	0	1	20	0	0%	0	0	10
Endrin ketone	UG/KG	9.7	5%		0	4	78	7.5	6%	0	3	48	9.7	5%	0	1	20	0	0%	0	0	10
Gamma-Chlordane	UG/KG	1.2	1%		0	1	78	1.2	2%	0	1	48	0	0%	0	0	20	0	0%	0	0	10
Heptachlor	UG/KG	14	3%	29000	0	2	78	14	4%	0	2	48	0	0%	0	0	20	0	0%	0	0	10
Heptachlor epoxide	UG/KG	2.8	4%		0	3	78	2.8	4%	0	2	48	1.1	5%	0	1	20	0	0%	0	0	10
Aroclor-1242	UG/KG	58	1%	25000	0	1	78	58	2%	0	1	48	0	0%	0	0	20	0	0%	0	0	10
Aroclor-1254	UG/KG	930	12%	25000	0	9	78	930	19%	0	9	48	0	0%	0	0	20	0	0%	0	0	10
Aroclor-1260	UG/KG	200	10%	25000	0	8	78	85	10%	0	5	48	200	15%	0	3	20	0	0%	0	0	10

Table 6-2
SEAD-121C Summary Results - Surface Soil, Subsurface Soil and Ditch Soil versus NYSDEC Restricted Industrial Criteria

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

		TOTAL SOIL						SURFACE SOIL					SUBSURFACE SOIL					SEDIMENT / DITCH SOIL				
Parameter	Units	Maximum Concentration	Frequency of Detection	Industrial Use Value	Number of Times Exceeded	Number of Times Detected	Number of Analyses	Maximum Concentration	Frequency of Detection	Number of Times Exceeded	Number of Times Detected	Number of Analyses	Maximum Concentration	Frequency of Detection	Number of Times Exceeded	Number of Times Detected	Number of Analyses	Maximum Concentration	Frequency of Detection	Number of Times Exceeded	Number of Times Detected	Number of Analyses
Metals																						
Aluminum	MG/KG	21500	100%		0	78	78	17000	100%	0	48	48	17600	100%	0	20	20	21500	100%	0	10	10
Antimony	MG/KG	236	62%		0	48	78	236	81%	0	39	48	11.5	20%	0	4	20	4.9	50%	0	5	10
Arsenic	MG/KG	11.6	100%	16	0	78	78	11.6	100%	0	48	48	8.1	100%	0	20	20	6.1	100%	0	10	10
Barium	MG/KG	2030	100%	10000	0	78	78	2030	100%	0	48	48	1050	100%	0	20	20	291	100%	0	10	10
Beryllium	MG/KG	1.2	97%	2700	0	76	78	1.2	100%	0	48	48	1	100%	0	20	20	0.815	80%	0	8	10
Cadmium	MG/KG	29.1	46%	60	0	36	78	29.1	60%	0	29	48	8.1	10%	0	2	20	14.3	50%	0	5	10
Calcium	MG/KG	296000	100%		0	78	78	296000	100%	0	48	48	97200	100%	0	20	20	161000	100%	0	10	10
Chromium	MG/KG	74.8	100%	6800	0	78	78	74.8	100%	0	48	48	37	100%	0	20	20	29.8	100%	0	10	10
Cobalt	MG/KG	19.7	84%		0	65	77	17	74%	0	35	47	19.7	100%	0	20	20	15.8	100%	0	10	10
Copper	MG/KG	9750	100%	10000	0	78	78	9750	100%	0	48	48	2440	100%	0	20	20	1190	100%	0	10	10
Cyanide, Amenable	MG/KG	2.36	2%	10000	0	1	66	0	0%	0	0	40	0	0%	0	0	16	2.36	10%	0	1	10
Cyanide, Total	MG/KG	2.36	2%	10000	0	1	66	0	0%	0	0	40	0	0%	0	0	16	2.36	10%	0	1	10
Iron	MG/KG	54100	100%		0	78	78	51700	100%	0	48	48	54100	100%	0	20	20	27300	100%	0	10	10
Lead	MG/KG	18900	100%	3900	2	78	78	18900	100%	2	48	48	1780	100%	0	20	20	436	100%	0	10	10
Lead [after IRA(1)]	MG/KG	1780	100%	3900	0	104	104	1450	100%		68	68	1780	100%	0	26	26	436	100%	0	10	10
Magnesium	MG/KG	24900	100%		0	78	78	20700	100%	0	48	48	24900	100%	0	20	20	17600	100%	0	10	10
Manganese	MG/KG	918	100%	10000	0	78	78	858	100%	0	48	48	790	100%	0	20	20	918	100%	0	10	10
Mercury	MG/KG	0.47	94%	5.7	0	72	77	0.47	92%	0	44	48	0.07	95%	0	18	19	0.3	100%	0	10	10
Nickel	MG/KG	224	100%	10000	0	78	78	224	100%	0	48	48	69.7	100%	0	20	20	42.7	100%	0	10	10
Potassium	MG/KG	1990	100%		0	78	78	1990	100%	0	48	48	1870	100%	0	20	20	1410	100%	0	10	10
Selenium	MG/KG	2.5	18%	6800	0	14	78	1.3	21%	0	10	48	0	0%	0	0	20	2.5	40%	0	4	10
Silver	MG/KG	21.8	32%	6800	0	25	78	21.8	38%	0	18	48	0.72	10%	0	2	20	2.6	50%	0	5	10
Sodium	MG/KG	1120	85%		0	66	78	478	88%	0	42	48	214	70%	0	14	20	1120	100%	0	10	10
Thallium	MG/KG	1.8	15%		0	12	78	1.1	21%	0	10	48	1.8	10%	0	2	20	0	0%	0	0	10
Vanadium	MG/KG	29.1	100%		0	78	78	25.4	100%	0	48	48	27	100%	0	20	20	29.1	100%	0	10	10
Zinc	MG/KG	3610	100%	10000	0	78	78	3610	100%	0	48	48	691	100%	0	20	20	566	100%	0	10	10
Other Analytes																						
Total Organic Carbon	MG/KG	9500	100%		0	66	66	9000	100%	0	40	40	9500	100%	0	16	16	9100	100%	0	10	10
Total Petroleum Hydrocarbons	MG/KG	7600	24%		0	16	66	7600	25%	0	10	40	3700	25%	0	4	16	2600	20%	0	2	10

Note
(1) IRA = Interim Removal Action. Data summarizes residual lead at AOC after Interim Removal Action was complete

Table 6-3
SEAD-121C Summary Results - Surface Soil, Subsurface Soil and Ditch Soil versus Region IX EPA Industrial PRGs

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

		TOTAL SOIL						SURFACE SOIL					SUBSURFACE SOIL					SEDIMENT / DITCH SOIL				
Parameter	Units	Maximum Concentration	Frequency of Detection	Region IX Industrial Value	Number of Times Exceeded	Number of Times Detected	Number of Analyses	Maximum Concentration	Frequency of Detection	Number of Times Exceeded	Number of Times Detected	Number of Analyses	Maximum Concentration	Frequency of Detection	Number of Times Exceeded	Number of Times Detected	Number of Analyses	Maximum Concentration	Frequency of Detection	Number of Times Exceeded	Number of Times Detected	Number of Analyses
Volatile Organic Compounds																						
Acetone	UG/KG	150	37%	5.4E+07	0	29	78	13	27%	0	13	48	28	45%	0	9	20	150	70%	0	7	10
Benzene	UG/KG	1800	4%	1.4E+03	1	3	78	41	2%	0	1	48	1800	10%	1	2	20	0	0%	0	0	10
Carbon disulfide	UG/KG	12	5%	7.2E+05	0	4	78	4.7	4%	0	2	48	0	0%	0	0	20	12	20%	0	2	10
Chloroform	UG/KG	4.75	5%	4.7E+02	0	4	78	4.75	4%	0	2	48	4	10%	0	2	20	0	0%	0	0	10
Ethyl benzene	UG/KG	24000	4%	4.0E+05	0	3	78	3300	4%	0	2	48	24000	5%	0	1	20	0	0%	0	0	10
Meta/Para Xylene	UG/KG	130000	6%	4.2E+05	0	4	66	4400	8%	0	3	40	130000	6%	0	1	16	0	0%	0	0	10
Methyl ethyl ketone	UG/KG	130	6%	1.1E+08	0	5	78	0	0%	0	0	48	7.6	10%	0	2	20	130	30%	0	3	10
Methylene chloride	UG/KG	3.5	4%	2.1E+04	0	3	78	2.6	2%	0	1	48	3.5	10%	0	2	20	0	0%	0	0	10
Ortho Xylene	UG/KG	75	3%	4.2E+05	0	2	66	16	3%	0	1	40	75	6%	0	1	16	0	0%	0	0	10
Styrene	UG/KG	2.7	1%	1.7E+06	0	1	78	0	0%	0	0	48	2.7	5%	0	1	20	0	0%	0	0	10
Toluene	UG/KG	84	17%	5.2E+05	0	13	78	28	19%	0	9	48	84	20%	0	4	20	0	0%	0	0	10
Semivolatile Organic Compounds																						
2,4-Dinitrotoluene	UG/KG	45	1%	1.2E+06	0	1	78	45	2%	0	1	48	0	0%	0	0	20	0	0%	0	0	10
2-Methylnaphthalene	UG/KG	2500	17%		0	13	78	610	19%	0	9	48	2500	20%	0	4	20	0	0%	0	0	10
3 or 4-Methylphenol	UG/KG	790	2%	3.1E+06	0	1	66	0	0%	0	0	40	0	0%	0	0	16	790	10%	0	1	10
Acenaphthene	UG/KG	2600	18%	2.9E+07	0	14	78	2600	23%	0	11	48	50	15%	0	3	20	0	0%	0	0	10
Acenaphthylene	UG/KG	2500	15%		0	12	78	2500	21%	0	10	48	220	10%	0	2	20	0	0%	0	0	10
Anthracene	UG/KG	7100	32%	1.0E+08	0	25	78	7100	42%	0	20	48	240	15%	0	3	20	250	20%	0	2	10
Benzo(a)anthracene	UG/KG	10000	45%	2.1E+03	4	35	77	10000	55%	3	26	47	5200	35%	1	7	20	1100	20%	0	2	10
Benzo(a)pyrene	UG/KG	8700	41%	2.1E+02	18	32	78	8700	50%	16	24	48	920	30%	1	6	20	900	20%	1	2	10
Benzo(b)fluoranthene	UG/KG	12000	51%	2.1E+03	4	40	78	12000	63%	4	30	48	1300	40%	0	8	20	1100	20%	0	2	10
Benzo(ghi)perylene	UG/KG	3150	42%		0	33	78	3150	52%	0	25	48	210	35%	0	7	20	290	10%	0	1	10
Benzo(k)fluoranthene	UG/KG	7500	37%	2.1E+04	0	29	78	7500	46%	0	22	48	490	30%	0	6	20	580	10%	0	1	10
Bis(2-Ethylhexyl)phthalate	UG/KG	200	45%	1.2E+05	0	35	78	200	56%	0	27	48	87	40%	0	8	20	0	0%	0	0	10
Butylbenzylphthalate	UG/KG	120	10%	1.0E+08	0	8	78	120	13%	0	6	48	39	10%	0	2	20	0	0%	0	0	10
Carbazole	UG/KG	4200	26%	8.6E+04	0	20	78	4200	35%	0	17	48	56	15%	0	3	20	0	0%	0	0	10
Chrysene	UG/KG	9100	44%	2.1E+05	0	34	77	9100	53%	0	25	47	4900	35%	0	7	20	1200	20%	0	2	10
Di-n-butylphthalate	UG/KG	131.5	9%	6.2E+07	0	7	78	131.5	10%	0	5	48	19	10%	0	2	20	0	0%	0	0	10
Di-n-octylphthalate	UG/KG	23.2	6%	2.5E+07	0	5	78	23.2	4%	0	2	48	17	15%	0	3	20	0	0%	0	0	10
Dibenz(a,h)anthracene	UG/KG	470	19%	2.1E+02	2	15	78	470	25%	2	12	48	33	15%	0	3	20	0	0%	0	0	10
Dibenzofuran	UG/KG	1700	17%	1.6E+06	0	13	78	1700	21%	0	10	48	45	15%	0	3	20	0	0%	0	0	10
Diethyl phthalate	UG/KG	250	14%	1.0E+08	0	11	78	21.15	13%	0	6	48	250	25%	0	5	20	0	0%	0	0	10
Fluoranthene	UG/KG	27000	58%	2.2E+07	0	45	78	27000	73%	0	35	48	1600	40%	0	8	20	2100	20%	0	2	10
Fluorene	UG/KG	3500	22%	2.6E+07	0	17	78	3500	27%	0	13	48	160	20%	0	4	20	0	0%	0	0	10
Hexachlorobenzene	UG/KG	8.5	1%	1.1E+03	0	1	78	8.5	2%	0	1	48	0	0%	0	0	20	0	0%	0	0	10
Indeno(1,2,3-cd)pyrene	UG/KG	970	37%	2.1E+03	0	29	78	970	46%	0	22	48	150	30%	0	6	20	270	10%	0	1	10
N-Nitrosodiphenylamine	UG/KG	4.8	1%	3.5E+05	0	1	78	4.8	2%	0	1	48	0	0%	0	0	20	0	0%	0	0	10
Naphthalene	UG/KG	1900	17%	1.9E+05	0	13	78	400	19%	0	9	48	1900	20%	0	4	20	0	0%	0	0	10
Phenanthrene	UG/KG	29000	45%		0	35	78	29000	52%	0	25	48	1000	40%	0	8	20	1100	20%	0	2	10
Pyrene	UG/KG	34000	54%	2.9E+07	0	42	78	34000	67%	0	32	48	1700	40%	0	8	20	2100	20%	0	2	10
Pesticides and PCBs																						
4,4'-DDD	UG/KG	44	6%	1.0E+04	0	5	78	44	10%	0	5	48	0	0%	0	0	20	0	0%	0	0	10
4,4'-DDE	UG/KG	69	23%	7.0E+03	0	18	78	69	31%	0	15	48	17	15%	0	3	20	0	0%	0	0	10
4,4'-DDT	UG/KG	100	21%	7.0E+03	0	16	78	100	27%	0	13	48	16	15%	0	3	20	0	0%	0	0	10
Aldrin	UG/KG	14.45	5%	1.0E+02	0	4	78	14.45	6%	0	3	48	11	5%	0	1	20	0	0%	0	0	10
Alpha-Chlordane	UG/KG	63	5%		0	4	78	63	8%	0	4	48	0	0%	0	0	20	0	0%	0	0	10
Delta-BHC	UG/KG	2	5%	1.3E+03	0	4	78	2	6%	0	3	48	1.3	5%	0	1	20	0	0%	0	0	10
Dieldrin	UG/KG	41	3%	1.1E+02	0	2	78	41	4%	0	2	48	0	0%	0	0	20	0	0%	0	0	10
Endosulfan I	UG/KG	185	24%	3.7E+06	0	19	78	185	38%	0	18	48	78	5%	0	1	20	0	0%	0	0	10
Endosulfan II	UG/KG	9	1%	3.7E+06	0	1	78	9	2%	0	1	48	0	0%	0	0	20	0	0%	0	0	10
Endrin	UG/KG	23	3%	1.8E+05	0	2	78	21.5	2%	0	1	48	23	5%	0	1	20	0	0%	0	0	10
Endrin ketone	UG/KG	9.7	5%		0	4	78	7.5	6%	0	3	48	9.7	5%	0	1	20	0	0%	0	0	10
Gamma-Chlordane	UG/KG	1.2	1%	6.5E+03	0	1	78	1.2	2%	0	1	48	0	0%	0	0	20	0	0%	0	0	10
Heptachlor	UG/KG	14	3%	3.8E+02	0	2	78	14	4%	0	2	48	0	0%	0	0	20	0	0%	0	0	10
Heptachlor epoxide	UG/KG	2.8	4%	1.9E+02	0	3	78	2.8	4%	0	2	48	1.1	5%	0	1	20	0	0%	0	0	10
Aroclor-1242	UG/KG	58	1%	2.1E+04	0	1	78	58	2%	0	1	48	0	0%	0	0	20	0	0%	0	0	10
Aroclor-1254	UG/KG	930	12%	7.4E+02	1	9	78	930	19%	1	9	48	0	0%	0	0	20	0	0%	0	0	10
Aroclor-1260	UG/KG	200	10%	7.4E+02	0	8	78	85	10%	0	5	48	200	15%	0	3	20	0	0%	0	0	10

Table 6-3
SEAD-121C Summary Results - Surface Soil, Subsurface Soil and Ditch Soil versus Region IX EPA Industrial PRGs

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

		TOTAL SOIL						SURFACE SOIL					SUBSURFACE SOIL					SEDIMENT / DITCH SOIL				
Parameter	**Units**	**Maximum Concentration**	**Frequency of Detection**	**Region IX Industrial Value**	**Number of Times Exceeded**	**Number of Times Detected**	**Number of Analyses**	**Maximum Concentration**	**Frequency of Detection**	**Number of Times Exceeded**	**Number of Times Detected**	**Number of Analyses**	**Maximum Concentration**	**Frequency of Detection**	**Number of Times Exceeded**	**Number of Times Detected**	**Number of Analyses**	**Maximum Concentration**	**Frequency of Detection**	**Number of Times Exceeded**	**Number of Times Detected**	**Number of Analyses**
Metals																						
Aluminum	MG/KG	21500	100%	1.0E+05	0	78	78	17000	100%	0	48	48	17600	100%	0	20	20	21500	100%	0	10	10
Antimony	MG/KG	236	62%	4.1E+02	0	48	78	236	81%	0	39	48	11.5	20%	0	4	20	4.9	50%	0	5	10
Arsenic	MG/KG	11.6	100%	1.6E+00	76	78	78	11.6	100%	48	48	48	8.1	100%	20	20	20	6.1	100%	8	10	10
Barium	MG/KG	2030	100%	6.7E+04	0	78	78	2030	100%	0	48	48	1050	100%	0	20	20	291	100%	0	10	10
Beryllium	MG/KG	1.2	97%	1.9E+03	0	76	78	1.2	100%	0	48	48	1	100%	0	20	20	0.815	80%	0	8	10
Cadmium	MG/KG	29.1	46%	4.5E+02	0	36	78	29.1	60%	0	29	48	8.1	10%	0	2	20	14.3	50%	0	5	10
Calcium	MG/KG	296000	100%		0	78	78	296000	100%	0	48	48	97200	100%	0	20	20	161000	100%	0	10	10
Chromium	MG/KG	74.8	100%	1.0E+05	0	78	78	74.8	100%	0	48	48	37	100%	0	20	20	29.8	100%	0	10	10
Cobalt	MG/KG	19.7	84%	1.9E+03	0	65	77	17	74%	0	35	47	19.7	100%	0	20	20	15.8	100%	0	10	10
Copper	MG/KG	9750	100%	4.1E+04	0	78	78	9750	100%	0	48	48	2440	100%	0	20	20	1190	100%	0	10	10
Cyanide, Amenable	MG/KG	2.36	2%	1.2E+04	0	1	66	0	0%	0	0	40	0	0%	0	0	16	2.36	10%	0	1	10
Cyanide, Total	MG/KG	2.36	2%	1.2E+04	0	1	66	0	0%	0	0	40	0	0%	0	0	16	2.36	10%	0	1	10
Iron	MG/KG	54100	100%	1.0E+05	0	78	78	51700	100%	0	48	48	54100	100%	0	20	20	27300	100%	0	10	10
Lead	MG/KG	18900	100%	8.0E+02	5	78	78	18900	100%	4	48	48	1780	100%	1	20	20	436	100%	0	10	10
Lead [after IRA (1)]	MG/KG	1780	100%	8.0E+02	6	104	104	1450	100%	4	68	68	1780	100%	2	26	26	436	100%	0	10	10
Magnesium	MG/KG	24900	100%		0	78	78	20700	100%	0	48	48	24900	100%	0	20	20	17600	100%	0	10	10
Manganese	MG/KG	918	100%	1.9E+04	0	78	78	858	100%	0	48	48	790	100%	0	20	20	918	100%	0	10	10
Mercury	MG/KG	0.47	94%	3.1E+02	0	72	77	0.47	92%	0	44	48	0.07	95%	0	18	19	0.3	100%	0	10	10
Nickel	MG/KG	224	100%	2.0E+04	0	78	78	224	100%	0	48	48	69.7	100%	0	20	20	42.7	100%	0	10	10
Potassium	MG/KG	1990	100%		0	78	78	1990	100%	0	48	48	1870	100%	0	20	20	1410	100%	0	10	10
Selenium	MG/KG	2.5	18%	5.1E+03	0	14	78	1.3	21%	0	10	48	0	0%	0	0	20	2.5	40%	0	4	10
Silver	MG/KG	21.8	32%	5.1E+03	0	25	78	21.8	38%	0	18	48	0.72	10%	0	2	20	2.6	50%	0	5	10
Sodium	MG/KG	1120	85%		0	66	78	478	88%	0	42	48	214	70%	0	14	20	1120	100%	0	10	10
Thallium	MG/KG	1.8	15%	6.7E+01	0	12	78	1.1	21%	0	10	48	1.8	10%	0	2	20	0	0%	0	0	10
Vanadium	MG/KG	29.1	100%	1.0E+03	0	78	78	25.4	100%	0	48	48	27	100%	0	20	20	29.1	100%	0	10	10
Zinc	MG/KG	3610	100%	1.0E+05	0	78	78	3610	100%	0	48	48	691	100%	0	20	20	566	100%	0	10	10
Other Analytes																						
Total Organic Carbon	MG/KG	9500	100%		0	66	66	9000	100%	0	40	40	9500	100%	0	16	16	9100	100%	0	10	10
Total Petroleum Hydrocarbons	MG/KG	7600	24%		0	16	66	7600	25%	0	10	40	3700	25%	0	4	16	2600	20%	0	2	10

Note
(1) IRA = Interim Removal Action. Data summarizes residual lead at AOC after Interim Removal Action was complete

TABLE 6-4
Summary of SEAD-121C Groundwater Compared to Regulatory Criteria - EBS Investigation

SEAD-121C and SEAD-121I - Record of Decision
Seneca Army Depot Activty

Parameter	Units	Maximum Level Detected	Frequency of Detection	Number of Times Detected	Number of Analyses	NYSDEC GA Groundwater Standards	Number of Times Exceeded	Primary Drinking Water Standards	Number of Times Exceeded	Region IX Tap Water PRG	Number of Times Exceeded
Volatile Organic Compounds											
1,4-Dichlorobenzene	UG/L	36	50%	1	2	3	1			5.02E-01	1
Acetone	UG/L	56.5	50%	1	2					5.48E+03	0
Bromochloromethane	UG/L	1	50%	1	2	5	0				
Bromoform	UG/L	4	50%	1	2					8.51E+00	0
Carbon disulfide	UG/L	2	50%	1	2					1.04E+03	0
Chlorobenzene	UG/L	2	50%	1	2	5	0	100	0	1.06E+02	0
Vinyl chloride	UG/L	1	50%	1	2	2	0	2	0	1.98E-02	1
Semivolatile Organic Compounds											
Bis(2-Ethylhexyl)phthalate	UG/L	0.4	100%	2	2	5	0	6	0	4.80E+00	0
Butylbenzylphthalate	UG/L	0.12	50%	1	2					7.30E+03	0
Di-n-butylphthalate	UG/L	1.7	100%	2	2	50	0			3.65E+03	0
Diethyl phthalate	UG/L	0.057	50%	1	2					2.92E+04	0
Fluorene	UG/L	0.48	50%	1	2			0.2	1	2.43E+02	0
Hexachlorobutadiene	UG/L	0.4	100%	2	2	0.5	0	50	0	8.62E-01	0
Phenanthrene	UG/L	0.24	50%	1	2			0.2	1		
Pyrene	UG/L	0.13	50%	1	2			0.2	0	1.83E+02	0
Pesticieds and PCBs											
4,4'-DDD	UG/L	0.81	100%	2	2	0.3	2			2.80E-01	2
4,4'-DDE	UG/L	0.3	100%	2	2	0.2	1			1.98E-01	1
4,4'-DDT	UG/L	0.56	100%	2	2	0.2	2			1.98E-01	2
Alpha-BHC	UG/L	0.059	100%	2	2	0.01	2			1.07E-02	2
Alpha-Chlordane	UG/L	0.082	50%	1	2			2	0		
Beta-BHC	UG/L	0.328	100%	2	2	0.04	2			3.74E-02	2
Delta-BHC	UG/L	0.162	100%	2	2	0.04	2				
Dieldrin	UG/L	0.2	100%	2	2	0.004	2			4.20E-03	2
Endosulfan I	UG/L	0.095	50%	1	2						
Endosulfan II	UG/L	0.28	100%	2	2						
Endosulfan sulfate	UG/L	0.69	100%	2	2						
Endrin	UG/L	0.71	50%	1	2			2	0	1.09E+01	0
Endrin aldehyde	UG/L	0.97	100%	2	2	5	0				
Endrin ketone	UG/L	0.2	50%	1	2	5	0				
Gamma-BHC/Lindane	UG/L	0.038	50%	1	2	0.05	0	0.2	0	5.17E-02	0
Gamma-Chlordane	UG/L	0.278	100%	2	2						
Heptachlor	UG/L	0.144	50%	1	2	0.04	1	0.4	0	1.49E-02	1
Heptachlor epoxide	UG/L	0.11	100%	2	2	0.03	2	0.2	0	7.39E-03	2
Methoxychlor	UG/L	0.62	100%	2	2	35	0	40	0	1.82E+02	0

TABLE 6-4
Summary of SEAD-121C Groundwater Compared to Regulatory Criteria - EBS Investigation

SEAD-121C and SEAD-121I - Record of Decision
Seneca Army Depot Activty

Parameter	Units	Maximum Level Detected	Frequency of Detection	Number of Times Detected	Number of Analyses	NYSDEC GA Groundwater Standards	Number of Times Exceeded	Primary Drinking Water Standards	Number of Times Exceeded	Region IX Tap Water PRG	Number of Times Exceeded
Metals											
Aluminum	UG/L	5350	100%	2	2		0			3.65E+04	0
Arsenic	UG/L	2.825	50%	1	2	25	0	10	0	4.48E-02	1
Barium	UG/L	106	100%	2	2	1000	0	2000	0	2.55E+03	0
Beryllium	UG/L	0.1	50%	1	2		0	4	0	7.30E+01	0
Cadmium	UG/L	0.27	50%	1	2	5	0	5	0	1.82E+01	0
Calcium	UG/L	167500	100%	2	2		0		0		0
Chromium	UG/L	6.5	100%	2	2	50	0	100	0		0
Cobalt	UG/L	3.6	100%	2	2		0		0	7.30E+02	0
Copper	UG/L	5.2	100%	2	2	200	0	1000	0	1.46E+03	0
Iron	UG/L	5620	100%	2	2	300	2			1.09E+04	0
Magnesium	UG/L	23950	100%	2	2		0		0		0
Manganese	UG/L	1365	100%	2	2	300	2			8.76E+02	2
Nickel	UG/L	10.6	100%	2	2	100	0		0	7.30E+02	0
Potassium	UG/L	21400	100%	2	2		0		0		0
Selenium	UG/L	4.65	100%	2	2	10	0	50	0	1.82E+02	0
Sodium	UG/L	95200	100%	2	2	20000	1		0		0
Vanadium	UG/L	6.5	100%	2	2		0		0	3.65E+01	0
Zinc	UG/L	16.4	100%	2	2		0			1.09E+04	0

TABLE 6-5
Summary of SEAD-121C Groundwater Compared to Regulatory Criteria - Remedial Investigation

SEAD-121C and SEAD-121I - Record of Decision
Seneca Army Depot Activty

Parameter	Units	Maximum Level Detected	Frequency of Detection	Number of Times Detected	Number of Analyses	NYSDEC GA Groundwater Standards	Number of Times Exceeded	Primary Drinking Water Standards	Number of Times Exceeded	Region IX Tap Water PRG	Number of Times Exceeded
Semivolatile Organic Compounds											
Bis(2-Ethylhexyl)phthalate	UG/L	1.4		1	6	5	0	6	0	4.80E+00	0
Di-n-butylphthalate	UG/L	1.6	17%	1	6	50	0			3.65E+03	0
Metals											
Aluminum	UG/L	588	100%	6	6					3.65E+04	0
Antimony	UG/L	8.4	33%	2	6	3	2	6	2	1.46E+01	0
Barium	UG/L	73.7	100%	6	6	1000	0	2000	0	2.55E+03	0
Beryllium	UG/L	0.24	17%	1	6			4	0	7.30E+01	0
Cadmium	UG/L	1.1	17%	1	6	5	0	5	0	1.82E+01	0
Calcium	UG/L	558000	100%	6	6						
Chromium	UG/L	21.4	83%	5	6	50	0	100	0		
Cobalt	UG/L	3	50%	3	6					7.30E+02	0
Copper	UG/L	17.7	50%	3	6	200	0	1000	0	1.46E+03	0
Iron	UG/L	868.725	50%	3	6	300	3			1.09E+04	0
Lead	UG/L	10.5	83%	5	6	25	0	15	0		
Magnesium	UG/L	109000	100%	6	6						
Manganese	UG/L	297	100%	6	6	300	0			8.76E+02	0
Mercury	UG/L	0.2	33%	2	6	0.7	0	2	0	1.09E+01	0
Nickel	UG/L	2.1	17%	1	6	100	0			7.30E+02	0
Potassium	UG/L	9400	100%	6	6						
Selenium	UG/L	6.8	33%	2	6	10	0	50	0	1.82E+02	0
Sodium	UG/L	58400	100%	6	6	20000	3				
Zinc	UG/L	96.2	100%	6	6					1.09E+04	0

TABLE 6-6
Summary of SEAD-121C Surface Water Results Compared Regulatory Criteria

SEAD-121C and SEAD-121I - Record of Decision
Seneca Army Depot Activty

Parameter	Units	Maximum Value	Frequency of Detection	Number of Times Detected	Number of Samples Collected	Class C Criteria	Number of Exceedances	Tap Water Criteria	Number of Exceedances
Semivolatile Organic Compounds									
Bis(2-Ethylhexyl)phthalate	UG/L	4.2	10%	1	10	0.6	1	4.80225243	0
Metals									
Aluminum	UG/L	8760	100%	10	10	100	5	36498.6678	0
Arsenic	UG/L	50.3	10%	1	10	150	0	0.04482102	1
Barium	UG/L	423	100%	10	10		0	2554.99347	0
Beryllium	UG/L	0.86	90%	9	10	1100	0	72.9999947	0
Cadmium	UG/L	19.5	40%	4	10	3.84	2	18.2499997	1
Calcium	UG/L	166000	100%	10	10		0		0
Chromium	UG/L	129	80%	8	10	139.45	0	54747.0026	0
Cobalt	UG/L	47	70%	7	10	5	2	729.999467	0
Copper	UG/L	1160	100%	10	10	17.32	2	1459.99787	0
Iron	UG/L	110000	80%	8	10	300	5	10949.8801	2
Lead	UG/L	839	100%	10	10	1.4624632	10		0
Magnesium	UG/L	26200	100%	10	10		0		0
Manganese	UG/L	2380	100%	10	10		0	875.999233	1
Mercury	UG/L	2.1	20%	2	10	0.0007	2		0
Nickel	UG/L	154	30%	3	10	99.92	1	729.999467	0
Potassium	UG/L	5350	100%	10	10		0		0
Selenium	UG/L	4.6	10%	1	10	4.6	0	182.499967	0
Silver	UG/L	8	20%	2	10	0.1	2	182.499967	0
Sodium	UG/L	123000	100%	10	10		0		0
Thallium	UG/L	6.3	20%	2	10	8	0	2.40899999	2
Vanadium	UG/L	233	50%	5	10	14	2	36.4999987	1
Zinc	UG/L	6910	100%	10	10	159.25	2	10949.8801	0
Other Analytes									
Total Petroleum Hydrocarbons	MG/L	8.08	11%	1	9		0		0

TABLE 6-7
SEAD-121I Summary Results - Soil, Ditch Soil and Sediment Versus Comparative Criteria

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

Parameter	Units	Maximum Concentration	Frequency of Detection	Number of Times Detected	Number of Analyses	EPA R9 Industrial Criteria	Number of Times Exceeded	Unrestricted Use Criteria	Number of Times Exceeded	Commercial Use Criteria	Number of Times Exceeded	Industrial Use Criteria	Number of Times Exceeded
Volatile Organic Compounds													
Acetone	UG/KG	150	76%	37	49	5.43E+07	0	50	3	500000	0	1000000	0
Benzene	UG/KG	41 [3]	22%	11	49	1.41E+03	0	60	0	44000	0	89000	0
Ethyl benzene	UG/KG	7.8	16%	8	49	3.95E+05	0	1000	0	390000	0	780000	0
Meta/Para Xylene	UG/KG	6.3 [3]	16%	8	49	4.20E+05	0	260	0	500000	0	1000000	0
Methyl ethyl ketone	UG/KG	78	24%	12	49	1.13E+08	0	120	0	500000	0	1000000	0
Methylene chloride	UG/KG	2.8	18%	9	49	2.05E+04	0	50	0	500000	0	1000000	0
Ortho Xylene	UG/KG	3.6 [3]	16%	8	49	4.20E+05	0	260	0	500000	0	1000000	0
Toluene	UG/KG	31 [3]	20%	10	49	5.20E+05	0	700	0	500000	0	1000000	0
Semivolatile Organic Compounds													
2-Methylnaphthalene	UG/KG	260	9%	5	55								
3,3'-Dichlorobenzidine	UG/KG	315 [3]	2%	1	55	3.83E+03	0						
Acenaphthene	UG/KG	6100	49%	27	55	2.92E+07	0	20000	0	500000	0	1000000	0
Acenaphthylene	UG/KG	560	11%	6	55			100000	0	500000	0	1000000	0
Anthracene	UG/KG	12000	56%	31	55	1.00E+08	0	100000	0	500000	0	1000000	0
Benzo(a)anthracene	UG/KG	28000	91%	50	55	2.11E+03	10	1000	15	5600	6	11000	3
Benzo(a)pyrene	UG/KG	23000	87%	48	55	2.11E+02	32	1000	16	1000	16	1100	15
Benzo(b)fluoranthene	UG/KG	29000	93%	51	55	2.11E+03	10	1000	16	5600	8	11000	3
Benzo(ghi)perylene	UG/KG	29000	82%	45	55			100000	0	500000	0	1000000	0
Benzo(k)fluoranthene	UG/KG	23000	71%	39	55	2.11E+04	1	800	17	56000	0	110000	0
Bis(2-Ethylhexyl)phthalate	UG/KG	1600	33%	18	55	1.23E+05	0						
Butylbenzylphthalate	UG/KG	420 [3]	7%	4	55	1.00E+08	0						
Carbazole	UG/KG	6800	56%	31	55	8.62E+04	0						
Chrysene	UG/KG	32000	85%	47	55	2.11E+05	0	1000	17	56000	0	110000	0
Di-n-butylphthalate	UG/KG	45	2%	1	55	6.16E+07	0						
Di-n-octylphthalate	UG/KG	420 [3]	4%	2	55	2.46E+07	0						
Dibenz(a,h)anthracene	UG/KG	5000	29%	16	55	2.11E+02	11	330	10	560	6	1100	3
Dibenzofuran	UG/KG	2000	27%	15	55	1.56E+06	0	7000	0	350000	0	1000000	0
Diethyl phthalate	UG/KG	640 [3]	2%	1	55	1.00E+08	0						
Fluoranthene	UG/KG	62000	95%	52	55	2.20E+07	0	100000	0	500000	0	1000000	0
Fluorene	UG/KG	4200	42%	23	55	2.63E+07	0	30000	0	500000	0	1000000	0
Indeno(1,2,3-cd)pyrene	UG/KG	12000	69%	38	55	2.11E+03	5	500	14	5600	3	11000	1
Isophorone	UG/KG	315 [3]	2%	1	55	5.12E+05	0						
Naphthalene	UG/KG	630	13%	7	55	1.88E+05	0	12000	0	500000	0	1000000	0
Nitrobenzene	UG/KG	315 [3]	2%	1	55	1.03E+05	0						
Phenanthrene	UG/KG	52000	95%	52	55			100000	0	500000	0	1000000	0
Phenol	UG/KG	315 [3]	2%	1	55	1.00E+08	0	330	1	500000	0	1000000	0
Pyrene	UG/KG	64000	95%	52	55	2.91E+07	0	100000	0	500000	0	1000000	0

TABLE 6-7
SEAD-121I Summary Results - Soil, Ditch Soil and Sediment Versus Comparative Criteria

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

Parameter	Units	Maximum Concentration	Frequency of Detection	Number of Times Detected	Number of Analyses	EPA R9 Industrial Criteria	Number of Times Exceeded	Unrestricted Use Criteria	Number of Times Exceeded	Commercial Use Criteria	Number of Times Exceeded	Industrial Use Criteria	Number of Times Exceeded
Pesticides and PCBs													
4,4'-DDE	UG/KG	34	10%	5	49	7.02E+03	0	3.3	5	62000	0	120000	0
4,4'-DDT	UG/KG	39	4%	2	49	7.02E+03	0	3.3	2	47000	0	94000	0
Aldrin	UG/KG	12	8%	4	49	1.01E+02	0	5	3	680	0	1400	0
Dieldrin	UG/KG	34	4%	2	49	1.08E+02	0	5	2	1400	0	2800	0
Endosulfan I	UG/KG	95	53%	26	49			2400	0	200000	0	920000	0
Endrin	UG/KG	30	4%	2	49	1.85E+05	0	14	1	89000	0	410000	0
Heptachlor epoxide	UG/KG	55	16%	8	49	1.89E+02	0						
Aroclor-1254	UG/KG	67	4%	2	49	7.44E+02	0	100	0	1000	0	25000	0
Aroclor-1260	UG/KG	46	6%	3	49	7.44E+02	0	100	0	1000	0	25000	0
Metals													
Aluminum	MG/KG	13200	100%	49	49	1.00E+05	0						
Antimony	MG/KG	7.5	33%	16	49	4.09E+02	0						
Arsenic	MG/KG	104	76%	37	49	1.59E+00	37	13	6	16	5	16	5
Barium	MG/KG	207	100%	49	49	6.66E+04	0	350	0	400	0	10000	0
Beryllium	MG/KG	0.68	96%	47	49	1.94E+03	0	7.2	0	590	0	2700	0
Cadmium	MG/KG	6.6	33%	16	49	4.51E+02	0	2.5	4	9.3	0	60	0
Calcium	MG/KG	298000	100%	49	49								
Chromium	MG/KG	439 [3]	100%	49	49	1.00E+05	0	30	7	1500	0	6800	0
Cobalt	MG/KG	206 [3]	100%	49	49	1.92E+03	0						
Copper	MG/KG	209 [3]	88%	43	49	4.09E+04	0	50	5	270	0	10000	0
Cyanide, Total	MG/KG	2.00 [3]	8%	4	49	1.23E+04	0	27	0	27	0	10000	0
Iron	MG/KG	58400 [3]	100%	49	49	1.00E+05	0						
Lead	MG/KG	122	100%	49	49	8.00E+02	0	63	8	1000	0	3900	0
Magnesium	MG/KG	22300	100%	49	49								
Manganese	MG/KG	310500 [3]	100%	49	49	1.95E+04	6	1600	13	10000	8	10000	8
Mercury	MG/KG	0.18	96%	47	49	3.07E+02	0	0.18	0	2.8	0	5.7	0
Nickel	MG/KG	342 [3]	100%	49	49	2.04E+04	0	30	19	310	2	10000	0
Potassium	MG/KG	1450	100%	49	49								
Selenium	MG/KG	146 [3]	49%	24	49	5.11E+03	0	3.9	7	1500	0	6800	0
Silver	MG/KG	10.5	14%	7	49	5.11E+03	0	2	3	1500	0	6800	0
Sodium	MG/KG	372	80%	39	49								
Thallium	MG/KG	163 [3]	22%	11	49	6.75E+01	2						
Vanadium	MG/KG	182 [3]	100%	49	49	1.02E+03	0						
Zinc	MG/KG	532	100%	49	49	1.00E+05	0	109	15	10000	0	10000	0
Other Analyses													
Total Organic Carbon	MG/KG	8900	100%	49	49								
Total Petroleum Hydrocarbons	MG/KG	2200	35%	17	49								

TABLE 6-8
SEAD-121I Summary Results - Surface Water Samples Compared to Regulatory Criteria

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activty

Parameter	Units	Maximum Value	Frequency of Detection	Number of Times Detected	Number of Samples Collected	Class C Criteria Level	Number of Exceedances	Tap Water Level	Number of Exceedances
Semivolatile Organic Compounds									
Butylbenzylphthalate	UG/L	1.1	14%	1	7			7299.94671	0
Fluoranthene	UG/L	1.1	14%	1	7			1459.997868	0
Metals									
Aluminum	UG/L	2050	100%	7	7	100	3	36498.6678	0
Barium	UG/L	49.2	86%	6	7			2554.993472	0
Beryllium	UG/L	0.28	86%	6	7	1100	0	72.99999467	0
Cadmium	UG/L	0.54	14%	1	7	3.84	0	18.24999967	0
Calcium	UG/L	74200	100%	7	7				
Chromium	UG/L	6	71%	5	7	139.45	0	54747.0026	0
Cobalt	UG/L	3	29%	2	7	5	0	729.9994671	0
Copper	UG/L	11.2	86%	6	7	17.32	0	1459.997868	0
Iron	UG/L	3410	71%	5	7	300	2	10949.8801	0
Lead	UG/L	26.3	57%	4	7	1.4624632	4		
Magnesium	UG/L	11100	100%	7	7				
Manganese	UG/L	206	100%	7	7		0	875.9992326	0
Nickel	UG/L	3.6	29%	2	7	99.92	0	729.9994671	0
Potassium	UG/L	4640	100%	7	7				
Selenium	UG/L	2.45	14%	1	7	4.6	0	182.4999667	0
Sodium	UG/L	38500	100%	7	7				
Vanadium	UG/L	3.9	43%	3	7	14	0	36.49999867	0
Zinc	UG/L	190	100%	7	7	159.25	1	1824.996669	0

Table 7-1
Contaminants of Concern by Media – SEAD-121C

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

Class/Analyte	Surface Soil	Ditch Soil	Total Soil	Groundwater	Surface Water
Volatile Organic Compounds (VOCs)					
Benzene			X		
Semivolatile Organic Compounds (SVOCs)					
Benzo(a)anthracene	X	X	X		
Benzo(a)pyrene	X	X	X		
Benzo(b)fluoranthene	X	X	X		
Benzo(k)fluoranthene	X	X	X		
Chrysene	X	X	X		
Dibenz(a,h)anthracene	X		X		
Indeno(1,2,3-cd)pyrene	X	X	X		
Pesticides and Polychlorinated Biphenyls (PCBs)					
Dieldrin	X		X		
Aroclor-1242	X		X		
Aroclor-1254	X		X		
Aroclor-1260	X		X		
Metals and Cyanide					
Antimony	X		X		
Arsenic	X	X	X		X
Cadmium					X
Chromium					X
Copper	X		X		
Iron	X	X	X		X
Lead	X	X	X		X
Manganese					X
Thallium					X
Vanadium					X

Table 7-2
CALCULATION OF TOTAL NONCARCINOGENIC AND CARCINOGENIC RISKS - SEAD-121C
REASONABLE MAXIMUM EXPOSURE (RME)

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

RECEPTOR	EXPOSURE ROUTE	REASONABLE MAXIMUM EXPOSURE (RME)			
		HAZARD INDEX		CANCER RISK	
		Hazard Index	Percent Contribution	Cancer Risk	Percent Contribution
INDUSTRIAL WORKER (Soil)	Inhalation of Dust in Ambient Air (Soil)	NQ	0%	1E-07	0%
	Ingestion of Soil	3E-01	93%	1E-05	58%
	Dermal Contact to Soil	2E-02	7%	1E-05	42%
	Intake of Groundwater	ND	0%	ND	0%
	TOTAL RECEPTOR RISK (Nc & Car)	*4E-01*	100%	*3E-05*	100%
INDUSTRIAL WORKER (Ditch Soil)	Inhalation of Dust in Ambient Air (Ditch)	NQ	0%	8E-08	6%
	Ingestion of Ditch Soil	2E-02	96%	9E-07	62%
	Dermal Contact to Ditch Soil	6E-04	4%	5E-07	32%
	Intake of Groundwater	ND	0%	ND	0%
	TOTAL RECEPTOR RISK (Nc & Car)	*2E-02*	100%	*1E-06*	100%
CONSTRUCTION WORKER (Soil)	Inhalation of Dust in Ambient Air (Soil)	4E-06	0%	2E-07	13%
	Ingestion of Soil	7E-01	97%	1E-06	67%
	Dermal Contact to Soil	2E-02	3%	4E-07	20%
	Intake of Groundwater	ND	0%	ND	0%
	Dermal Contact to Groundwater	ND	0%	ND	0%
	TOTAL RECEPTOR RISK (Nc & Car)	*8E-01*	100%	*2E-06*	100%
CONSTRUCTION WORKER (Ditch Soil)	Inhalation of Dust in Ambient Air (Ditch)	NQ	0%	2E-08	3%
	Ingestion of Ditch Soil	3E-01	86%	6E-07	78%
	Dermal Contact to Ditch Soil	5E-03	1%	1E-07	18%
	Intake of Groundwater	ND	0%	ND	0%
	Dermal Contact to Groundwater	ND	0%	ND	0%
	Dermal Contact to Surface Water	4E-02	13%	5E-09	1%
	TOTAL RECEPTOR RISK (Nc & Car)	*3E-01*	100%	*7E-07*	100%
ADOLESCENT TRESPASSER (Soil)	Inhalation of Dust in Ambient Air (Soil)	NQ	0%	1E-10	0%
	Ingestion of Soil	3E-02	96%	2E-07	69%
	Dermal Contact to Soil	1E-03	4%	1E-07	31%
	Intake of Groundwater	ND	0%	ND	0%
	TOTAL RECEPTOR RISK (Nc & Car)	*3E-02*	100%	*3E-07*	100%
ADOLESCENT TRESPASSER (Ditch Soil)	Inhalation of Dust in Ambient Air (Ditch)	NQ	0%	1E-10	0%
	Ingestion of Ditch Soil	7E-03	25%	7E-08	67%
	Dermal Contact to Ditch Soil	2E-04	1%	2E-08	22%
	Intake of Groundwater	ND	0%	ND	0%
	Dermal Contact to Surface Water	2E-02	74%	1E-08	12%
	TOTAL RECEPTOR RISK (Nc & Car)	*3E-02*	100%	*1E-07*	100%

NQ= Not quantified due to lack of toxicity data.

ND = Not quantified since no COPCs were detected above screening levels.

Table 7-3
Calculation of Blood Lead Concentration - Industrial Worker Exposed to Surface Soil at SEAD-121C

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 05/19/03

Exposure Variable	PbB Equation[1] 1*	2**	Description of Exposure Variable	Units	Values for Non-Residential Exposure Scenario: Using Equation 1 GSDi = Hom	Using Equation 1 GSDi = Het	Using Equation 2 GSDi = Hom	Using Equation 2 GSDi = Het
PbS	X	X	Soil lead concentration	ug/g or ppm	735	735	735	735
$R_{fetal/matemal}$	X	X	Fetal/maternal PbB ratio	--	0.9	0.9	0.9	0.9
BKSF	X	X	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4	0.4	0.4
GSD_i	X	X	Geometric standard deviation PbB	--	1.9	2.1	1.9	2.1
PbB_0	X	X	Baseline PbB	ug/dL	1.7	2.2	1.7	2.2
IR_S	X		Soil ingestion rate (including soil-derived indoor dust)	g/day	0.050	0.050	--	--
IR_{S+D}		X	Total ingestion rate of outdoor soil and indoor dust	g/day	--	--	0.050	0.050
W_S		X	Weighting factor; fraction of IR_{S+D} ingested as outdoor soil	--	--	--	1.0	1.0
K_{SD}		X	Mass fraction of soil in dust	--	--	--	0.7	0.7
$AF_{S, D}$	X	X	Absorption fraction (same for soil and dust)	--	0.12	0.12	0.12	0.12
$EF_{S, D}$	X	X	Exposure frequency (same for soil and dust)	days/yr	219	219	219	219
$AT_{S, D}$	X	X	Averaging time (same for soil and dust)	days/yr	365	365	365	365
PbB_{adult}	**PbB of adult worker, geometric mean**			**ug/dL**	**2.8**	**3.3**	**2.8**	**3.3**
$PbB_{fetal, 0.95}$	**95th percentile PbB among fetuses of adult workers**			**ug/dL**	**7.1**	**9.9**	**7.1**	**9.9**
PbB_t	**Target PbB level of concern (e.g., 10 ug/dL)**			**ug/dL**	**10.0**	**10.0**	**10.0**	**10.0**
$P(PbB_{fetal} > PbB_t)$	**Probability that fetal PbB > PbB_t, assuming lognormal distribution**			**%**	**1.5%**	**4.9%**	**1.5%**	**4.9%**

[1] Equation 1 does not apportion exposure between soil and dust ingestion (excludes W_S, K_{SD}).
When $IR_S = IR_{S+D}$ and $W_S = 1.0$, the equations yield the same $PbB_{fetal,0.95}$.

***Equation 1, based on Eq. 1, 2 in USEPA (1996).**

PbB_{adult} =	$(PbS*BKSF*IR_{S+D}*AF_{S,D}*EF_S/AT_{S,D}) + PbB_0$
$PbB_{fetal, 0.95}$ =	$PbB_{adult} * (GSD_i^{1.645} * R)$

****Equation 2, alternate approach based on Eq. 1, 2, and A-19 in USEPA (1996).**

PbB_{adult} =	$PbS*BKSF*([(IR_{S+D})*AF_S*EF_S*W_S]+[K_{SD}*(IR_{S+D})*(1-W_S)*AF_D*EF_D])/365+PbB_0$
$PbB_{fetal, 0.95}$ =	$PbB_{adult} * (GSD_i^{1.645} * R)$

Source: U.S. EPA (1996). Recommendations of the Technical Review Workgroup for Lead for an Interim Approach to Assessing Risks Associated with Adult Exposures to Lead in Soi

TABLE 7-4
CALCULATION OF BLOOD LEAD CONCENTRATION – RESIDENTIAL CHILD EXPOSED TO SURFACE SOIL AT SEAD-121C

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

LEAD MODEL FOR WINDOWS Version 1.0

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Model Version: 1.0 Build 261
User Name:
Date:
Site Name:
Operable Unit:
Run Mode: Research

==========

The time step used in this model run: 1 - Every 4 Hours (6 times a day).

****** Air ******

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

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

****** Diet ******

Age	Diet Intake(ug/day)
.5-1	5.530
1-2	5.780
2-3	6.490
3-4	6.240
4-5	6.010
5-6	6.340
6-7	7.000

****** Drinking Water ******

Water Consumption:

Age	Water (L/day)
.5-1	0.200
1-2	0.500

TABLE 7-4
CALCULATION OF BLOOD LEAD CONCENTRATION – RESIDENTIAL CHILD EXPOSED TO SURFACE SOIL AT SEAD-121C

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

2-3	0.520
3-4	0.530
4-5	0.550
5-6	0.580
6-7	0.590

Drinking Water Concentration: 4.000 ug Pb/L

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

Multiple Source Analysis Used
Average multiple source concentration: 524.500 ug/g

Mass fraction of outdoor soil to indoor dust conversion factor: 0.700
Outdoor airborne lead to indoor household dust lead concentration: 100.000
Use alternate indoor dust Pb sources? No

Age	Soil (ug Pb/g)	House Dust (ug Pb/g)
.5-1	735.000	524.500
1-2	735.000	524.500
2-3	735.000	524.500
3-4	735.000	524.500
4-5	735.000	524.500
5-6	735.000	524.500
6-7	735.000	524.500

****** Alternate Intake ******

Age	Alternate (ug Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

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

Maternal Blood Concentration: 2.500 ug Pb/dL

****
CALCULATED BLOOD LEAD AND LEAD UPTAKES:
****

Year	Air (ug/day)	Diet (ug/day)	Alternate (ug/day)	Water (ug/day)

TABLE 7-4
CALCULATION OF BLOOD LEAD CONCENTRATION – RESIDENTIAL CHILD EXPOSED TO SURFACE SOIL AT SEAD-121C

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

.5-1	0.021	2.301	0.000	0.333
1-2	0.034	2.340	0.000	0.810
2-3	0.062	2.694	0.000	0.863
3-4	0.067	2.654	0.000	0.902
4-5	0.067	2.685	0.000	0.983
5-6	0.093	2.885	0.000	1.056
6-7	0.093	3.216	0.000	1.084

Year	Soil+Dust (ug/day)	Total (ug/day)	Blood (ug/dL)
.5-1	13.140	15.795	8.4
1-2	20.302	23.485	9.6
2-3	20.821	24.441	9.0
3-4	21.335	24.958	8.6
4-5	16.598	20.333	7.2
5-6	15.217	19.251	6.1
6-7	14.509	18.902	5.4

Table 7-5
Calculation of Blood Lead Concentration - Industrial Worker Exposed to Ditch Soil at SEAD-121C

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 05/19/03

Exposure Variable	PbB Equation[1] 1*	PbB Equation[1] 2**	Description of Exposure Variable	Units	Values for Non-Residential Exposure Scenario: Using Equation 1 GSDi = Hom	Using Equation 1 GSDi = Het	Using Equation 2 GSDi = Hom	Using Equation 2 GSDi = Het
PbS	X	X	Soil lead concentration	ug/g or ppm	144	144	144	144
$R_{fetal/maternal}$	X	X	Fetal/maternal PbB ratio	--	0.9	0.9	0.9	0.9
BKSF	X	X	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4	0.4	0.4
GSD_i	X	X	Geometric standard deviation PbB	--	1.8	2.1	1.8	2.1
PbB_0	X	X	Baseline PbB	ug/dL	1.7	2.2	1.7	2.2
IR_S	X		Soil ingestion rate (including soil-derived indoor dust)	g/day	0.050	0.050	--	--
IR_{S+D}		X	Total ingestion rate of outdoor soil and indoor dust	g/day	--	--	0.050	0.050
W_S		X	Weighting factor; fraction of IR_{S+D} ingested as outdoor soil	--	--	--	1.0	1.0
K_{SD}		X	Mass fraction of soil in dust	--	--	--	0.7	0.7
$AF_{S, D}$	X	X	Absorption fraction (same for soil and dust)	--	0.12	0.12	0.12	0.12
$EF_{S, D}$	X	X	Exposure frequency (same for soil and dust)	days/yr	219	219	219	219
$AT_{S, D}$	X	X	Averaging time (same for soil and dust)	days/yr	365	365	365	365
PbB_{adult}	**PbB of adult worker, geometric mean**			**ug/dL**	**1.9**	**2.4**	**1.9**	**2.4**
$PbB_{fetal, 0.95}$	**95th percentile PbB among fetuses of adult workers**			**ug/dL**	**4.5**	**7.3**	**4.5**	**7.3**
PbB_t	**Target PbB level of concern (e.g., 10 ug/dL)**			**ug/dL**	**10.0**	**10.0**	**10.0**	**10.0**
$P(PbB_{fetal} > PbB_t)$	**Probability that fetal PbB > PbB_t, assuming lognormal distribution**			**%**	**0.1%**	**2.0%**	**0.1%**	**2.0%**

[1] Equation 1 does not apportion exposure between soil and dust ingestion (excludes W_S, K_{SD}).
When $IR_S = IR_{S+D}$ and $W_S = 1.0$, the equations yield the same $PbB_{fetal,0.95}$.

***Equation 1, based on Eq. 1, 2 in USEPA (1996).**

PbB_{adult} =	$(PbS*BKSF*IR_{S+D}*AF_{S,D}*EF_S/AT_{S,D}) + PbB_0$
$PbB_{fetal, 0.95}$ =	$PbB_{adult} * (GSD_i^{1.645} * R)$

****Equation 2, alternate approach based on Eq. 1, 2, and A-19 in USEPA (1996).**

PbB_{adult} =	$PbS*BKSF*([(IR_{S+D})*AF_S*EF_S*W_S]+[K_{SD}*(IR_{S+D})*(1-W_S)*AF_D*EF_D])/365+PbB_0$
$PbB_{fetal, 0.95}$ =	$PbB_{adult} * (GSD_i^{1.645} * R)$

Source: U.S. EPA (1996). Recommendations of the Technical Review Workgroup for Lead for an Interim Approach to Assessing Risks Associated with Adult Exposures to Lead in Soi

TABLE 7-6
CALCULATION OF BLOOD LEAD CONCENTRATION – RESIDENTIAL CHILD EXPOSED TO DITCH SOIL AT SEAD-121C

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

LEAD MODEL FOR WINDOWS Version 1.0

==========

Model Version: 1.0 Build 261
User Name:
Date:
Site Name:
Operable Unit:
Run Mode: Research

==========

The time step used in this model run: 1 - Every 4 Hours (6 times a day).

****** Air ******

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

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

****** Diet ******

Age	Diet Intake(ug/day)
.5-1	5.530
1-2	5.780
2-3	6.490
3-4	6.240
4-5	6.010
5-6	6.340
6-7	7.000

****** Drinking Water ******

Water Consumption:

Age	Water (L/day)
.5-1	0.200
1-2	0.500

TABLE 7-6
CALCULATION OF BLOOD LEAD CONCENTRATION – RESIDENTIAL CHILD EXPOSED TO DITCH SOIL AT SEAD-121C

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

2-3	0.520
3-4	0.530
4-5	0.550
5-6	0.580
6-7	0.590

Drinking Water Concentration: 4.000 ug Pb/L

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

Multiple Source Analysis Used
Average multiple source concentration: 110.800 ug/g

Mass fraction of outdoor soil to indoor dust conversion factor: 0.700
Outdoor airborne lead to indoor household dust lead concentration: 100.000
Use alternate indoor dust Pb sources? No

Age	Soil (ug Pb/g)	House Dust (ug Pb/g)
.5-1	144.000	110.800
1-2	144.000	110.800
2-3	144.000	110.800
3-4	144.000	110.800
4-5	144.000	110.800
5-6	144.000	110.800
6-7	144.000	110.800

****** Alternate Intake ******

Age	Alternate (ug Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

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

Maternal Blood Concentration: 2.500 ug Pb/dL

****
CALCULATED BLOOD LEAD AND LEAD UPTAKES:
****

Year	Air (ug/day)	Diet (ug/day)	Alternate (ug/day)	Water (ug/day)

TABLE 7-6
CALCULATION OF BLOOD LEAD CONCENTRATION – RESIDENTIAL CHILD EXPOSED TO DITCH SOIL AT SEAD-121C

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

.5-1	0.021	2.584	0.000	0.374
1-2	0.034	2.686	0.000	0.929
2-3	0.062	3.039	0.000	0.974
3-4	0.067	2.951	0.000	1.003
4-5	0.067	2.883	0.000	1.055
5-6	0.093	3.057	0.000	1.119
6-7	0.093	3.383	0.000	1.141

Year	Soil+Dust (ug/day)	Total (ug/day)	Blood (ug/dL)
.5-1	2.996	5.974	3.3
1-2	4.732	8.382	3.5
2-3	4.770	8.845	3.3
3-4	4.816	8.836	3.1
4-5	3.619	7.625	2.7
5-6	3.274	7.544	2.4
6-7	3.099	7.717	2.2

TABLE 7-7A
RECEPTOR NOAEL HAZARD QUOTIENTS FOR SOIL EXPOSURE- SEAD-121C SOIL

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

COPC	Retained as Preliminary COC[(1)] Y/N	Deer Mouse Surface Soil NOAEL HQ	Deer Mouse Total Soil NOAEL HQ	American Robin Surface Soil NOAEL HQ	American Robin Total Soil NOAEL HQ	Short-Tailed Shrew Surface Soil NOAEL HQ	Short-Tailed Shrew Total Soil NOAEL HQ	Meadow Vole Surface Soil NOAEL HQ	Meadow Vole Total Soil NOAEL HQ	Red Fox Surface Soil NOAEL HQ	Red Fox Total Soil NOAEL HQ
Volatile Organic Compounds											
Benzene	N	3.E-04	1.E-02	N/A	N/A	3.E-04	1.E-02	4.E-04	2.E-02	3.E-04	2.E-02
Ethyl benzene	N	3.E-03	2.E-02	N/A	N/A	5.E-03	4.E-02	4.E-03	3.E-02	5.E-03	3.E-02
Meta/Para Xylene	Y	2.E-01	**7.E+00**	8.E-04	2.E-02	4.E-01	**1.E+01**	3.E-01	**8.E+00**	3.E-01	**9.E+00**
Semivolatile Organic Compounds											
Acenaphthene	N	9.E-02	9.E-02	4.E-03	4.E-03	1.E-01	1.E-01	2.E-01	2.E-01	1.E-02	1.E-02
Acenaphthylene	N	8.E-02	8.E-02	4.E-03	4.E-03	1.E-01	1.E-01	2.E-01	2.E-01	9.E-03	9.E-03
Anthracene	N	2.E-01	2.E-01	1.E-02	1.E-02	4.E-01	4.E-01	6.E-01	6.E-01	2.E-02	2.E-02
Benzo(a)anthracene	N	1.E-01	1.E-01	9.E-03	9.E-03	3.E-01	3.E-01	7.E-01	7.E-01	3.E-02	3.E-02
Benzo(a)pyrene	N	2.E-01	2.E-01	1.E-02	1.E-02	4.E-01	4.E-01	6.E-01	6.E-01	3.E-02	3.E-02
Benzo(b)fluoranthene	N	3.E-01	3.E-01	2.E-02	2.E-02	6.E-01	6.E-01	9.E-01	9.E-01	4.E-02	4.E-02
Benzo(ghi)perylene	N	8.E-02	8.E-02	5.E-03	5.E-03	2.E-01	2.E-01	2.E-01	2.E-01	1.E-02	1.E-02
Benzo(k)fluoranthene	N	2.E-01	2.E-01	1.E-02	1.E-02	4.E-01	4.E-01	6.E-01	6.E-01	3.E-02	3.E-02
Bis(2-Ethylhexyl)phthalate	N	3.E-05	3.E-05	5.E-04	5.E-04	3.E-05	3.E-05	5.E-05	5.E-05	3.E-05	3.E-05
Carbazole	N	2.E-02	2.E-02	6.E-03	6.E-03	6.E-02	6.E-02	7.E-02	7.E-02	9.E-02	9.E-02
Chrysene	N	1.E-01	1.E-01	1.E-02	1.E-02	3.E-01	3.E-01	7.E-01	7.E-01	2.E-02	2.E-02
Dibenz(a,h)anthracene	N	1.E-02	1.E-02	7.E-04	7.E-04	2.E-02	2.E-02	3.E-02	3.E-02	2.E-03	2.E-03
Dibenzofuran	N	4.E-02	4.E-02	2.E-03	2.E-03	1.E-01	1.E-01	1.E-01	1.E-01	2.E-01	2.E-01
Di-n-octylphthalate	N	2.E-08	2.E-08	4.E-05	4.E-05	2.E-07	2.E-07	2.E-07	2.E-07	4.E-07	4.E-07
Fluoranthene	N	6.E-02	6.E-02	4.E-02	4.E-02	1.E-01	1.E-01	2.E-01	2.E-01	7.E-03	7.E-03
Fluorene	N	9.E-03	9.E-03	5.E-03	5.E-03	1.E-02	1.E-02	2.E-02	2.E-02	1.E-03	1.E-03
Hexachlorobenzene	N	8.E-05	8.E-05	1.E-04	1.E-04	2.E-04	2.E-04	3.E-04	3.E-04	1.E-05	1.E-05
Indeno(1,2,3-cd)pyrene	N	3.E-02	3.E-02	2.E-03	2.E-03	5.E-02	5.E-02	7.E-02	7.E-02	4.E-03	4.E-03
Naphthalene	N	2.E-03	1.E-02	6.E-04	3.E-03	3.E-03	1.E-02	6.E-03	3.E-02	3.E-04	1.E-03
Phenanthrene	Y	9.E-01	9.E-01	4.E-02	4.E-02	**1.E+00**	**1.E+00**	**2.E+00**	**2.E+00**	1.E-01	1.E-01
Pyrene	Y	9.E-01	9.E-01	5.E-02	5.E-02	**2.E+00**	**2.E+00**	**3.E+00**	**3.E+00**	1.E-01	1.E-01
PCBs		**4.E+00**	**4.E+00**	2.E-01							
Aroclor-1242	N	3.E-01	3.E-01	7.E-02	7.E-02	4.E-01	4.E-01	5.E-02	5.E-02	1.E-02	1.E-02
Aroclor-1254	Y	**2.E+00**	**2.E+00**	**2.E+00**	**2.E+00**	**3.E+00**	**3.E+00**	4.E-01	4.E-01	1.E-01	1.E-01
Aroclor-1260	N	2.E-01	5.E-01	2.E-01	5.E-01	3.E-01	7.E-01	4.E-02	9.E-02	1.E-02	2.E-02
Pesticides											
4,4'-DDD	N	1.E-04	1.E-04	3.E-02	3.E-02	2.E-04	2.E-04	2.E-05	2.E-05	7.E-06	7.E-06
4,4'-DDE	N	3.E-02	3.E-02	4.E-02	4.E-02	4.E-02	4.E-02	4.E-03	4.E-03	1.E-03	1.E-03
4,4'-DDT	Y	5.E-02	5.E-02	**2.E+01**	**2.E+01**	7.E-02	7.E-02	8.E-03	8.E-03	2.E-03	2.E-03
Aldrin	N	3.E-03	3.E-03	1.E-02	1.E-02	6.E-03	6.E-03	8.E-03	8.E-03	1.E-02	1.E-02
Alpha-Chlordane	N	2.E-04	2.E-04	9.E-04	9.E-04	7.E-04	7.E-04	1.E-03	1.E-03	1.E-03	1.E-03
Delta-BHC	N	1.E-05	1.E-05	1.E-04	1.E-04	3.E-05	3.E-05	4.E-05	4.E-05	5.E-05	5.E-05
Dieldrin	N	4.E-02	4.E-02	2.E-02	2.E-02	1.E-01	1.E-01	1.E-01	1.E-01	2.E-01	2.E-01
Endosulfan I	N	4.E-02	4.E-02	8.E-04	8.E-04	8.E-02	8.E-02	1.E-01	1.E-01	1.E-01	1.E-01
Endosulfan II	N	2.E-03	2.E-03	4.E-05	4.E-05	4.E-03	4.E-03	5.E-03	5.E-03	6.E-03	6.E-03
Endrin	N	5.E-03	6.E-03	3.E-03	3.E-03	1.E-02	2.E-02	2.E-02	2.E-02	2.E-02	2.E-02
Endrin ketone	N	2.E-03	2.E-03	9.E-04	1.E-03	5.E-03	7.E-03	7.E-03	9.E-03	8.E-03	1.E-02
Gamma-Chlordane	N	4.E-06	4.E-06	2.E-05	2.E-05	1.E-05	1.E-05	2.E-05	2.E-05	2.E-05	2.E-05
Heptachlor	N	6.E-02	6.E-02	1.E-01	1.E-01	8.E-02	8.E-02	9.E-03	9.E-03	3.E-03	3.E-03
Heptachlor epoxide	N	1.E-02	1.E-02	3.E-02	3.E-02	2.E-02	2.E-02	2.E-03	2.E-03	5.E-04	5.E-04

TABLE 7-7A
RECEPTOR NOAEL HAZARD QUOTIENTS FOR SOIL EXPOSURE- SEAD-121C SOIL

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

COPC	Retained as Preliminary COC[(1)] Y/N	Deer Mouse Surface Soil NOAEL HQ	Deer Mouse Total Soil NOAEL HQ	American Robin Surface Soil NOAEL HQ	American Robin Total Soil NOAEL HQ	Short-Tailed Shrew Surface Soil NOAEL HQ	Short-Tailed Shrew Total Soil NOAEL HQ	Meadow Vole Surface Soil NOAEL HQ	Meadow Vole Total Soil NOAEL HQ	Red Fox Surface Soil NOAEL HQ	Red Fox Total Soil NOAEL HQ
Metals											
Aluminum	Y	7.E-01	7.E-01	1.E-02	1.E-02	7.E-01	7.E-01	**1.E+00**	**1.E+00**	5.E-01	5.E-01
Antimony	Y	**2.E+02**	**2.E+02**	N/A	N/A	**2.E+02**	**2.E+02**	**2.E+02**	**2.E+02**	**1.E+01**	**1.E+01**
Arsenic	N	5.E-01	5.E-01	3.E-01	3.E-01	8.E-01	8.E-01	8.E-01	8.E-01	4.E-02	4.E-02
Barium	Y	**2.E+00**	**2.E+00**	**5.E+00**	**5.E+00**	**2.E+00**	**2.E+00**	**3.E+00**	**3.E+00**	1.E-01	1.E-01
Cadmium	Y	**9.E+00**	**9.E+00**	**8.E+00**	**8.E+00**	**1.E+01**	**1.E+01**	**3.E+00**	**3.E+00**	5.E-01	5.E-01
Chromium	N	1.E-04	1.E-04	5.E-01	5.E-01	4.E-04	4.E-04	2.E-03	2.E-03	8.E-05	8.E-05
Cobalt	N	4.E-01	5.E-01	1.E-02	1.E-02	7.E-01	8.E-01	7.E-01	8.E-01	8.E-02	9.E-02
Copper	Y	**2.E+01**	**2.E+01**	**7.E+00**	**7.E+00**	**2.E+01**	**2.E+01**	**7.E+01**	**7.E+01**	**4.E+00**	**4.E+00**
Iron	Y	**2.E+01**	**2.E+01**	3.E-03	3.E-03	**2.E+01**	**2.E+01**	**2.E+01**	**2.E+01**	**1.E+01**	**1.E+01**
Lead	Y	**3.E+01**	**3.E+01**	**1.E+02**	**1.E+02**	**6.E+01**	**6.E+01**	**2.E+02**	**2.E+02**	**5.E+00**	**5.E+00**
Manganese	N	3.E-01	3.E-01	3.E-01	3.E-01	4.E-01	4.E-01	8.E-01	8.E-01	3.E-02	3.E-02
Mercury	N	7.E-03	7.E-03	3.E-02	3.E-02	2.E-02	2.E-02	3.E-02	3.E-02	2.E-02	2.E-02
Nickel	N	5.E-02	5.E-02	7.E-02	7.E-02	1.E-01	1.E-01	4.E-01	4.E-01	2.E-02	2.E-02
Selenium	N	4.E-01	4.E-01	3.E-01	3.E-01	7.E-01	7.E-01	4.E-01	4.E-01	5.E-02	5.E-02
Silver	Y	**6.E+00**	**6.E+00**	1.E-02	1.E-02	**7.E+00**	**7.E+00**	**6.E+00**	**6.E+00**	4.E-01	4.E-01
Thallium	Y	6.E-01	9.E-01	3.E-01	5.E-01	9.E-01	**2.E+00**	5.E-01	9.E-01	1.E-01	2.E-01
Vanadium	N	5.E-01	5.E-01	2.E-01	3.E-01	8.E-01	9.E-01	5.E-01	5.E-01	3.E-02	3.E-02
Zinc	Y	**4.E+00**	**4.E+00**	**7.E+00**	**7.E+00**	**6.E+00**	**6.E+00**	**1.E+00**	**1.E+00**	6.E-01	6.E-01

NOAEL = No Observed Adverse Effect Level
COPC = Chemical of Potential Concern
SEV = Screening Ecotoxicity Value
HQ = Hazard Quotient (Exposure/SEV)
COC = Chemical of Concern
(1) COPC considered a preliminary COC if NOAEL HQ > 1 or HQ=1 for any receptor
(2) HQs based on the maximum detected concentrations.
Note: HQ>1 and HQ=1 are in bold.

TABLE 7-7B
RECEPTOR NOAEL HAZARD QUOTIENTS FOR DITCH SOIL EXPOSURE- SEAD-121C DITCH SOIL

SEAD-121C AND SEAD-121I Record of Decision
Seneca Army Depot Activity

COPC	Retained as Preliminary COC[1] Y/N	Deer Mouse Ditch Soil NOAEL HQ	American Robin Ditch Soil NOAEL HQ	Short-Tailed Shrew Ditch Soil NOAEL HQ	Meadow Vole Ditch Soil NOAEL HQ	Red Fox Ditch Soil NOAEL HQ	Great Blue Heron Ditch Soil NOAEL HQ
Semivolatile Organic Compounds							
3 or 4-Methylphenol	N	5.E-04	6.E-02	4.E-04	1.E-03	7.E-04	2.E-01
Anthracene	N	8.E-03	4.E-04	1.E-02	2.E-02	9.E-04	8.E-05
Benzo(a)anthracene	N	1.E-02	1.E-03	3.E-02	8.E-02	3.E-03	3.E-04
Benzo(a)pyrene	N	2.E-02	1.E-03	4.E-02	7.E-02	3.E-03	3.E-04
Benzo(b)fluoranthene	N	3.E-02	2.E-03	5.E-02	8.E-02	4.E-03	4.E-04
Benzo(ghi)perylene	N	8.E-03	4.E-04	1.E-02	2.E-02	9.E-04	9.E-05
Benzo(k)fluoranthene	N	2.E-02	1.E-03	3.E-02	4.E-02	2.E-03	2.E-04
Bis(2-Ethylhexyl)phthalat	N	3.E-05	5.E-04	3.E-05	5.E-05	3.E-05	2.E-04
Chrysene	N	2.E-02	1.E-03	4.E-02	9.E-02	3.E-03	4.E-04
Fluoranthene	N	5.E-03	3.E-03	8.E-03	1.E-02	6.E-04	7.E-04
Indeno(1,2,3-cd)pyrene	N	8.E-03	4.E-04	1.E-02	2.E-02	1.E-03	9.E-05
Phenanthrene	N	3.E-02	2.E-03	5.E-02	9.E-02	4.E-03	4.E-04
Pyrene	N	6.E-02	3.E-03	1.E-01	2.E-01	7.E-03	7.E-04
Metals							
Aluminum	Y	7.E-01	1.E-02	7.E-01	**1.E+00**	5.E-01	4.E-03
Antimony	Y	**3.E+00**	N/A	**5.E+00**	**4.E+00**	2.E-01	N/A
Arsenic	N	3.E-01	2.E-01	4.E-01	4.E-01	2.E-02	2.E-02
Cadmium	Y	**4.E+00**	**4.E+00**	**6.E+00**	**1.E+00**	2.E-01	1.E-01
Chromium	N	5.E-05	2.E-01	2.E-04	7.E-04	4.E-05	1.E-01
Cobalt	N	4.E-01	1.E-02	7.E-01	7.E-01	7.E-02	2.E-03
Copper	Y	**3.E+00**	8.E-01	**3.E+00**	**9.E+00**	5.E-01	3.E-01
Cyanide	Y	1.E-02	**3.E+00**	2.E-02	5.E-03	6.E-03	**1.E+00**
Iron	Y	**2.E+01**	3.E-03	**2.E+01**	**2.E+01**	**1.E+01**	1.E-03
Lead	Y	7.E-01	**3.E+00**	**1.E+00**	**4.E+00**	1.E-01	**1.E+00**
Manganese	N	3.E-01	4.E-01	4.E-01	9.E-01	3.E-02	9.E-02
Mercury	N	4.E-03	2.E-02	1.E-02	2.E-02	1.E-02	4.E-02
Nickel	N	9.E-03	1.E-02	2.E-02	7.E-02	4.E-03	6.E-03
Selenium	Y	9.E-01	5.E-01	**1.E+00**	8.E-01	9.E-02	6.E-02
Silver	N	7.E-01	2.E-03	9.E-01	8.E-01	5.E-02	1.E-04
Vanadium	N	6.E-01	3.E-01	9.E-01	5.E-01	4.E-02	3.E-02
Zinc	Y	6.E-01	**1.E+00**	9.E-01	2.E-01	1.E-01	1.E-01

NOAEL = No Observed Adverse Effect Level
COPC = Chemical of Potential Concern
SEV = Screening Ecotoxicity Value
HQ = Hazard Quotient (Exposure/SEV)
COC = Chemical of Concern
(1) COPC considered a preliminary COC if NOAEL HQ > 1 or HQ=1 for any receptor
(2) HQs based on the maximum detected concentrations.
Note: HQ>1 and HQ=1 are in bold.

Table 7-8
Contaminants of Concern by Media – SEAD-121I

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

Class/Analyte	Surface Soil	Ditch Soil	Surface Water
Semivolatile Organic Compounds (SVOCs)			
Benzo(a)anthracene	X	X	
Benzo(a)pyrene	X	X	
Benzo(b)fluoranthene	X	X	
Benzo(k)fluoranthene	X	X	
Chrysene	X	X	
Dibenz(a,h)anthracene	X	X	
Indeno(1,2,3-cd)pyrene	X	X	
Pesticides and Polychlorinated Biphenyls (PCBs)			
Dieldrin	X		
Heptaclor Epoxide	X		
Metals and Cyanide			
Arsenic	X	X	
Chromium	X		
Iron	X	X	
Manganese	X	X	
Thallium	X	X	
Vanadium	X		

Table 7-9
CALCULATION OF TOTAL NONCARCINOGENIC AND CARCINOGENIC RISKS - SEAD-121I
REASONABLE MAXIMUM EXPOSURE (RME)
SEAD-121C AND SEAD-121I RECORD OF DECISION
Seneca Army Depot Activity

RECEPTOR	EXPOSURE ROUTE	REASONABLE MAXIMUM EXPOSURE (RME)			
		HAZARD INDEX		CANCER RISK	
		Hazard Index	Percent Contribution	Cancer Risk	Percent Contribution
INDUSTRIAL WORKER (Total Soil)	Inhalation of Dust in Ambient Air (Soil	2E-01	47%	1E-06	2%
	Ingestion of Soil	2E-01	47%	3E-05	55%
	Dermal Contact to Soil	2E-02	6%	3E-05	43%
	TOTAL RECEPTOR RISK (Nc & Car)	***4.1E-01***	**100%**	***6.3E-05***	**100%**
CONSTRUCTION WORKER (Total Soil)	Inhalation of Dust in Ambient Air (Soil	8E-01	56%	5E-08	1%
	Ingestion of Soil	6E-01	42%	5E-06	73%
	Dermal Contact to Soil	4E-02	2%	2E-06	26%
	TOTAL RECEPTOR RISK (Nc & Car)	***1.5E+00***	**100%**	***6.3E-06***	**100%**
ADOLESCENT TRESPASSER (Total Soil)	Inhalation of Dust in Ambient Air (Soil	4E-03	18%	6E-09	1%
	Ingestion of Soil	1E-02	76%	5E-07	67%
	Dermal Contact to Soil	1E-03	6%	3E-07	33%
	TOTAL RECEPTOR RISK (Nc & Car)	***2.0E-02***	**100%**	***8.2E-07***	**100%**

NQ= Not quantified due to lack of toxicity data.
Shading indicates that the HQ > 1, or the cancer risk is greater than 10-4.

Table 7-10
Contributing COPCs to Human Health Risk at SEAD-121I
SEAD-121C AND SEAD-121I Record of Decision
Seneca Army Depot Activity

Receptors	Exposure Route	Contributing COPC	Hazard Quotient	Percent Contribution
Construction Worker	Inhalation of Dust in Ambient Air Due to Soil	Manganese	8E-01	100%
		Chromium	3E-03	0%
		Total	**8.3E-01**	
	Ingestion of Soil	Manganese	3E-01	54%
		Dieldrin	4E-04	0%
		Heptachlor Epoxide	2E-04	0%
		Arsenic	7E-02	11%
		Chromium	2E-02	3%
		Iron	2E-01	31%
		Thallium	2E-03	0%
		Vanadium	6E-03	1%
		Total	**6.3E-01**	
	Dermal Contact to Soil	Manganese	3.E-02	72%
		Dieldrin	1.E-04	0%
		Heptachlor Epoxide	5.E-05	0%
		Arsenic	6.E-03	18%
		Chromium	2.E-03	6%
		Iron	6.E-04	2%
		Thallium	7.E-06	0%
		Vanadium	7.E-04	2%
		Total	**3.5E-02**	

Overall Manganese HI	1.19
Overall CW HI	1.50
Percent of Manganese	80%
Percentage inhalation	56%

TABLE 7-11A
RECEPTOR NOAEL HAZARD QUOTIENTS FOR SOIL EXPOSURE- SEAD-121I SOIL

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

COPC	Retained as Preliminary COC(1) Y/N	Deer Mouse Surface Soil NOAEL HQ	American Robin Surface Soil NOAEL HQ	Short-Tailed Shrew Surface Soil NOAEL HQ	Meadow Vole Surface Soil NOAEL HQ	Red Fox Surface Soil NOAEL HQ
Semivolatile Organic Compounds						
Acenaphthene	N	2.E-01	1.E-02	3.E-01	6.E-01	2.E-02
Acenaphthylene	N	2.E-02	9.E-04	3.E-02	5.E-02	2.E-03
Anthracene	Y	4.E-01	2.E-02	6.E-01	**1.E+00**	4.E-02
Benzo(a)anthracene	Y	4.E-01	3.E-02	8.E-01	**2.E+00**	7.E-02
Benzo(a)pyrene	Y	6.E-01	3.E-02	**1.E+00**	**2.E+00**	7.E-02
Benzo(b)fluoranthene	Y	8.E-01	4.E-02	**1.E+00**	**2.E+00**	9.E-02
Benzo(ghi)perylene	Y	8.E-01	4.E-02	**1.E+00**	**2.E+00**	9.E-02
Benzo(k)fluoranthene	Y	6.E-01	3.E-02	**1.E+00**	**2.E+00**	7.E-02
Bis(2-Ethylhexyl)phthalate	N	1.E-03	5.E-02	3.E-03	7.E-03	2.E-04
Carbazole	N	4.E-02	1.E-02	9.E-02	1.E-01	1.E-01
Chrysene	Y	5.E-01	3.E-02	**1.E+00**	**2.E+00**	9.E-02
Dibenz(a,h)anthracene	N	1.E-01	7.E-03	2.E-01	3.E-01	2.E-02
Dibenzofuran	N	5.E-02	3.E-03	1.E-01	2.E-01	2.E-01
Fluoranthene	N	1.E-01	9.E-02	2.E-01	4.E-01	2.E-02
Fluorene	N	1.E-02	7.E-03	2.E-02	3.E-02	1.E-03
Indeno(1,2,3-cd)pyrene	N	2.E-01	1.E-02	4.E-01	6.E-01	3.E-02
Naphthalene	N	4.E-03	1.E-03	5.E-03	1.E-02	4.E-04
Phenanthrene	Y	**2.E+00**	8.E-02	**3.E+00**	**4.E+00**	2.E-01
Pyrene	Y	**2.E+00**	1.E-01	**3.E+00**	**5.E+00**	2.E-01
PCBs						
Aroclor-1254	N	7.E-02	8.E-02	1.E-01	1.E-02	3.E-03
Aroclor-1260	N	1.E-01	1.E-01	2.E-01	2.E-02	5.E-03
Pesticides						
4,4'-DDE	N	1.E-02	2.E-02	2.E-02	2.E-03	6.E-04
4,4'-DDT	Y	2.E-02	**7.E+00**	3.E-02	3.E-03	9.E-04
Aldrin	N	3.E-03	1.E-02	5.E-03	7.E-03	8.E-03
Dieldrin	N	3.E-02	2.E-02	9.E-02	1.E-01	1.E-01
Endosulfan I	N	2.E-02	4.E-04	4.E-02	5.E-02	7.E-02
Endrin	N	7.E-03	4.E-03	2.E-02	3.E-02	3.E-02
Heptachlor epoxide	N	2.E-01	5.E-01	3.E-01	3.E-02	1.E-02
Metals						
Aluminum	N	2.E-01	3.E-03	2.E-01	2.E-01	1.E-01
Antimony	Y	**5.E+00**	N/A	**8.E+00**	**5.E+00**	4.E-01
Arsenic	Y	**1.E+00**	8.E-01	**2.E+00**	**2.E+00**	1.E-01
Cadmium	Y	**2.E+00**	**2.E+00**	**3.E+00**	6.E-01	1.E-01
Chromium	Y	7.E-04	**3.E+00**	3.E-03	1.E-02	5.E-04
Cobalt	Y	**5.E+00**	1.E-01	**8.E+00**	**9.E+00**	9.E-01
Copper	Y	5.E-01	1.E-01	5.E-01	**2.E+00**	8.E-02
Cyanide	Y	1.E-02	**2.E+00**	2.E-02	4.E-03	5.E-03
Iron	N	5.E-01	1.E-04	5.E-01	7.E-01	4.E-01
Lead	Y	2.E-01	9.E-01	4.E-01	**1.E+00**	4.E-02
Manganese	Y	**9.E+01**	**1.E+02**	**1.E+02**	**3.E+02**	**1.E+01**
Nickel	N	7.E-02	1.E-01	2.E-01	6.E-01	3.E-02
Selenium	Y	**5.E+01**	**3.E+01**	**8.E+01**	**5.E+01**	**5.E+00**
Silver	Y	8.E-01	2.E-03	**1.E+00**	9.E-01	6.E-02
Thallium	Y	**8.E+01**	**5.E+01**	**1.E+02**	**8.E+01**	**1.E+01**
Vanadium	Y	**4.E+00**	**2.E+00**	**6.E+00**	**3.E+00**	2.E-01
Zinc	N	3.E-01	6.E-01	5.E-01	1.E-01	5.E-02

NOAEL = No Observed Adverse Effect Level
COPC = Chemical of Potential Concern
SEV = Screening Ecotoxicity Value
HQ = Hazard Quotient (Exposure/SEV)
COC = Chemical of Concern
(1) COPC considered a preliminary COC if NOAEL HQ > 1 or HQ=1 for any receptor
(2) HQs based on the maximum detected concentrations.
Note: HQ>1 and HQ=1 are in bold.

TABLE 7-11B
RECEPTOR NOAEL HAZARD QUOTIENTS FOR DITCH SOIL EXPOSURE- SEAD-121I DITCH SOIL

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

COPC	Retained as Preliminary COC[(1)] Y/N	Deer Mouse Ditch Soil NOAEL HQ	American Robin Ditch Soil NOAEL HQ	Short-Tailed Shrew Ditch Soil NOAEL HQ	Meadow Vole Ditch Soil NOAEL HQ	Red Fox Ditch Soil NOAEL HQ	Great Blue Heron Ditch Soil NOAEL HQ
Semivolatile Organic Compounds							
Acenaphthene	N	3.E-02	1.E-03	4.E-02	7.E-02	3.E-03	2.E-04
Acenaphthylene	N	1.E-02	7.E-04	2.E-02	4.E-02	2.E-03	1.E-04
Anthracene	N	5.E-02	3.E-03	9.E-02	1.E-01	6.E-03	6.E-04
Benzo(a)anthracene	Y	2.E-01	1.E-02	4.E-01	**1.E+00**	4.E-02	4.E-03
Benzo(a)pyrene	Y	4.E-01	2.E-02	8.E-01	**1.E+00**	5.E-02	5.E-03
Benzo(b)fluoranthene	Y	6.E-01	3.E-02	**1.E+00**	**2.E+00**	7.E-02	7.E-03
Benzo(ghi)perylene	N	3.E-01	2.E-02	6.E-01	9.E-01	4.E-02	4.E-03
Benzo(k)fluoranthene	Y	7.E-01	4.E-02	**1.E+00**	**2.E+00**	8.E-02	7.E-03
Butylbenzylphthalate	N	5.E-05	1.E-02	1.E-04	2.E-04	2.E-04	3.E-02
Carbazole	N	9.E-03	2.E-03	2.E-02	3.E-02	3.E-02	7.E-03
Chrysene	Y	4.E-01	3.E-02	8.E-01	**2.E+00**	7.E-02	8.E-03
Dibenz(a,h)anthracene	N	1.E-01	8.E-03	2.E-01	4.E-01	2.E-02	2.E-03
Dibenzofuran	N	9.E-03	4.E-04	2.E-02	3.E-02	4.E-02	1.E-03
Fluoranthene	N	5.E-02	4.E-02	9.E-02	1.E-01	6.E-03	8.E-03
Fluorene	N	2.E-03	1.E-03	3.E-03	4.E-03	2.E-04	2.E-04
Indeno(1,2,3-cd)pyrene	N	4.E-01	2.E-02	7.E-01	9.E-01	5.E-02	4.E-03
Naphthalene	N	2.E-03	6.E-04	3.E-03	5.E-03	2.E-04	1.E-04
Phenanthrene	N	2.E-01	1.E-02	3.E-01	5.E-01	2.E-02	2.E-03
Phenol	N	1.E-03	3.E-02	8.E-04	3.E-03	1.E-03	7.E-02
Pyrene	Y	5.E-01	3.E-02	8.E-01	**1.E+00**	6.E-02	5.E-03
PCBs							
Aroclor-1254	N	2.E-01	2.E-01	2.E-01	3.E-02	8.E-03	5.E-03
Aroclor-1260	N	3.E-02	4.E-02	5.E-02	6.E-03	2.E-03	1.E-03
Pesticides							
4,4'-DDE	N	3.E-03	5.E-03	4.E-03	5.E-04	1.E-04	1.E-04
Metals							
Aluminum	N	2.E-01	3.E-03	2.E-01	2.E-01	1.E-01	8.E-04
Arsenic	Y	**4.E+00**	**3.E+00**	**7.E+00**	**7.E+00**	3.E-01	4.E-01
Cadmium	N	2.E-01	2.E-01	4.E-01	7.E-02	1.E-02	7.E-03
Chromium	N	1.E-04	6.E-01	5.E-04	2.E-03	9.E-05	3.E-01
Cobalt	Y	**2.E+00**	6.E-02	**4.E+00**	**4.E+00**	4.E-01	1.E-02
Copper	N	3.E-01	9.E-02	3.E-01	1.E+00	5.E-02	3.E-02
Iron	N	5.E-01	1.E-04	5.E-01	7.E-01	4.E-01	3.E-05
Lead	N	1.E-01	7.E-01	3.E-01	8.E-01	3.E-02	2.E-01
Manganese	Y	**5.E+00**	**6.E+00**	**6.E+00**	**1.E+01**	5.E-01	**1.E+00**
Mercury	N	2.E-03	1.E-02	7.E-03	1.E-02	7.E-03	2.E-02
Nickel	N	3.E-02	4.E-02	8.E-02	3.E-01	1.E-02	2.E-02
Selenium	Y	**6.E+00**	**4.E+00**	**1.E+01**	**6.E+00**	6.E-01	4.E-01
Silver	Y	**3.E+00**	6.E-03	**4.E+00**	**3.E+00**	2.E-01	6.E-04
Thallium	Y	**1.E+01**	**6.E+00**	**2.E+01**	**1.E+01**	**2.E+00**	**1.E+00**
Vanadium	Y	**1.E+00**	6.E-01	**2.E+00**	**1.E+00**	7.E-02	6.E-02
Zinc	Y	6.E-01	**1.E+00**	9.E-01	2.E-01	9.E-02	1.E-01

NOAEL = No Observed Adverse Effect Level

COPC = Chemical of Potential Concern

SEV = Screening Ecotoxicity Value

HQ = Hazard Quotient (Exposure/SEV)

COC = Chemical of Concern

(1) COPC considered a preliminary COC if NOAEL HQ > 1 or HQ=1 for any receptor

(2) HQs based on the maximum detected concentrations.

Note: HQ>1 and HQ=1 are in bold.

TABLE 10-1
Summary of Remedial Alternative Costs

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

Soil Alternative Costs Only

	SEAD-121C			SEAD-121I		
Remedial Alternative	**Capital Costs ($)**	**OM&M Costs ($/yr)**	**Present Worth Costs ($)***	**Capital Costs ($)**	**OM&M Costs ($/yr)**	**Present Worth Costs ($)***
No Action Soil Alternative (SA 1)	$0	$0	**$0**	$0	$0	**$0**
Soil Unrestricted Use Alternative, (SA 2)	$17,600,000	$0	**$17,600,000**	$4,542,500	$0	**$4,542,500**
Soil Industrial Use Alternative (SA 3)	$1,330,000	$3,000	**$1,367,230**	$1,046,000	$3,000	**$1,083,230**
Soil Land Use Control Alternative (SA 4)	$0	$3,000	**$37,230**	$0	$3,000	**$37,230**

Groundwater Alternative Costs Only

	SEAD-121C			SEAD-121I		
Remedial Alternative	**Capital Costs ($)**	**OM&M Costs ($/yr)**	**Present Worth Costs ($)***	**Capital Costs ($)**	**OM&M Costs ($/yr)**	**Present Worth Costs ($)***
"No Action"Groundwater Alternative (GwA 1)	$0	$0	**$0**	$0	$0	**$0**
Groundwater Use Restriction Alternative (GwA 2)	$0	$3,000	**$37,230**	$0	$3,000	**$37,230**

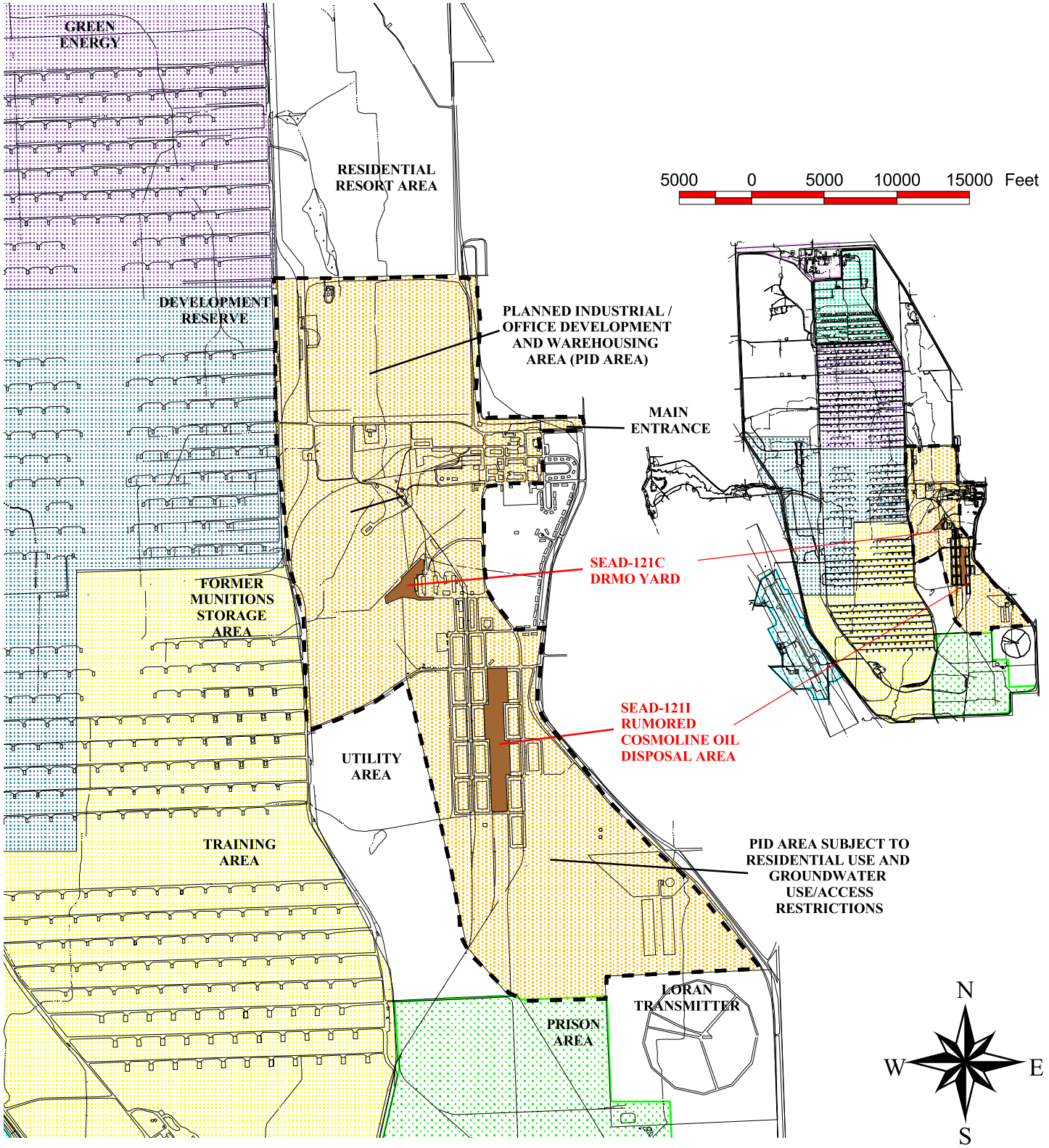
Combined Soil and Groundwater Alternative Costs

	SEAD-121C			SEAD-121I		
Remedial Alternative	**Capital Costs ($)**	**OM&M Costs ($/yr)**	**Present Worth Costs ($)***	**Capital Costs ($)**	**OM&M Costs ($/yr)**	**Present Worth Costs ($)***
Soil/Groundwater Alternative SA 1 and GwA 1	$0	$0	**$0**	$0	$0	**$0**
Soil/Groundwater Alternative SA 1 and GwA 2	$0	$3,000	**$37,230**	$0	$3,000	**$37,230**
Soil/Groundwater Alternative SA 2 and GwA 1	$17,600,000	$0	**$17,600,000**	$4,542,500	$0	**$4,542,500**
Soil/Groundwater Alternative SA 2 and GwA 2	$17,600,000	$3,000	**$17,637,230**	$4,542,500	$3,000	**$4,579,730**
Soil/Groundwater Alternative SA 3 and GwA 1	$1,330,000	$3,000	**$1,367,230**	$1,046,000	$3,000	**$1,083,230**
Soil/Groundwater Alternative SA 3 and GwA 2	$1,330,000	$6,000	**$1,404,460**	$1,046,000	$6,000	**$1,120,460**
Soil/Groundwater Alternative SA 4 and GwA 1	$0	$3,000	**$37,230**	$0	$3,000	**$37,230**
Soil/Groundwater Alternative SA 4 and GwA 2	$0	$6,000	**$74,460**	$0	$6,000	**$74,460**

* Present worth cost calculated on a discount rate of 7% and a 30 year period.

FIGURES

NUMBER **TITLE**



2000 0 2000 4000 6000 8000 Feet

Land of the Planned Industrial / Office Development and Warehousing Area (PID Area) that is subject to Residential Use and Groundwater Access/Use Restrictions.

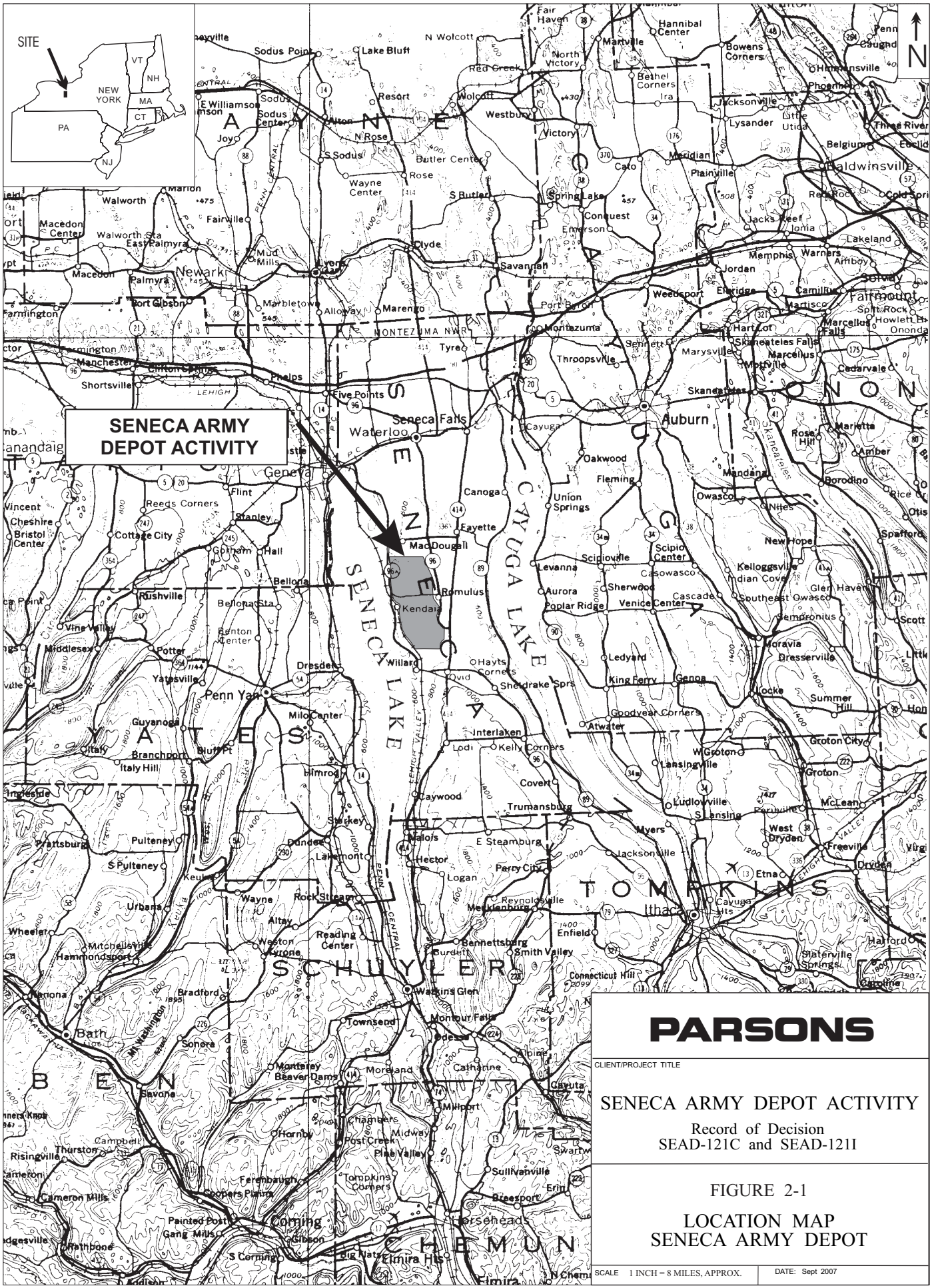
SEAD-121C and SEAD-121I, AOCs that are the subjects of this ROD, and that will be subject to LUCs and ICs that prohibit residential housing, elementary and secondary schools, childcare facilities and playgrounds and access to and use of groundwater once this ROD is approved.

PARSONS

SENECA ARMY DEPOT ACTIVITY
Record of Decsion
SEAD-121C and SEAD-121I

FIGURE 1-1
LOCATION OF SEAD-121C and SEAD-121I
AT SENECA ARMY DEPOT ACTIVITY

o:\seneca\PIDarea\ri_report\sead-121c_i rod.apr\Figure 1-1 SEAD-121C_I ROD



PARSONS

CLIENT/PROJECT TITLE

SENECA ARMY DEPOT ACTIVITY

Record of Decision
SEAD-121C and SEAD-121I

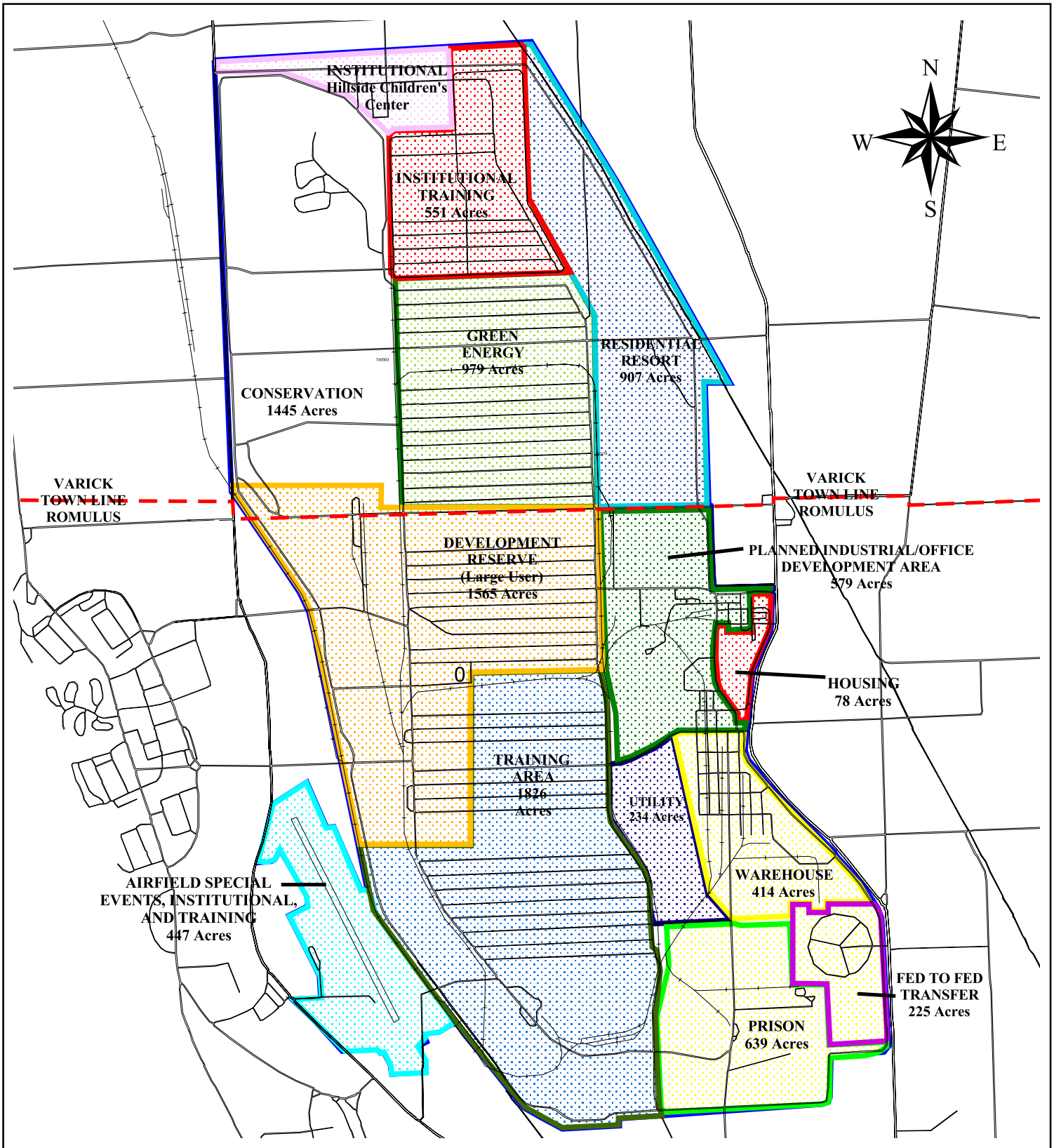
FIGURE 2-1

LOCATION MAP
SENECA ARMY DEPOT

SCALE 1 INCH = 8 MILES, APPROX.

DATE: Sept 2007

P:\PIT\Projects\Seneca PBC II\SEAD-121C\ROD\DRAFT\Figure 2-1 LOC MAP.CDR



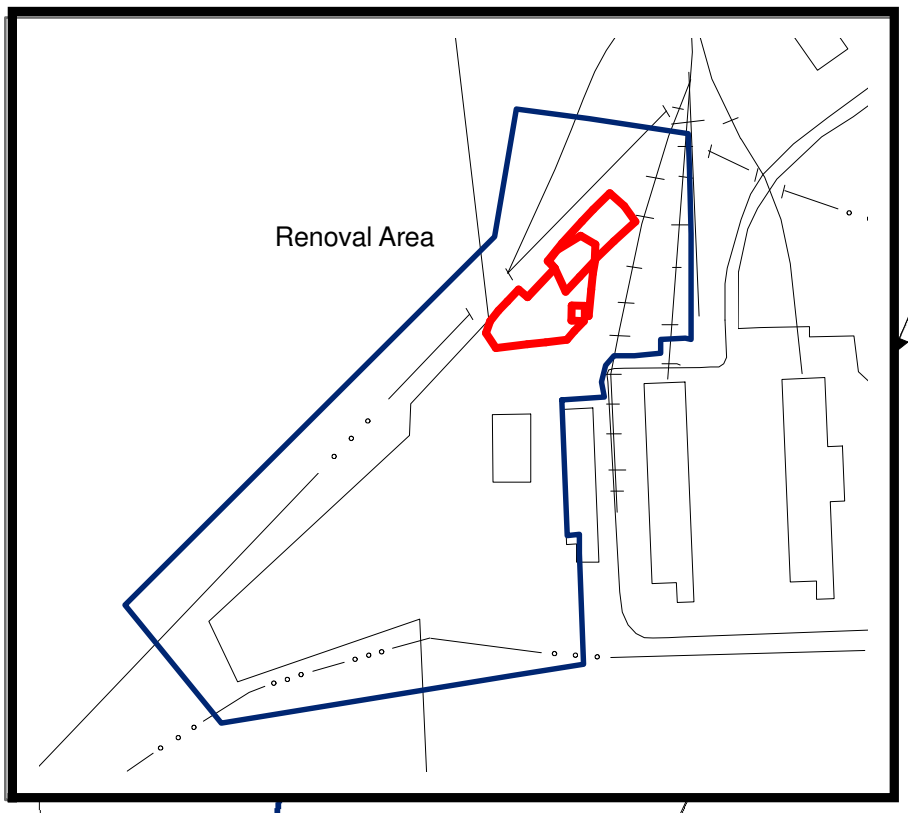
PARSONS

SENECA ARMY DEPOT ACTIVITY
Record of Decision
SEAD-121C and SEAD-121I

FIGURE 3-1
PLANNED LAND USE
AT SENECA ARMY DEPOT ACTIVITY

o:\seneca\PIDarea\ri_report\sead-121c_i rod.apr\Figure 3-1 Land Use

o:/seneca/PIDarea/sead121c_irod/figure3-2.mxd



N

S121CEXPR-09 635
S121CEXPR-10 380
S121CEXFL-10
4 Foot Excavation 326
S121CEXPR-19 328
2 Foot Excavation
S121CEXPR-08
S121CEXFL-15
S121CEXPR-11 76
1 Foot Excavation
S121CEXFL-9 617
S121CEXPR-18 453
S121CEXPR-07
S121CEXFL-14 1340
S121CEXFL-13 7
S121CEXPR-17 589
S121CEXPR-12 183
2 Foot Excavation
S121CEXFL-12 13
S121CEXFL-8 1450
S121CEXFL-7
S121CEXPR-06 135
S121CEXPR-13 318
S121CEXFL-6 48
S121CEXPR-14 248
S121CEXFL-3 28
S121CEXFL-5
S121CEXPR-05 253
1 Foot Excavation
S121CEXPR-15 1260
S121CEXFL-2 881
S121CEXFL-4 306
S121CEXFL-1 444
S121CEXPR-01 960
S121CEXPR-04 373
S121CEXPR-03 658
S121CEXPR-02 403

LEGEND:

- Surface Soil Location
- Soil Boring Location
- Surface Water/Ditch Soil Location
- Ditch Soil Location EBS
- Railroad Tracks
- Site Boundary
- Surface Water
- Surface Water Flow Direction

NOTE:

Original Confirmatory Samples 121CEXFL-7, 121CEXPR-7, and 121CEXPR-8 were removed by a second excavation. Data not representative of site conditions and therfore eliminated.

- Perimeter Soil Sample Location
- Floor Soil Sample Location
- 1- foot Excavation Lmit Survey Point Location
- 2 -foot Excavation Lmit Survey Point Location
- 556 Lead Result in mg/Kg

0 12.5 25 50 75 Feet

PARSONS

SENECA ARMY DEPOT ACTIVITY

SEAD-121C & 121I Record Of Decision

FIGURE 3-2
Results of Confirmatory Samples

Job #: 741172-02300 | Date: JULY 2007

o:/seneca/PIDarea/ri_report/sead121c_irod/figure3-3.mxd

LEGEND:

- Surface Soil Location
- Soil Boring Location
- Surface Water/Ditch Soil Location
- Ditch Soil Location EBS
- Railroad Tracks
- Site Boundary
- Surface Water
- Surface Water Flow Direction

NOTE:

Samples labeled in BLUE were col lecated during EBS investigation. Samples labeled in BLACK were collected during RI sampling.

SS121I-16 / 24400 / 442 — RI Sample Location ID; Iron Concentration (mg/Kg); Manganese Concentration (mg/Kg)

121IEXFL-12 / 16100 / 1030 — Stockpile Removal Confirmatory Sample Location ID; Iron Concentration (mg/Kg); Manganese Concentration (mg/Kg)

150 75 0 150 Feet

PARSONS

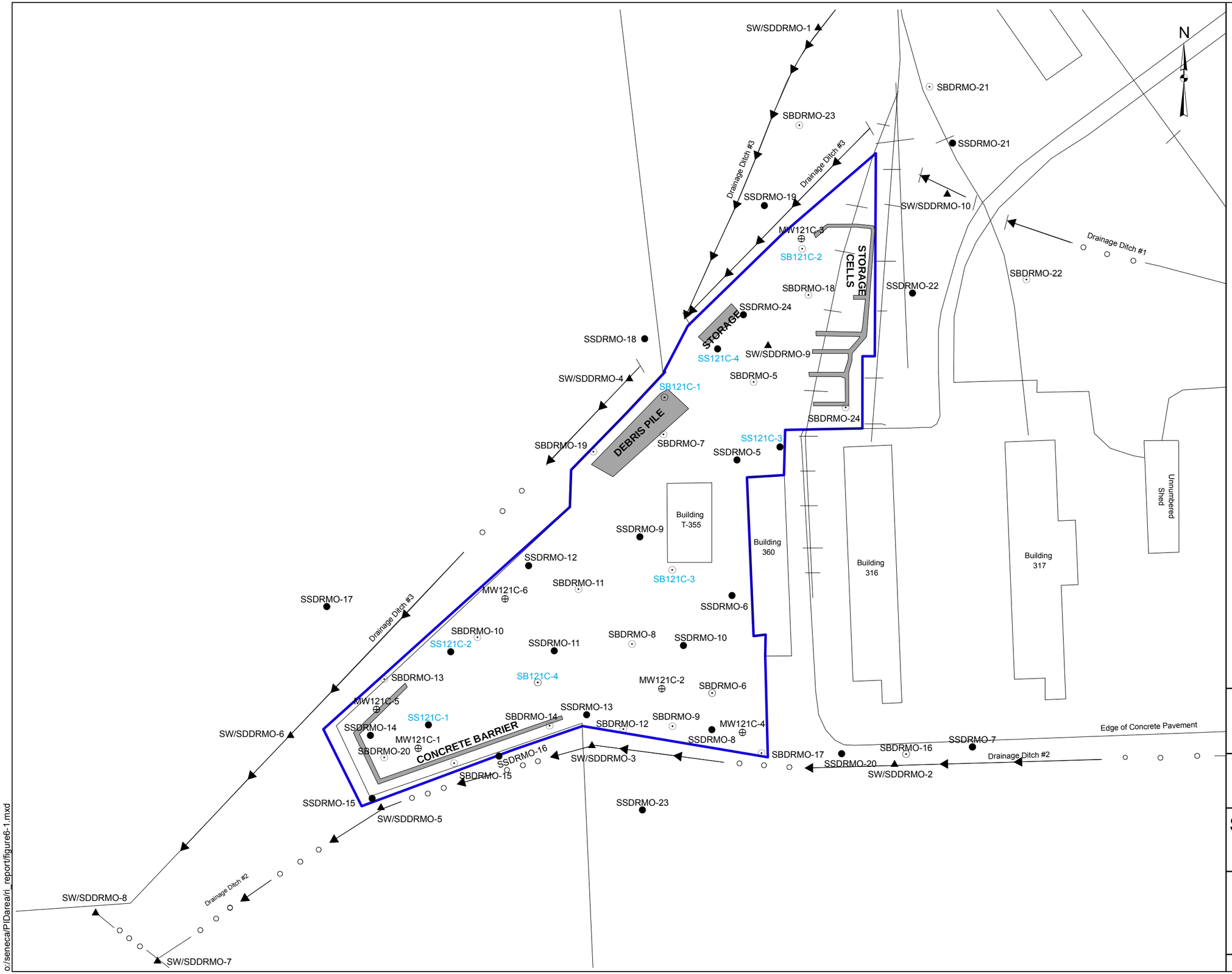
SENECA ARMY DEPOT ACTIVITY

SEAD-121C & 121I RI REPORT

FIGURE 3-3

SEAD-121I CONFIRMATORY SAMPLE LOCATIONS AND RESULTS

Job #: 741175-07000 | Date: JULY 2005



LEGEND:

- Surface Soil Location
- Soil Boring Location
- Groundwater Location
- Surface Water/Ditch Soil Location
- Railroad Tracks
- AOC Boundary
- Surface Water Flow Direction
- Surface Water
- Misc. Site Feature

NOTE:
Samples labeled in BLUE were collected during EBS investigation. Samples labeled in BLACK were collected during RI program.

120 60 0 120 Feet

PARSONS

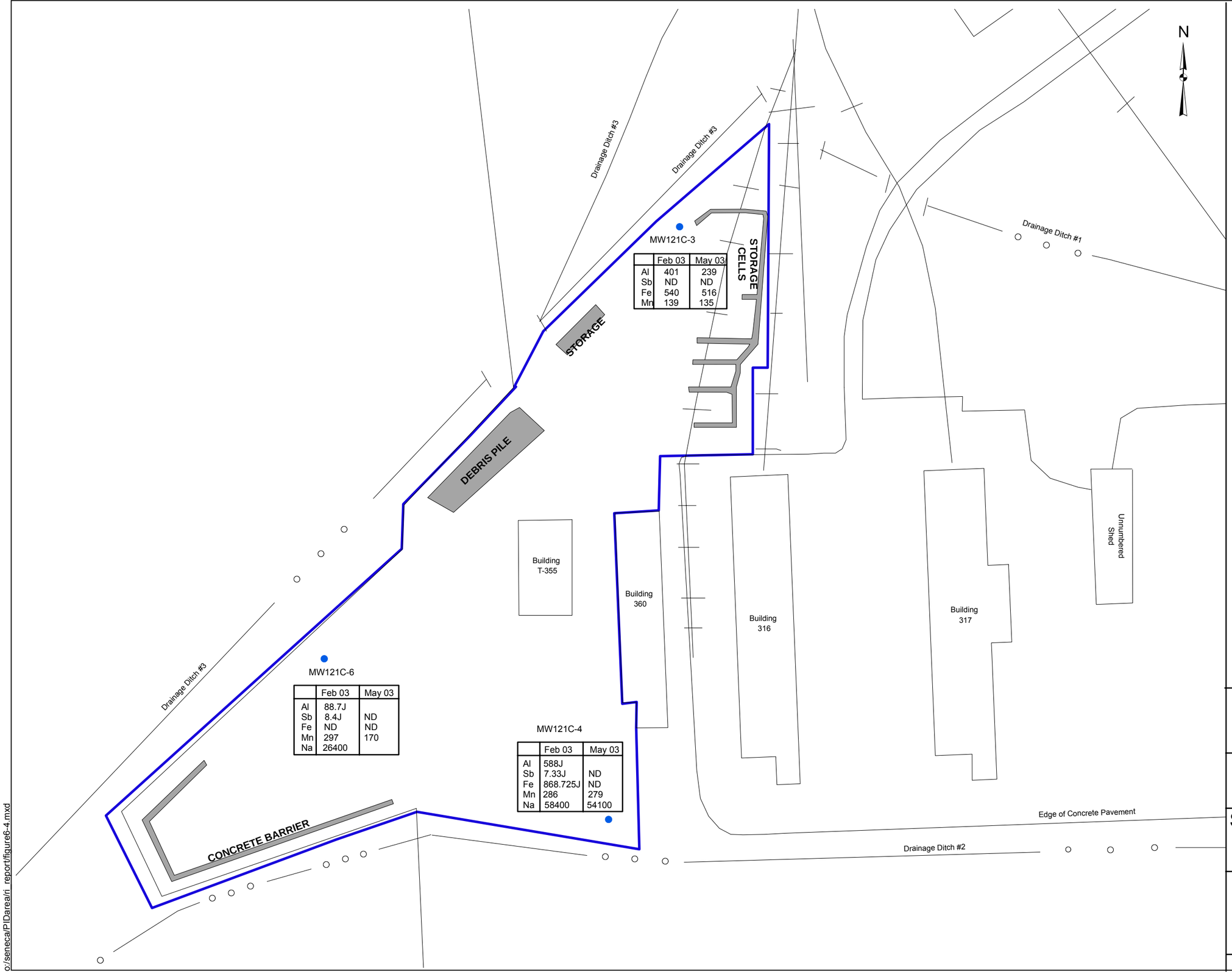
SENECA ARMY DEPOT ACTIVITY

PROPOSED PLAN
SEAD-121C AND SEAD-121I

FIGURE 6-1
DRMO YARD - SEAD-121C
EBS AND RI SAMPLING LOCATIONS

Job #: 745172-02200 | Date: SEPT 2007

o:/seneca/PIDarea/ri_report/figure6-1.mxd



	Feb 03	May 03
Al	401	239
Sb	ND	ND
Fe	540	516
Mn	139	135

	Feb 03	May 03
Al	88.7J	
Sb	8.4J	ND
Fe	ND	ND
Mn	297	170
Na	26400	

	Feb 03	May 03
Al	588J	
Sb	7.33J	ND
Fe	868.725J	ND
Mn	286	279
Na	58400	54100

LEGEND:

MW121C-3
401 — Groundwater Locations with Exceedance of a Groundwater Standard (ug/L)

Railroad Tracks

AOC Boundary

ND — Not Detected

Surface Water

Misc. Site Feature

NOTE:
- At sample locations where duplicate samples were collected in the field, the average value of the sample and the duplicate pair is presented.
- All concentrations posted exceeded their respective NYS Class GA Standards, Federal Drinking Water Standards Maximun Contaminant Levels, or Secondery MCLs.
- Samples were collected using low flow sampling techiques.

100 50 0 100 Feet

PARSONS

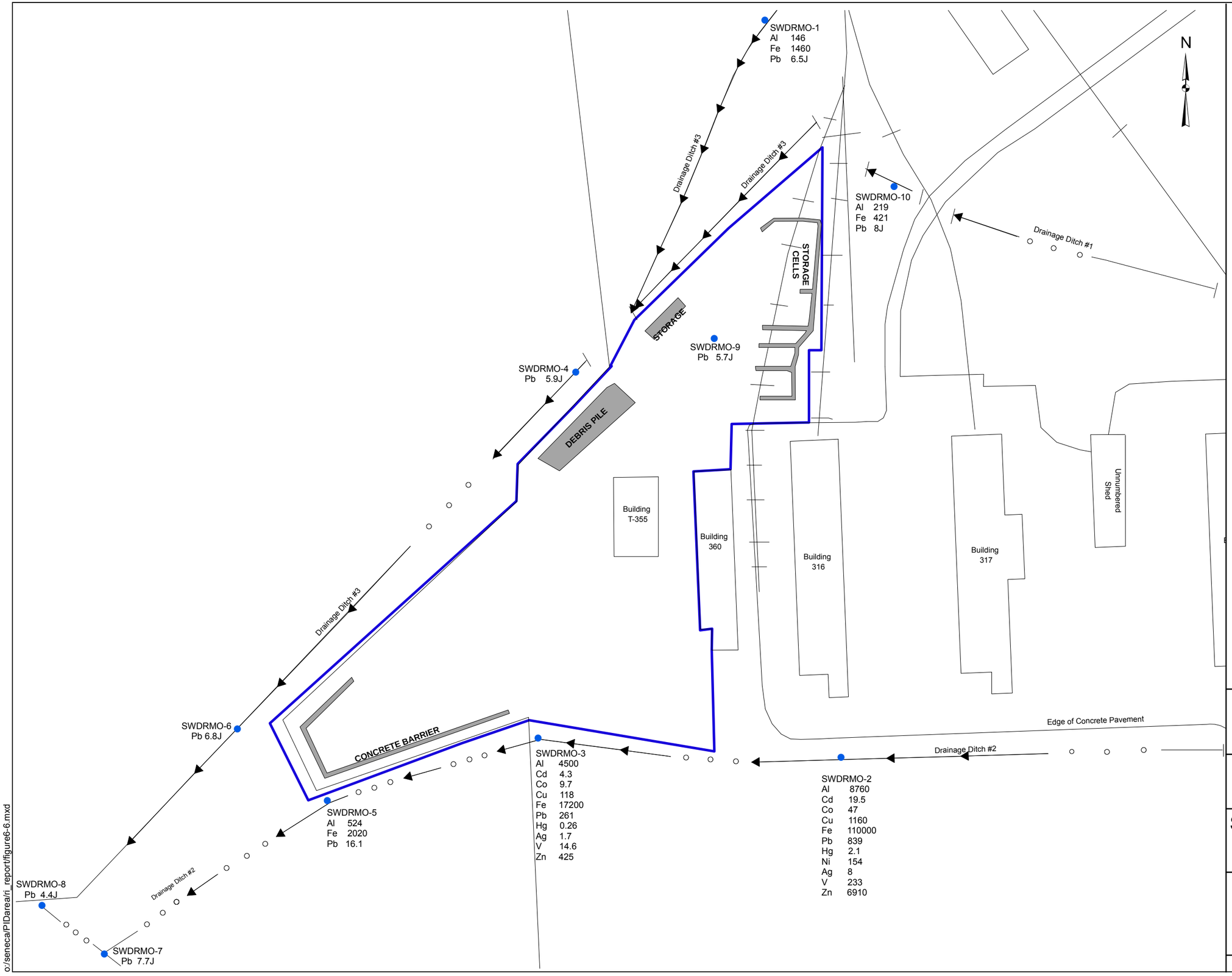
SENECA ARMY DEPOT ACTIVITY

Record of Decision - SEAD-121C and SEAD-121I

FIGURE 6-2
DRMO YARD - SEAD-121C
METAL EXCEEDANCES
AT PERMANENT RI WELLS

Job #: 745172-02200 | Date: SEPT. 2007

o:/seneca/PIDarea/ri_report/figure6-4.mxd



LEGEND:

- SWDRMO-2 — Surface Water Location with Exceedances of Class C AWQS Standard (ug/L)
- Railroad Tracks
- AOC Boundary
- Surface Water Flow Direction
- Surface Water
- Misc. Site Feature

NOTE:
- At sample locations where duplicate samples were collected in the field, the average value of the sample and the duplicate pair is presented.

120 60 0 120 Feet

PARSONS

SENECA ARMY DEPOT ACTIVITY

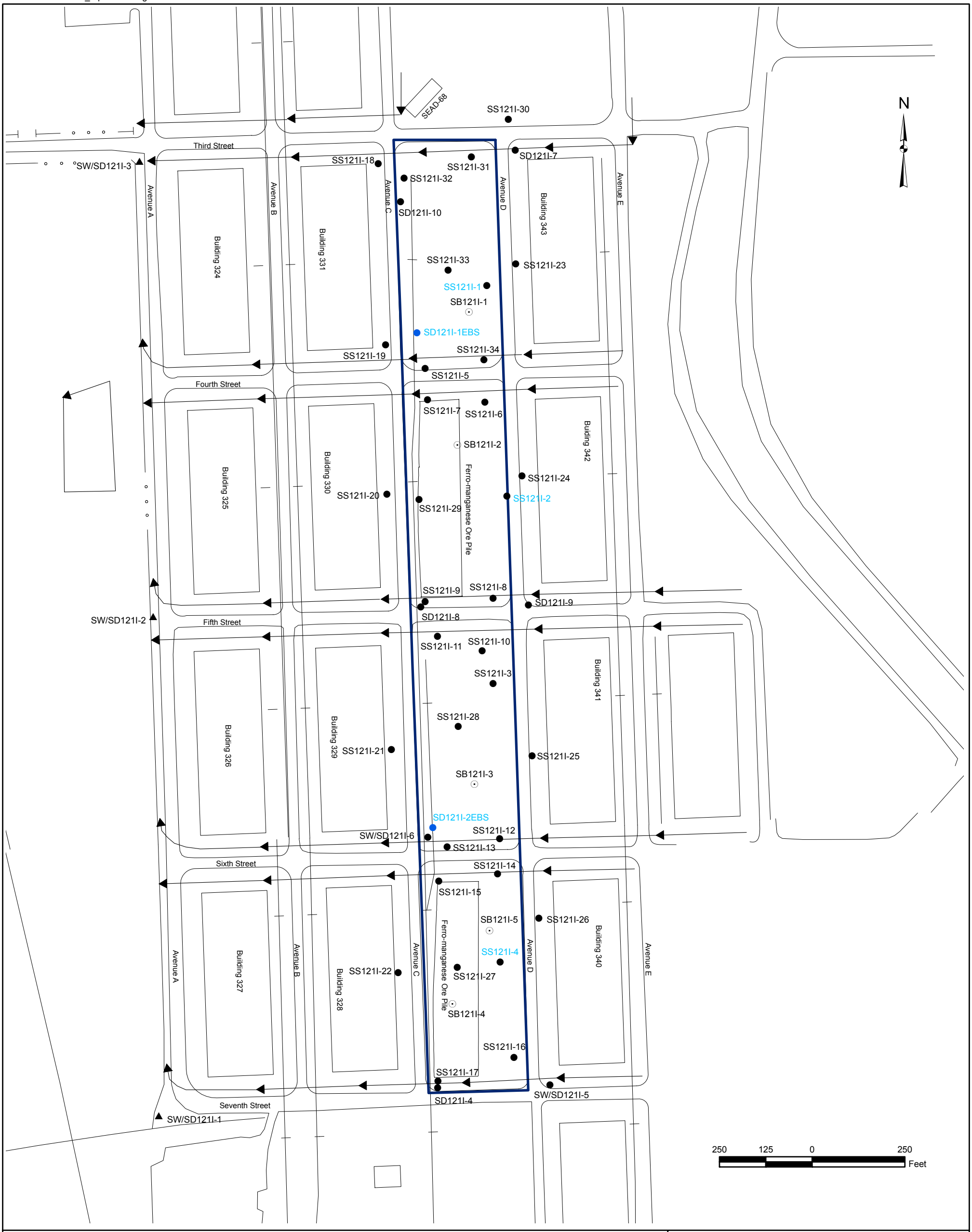
Record of Decision - SEAD-121C and SEAD-121I

FIGURE 6-3
DRMO YARD - SEAD-121C
EXCEEDANCES IN SURFACE WATER

Job #: 745172-02200 | Date: SEPT. 2007

o:/seneca/PIDarea/ri_report/figure6-6.mxd

o:/seneca/PIDarea/ri_report/ROD/figure6-4.mxd



LEGEND:

- Surface Soil Location
- Soil Boring Location
- Surface Water/Ditch Soil Location
- Ditch Soil Location EBS
- Railroad Tracks
- Site Boundary
- Surface Water
- Surface Water Flow Direction

NOTE:

Samples labeled in BLUE were col lected during EBS investigation. Samples labeled in BLACK were collected during RI sampling.

PARSONS

SENECA ARMY DEPOT ACTIVITY

Record of Decision - SEAD-121C and 121I

FIGURE 6-4
RUMORED COSMOLINE
OIL DISPOSAL AREA - SEAD-121I
EBS AND RI SAMPLING LOCATIONS

Job #: 745172	Date: SEPT 2007

o:/seneca/PIDarea/ri_report/figure6-9.mxd

N

SEAD-68

SS121I-30
18100
412

Third Street

SD121I-3
16600
399

Avenue A

Avenue B

Building 324

Building 331

SS121I-18
14000
648

Avenue C

SS121I-31
14500
377

SS121I-32
16900
428

Avenue D

SD121I-7
14550J
465J

Building 343

Avenue E

SD121I-10
12500
477

SS121I-1
NS
NS

SS121I-33
10300
847

SS121I-23
6130
594

SD121I-2EBS
NS
NS

SB121I-1
11500
474J

SS121I-19
16900
854

SS121I-34
14600
634

SS121I-5
15900
404

Fourth Street

Building 325

Building 330

SS121I-7
25200
28100

SS121I-6
24500
880

Ferro-manganese Ore Pile

SB121I-2
29300
45500J

SS121I-24
6100
406

Buiding 342

SS121I-20
19400
779

SS121I-2
NS
NS

SS121I-29
69400
349000

SS121I-9
22900
9500

SS121I-8
15100
567

SD121I-9
13900
767

SD121I-2
10100
303

Fifth Street

SD121I-8
30400
14900

SS121I-11
12600
1120

SS121I-10
17350
804

Building 341

SS121I-3
NS
NS

SS121I-28
8250
699

Building 326

Building 329

SS121I-21
14100
909

SB121I-3
15400
534J

SS121I-25
5720
593

SD121I-1EBS
NS
NS

SS121I-12
13900
709

SD121I-6
23800
1290

Sixth Street

SS121I-13
12500
2650J

SS121I-14
26100
2340

SS121I-15
39800
93100

SB121I-5
30200
1010J

SS121I-26
8350
1230

Building 340

Building 327

Building 328

SS121I-27
15400
9720

Ferro-manganese Ore Pile

SS121I-4
NS
NS

SS121I-22
11800
557

SB121I-4
30400
1420J

SS121I-16
24400
442

SS121I-17
23900
6560

SD121I-5
11300
471

SD121I-4
21200
12300

SD121I-1
19800J
478J

Seventh Street

SS121I-9
22900
9500

SD121I-8
30400
14900

SS121I-11
12600
1120

SS121I-17
23900
6560

SD121I-4
21200
12300

250 125 0 250
Feet

LEGEND:

SS121I-17
23900
6560
Fe
Mn
Sample Locations with Iron and Manganese Concentrations (mg/Kg)

Railroad Tracks

Site Boundary

ND Not Detected

NS Not Sampled

Surface Water

Iron Concentrations (mg/Kg)
< 20000
20000 - 40000
> 40000

Manganese Concentrations (mg/Kg)
< 500
500 - 2500
> 2500

NOTE:

- At sample locations where duplicate samples were collected in the field, the average value of the sample and the duplicate pair is presented.

- Surface soil samples were collected at depths extending from 0 to 2 inches below ground surface.

PARSONS

SENECA ARMY DEPOT ACTIVITY

Record of Decision - SEAD-121C and SEAD-121I

FIGURE 6-5
RUMORED COSMOLINE
OIL DISPOSAL AREA - SEAD-121I
DISTRIBUTION OF IRON AND MANGANESE
CONCENTRATIONS IN SOIL AND DITCH SOIL

Job #: 745172-02200 | Date: SEPT 2007

o:/seneca/PIDarea/sead-121c_i rod/figure 6-6.mxd

N

SEAD-68

SS121I-30
14.6
70.9J

Third Street

SD121I-3
11.7
132J

Avenue A

Avenue B

Avenue C

Avenue D

Avenue E

Building 324

Building 331

Building 343

SS121I-18
10.7
53.5J

SS121I-31
10.5
71.1J

SS121I-32
15.2
92.6J

SD121I-10
10.1
89.2J

SD121I-7
14
125J

SS121I-1
NS
NS

SS121I-23
6.1
80.5J

SS121I-33
10.8
329

SD121I-2EBS
NS
NS

SB121I-1
11.2J
176J

SS121I-19
11.9
55.1J

SS121I-34
14.2
78.8J

SS121I-5
14.7
59.7J

Fourth Street

Building 325

Building 330

Buiding 342

SS121I-7
77.1
123J

SS121I-6
19.8
82.6J

SB121I-2
38.0J
84J

Ferro-manganese Ore Pile

SS121I-20
16.4
145J

SS121I-29
439
42.8J

SS121I-2
NS
NS

SS121I-24
4.1
44.9J

SD121I-8
83.9
121J

SS121I-8
11.8
56.8J

SD121I-9
12.2
129J

SD121I-2
8.6
59.3J

Fifth Street

SS121I-9
35
132J

SS121I-10
14.5
76J

SS121I-11
8.7
55.5J

Building 326

Building 329

Building 341

SS121I-3
NS
NS

SS121I-28
10.3
162J

SS121I-21
12.4
157J

SB121I-3
14.1J
70.7J

SS121I-25
3.9
47.2J

SD121I-1EBS
NS
NS

SS121I-12
12.3
57.7J

SD121I-6
25.5
532

SS121I-13
15.8
88.1J

Sixth Street

SS121I-15
24.1
140

SS121I-14
39.7
109J

Building 327

Building 328

Building 340

SB121I-5
22.6J
93.9J

SS121I-26
4.6
49.9J

SS121I-22
10.7
71.3J

SS121I-27
10.7
116

SS121I-4
NS
NS

SB121I-4
22J
92.1J

SS121I-16
19.6
70.8J

SS121I-17
17.9
75.4J

SD121I-5
10.1
100J

SD121I-1
15.6
57.3J

Seventh Street

SD121I-4
9.9
78.6J

SS121I-9
35
132J

SD121I-8
83.9
121J

SS121I-17
17.9
75.4J

SD121I-1EBS
NS
NS

SD121I-6
25.5
532

SS121I-13
15.8
88.1J

SD121I-4
9.9
78.6J

250 125 0 250
Feet

LEGEND:

SS121I-17
23900
6560
Cr
Zn
Sample Locations with Chromium and Zinc Concentrations (mg/Kg)

Railroad Tracks

Site Boundary

ND Not Detected

NS Not Sampled

Surface Water

Chromium Concentrations (mg/Kg)
- < 30
- 30 - 60
- 60 - 90
- > 90

Zinc Concentrations (mg/Kg)
- < 150
- 150 - 300
- > 300

NOTE:

- At sample locations where duplicate samples were collected in the field, the average value of the sample and the duplicate pair is presented.

- Surface soil samples were collected at depths extending from 0 to 2 inches below ground surface.

PARSONS

SENECA ARMY DEPOT ACTIVITY

Record of Decision - SEAD-121C and SEAD-121I

FIGURE 6-6
RUMORED COSMOLINE
OIL DISPOSAL AREA - SEAD-121I
CHROMIUM AND ZINC CONCENTRATIONS
IN SOIL AND DITCH SOIL

Job #: 745172-02200	Date: SEPT. 2007

o:/seneca/PIDarea/sead-121c_i rod/figure6-7.mxd

N

SEAD-68

SS121I-30
5.1
ND

Third Street

SD121I-3
4
ND

SS121I-18
4.5
ND

SS121I-32
5.8
ND

SS121I-31
6.4
ND

SD121I-7
7.4
0.44J

SD121I-10
3.8
ND

SS121I-33
ND
ND

SS121I-23
ND
ND

SB121I-1
4.5J
ND

SD121I-2EBS
NS
NS

SS121I-1
NS
NS

SS121I-5
3.7
ND

SS121I-19
5.9
ND

SS121I-34
ND
ND

Fourth Street

SS121-7
30
6.7

SS121I-6
7.2
0.38

SB121I-2
32J
9

SS121I-29
NS
163J

SS121I-24
5.7
ND

SS121I-20
8.9
ND

SS121I-2
NS
NS

SS121I-8
4.1
ND

SS121I-9
14
0.5J

SD121I-9
6.6
ND

SD121I-8
104
21.5

SD121I-2
2.6
ND

Fifth Street

SS121I-11
5.9
ND

SS121I-10
5.2
ND

SS121I-28
3.9
ND

SS121I-3
NS
NS

SS121I-21
7.3
ND

SB121I-3
5.4J
ND

SS121I-25
3.5
ND

SD121I-1EBS
NS
NS

SS121I-12
5.6
ND

SD121I-6
8.8
ND

Sixth Street

SS121I-13
6.4
ND

SS121I-15
ND
37.8J

SS121I-14
ND
ND

SB121I-5
11.5J
0.5J

SS121I-26
ND
ND

SS121I-22
ND
ND

SS121I-27
ND
ND

SS121I-4
NS
NS

SB121I-4
7.3J
ND

SS121I-16
ND
ND

SS121I-17
ND
ND

SD121I-4
27.4
ND

SD121I-5
4.6
ND

SD121I-1
7.7
ND

Seventh Street

Building 324
Building 325
Building 326
Building 327
Building 328
Building 329
Building 330
Building 331
Building 340
Building 341
Building 342
Building 343

Avenue A
Avenue B
Avenue C
Avenue D
Avenue E

Ferro-manganese Ore Pile

SS121I-9
14
0.5J

SD121I-8
104
21.5

SS121I-17
ND
ND

SD121I-4
27.4
ND

250 125 0 250
Feet

LEGEND:

SS121I-17
23900
6560
TI
As

Sample Locations with Arsenic and Thallium Concentrations (mg/Kg)

Thallium Concentrations (mg/Kg)
< 2
2 - 20
> 20

Arsenic Concentrations (mg/Kg)
< 10
10 - 20
> 20

Railroad Tracks

Site Boundary

ND Not Detected

NS Not Sampled

Surface Water

NOTE:

- At sample locations where duplicate samples were collected in the field, the average value of the sample and the duplicate pair is presented.

- Surface soil samples were collected at depths extending from 0 to 2 inches below ground surface.

PARSONS

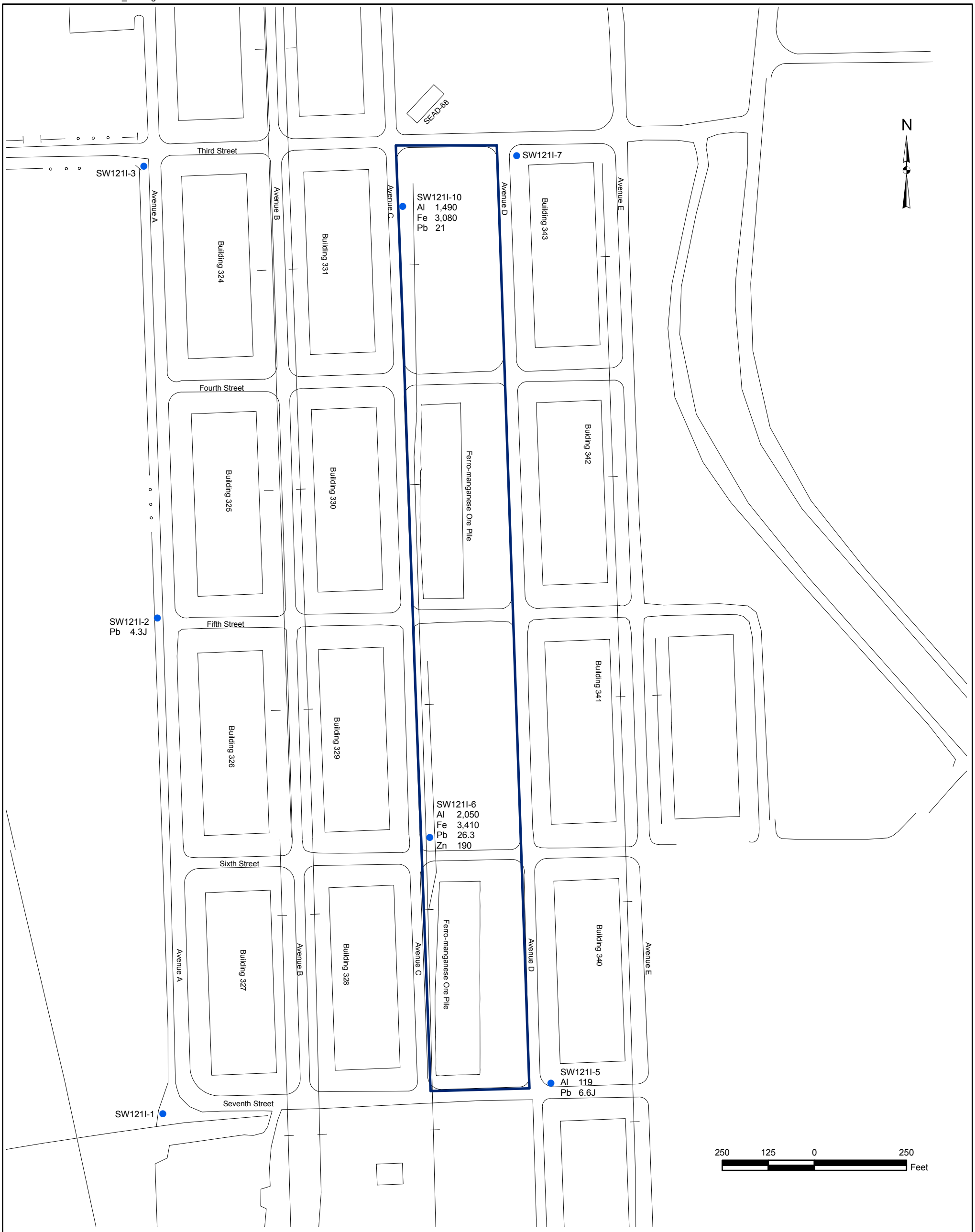
SENECA ARMY DEPOT ACTIVITY

Record of Decision - SEAD-121C and SEAD-121I

FIGURE 6-7
RUMORED COSMOLINE
OIL DISPOSAL AREA - SEAD-121I
ARSENIC AND THALLIUM
CONCENTRATIONS IN SOIL AND DITCH SOIL

Job #: 745172-02200 | Date: SEPT. 2007

o:/seneca/PIDarea/sead-121c_i rod/figure6-8.mxd



LEGEND:

SW121I-1 — Surface Water Locations with Metals Greater than AWQS Class C Standard (ug/L)

Railroad Tracks

Site Boundary

Surface Water

NOTE:

At sample locations where duplicate samples were collected in the field, the average value of the sample and the duplicate pair is presented.

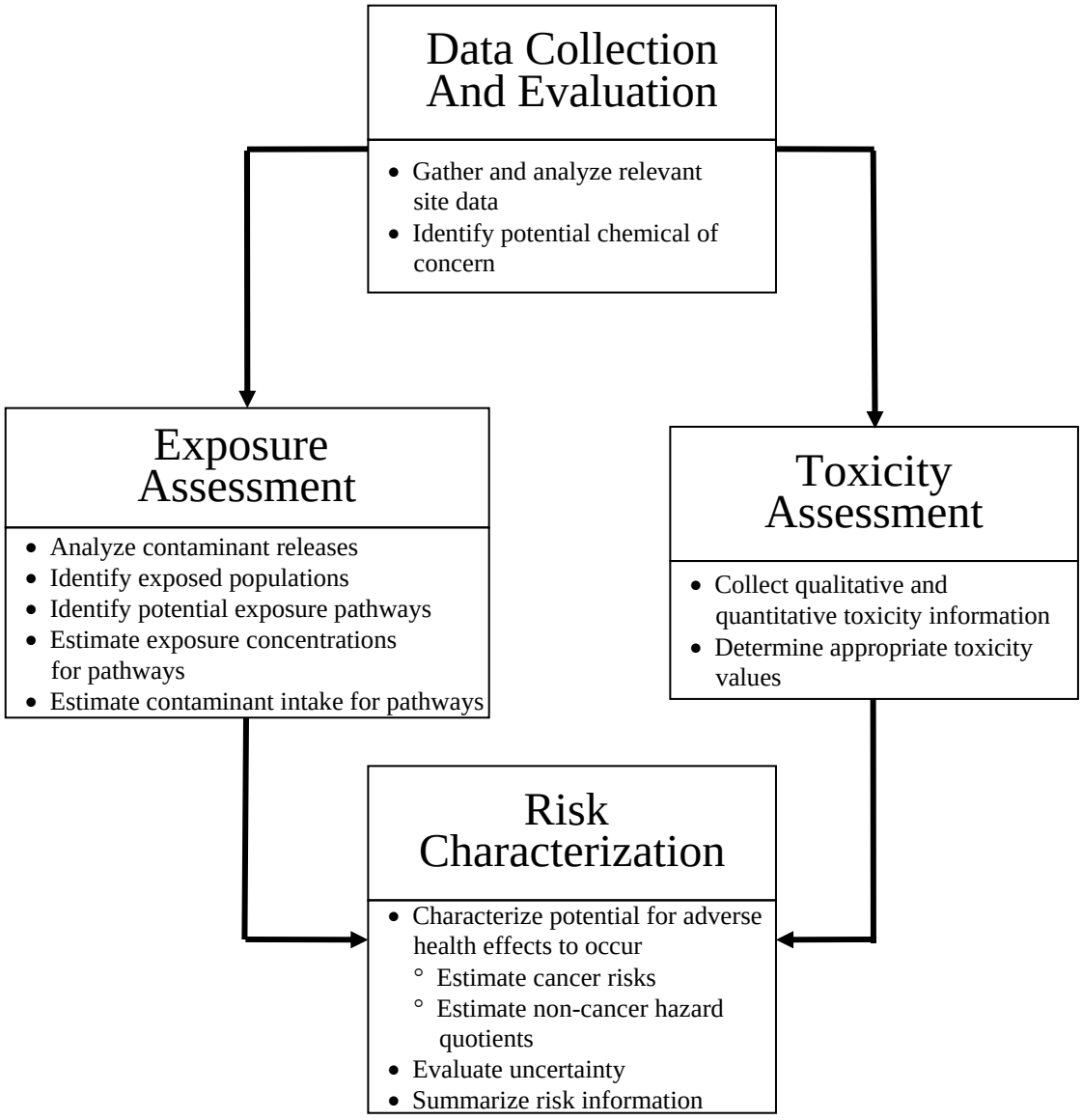
PARSONS

SENECA ARMY DEPOT ACTIVITY

Record of Decision - SEAD-121C and SEAD-121I

FIGURE 6-8
SEAD-121I
METALS EXCEEDANCES IN
SURFACE WATER

Job #: 745172-02200 | Date: SEPT. 2007

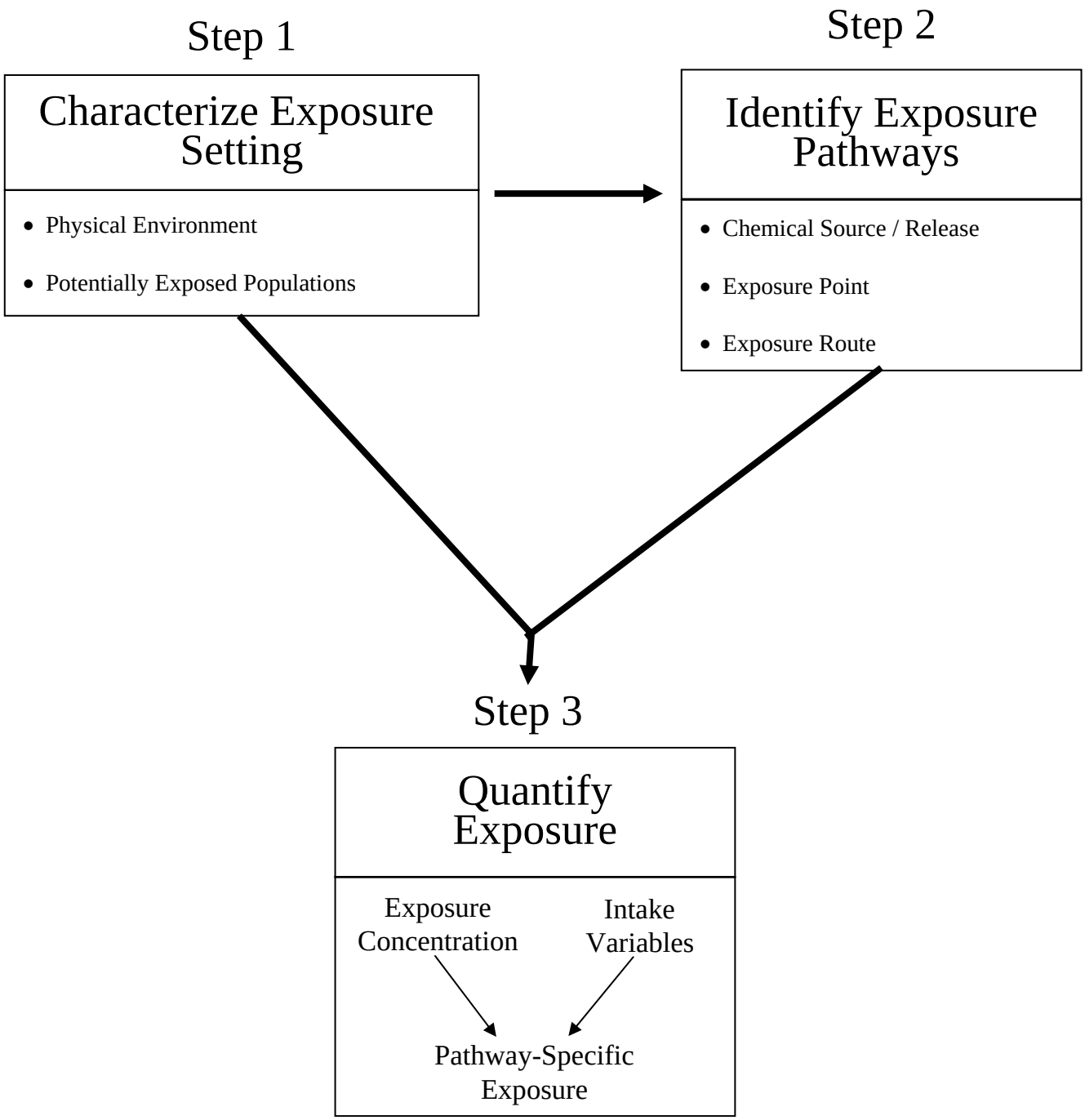


Source: US EPA 1989a

PARSONS

Seneca Army Depot Activity
Record of Decision – SEAD-12C and SEAD-121I

Figure 7-1
Human Health Risk
Assessment Methodology



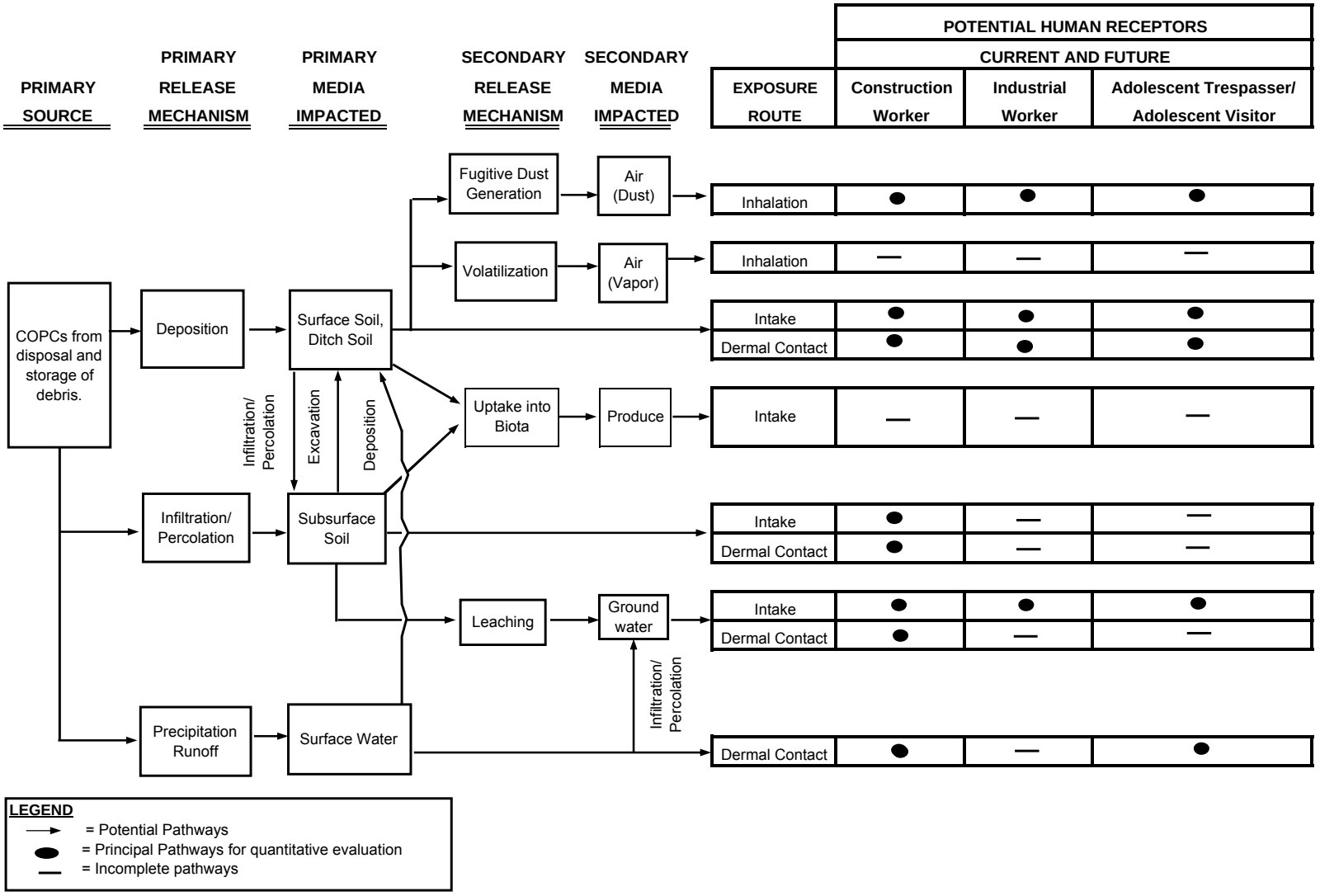
Source: US EPA 1989a

PARSONS

Seneca Army Depot Activity
Record of Decision – SEAD-12C and SEAD-121I

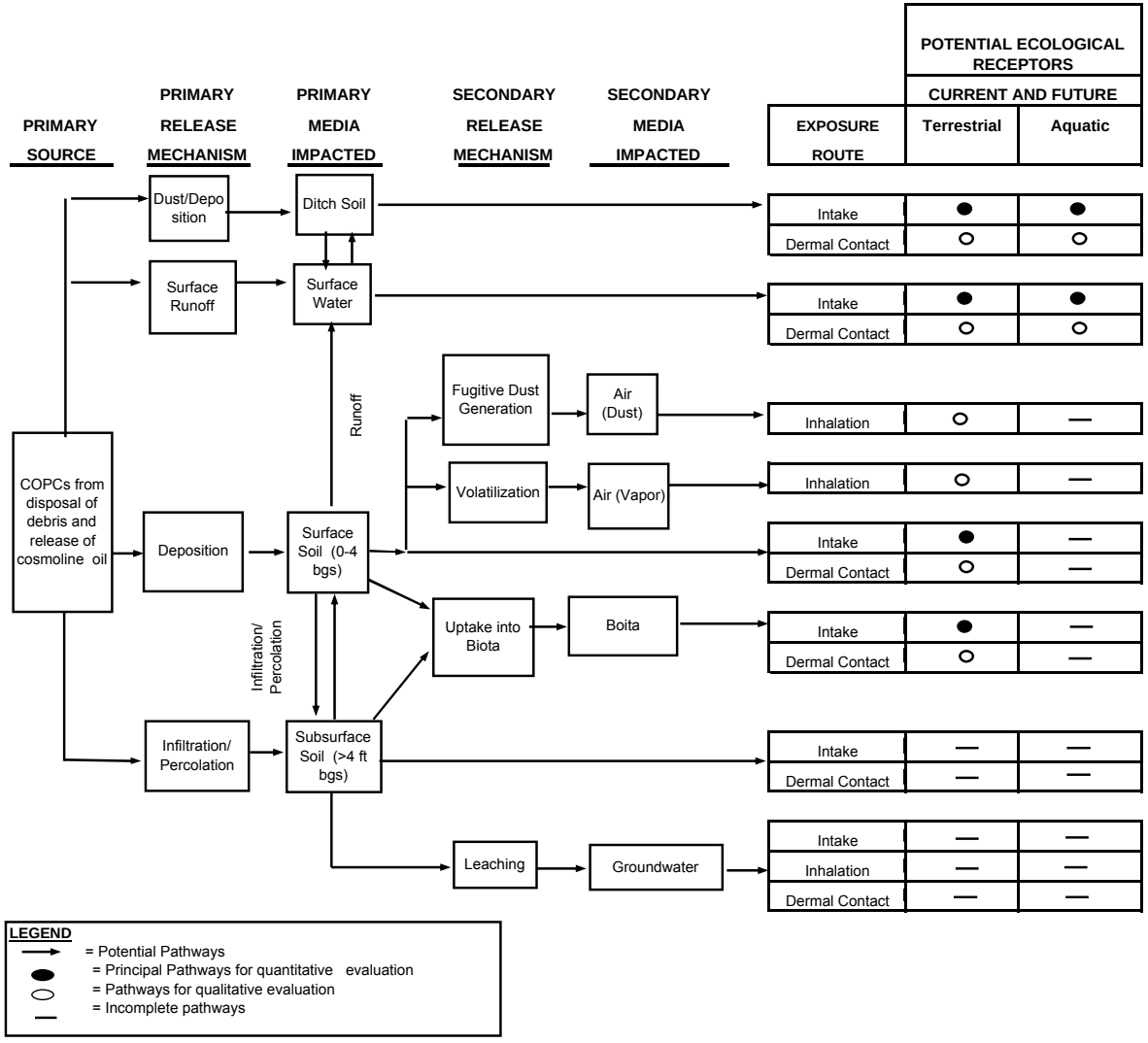
Figure 7-2
Exposure Assessment Process

Figure 7-3
Conceptual Site Model for SEAD-121C
SEAD-121C AND SEAD-121I RI REPORT
Seneca Army Depot Activity



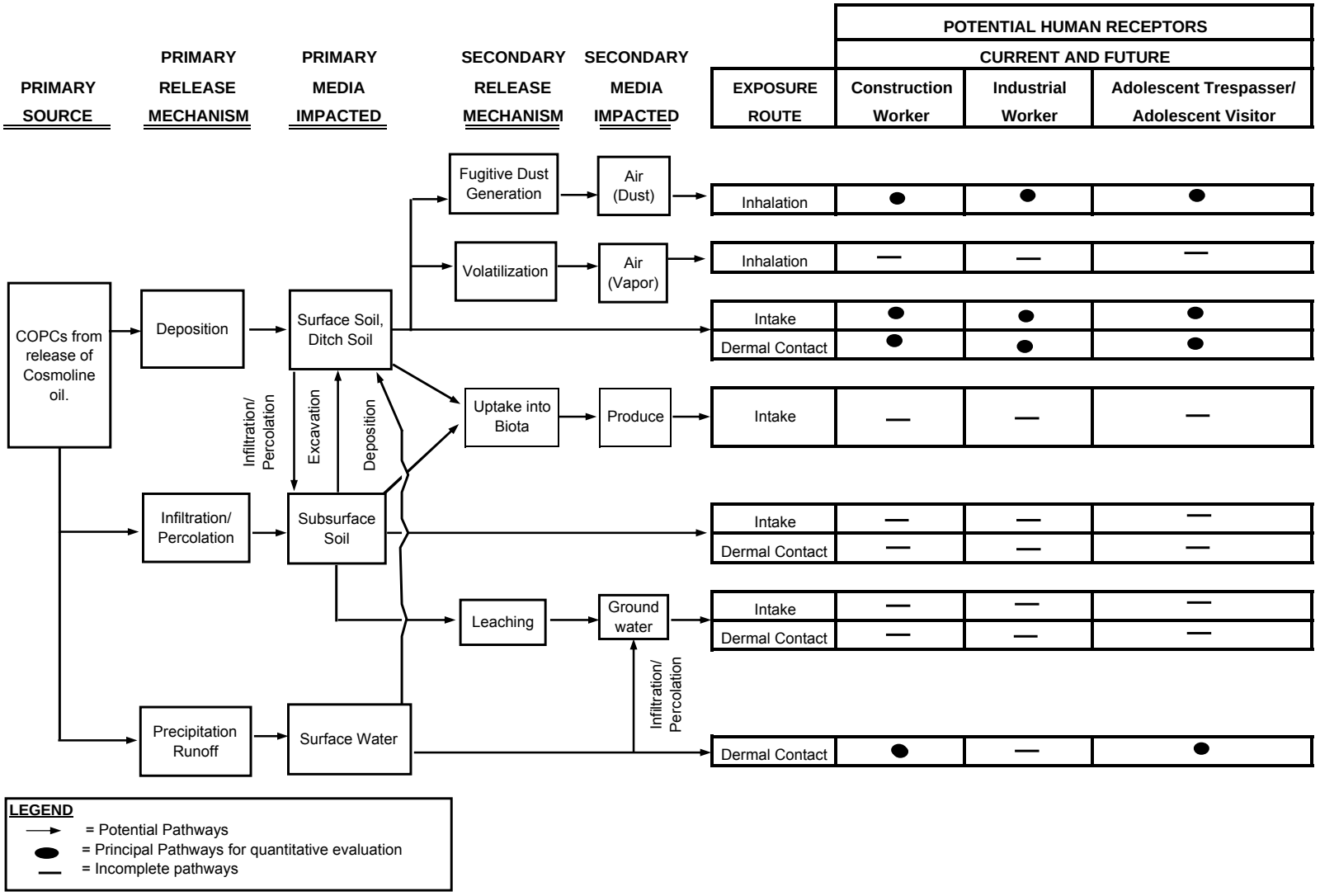
P:\PIT\Projects\SENECA\PID Area\Report\Draft Final\Figures\Fig-7-3 and 7-5 exposure pathways.xls.xls\121C

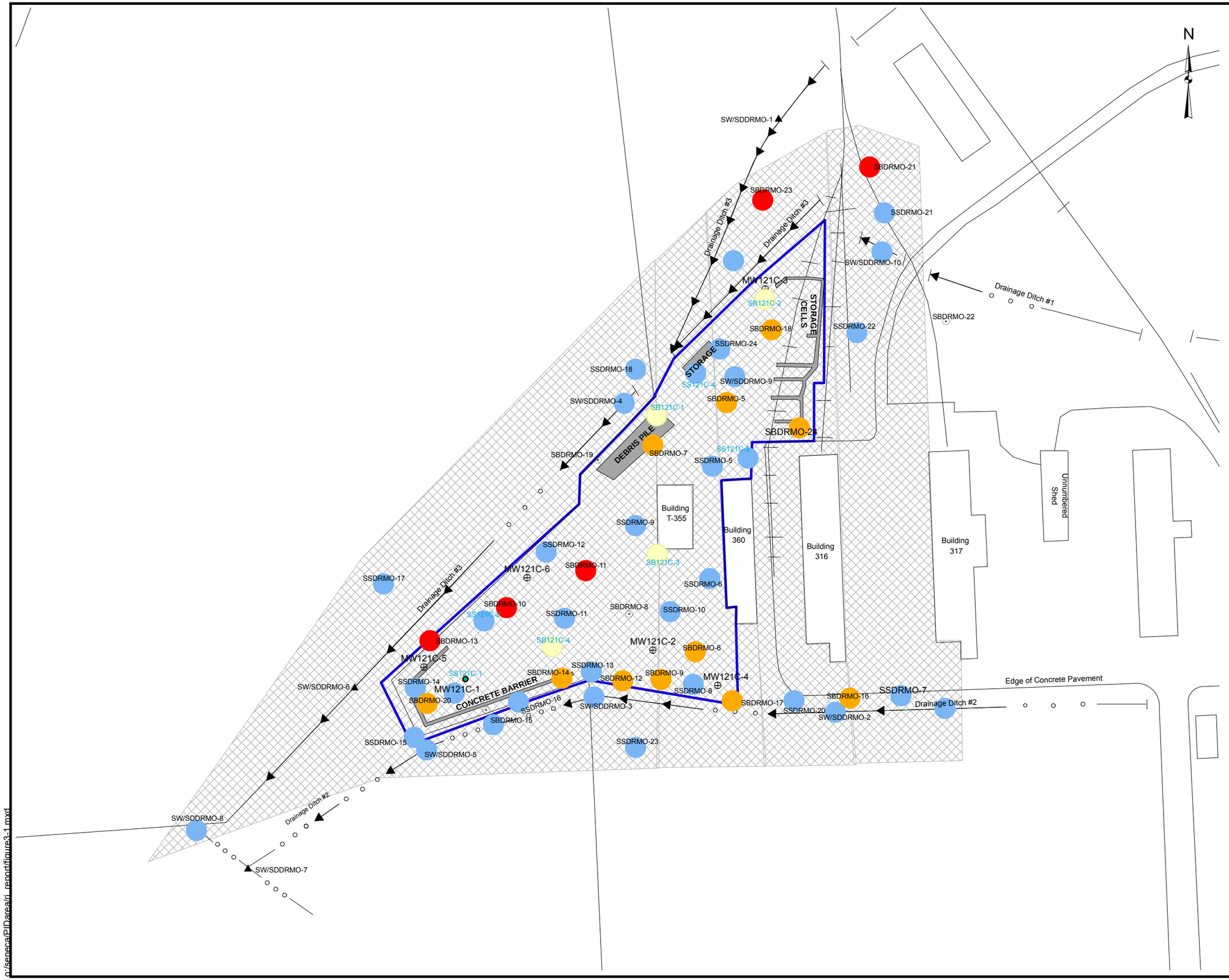
Figure 7-4
Conceptual Site Model for SEAD-121C and SEAD-121I
SEAD-121C AND SEAD-121I RI REPORT
Seneca Army Depot Activity



P:\PIT\Projects\SENECA\PID Area\Report\Draft Final\Figures\Fig-7-4-eco-exposure pathways.xls

Figure 7-5
Conceptual Site Model for SEAD-121I
SEAD-121C AND SEAD-121I RI REPORT
Seneca Army Depot Activity





LEGEND:

- Surface Soil Location
- Soil Boring Location
- Groundwater Location
- Surface Water/Ditch Soil Location
- Railroad Tracks
- Site Boundary
- Surface Water Flow Direction
- Surface Water
- Misc. Site Feature
- Extent of Excavation - PAHs
- Samples with Unrestricted Use Exceedances at 0-2 feet.
- Samples with Unrestricted Use Exceedances at 0-2 feet and 2 - 4 feet.
- Samples with Unrestricted Use Exceedances at 0-2 feet and 4-6 feet.
- Samples with Unrestricted Use Exceedances at 4-6 feet.

NOTE:
Samples labeled in BLUE were collected during EBS incestigation. Samples labeled in BLACK were collected during RI sampling.

120 60 0 120 Feet

PARSONS

SENECA ARMY DEPOT ACTIVITY

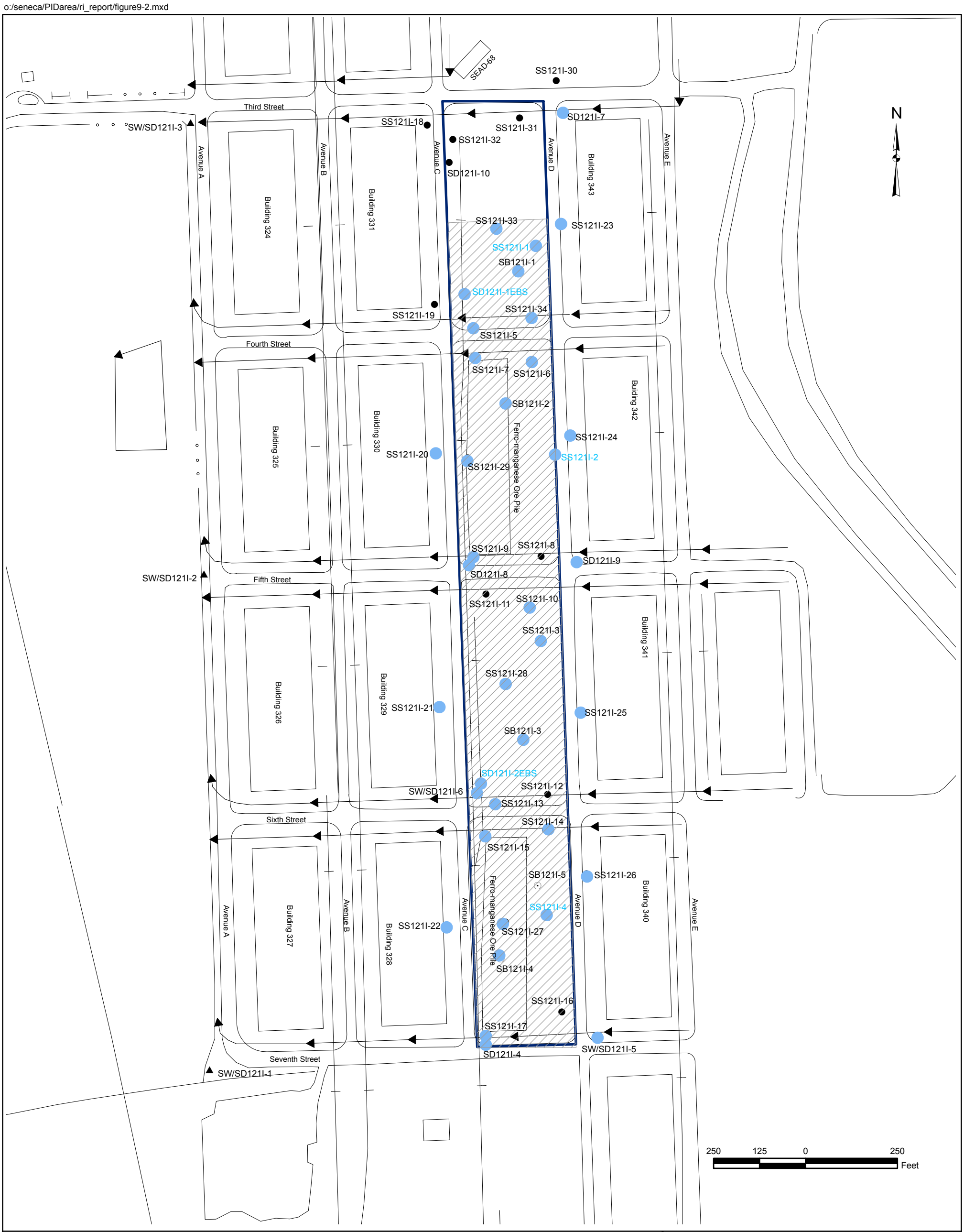
Record of Decision - SEAD-121C and 121I

FIGURE 9-1
DRMO YARD - SEAD-121C
Planned Excavations &
Sample Exceedances

Job #: 745172 | Date: SEPT 2007

g:/seneca/PIDarea/ri_report/figure3-1.mxd

o:/seneca/PIDarea/ri_report/figure9-2.mxd



LEGEND:

- Surface Soil Location
- Soil Boring Location
- Surface Water/Ditch Soil Location
- Ditch Soil Location EBS
- Railroad Tracks
- Site Boundary
- Surface Water
- Surface Water Flow Direction

NOTE:

Samples labeled in BLUE were col lecated during EBS investigation. Samples labeled in BLACK were collected during RI sampling.

Extent of Excavation Anticipated to be Required to Achieve Unrestricted Use

Location of Soil Unrestricted Use Criteria Exceedances

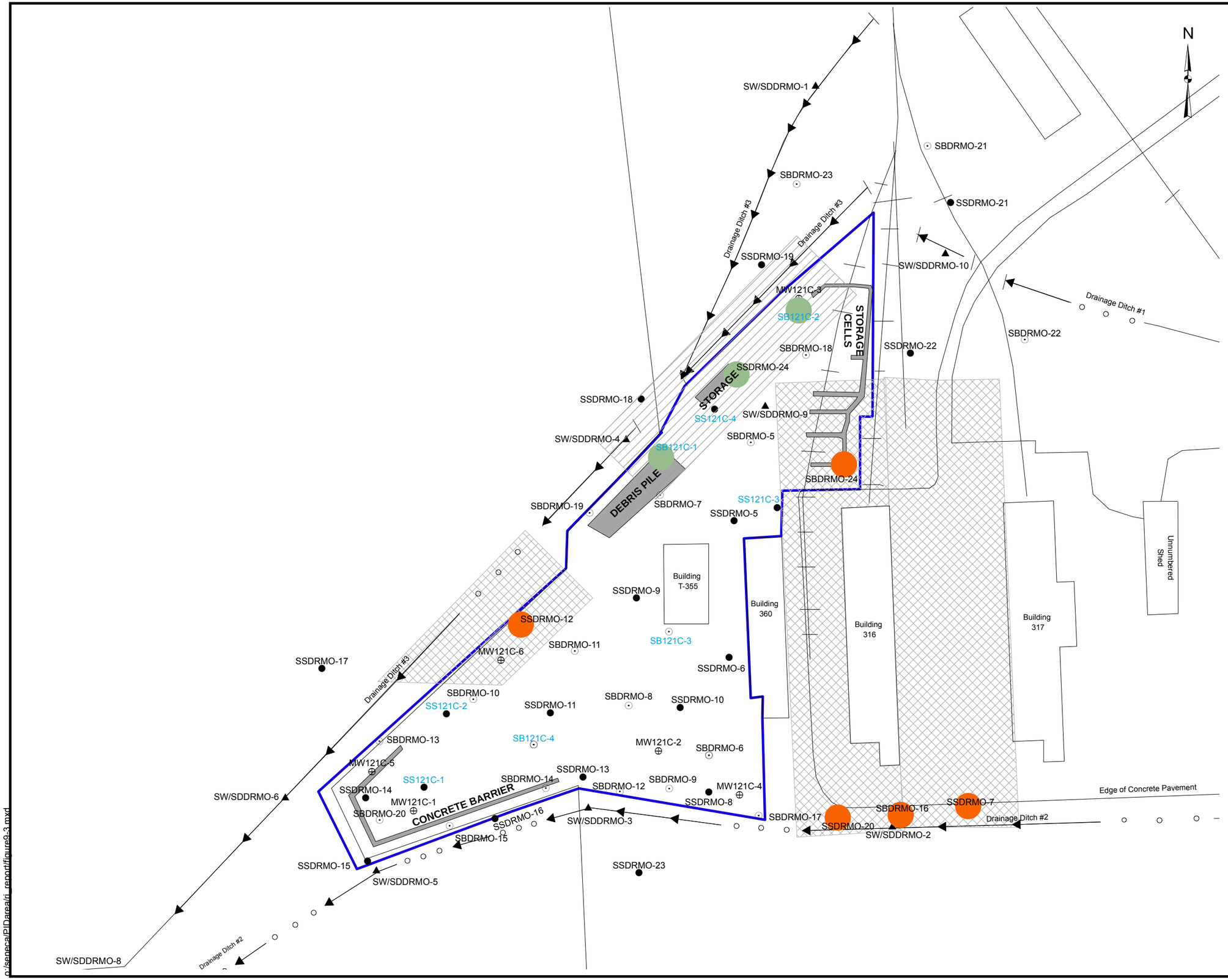
PARSONS

SENECA ARMY DEPOT ACTIVITY

Record of Decision - SEAD-121C & 121I

FIGURE 9-2
SEAD-121I - Unrestricted Use Exceedances and Extent of Anticipated Excavation

Job #: 745172-02200	Date: SEPTEMBER 2007



LEGEND:

- Surface Soil Location
- Soil Boring Location
- Groundwater Location
- Surface Water/Ditch Soil Location
- Railroad Tracks
- Site Boundary
- Surface Water Flow Direction
- Surface Water
- Misc. Site Feature
- Extent of Excavation - PAHs
- Extent of Excavation - Metals
- Samples with Industrial Use PAH Exceedances
- Samples with Industrial Use Metal Exceedances

NOTE:
Samples labeled in BLUE were collected during EBS incestigation. Samples labeled in BLACK were collected during RI sampling.

120 60 0 120 Feet

PARSONS

SENECA ARMY DEPOT ACTIVITY

Record of Decision - SEAD-121C and 121I

FIGURE 9-3
DRMO YARD - SEAD-121C
Planned Excavations &
Sample Exceedances

Job #: 745172	Date: SEPT 2007

g:\seneca\PI\Drawing report\figure9-3.mxd

o:/Seneca/Pidarea/SEAD-121I ROD Commercial.mxd

LEGEND:

- Surface Soil Location
- Soil Boring Location
- Surface Water/Ditch Soil Location
- Ditch Soil Location EBS
- Railroad Tracks
- Site Boundary
- Surface Water
- Surface Water Flow Direction

NOTE:

Samples labeled in BLUE were col lecated during EBS investigation. Samples labeled in BLACK were collected during RI sampling.

- Extent of Excavation Anticipated to be Required to Achieve Commercial Use
- Location of Soil Commercial Use Criteria Exceedances

PARSONS

SENECA ARMY DEPOT ACTIVITY

Record of Decision - SEAD-121C & 121I

FIGURE 9-4
SEAD-121I - Commercial Use Exceedances and Extent of Anticipated Excavations

Job #: 745172 | Date: SEPTEMBER 2007

APPENDICES

APPENDIX	TITLE
A	Administrative Record
B	Letter of Concurrence
C	Public Comments and Responsiveness Summary
D	Analytical Results for Samples
E	Revised Human Health Risk Assessment SEAD 121I
F	List of ARARs

APPENDIX A

ADMINISTRATIVE RECORD

ADMINISTRATIVE RECORD

PID-01-001. Investigation of Environmental Baseline Survey Non-Evaluated Sites SEAD-121 (A,B,C,D,E,F,G,H,I) (Draft), Parsons Engineering Science, Inc., July 1998

PID-01-001. Final Investigation of Environmental Baseline Survey Non-Evaluated Sites [SEAD 119A, SEAD 122 (A, B, C, D, E), SEAD 123 (A, B, C, D, E, F), SEAD 46, SEAD 68, SEAD 120 (A, B, C, D, E, F, G, H, I, J), and SEAD 121 (A, B, C, D, E, F, G, H, I)], Parsons Engineering Science, Inc., May 1999.

PID-01-002. Work Plan for the Remedial Investigation at Three EBS Sites in the Planned Industrial Development Area, Seneca Army Depot Activity (DRAFT), Parsons Engineering Science, Inc., March 2002.

PID-01-002. Work Plan for the Remedial Investigation at Two EBS Sites in the Planned Industrial Development Area, Seneca Army Depot Activity (DRAFT-FINAL), Parsons Engineering Science, Inc., July 2002.

PID-01-002 Work Plan for the Remedial Investigation at Two EBS Sites in the Planned Industrial Development Area, Seneca Army Depot Activity (FINAL), Parsons, September 2002.

PID-01-003. Field Sampling Report at Two EBS Sites in the Planned Industrial Development Area, Seneca Army Depot Activity (DRAFT), Parsons, December 2003

PID-01-004. Response to USEPA Comments on Draft Field Sampling Report for Two EBS Sites in the Planned Industrial Development Area (SEAD-121C and 121I), Seneca Army Depot Activity, November 4, 2004

PID-01-007. Draft Final, Remedial Investigation Report, Two EBS Sites in the Planned Industrial Development Area, (SEAD-121C and SEAD 121I), Parsons, July 2005, [CD].

PID-01-007. Final, Remedial Investigation Report for Two EBS Sites in the Planned Industrial Development Area (SEAD 121C and SEAD 121I), Final, Parsons, April 2006 [CD].

PID-01-008. Draft, Construction Completion Report, the Defense Reutilization and Marketing Office Yard (SEAD-121C), Seneca Army Depot Activity, Contract FA8903-04-D-8675, Delivery Order 31, December 2007.

PID-01-009. Letter Report, Removal Action at the Location of Former Ore Piles Stage at SEAD-121I at Seneca Army Depot Activity, Contract FA8903-04-D-8675, Delivery Order 31, Parsons, January 2008.

PID-03-002. Draft Proposed Plan Two Areas of Concern Requiring Land Use Controls SWMUs SEAD 121C and SEAD 121I, [CD], Seneca Army Depot Activity, Parsons, January 2007.

PID-03-002. Draft Final Proposed Plan, Two Areas of Concern Requiring Land Use Controls SWMUs SEAD 121C, the Defense Reutilization and Marketing Office Yard and SEAD-121I, the Rumored Cosmoline Oil Disposal Area at Seneca Army Depot Activity, Parsons, April 2007.

PID-03-002. Revised Draft Final Proposed Plan, Two Areas of Concern Requiring Land Use Controls SWMUs SEAD 121C, the Defense Reutilization and Marketing Office Yard and SEAD-121I, the Rumored Cosmoline Oil Disposal Area at Seneca Army Depot Activity, Parsons, November 2007.

PID-03-002. Proposed Plan, Two Areas of Concern (AOCs) Requiring Land Use Controls (LUCs), SWMUs SEAD-121C, the Defense Reutilization and Marketing Office (DRMO) Yard and SEAD-121I, the Rumored Cosmoline Oil Disposal Area at the Seneca Army Depot Activity, Parsons, January 2008.

PID-05-001. Draft Record of Decision (ROD) Two Areas of Concern Requiring Land User Controls SWMUs SEAD 121C, the Defense Reutilization and Marketing Office Yard and SEAD 121I, the Rumored Cosmoline Oil Disposal Area at Seneca Army Depot Activity, August 2007 [CD].

PID-05-001. Draft Final Record of Decision (ROD) Two Areas of Concern Requiring Land User Controls SWMUs SEAD 121C, the Defense Reutilization and Marketing Office Yard and SEAD 121I, the Rumored Cosmoline Oil Disposal Area at Seneca Army Depot Activity, March 2008 [CD].

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

MAR 3 1 2008

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

Re: Draft Record Of Decision
Seneca Army Depot Activity, Site #850006
The Defense Reutilization and Marketing Office Yard (SEAD-121C) and
The Rumored Cosmoline Oil Disposal area (SEAD-121 I)

Dear Mr. Pavlou:

The New York State Department of Environmental Conservation and the New York State Department of Health have reviewed the above referenced Record of Decision (ROD). The State concurs with the selected remedy as stated in the final ROD dated March 2008 which includes:

* Establish and maintain land use controls (LUCs) including an Environmental Easement that prohibit residential activities such as residential housing, elementary or secondary schools, child care facilities, and playgrounds; and prohibit access to and use of groundwater;

* Complete a review of the selected remedies every five years (at minimum), in accordance with Section 121(c) of the CERCLA.

If you have any questions, please contact Dr. Chittibabu Vasudevan at (518) 402-9625.

Sincerely

Dale A. Desnoyers
Director
Division of Environmental Remediation

cc: J. Vasquez, USEPA
S. Absolom, SEAD

APPENDIX C

PUBLIC COMMENT AND RESPONSIVENESS SUMMARY

PUBLIC COMMENTS AND RESPONSIVENESS SUMMARY

The DEFENSE REUTILIZATION AND MARKETING OFFICE YARD (SEAD 121C) AND THE RUMORED COSMOLINE OIL DISPOSAL AREA (SEAD 121I)

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 RI and the FS. In addition, the proposed plan has been presented to the BCT.

SUMMARY OF COMMUNITY RELATIONS ACTIVITIES

The EBS report, RI report, and the Proposed Plan for SEAD 121C and SEAD 121I have been 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 January 14, 2008 to February 12, 2008. The notice of availability for the above-referenced documents was published in the Finger Lake Times during this time period.

On January 29, 2008, 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 the AOCs, 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. In addition, no formal comments were received from the community during the public meeting or the public comment period.

APPENDIX D

ANALYTICAL RESULTS FOR SAMPLES

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SB121C-1	SB121C-1	SB121C-1	SB121C-2	SB121C-2	SB121C-3	SB121C-3
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		EB226	EB231	EB232	EB014	EB228	EB233	EB234
Sample Depth Top		0	0	2.5	0	2	0	2.5
Sample Depth Bottom		0.2	0.2	3	0.2	2.5	0.2	3
Sample Date		3/9/1998	3/9/1998	3/9/1998	3/9/1998	3/9/1998	3/9/1998	3/9/1998
SAmple or **DU**plicate		SA	SA	SA	DU	SA	SA	SA
See Notes at Bottom of Table		EBS	EBS	EBS	EBS	EBS	EBS	EBS
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organics								
1,1,1-Trichloroethane	UG/KG	12 UJ	12 U	12 U	12 U	11 UJ	11 U	11 U
1,1,2,2-Tetrachloroethane	UG/KG	12 UJ	12 U	12 U	12 U	11 UJ	11 U	11 U
1,1,2-Trichloroethane	UG/KG	12 UJ	12 U	12 U	12 U	11 UJ	11 U	11 U
1,1-Dichloroethane	UG/KG	12 UJ	12 U	12 U	12 U	11 UJ	11 U	11 U
1,1-Dichloroethene	UG/KG	12 UJ	12 U	12 U	12 U	11 UJ	11 U	11 U
1,2-Dichloroethane	UG/KG	12 UJ	12 U	12 U	12 U	11 UJ	11 U	11 U
1,2-Dichloroethene (total)	UG/KG	12 UJ	12 U	12 U	12 U	11 UJ	11 U	11 U
1,2-Dichloropropane	UG/KG	12 UJ	12 U	12 U	12 U	11 UJ	11 U	11 U
Acetone	UG/KG	12 UJ	12 U	14	12 J	11 UJ	11 U	16
Benzene	UG/KG	12 UJ	12 U	12 U	12 U	2 J	11 U	11 U
Bromodichloromethane	UG/KG	12 UJ	12 U	12 U	12 U	11 UJ	11 U	11 U
Bromoform	UG/KG	12 UJ	12 U	12 U	12 U	11 UJ	11 U	11 U
Carbon disulfide	UG/KG	12 UJ	12 U	12 U	12 U	11 UJ	11 U	11 U
Carbon tetrachloride	UG/KG	12 UJ	12 U	12 U	12 U	11 UJ	11 U	11 U
Chlorobenzene	UG/KG	12 UJ	12 U	12 U	12 U	11 UJ	11 U	11 U
Chlorodibromomethane	UG/KG	12 UJ	12 U	12 U	12 U	11 UJ	11 U	11 U
Chloroethane	UG/KG	12 UJ	12 U	12 U	12 U	11 UJ	11 U	11 U
Chloroform	UG/KG	12 UJ	12 U	12 U	12 U	4 J	11 U	11 U
Cis-1,2-Dichloroethene	UG/KG							
Cis-1,3-Dichloropropene	UG/KG	12 UJ	12 U	12 U	12 U	11 UJ	11 U	11 U
Ethyl benzene	UG/KG	12 UJ	12 U	12 U	12 U	11 UJ	11 U	11 U
Meta/Para Xylene	UG/KG							
Methyl bromide	UG/KG	12 UJ	12 U	12 U	12 U	11 UJ	11 U	11 U
Methyl butyl ketone	UG/KG	12 UJ	12 U	12 U	12 U	11 UJ	11 U	11 U
Methyl chloride	UG/KG	12 UJ	12 U	12 U	12 U	11 UJ	11 U	11 U
Methyl ethyl ketone	UG/KG	12 UJ	12 U	12 U	12 U	11 UJ	11 U	11 U
Methyl isobutyl ketone	UG/KG	12 UJ	12 U	12 U	12 U	11 UJ	11 U	11 U
Methylene chloride	UG/KG	12 UJ	12 U	12 U	12 U	11 UJ	11 U	11 U
Ortho Xylene	UG/KG							
Styrene	UG/KG	12 UJ	12 U	12 U	12 U	11 UJ	11 U	11 U

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SB121C-1	SB121C-1	SB121C-1	SB121C-2	SB121C-2	SB121C-3	SB121C-3
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		EB226	EB231	EB232	EB014	EB228	EB233	EB234
Sample Depth Top		0	0	2.5	0	2	0	2.5
Sample Depth Bottom		0.2	0.2	3	0.2	2.5	0.2	3
Sample Date		3/9/1998	3/9/1998	3/9/1998	3/9/1998	3/9/1998	3/9/1998	3/9/1998
SAmple or **DU**plicate		SA	SA	SA	DU	SA	SA	SA
See Notes at Bottom of Table		EBS	EBS	EBS	EBS	EBS	EBS	EBS
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Tetrachloroethene	UG/KG	12 UJ	12 U	12 U	12 U	11 UJ	11 U	11 U
Toluene	UG/KG	3 J	2 J	7 J	5 J	5 UJ	2 J	9 J
Total Xylenes	UG/KG	12 UJ	12 U	12 U	12 U	11 UJ	11 U	11 U
Trans-1,2-Dichloroethene	UG/KG							
Trans-1,3-Dichloropropene	UG/KG	12 UJ	12 U	12 U	12 U	11 UJ	11 U	11 U
Trichloroethene	UG/KG	12 UJ	12 U	12 U	12 U	11 UJ	11 U	11 U
Vinyl chloride	UG/KG	12 UJ	12 U	12 U	12 U	11 UJ	11 U	11 U
Semivolatile Organics								
1,2,4-Trichlorobenzene	UG/KG	73 U	78 U	77 U	73 U	75 U	72 U	77 U
1,2-Dichlorobenzene	UG/KG	73 U	78 U	77 U	73 U	75 U	72 U	77 U
1,3-Dichlorobenzene	UG/KG	73 U	78 U	77 U	73 U	75 U	72 U	77 U
1,4-Dichlorobenzene	UG/KG	73 U	78 U	77 U	73 U	75 U	72 U	77 U
2,4,5-Trichlorophenol	UG/KG	180 U	190 U	190 U	180 U	180 U	180 U	190 U
2,4,6-Trichlorophenol	UG/KG	73 U	78 U	77 U	73 U	75 U	72 U	77 U
2,4-Dichlorophenol	UG/KG	73 U	78 U	77 U	73 U	75 U	72 U	77 U
2,4-Dimethylphenol	UG/KG	73 U	78 U	77 U	73 U	75 U	72 U	77 U
2,4-Dinitrophenol	UG/KG	180 U	190 U	190 U	180 U	180 U	180 U	190 U
2,4-Dinitrotoluene	UG/KG	45 J	78 U	77 U	73 U	75 U	72 U	77 U
2,6-Dinitrotoluene	UG/KG	73 U	78 U	77 U	73 U	75 U	72 U	77 U
2-Chloronaphthalene	UG/KG	73 U	78 U	77 U	73 U	75 U	72 U	77 U
2-Chlorophenol	UG/KG	73 U	78 U	77 U	73 U	75 U	72 U	77 U
2-Methylnaphthalene	UG/KG	8.6 J	78 U	77 U	4.3 J	7 J	5.5 J	8.3 J
2-Methylphenol	UG/KG	73 U	78 U	77 U	73 U	75 U	72 U	77 U
2-Nitroaniline	UG/KG	180 U	190 U	190 U	180 U	180 U	180 U	190 U
2-Nitrophenol	UG/KG	73 U	78 U	77 U	73 U	75 U	72 U	77 U
3 or 4-Methylphenol	UG/KG							
3,3'-Dichlorobenzidine	UG/KG	73 U	78 U	77 U	73 U	75 U	72 U	77 U
3-Nitroaniline	UG/KG	180 U	190 U	190 U	180 U	180 U	180 U	190 U
4,6-Dinitro-2-methylphenol	UG/KG	180 U	190 U	190 U	180 U	180 U	180 U	190 U
4-Bromophenyl phenyl ether	UG/KG	73 U	78 U	77 U	73 U	75 U	72 U	77 U
4-Chloro-3-methylphenol	UG/KG	73 U	78 U	77 U	73 U	75 U	72 U	77 U

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification	SB121C-1	SB121C-1	SB121C-1	SB121C-2	SB121C-2	SB121C-3	SB121C-3
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	EB226	EB231	EB232	EB014	EB228	EB233	EB234
Sample Depth Top	0	0	2.5	0	2	0	2.5
Sample Depth Bottom	0.2	0.2	3	0.2	2.5	0.2	3
Sample Date	3/9/1998	3/9/1998	3/9/1998	3/9/1998	3/9/1998	3/9/1998	3/9/1998
SAmple or **DU**plicate	SA	SA	SA	DU	SA	SA	SA
See Notes at Bottom of Table	EBS	EBS	EBS	EBS	EBS	EBS	EBS

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
4-Chloroaniline	UG/KG	73 U	78 U	77 U	73 U	75 U	72 U	77 U
4-Chlorophenyl phenyl ether	UG/KG	73 U	78 U	77 U	73 U	75 U	72 U	77 U
4-Methylphenol	UG/KG	73 U	78 U	77 U	73 U	75 U	72 U	77 U
4-Nitroaniline	UG/KG	180 U	190 U	190 U	180 U	180 U	180 U	190 U
4-Nitrophenol	UG/KG	180 U	190 U	190 U	180 U	180 U	180 U	190 U
Acenaphthene	UG/KG	32 J	78 U	77 U	6.8 J	20 J	72 U	13 J
Acenaphthylene	UG/KG	73 U	78 U	77 U	73 U	75 U	72 U	77 U
Anthracene	UG/KG	52 J	78 U	77 U	15 J	41 J	72 U	19 J
Benzo(a)anthracene	UG/KG	180	78 U	4.6 J	76	140	8.2 J	68 J
Benzo(a)pyrene	UG/KG	150	78 U	6.3 J	57 J	100	8.1 J	58 J
Benzo(b)fluoranthene	UG/KG	200	78 U	6.6 J	95	110	13 J	74 J
Benzo(ghi)perylene	UG/KG	98	78 U	12 J	42 J	65 J	11 J	54 J
Benzo(k)fluoranthene	UG/KG	150	78 U	5.7 J	67 J	120	7 J	70 J
Bis(2-Chloroethoxy)methane	UG/KG	73 U	78 U	77 U	73 U	75 U	72 U	77 U
Bis(2-Chloroethyl)ether	UG/KG	73 U	78 U	77 U	73 U	75 U	72 U	77 U
Bis(2-Chloroisopropyl)ether	UG/KG	73 U	78 U	77 U	73 U	75 U	72 U	77 U
Bis(2-Ethylhexyl)phthalate	UG/KG	73 U	13 J	10 J	73 U	21 J	9.2 J	39 J
Butylbenzylphthalate	UG/KG	73 U	78 U	77 U	73 U	6.4 J	72 U	77 U
Carbazole	UG/KG	73 J	78 U	77 U	17 J	56 J	72 U	34 J
Chrysene	UG/KG	210	78 U	5.5 J	90	160	11 J	82
Di-n-butylphthalate	UG/KG	73 U	78 U	77 U	73 U	19 J	72 U	5.3 J
Di-n-octylphthalate	UG/KG	73 U	9.9 J	9.8 J	73 U	17 J	72 U	77 U
Dibenz(a,h)anthracene	UG/KG	43 J	78 U	9.7 J	21 J	33 J	72 U	26 J
Dibenzofuran	UG/KG	19 J	78 U	77 U	5.1 J	13 J	72 U	8 J
Diethyl phthalate	UG/KG	73 U	5.8 J	8.9 J	73 U	6.8 J	8.5 J	18 J
Dimethylphthalate	UG/KG	73 U	78 U	77 U	73 U	75 U	72 U	77 U
Fluoranthene	UG/KG	520	78 U	4.8 J	180	390	13 J	160
Fluorene	UG/KG	32 J	78 U	77 U	8 J	22 J	72 U	12 J
Hexachlorobenzene	UG/KG	8.5 J	78 U	77 U	73 U	75 U	72 U	77 U
Hexachlorobutadiene	UG/KG	73 U	78 U	77 U	73 U	75 U	72 U	77 U
Hexachlorocyclopentadiene	UG/KG	73 U	78 U	77 U	73 U	75 U	72 U	77 U

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SB121C-1	SB121C-1	SB121C-1	SB121C-2	SB121C-2	SB121C-3	SB121C-3
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		EB226	EB231	EB232	EB014	EB228	EB233	EB234
Sample Depth Top		0	0	2.5	0	2	0	2.5
Sample Depth Bottom		0.2	0.2	3	0.2	2.5	0.2	3
Sample Date		3/9/1998	3/9/1998	3/9/1998	3/9/1998	3/9/1998	3/9/1998	3/9/1998
SAmple or **DU**plicate		SA	SA	SA	DU	SA	SA	SA
See Notes at Bottom of Table		EBS	EBS	EBS	EBS	EBS	EBS	EBS
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Hexachloroethane	UG/KG	73 U	78 U	77 U	73 U	75 U	72 U	77 U
Indeno(1,2,3-cd)pyrene	UG/KG	94	78 U	8.6 J	41 J	58 J	8.6 J	48 J
Isophorone	UG/KG	73 U	78 U	77 U	73 U	75 U	72 U	77 U
N-Nitrosodiphenylamine	UG/KG	4.8 J	78 U	77 U	73 U	75 U	72 U	77 U
N-Nitrosodipropylamine	UG/KG	73 U	78 U	77 U	73 U	75 U	72 U	77 U
Naphthalene	UG/KG	11 J	78 U	77 U	73 U	12 J	72 U	6.9 J
Nitrobenzene	UG/KG	73 U	78 U	77 U	73 U	75 U	72 U	77 U
Pentachlorophenol	UG/KG	180 U	190 UJ	190 U	180 U	180 UJ	180 U	190 U
Phenanthrene	UG/KG	360	78 U	77 U	96	280	8.8 J	110
Phenol	UG/KG	73 U	78 U	77 U	73 U	75 U	72 U	77 U
Pyrene	UG/KG	380	78 U	4.7 J	170	290	13 J	130
Pesticides and PCBs								
4,4'-DDD	UG/KG	3.7 U	3.9 U	3.8 U	3.7 U	3.8 U	3.6 U	3.8 U
4,4'-DDE	UG/KG	13	3.9 U	3.8 U	29	13	3.6 U	17
4,4'-DDT	UG/KG	18	3.9 U	3.8 U	35	9.8	3.6 U	16
Aldrin	UG/KG	1.8 U	2 U	2 U	1.8 U	1.9 U	1.9 U	2 U
Alpha-BHC	UG/KG	1.8 U	2 U	2 U	2 R	1.9 U	1.9 U	2 U
Alpha-Chlordane	UG/KG	1.8 U	2 U	2 U	1.8 U	1.9 U	1.9 U	2 U
Aroclor-1016	UG/KG	37 U	39 U	38 U	37 UJ	38 U	36 U	38 U
Aroclor-1221	UG/KG	74 U	79 U	78 U	74 UJ	76 U	74 U	78 U
Aroclor-1232	UG/KG	37 U	39 U	38 U	37 UJ	38 U	36 U	38 U
Aroclor-1242	UG/KG	37 U	39 U	38 U	37 UJ	38 U	36 U	38 U
Aroclor-1248	UG/KG	37 U	39 U	38 U	37 UJ	38 U	36 U	38 U
Aroclor-1254	UG/KG	37 U	39 U	38 U	37 UJ	38 U	36 U	38 U
Aroclor-1260	UG/KG	37 U	39 U	38 U	30 J	200	36 U	21 J
Beta-BHC	UG/KG	1.8 U	2 U	2 U	1.8 UJ	1.9 U	1.9 U	2 U
Chlordane	UG/KG							
Delta-BHC	UG/KG	1.8 U	2 U	2 U	0.95 J	1.3 J	1.9 U	2 U
Dieldrin	UG/KG	3.7 U	3.9 U	3.8 U	3.7 UJ	3.8 U	3.6 U	3.8 U
Endosulfan I	UG/KG	1.8 U	2 U	2 U	1.8 UJ	1.9 U	1.9 U	2 U
Endosulfan II	UG/KG	3.7 U	3.9 U	3.8 U	3.7 UJ	3.8 U	3.6 U	3.8 U

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SB121C-1	SB121C-1	SB121C-1	SB121C-2	SB121C-2	SB121C-3	SB121C-3
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		EB226	EB231	EB232	EB014	EB228	EB233	EB234
Sample Depth Top		0	0	2.5	0	2	0	2.5
Sample Depth Bottom		0.2	0.2	3	0.2	2.5	0.2	3
Sample Date		3/9/1998	3/9/1998	3/9/1998	3/9/1998	3/9/1998	3/9/1998	3/9/1998
SAmple or **DU**plicate		SA	SA	SA	DU	SA	SA	SA
See Notes at Bottom of Table		EBS	EBS	EBS	EBS	EBS	EBS	EBS
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Endosulfan sulfate	UG/KG	3.7 U	3.9 U	3.8 U	3.7 UJ	3.8 U	3.6 U	3.8 U
Endrin	UG/KG	3.7 U	3.9 U	3.8 U	3.7 UJ	3.8 U	3.6 U	3.8 U
Endrin aldehyde	UG/KG	3.7 U	3.9 U	3.8 U	3.7 UJ	3.8 U	3.6 U	3.8 U
Endrin ketone	UG/KG	3.7 U	3.9 U	3.8 U	3.7 UJ	3.8 U	3.6 U	3.8 U
Gamma-BHC/Lindane	UG/KG	1.8 U	2 U	2 U	1.8 UJ	1.9 U	1.9 U	2 U
Gamma-Chlordane	UG/KG	1.8 U	2 U	2 U	1.8 UJ	1.9 U	1.9 U	2 U
Heptachlor	UG/KG	1.8 U	2 U	2 U	1.8 UJ	1.9 U	1.9 U	2 U
Heptachlor epoxide	UG/KG	1.8 U	2 U	2 U	1.8 UJ	1.1 J	1.9 U	2 U
Methoxychlor	UG/KG	18 U	20 U	20 U	18 UJ	19 U	19 U	20 U
Toxaphene	UG/KG	180 U	200 U	200 U	180 UJ	190 U	190 U	200 U
Metals								
Aluminum	MG/KG	15100	12800	13400	14500	16200	1730	8880
Antimony	MG/KG	17.3 J	1.1 J	1.4 J	19.3 J	11.5 J	0.93 J	0.98 J
Arsenic	MG/KG	6.5	5.5	4.4	6.1	8.1	3.8	4.6
Barium	MG/KG	1420	64.9	64.2	1600	1050	18.1	46.3
Beryllium	MG/KG	0.47	0.52	0.72	0.4	0.43	0.25	0.32
Cadmium	MG/KG	2.3	0.07 U	0.07 U	2.7	8.1	0.07 U	0.07 U
Calcium	MG/KG	23400	2580	2280	31300	31600	283000	97200
Chromium	MG/KG	35.2	20.9	21	32.9	37	3.8	13.1
Cobalt	MG/KG	15.7	12.8	9.4	16.5	16	3.5	7.7
Copper	MG/KG	9750	19.7 J	18.7 J	7690	2440 J	8.8 J	20.6 J
Cyanide	MG/KG	0.56 U	0.63 U	0.65 U	0.59 U	0.63 U	0.58 U	0.58 U
Cyanide, Amenable	MG/KG							
Cyanide, Total	MG/KG							
Iron	MG/KG	41500	25700	23800	41100	54100	4230	16500
Lead	MG/KG	5080	11.8 J	14.1 J	5280	1780	11.7 J	39.9 J
Magnesium	MG/KG	6810	4590	4040	6820	6480	10200	8000
Manganese	MG/KG	525	598	299	612	752	213	473
Mercury	MG/KG	0.07	0.06 U	0.05	0.05 U	0.07	0.04 U	0.06 U
Nickel	MG/KG	58.5 J	40.5	35.8	54.2 J	56.6	11.6	22.3
Potassium	MG/KG	1990	1600	1670	1840	1220	1150	1500

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SB121C-1	SB121C-1	SB121C-1	SB121C-2	SB121C-2	SB121C-3	SB121C-3
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		EB226	EB231	EB232	EB014	EB228	EB233	EB234
Sample Depth Top		0	0	2.5	0	2	0	2.5
Sample Depth Bottom		0.2	0.2	3	0.2	2.5	0.2	3
Sample Date		3/9/1998	3/9/1998	3/9/1998	3/9/1998	3/9/1998	3/9/1998	3/9/1998
SAmple or **DU**plicate		SA	SA	SA	DU	SA	SA	SA
See Notes at Bottom of Table		EBS	EBS	EBS	EBS	EBS	EBS	EBS
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Selenium	MG/KG	1 UJ	1.1 U	1.1 U	0.92 UJ	0.97 U	1 U	1.1 U
Silver	MG/KG	0.46 U	0.48 U	0.48 U	0.41 U	0.43 U	0.46 U	0.49 U
Sodium	MG/KG	392	139 U	138 U	606	214	132 U	141 U
Thallium	MG/KG	1.4 U	1.4 UJ	1.4 UJ	1.2 U	1.3 UJ	1.4 UJ	1.5 UJ
Vanadium	MG/KG	20.9 J	20.8	21.8	19.5 J	19.3	5.1	14.4
Zinc	MG/KG	1350	80.3	70.5	1280	691	29.8	77.6
Other Analyses								
Total Organic Carbon	MG/KG							
Total Petroleum Hydrocarbons	MG/KG							

NOTES:
1) List includes all sample and sample duplicate pair members as discrete samples.
(Q)ualifier Code Definitions
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 data was rejected in the data validating process

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SB121C-4	SB121C-4	SB121C-4	SBDRMO-10	SBDRMO-10	SBDRMO-11	SBDRMO-11
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		EB020	EB229	EB230	DRMO-1056	DRMO-1057	DRMO-1059	DRMO-1060
Sample Depth Top		0	0	2.5	0	2	0	2
Sample Depth Bottom		0.2	0.2	3	2	6	2	6
Sample Date		3/9/1998	3/9/1998	3/9/1998	10/25/2002	10/25/2002	10/26/2002	10/26/2002
SAmple or **DU**plicate		DU	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		EBS	EBS	EBS	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organics								
1,1,1-Trichloroethane	UG/KG	11 UJ	11 UJ	11 UJ	2.9 UJ	2.6 UJ	2.8 U	2.8 UJ
1,1,2,2-Tetrachloroethane	UG/KG	11 UJ	11 UJ	11 U	2.9 UJ	2.6 U	2.8 U	2.8 UJ
1,1,2-Trichloroethane	UG/KG	11 UJ	11 UJ	11 U	2.9 UJ	2.6 U	2.8 U	2.8 UJ
1,1-Dichloroethane	UG/KG	11 UJ	11 UJ	11 U	2.9 UJ	2.6 U	2.8 U	2.8 UJ
1,1-Dichloroethene	UG/KG	11 UJ	11 UJ	11 U	2.9 UJ	2.6 U	2.8 U	2.8 UJ
1,2-Dichloroethane	UG/KG	11 UJ	11 UJ	11 U	2.9 UJ	2.6 UJ	2.8 U	2.8 UJ
1,2-Dichloroethene (total)	UG/KG	11 UJ	11 UJ	11 U				
1,2-Dichloropropane	UG/KG	11 UJ	11 UJ	11 UJ	2.9 UJ	2.6 U	2.8 U	2.8 UJ
Acetone	UG/KG	10 J	11 UJ	28 J	20 UJ	2.6 U	11 J	2.8 UJ
Benzene	UG/KG	11 UJ	11 UJ	11 UJ	2.9 UJ	2.6 U	2.8 U	2.8 UJ
Bromodichloromethane	UG/KG	11 UJ	11 UJ	11 UJ	2.9 UJ	2.6 U	2.8 U	2.8 UJ
Bromoform	UG/KG	11 UJ	11 UJ	11 UJ	2.9 UJ	2.6 U	2.8 U	2.8 UJ
Carbon disulfide	UG/KG	11 UJ	11 UJ	11 UJ	2.9 UJ	2.6 U	2.8 U	2.8 UJ
Carbon tetrachloride	UG/KG	11 UJ	11 UJ	11 UJ	2.9 UJ	2.6 UJ	2.8 UJ	2.8 UJ
Chlorobenzene	UG/KG	11 UJ	11 UJ	11 UJ	2.9 UJ	2.6 U	2.8 U	2.8 UJ
Chlorodibromomethane	UG/KG	11 UJ	11 UJ	11 UJ	2.9 UJ	2.6 U	2.8 U	2.8 UJ
Chloroethane	UG/KG	11 UJ	11 UJ	11 UJ	2.9 UJ	2.6 U	2.8 U	2.8 UJ
Chloroform	UG/KG	11 UJ	4 J	2 J	2.9 UJ	2.6 U	2.8 U	2.8 UJ
Cis-1,2-Dichloroethene	UG/KG				2.9 UJ	2.6 U	2.8 U	2.8 UJ
Cis-1,3-Dichloropropene	UG/KG	11 UJ	11 UJ	11 UJ	2.9 UJ	2.6 U	2.8 U	2.8 UJ
Ethyl benzene	UG/KG	11 UJ	11 UJ	11 UJ	2.9 UJ	2.6 U	2.8 U	2.8 UJ
Meta/Para Xylene	UG/KG				2.9 UJ	2.6 U	2.8 U	2.8 UJ
Methyl bromide	UG/KG	11 UJ	11 UJ	11 UJ	2.9 UJ	2.6 UJ	2.8 UJ	2.8 UJ
Methyl butyl ketone	UG/KG	11 UJ	11 UJ	11 UJ	2.9 UJ	2.6 UJ	2.8 UJ	2.8 UJ
Methyl chloride	UG/KG	11 UJ	11 UJ	11 UJ	2.9 UJ	2.6 U	2.8 U	2.8 UJ
Methyl ethyl ketone	UG/KG	11 UJ	11 UJ	11 UJ	2.9 UJ	2.6 U	2.8 UJ	2.8 UJ
Methyl isobutyl ketone	UG/KG	11 UJ	11 UJ	11 UJ	2.9 UJ	2.6 U	2.8 UJ	2.8 UJ
Methylene chloride	UG/KG	11 UJ	11 UJ	11 UJ	2.9 UJ	2.6 U	2.7 U	3.5 UJ
Ortho Xylene	UG/KG				2.9 UJ	2.6 U	2.8 U	2.8 UJ
Styrene	UG/KG	11 UJ	11 UJ	11 UJ	2.9 UJ	2.6 U	2.8 U	2.8 UJ

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SB121C-4	SB121C-4	SB121C-4	SBDRMO-10	SBDRMO-10	SBDRMO-11	SBDRMO-11
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		EB020	EB229	EB230	DRMO-1056	DRMO-1057	DRMO-1059	DRMO-1060
Sample Depth Top		0	0	2.5	0	2	0	2
Sample Depth Bottom		0.2	0.2	3	2	6	2	6
Sample Date		3/9/1998	3/9/1998	3/9/1998	10/25/2002	10/25/2002	10/26/2002	10/26/2002
SAmple or **DU**plicate		DU	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		EBS	EBS	EBS	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Tetrachloroethene	UG/KG	11 UJ	11 UJ	11 UJ	2.9 UJ	2.6 U	2.8 U	2.8 UJ
Toluene	UG/KG	12 J	10 J	4 J	2.9 UJ	2.6 U	2.8 U	2.8 UJ
Total Xylenes	UG/KG	11 UJ	11 UJ	11 UJ				
Trans-1,2-Dichloroethene	UG/KG				2.9 UJ	2.6 U	2.8 U	2.8 UJ
Trans-1,3-Dichloropropene	UG/KG	11 UJ	11 UJ	11 UJ	2.9 UJ	2.6 U	2.8 U	2.8 UJ
Trichloroethene	UG/KG	11 UJ	11 UJ	11 UJ	2.9 UJ	2.6 U	2.8 U	2.8 UJ
Vinyl chloride	UG/KG	11 UJ	11 UJ	11 UJ	2.9 UJ	2.6 U	2.8 U	2.8 UJ
Semivolatile Organics								
1,2,4-Trichlorobenzene	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
1,2-Dichlorobenzene	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
1,3-Dichlorobenzene	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
1,4-Dichlorobenzene	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
2,4,5-Trichlorophenol	UG/KG	170 U	170 U	180 U	990 U	920 U	1100 U	920 U
2,4,6-Trichlorophenol	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
2,4-Dichlorophenol	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
2,4-Dimethylphenol	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
2,4-Dinitrophenol	UG/KG	170 U	170 U	180 U	990 UJ	920 UJ	1100 UJ	920 UJ
2,4-Dinitrotoluene	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
2,6-Dinitrotoluene	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
2-Chloronaphthalene	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
2-Chlorophenol	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
2-Methylnaphthalene	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
2-Methylphenol	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
2-Nitroaniline	UG/KG	170 U	170 U	180 U	990 U	920 U	1100 U	920 U
2-Nitrophenol	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
3 or 4-Methylphenol	UG/KG				390 U	370 U	420 U	370 U
3,3'-Dichlorobenzidine	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
3-Nitroaniline	UG/KG	170 U	170 U	180 U	990 U	920 U	1100 U	920 U
4,6-Dinitro-2-methylphenol	UG/KG	170 U	170 U	180 U	990 UJ	920 UJ	1100 UJ	920 U
4-Bromophenyl phenyl ether	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
4-Chloro-3-methylphenol	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SB121C-4	SB121C-4	SB121C-4	SBDRMO-10	SBDRMO-10	SBDRMO-11	SBDRMO-11
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		EB020	EB229	EB230	DRMO-1056	DRMO-1057	DRMO-1059	DRMO-1060
Sample Depth Top		0	0	2.5	0	2	0	2
Sample Depth Bottom		0.2	0.2	3	2	6	2	6
Sample Date		3/9/1998	3/9/1998	3/9/1998	10/25/2002	10/25/2002	10/26/2002	10/26/2002
SAmple or **DU**plicate		DU	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		EBS	EBS	EBS	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
4-Chloroaniline	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
4-Chlorophenyl phenyl ether	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
4-Methylphenol	UG/KG	72 U	71 U	76 U				
4-Nitroaniline	UG/KG	170 U	170 U	180 U	990 U	920 U	1100 U	920 U
4-Nitrophenol	UG/KG	170 U	170 U	180 U	990 U	920 U	1100 U	920 U
Acenaphthene	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
Acenaphthylene	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
Anthracene	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
Benzo(a)anthracene	UG/KG	3.9 J	7 J	4.6 J	390 U	370 U	86 J	370 U
Benzo(a)pyrene	UG/KG	72 U	71 U	6 J	390 U	370 U	84 J	370 U
Benzo(b)fluoranthene	UG/KG	13 J	71 U	5.8 J	390 U	370 U	86 J	370 U
Benzo(ghi)perylene	UG/KG	72 U	71 U	6.2 J	390 U	370 U	72 J	370 U
Benzo(k)fluoranthene	UG/KG	72 U	71 U	6.7 J	390 U	370 U	420 U	370 U
Bis(2-Chloroethoxy)methane	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
Bis(2-Chloroethyl)ether	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
Bis(2-Chloroisopropyl)ether	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
Bis(2-Ethylhexyl)phthalate	UG/KG	9.3 J	13 J	14 J	390 U	370 U	420 U	370 U
Butylbenzylphthalate	UG/KG	72 U	71 U	76 U	390 U	39 J	420 U	370 U
Carbazole	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
Chrysene	UG/KG	8.8 J	12 J	7.8 J	390 U	370 U	96 J	370 U
Di-n-butylphthalate	UG/KG	72 U	3.7 J	76 U	390 U	370 U	420 U	370 U
Di-n-octylphthalate	UG/KG	72 U	71 U	3.9 J	390 U	370 U	420 U	370 U
Dibenz(a,h)anthracene	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
Dibenzofuran	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
Diethyl phthalate	UG/KG	8.1 J	10 J	4.7 J	390 U	370 U	420 U	370 U
Dimethylphthalate	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
Fluoranthene	UG/KG	7.4 J	10 J	9.6 J	390 U	370 U	180 J	370 U
Fluorene	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
Hexachlorobenzene	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
Hexachlorobutadiene	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
Hexachlorocyclopentadiene	UG/KG	72 U	71 U	76 U	390 UJ	370 UJ	420 UJ	370 UJ

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SB121C-4	SB121C-4	SB121C-4	SBDRMO-10	SBDRMO-10	SBDRMO-11	SBDRMO-11
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		EB020	EB229	EB230	DRMO-1056	DRMO-1057	DRMO-1059	DRMO-1060
Sample Depth Top		0	0	2.5	0	2	0	2
Sample Depth Bottom		0.2	0.2	3	2	6	2	6
Sample Date		3/9/1998	3/9/1998	3/9/1998	10/25/2002	10/25/2002	10/26/2002	10/26/2002
SAmple or **DU**plicate		DU	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		EBS	EBS	EBS	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Hexachloroethane	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
Indeno(1,2,3-cd)pyrene	UG/KG	72 U	71 U	5.9 J	390 U	370 U	420 U	370 U
Isophorone	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
N-Nitrosodiphenylamine	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
N-Nitrosodipropylamine	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
Naphthalene	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
Nitrobenzene	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
Pentachlorophenol	UG/KG	170 U	170 U	180 UJ	990 U	920 U	1100 U	920 U
Phenanthrene	UG/KG	8.8 J	7.6 J	5.9 J	390 U	370 U	72 J	370 U
Phenol	UG/KG	72 U	71 U	76 U	390 U	370 U	420 U	370 U
Pyrene	UG/KG	8.3 J	14 J	8.1 J	390 U	370 U	120 J	370 U
Pesticides and PCBs								
4,4'-DDD	UG/KG	3.6 U	3.5 U	3.8 U	2 R	1.9 R	2.2 UJ	1.9 UJ
4,4'-DDE	UG/KG	3.8	4.5	2.5 J	2 UJ	1.9 UJ	2.2 UJ	1.9 UJ
4,4'-DDT	UG/KG	1.9 J	2.3 J	3.8 U	2 UJ	1.9 UJ	2.2 UJ	1.9 UJ
Aldrin	UG/KG	1.8 U	1.8 U	2 U	2 UJ	1.9 UJ	2.2 UJ	1.9 UJ
Alpha-BHC	UG/KG	1.8 U	1.8 U	2 U	2 UJ	1.9 UJ	2.2 UJ	1.9 UJ
Alpha-Chlordane	UG/KG	1.8 U	1.8 U	2 U	2 UJ	1.9 UJ	2.2 UJ	1.9 UJ
Aroclor-1016	UG/KG	36 U	35 U	38 U	20 UJ	19 UJ	22 U	19 U
Aroclor-1221	UG/KG	73 U	72 U	77 U	20 U	19 U	22 U	19 U
Aroclor-1232	UG/KG	36 U	35 U	38 U	20 UJ	19 UJ	22 U	19 U
Aroclor-1242	UG/KG	36 U	35 U	38 U	20 UJ	19 UJ	22 U	19 U
Aroclor-1248	UG/KG	36 U	35 U	38 U	20 U	19 U	22 U	19 U
Aroclor-1254	UG/KG	36 U	35 U	38 U	20 U	19 U	22 U	19 U
Aroclor-1260	UG/KG	36 U	35 U	38 U	20 UJ	19 UJ	22 U	19 U
Beta-BHC	UG/KG	1.8 U	1.8 U	2 U	2 U	1.9 U	2.2 UJ	1.9 UJ
Chlordane	UG/KG				20 U	19 U	22 U	19 U
Delta-BHC	UG/KG	1.8 U	1.8 U	2 U	2 UJ	1.9 UJ	2.2 UJ	1.9 UJ
Dieldrin	UG/KG	3.6 U	3.5 U	3.8 U	2 UJ	1.9 UJ	2.2 UJ	1.9 UJ
Endosulfan I	UG/KG	1.8 U	1.8 U	2 U	2 U	1.9 U	2.2 U	1.9 U
Endosulfan II	UG/KG	3.6 U	3.5 U	3.8 U	2 U	1.9 U	2.2 U	1.9 U

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SB121C-4	SB121C-4	SB121C-4	SBDRMO-10	SBDRMO-10	SBDRMO-11	SBDRMO-11
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		EB020	EB229	EB230	DRMO-1056	DRMO-1057	DRMO-1059	DRMO-1060
Sample Depth Top		0	0	2.5	0	2	0	2
Sample Depth Bottom		0.2	0.2	3	2	6	2	6
Sample Date		3/9/1998	3/9/1998	3/9/1998	10/25/2002	10/25/2002	10/26/2002	10/26/2002
SAmple or **DU**plicate		DU	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		EBS	EBS	EBS	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Endosulfan sulfate	UG/KG	3.6 U	3.5 U	3.8 U	2 U	1.9 U	2.2 U	1.9 U
Endrin	UG/KG	3.6 U	3.5 U	3.8 U	2 UJ	1.9 UJ	2.2 U	1.9 U
Endrin aldehyde	UG/KG	3.6 U	3.5 U	3.8 U	2 U	1.9 U	2.2 U	1.9 U
Endrin ketone	UG/KG	3.6 U	3.5 U	3.8 U	2 U	1.9 U	2.2 U	1.9 U
Gamma-BHC/Lindane	UG/KG	1.8 U	1.8 U	2 U	2 UJ	1.9 UJ	2.2 UJ	1.9 UJ
Gamma-Chlordane	UG/KG	1.8 U	1.8 U	2 U	2 U	1.9 U	2.2 UJ	1.9 UJ
Heptachlor	UG/KG	1.8 U	1.8 U	2 U	2 U	1.9 U	2.2 UJ	1.9 UJ
Heptachlor epoxide	UG/KG	1.8 U	1.8 U	2 U	2 U	1.9 U	2.2 UJ	1.9 UJ
Methoxychlor	UG/KG	18 U	18 U	20 U	2 UJ	1.9 UJ	2.2 U	1.9 U
Toxaphene	UG/KG	180 U	180 U	200 U	20 U	19 U	22 U	19 U
Metals								
Aluminum	MG/KG	14400	13000	15700	11500	15000	11200	10100
Antimony	MG/KG	1.7 J	0.81 J	0.69 UJ	1.1 U	0.99 U	1.2 U	1 U
Arsenic	MG/KG	5	3.7	6.4	5	5.7	4.8	4.6
Barium	MG/KG	86.6	69.6	72.4	83.5 J	58.6 J	84 J	55.2 J
Beryllium	MG/KG	0.57	0.49	0.63	0.76	0.87	0.7	0.63
Cadmium	MG/KG	0.07 U	0.05 U	0.06 U	0.14 U	0.13 U	0.3 J	0.13 U
Calcium	MG/KG	17200	25500	13000	4850 J	23000 J	28000 J	43800 J
Chromium	MG/KG	27.8	22.6	30	17.6	25.6	19.6	17
Cobalt	MG/KG	17.6	12.5	19.7	12.4	15.8	13.3	11.1
Copper	MG/KG	39.1 J	33 J	39.1 J	16.2 J	26.4 J	30.1 J	35.7 J
Cyanide	MG/KG	0.56 U	0.61 U	0.63 U				
Cyanide, Amenable	MG/KG				0.59 U	0.56 U	0.65 U	0.56 U
Cyanide, Total	MG/KG				0.595 U	0.565 U	0.653 U	0.56 U
Iron	MG/KG	32000	25900	35600	22500	30700	23200	21100
Lead	MG/KG	27.1	23.5 J	26 J	14.7	8.4	37.1	14.4
Magnesium	MG/KG	6980	5630	7500	3610	6700	5410	11700
Manganese	MG/KG	413	359	394	668	550	349	378
Mercury	MG/KG	0.04 U	0.04 U	0.06	0.05	0.02	0.03	0.03
Nickel	MG/KG	61.8	49.3	69.7	23.9 J	44.5 J	31.4 J	32.1 J
Potassium	MG/KG	1980	1450	1870	911 J	1360 J	982 J	951 J

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SB121C-4	SB121C-4	SB121C-4	SBDRMO-10	SBDRMO-10	SBDRMO-11	SBDRMO-11
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		EB020	EB229	EB230	DRMO-1056	DRMO-1057	DRMO-1059	DRMO-1060
Sample Depth Top		0	0	2.5	0	2	0	2
Sample Depth Bottom		0.2	0.2	3	2	6	2	6
Sample Date		3/9/1998	3/9/1998	3/9/1998	10/25/2002	10/25/2002	10/26/2002	10/26/2002
SAmple or **DU**plicate		DU	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		EBS	EBS	EBS	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Selenium	MG/KG	1 U	0.8 U	0.92 U	0.5 U	0.46 U	0.55 U	0.47 U
Silver	MG/KG	0.46 U	0.36 U	0.41 U	0.32 U	0.3 U	0.35	0.3 U
Sodium	MG/KG	132 U	110	119 U	132	166	130 U	203
Thallium	MG/KG	1.4 J	1.1 UJ	1.2 UJ	0.37 U	0.34 U	0.4 U	0.35 U
Vanadium	MG/KG	21	17	21.7	22.4	23	18.9	15.8
Zinc	MG/KG	153	196	158	67.1	85.1	133	66.7
Other Analyses								
Total Organic Carbon	MG/KG				6700	4600	6800	5000
Total Petroleum Hydrocarbons	MG/KG				48 UJ	45 UJ	52 UJ	45 UJ

NOTES:
1) List includes all sample and sample du
(Q)ualifier Code Definitions
U = compound was not detected
J = the reported value is an estimated con
UJ = the compound was not detected; the
R = the data was rejected in the data valic

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification	SBDRMO-12	SBDRMO-12	SBDRMO-13	SBDRMO-13	SBDRMO-14	SBDRMO-14	SBDRMO-15
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	DRMO-1062	DRMO-1063	DRMO-1065	DRMO-1066	DRMO-1068	DRMO-1069	DRMO-1071
Sample Depth Top	0	2	0	2	0	2	0
Sample Depth Bottom	2	6	2	6	2	6	2
Sample Date	10/25/2002	10/25/2002	10/26/2002	10/26/2002	10/25/2002	10/25/2002	10/26/2002
SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organics								
1,1,1-Trichloroethane	UG/KG	2.9 UJ	3.1 UJ	3.3 U	3.1 U	2.5 UJ	3 U	2.7 U
1,1,2,2-Tetrachloroethane	UG/KG	2.9 U	3.1 U	3.3 U	3.1 U	2.5 UJ	3 U	2.7 U
1,1,2-Trichloroethane	UG/KG	2.9 U	3.1 U	3.3 U	3.1 U	2.5 UJ	3 U	2.7 U
1,1-Dichloroethane	UG/KG	2.9 U	3.1 U	3.3 U	3.1 U	2.5 UJ	3 U	2.7 U
1,1-Dichloroethene	UG/KG	2.9 U	3.1 U	3.3 U	3.1 U	2.5 UJ	3 U	2.7 U
1,2-Dichloroethane	UG/KG	2.9 UJ	3.1 UJ	3.3 U	3.1 U	2.5 UJ	3 UJ	2.7 UJ
1,2-Dichloroethene (total)	UG/KG							
1,2-Dichloropropane	UG/KG	2.9 U	3.1 U	3.3 U	3.1 U	2.5 UJ	3 U	2.7 U
Acetone	UG/KG	3.2 J	24 J	3.3 U	13 J	7.3 UJ	30 UJ	2.7 U
Benzene	UG/KG	2.9 U	3.1 U	3.3 U	3.1 U	2.5 UJ	3 U	2.7 U
Bromodichloromethane	UG/KG	2.9 U	3.1 U	3.3 U	3.1 U	2.5 UJ	3 U	2.7 U
Bromoform	UG/KG	2.9 U	3.1 U	3.3 U	3.1 UJ	2.5 UJ	3 U	2.7 U
Carbon disulfide	UG/KG	2.9 U	3.1 U	3.3 U	3.1 U	2.5 UJ	3 U	2.7 U
Carbon tetrachloride	UG/KG	2.9 UJ	3.1 U	3.3 UJ	3.1 U	2.5 UJ	3 UJ	2.7 UJ
Chlorobenzene	UG/KG	2.9 U	3.1 U	3.3 U	3.1 U	2.5 UJ	3 U	2.7 U
Chlorodibromomethane	UG/KG	2.9 U	3.1 U	3.3 U	3.1 U	2.5 UJ	3 U	2.7 U
Chloroethane	UG/KG	2.9 U	3.1 U	3.3 U	3.1 U	2.5 UJ	3 U	2.7 U
Chloroform	UG/KG	2.9 U	3.1 U	3.3 U	3.1 U	2.5 UJ	3 U	2.7 U
Cis-1,2-Dichloroethene	UG/KG	2.9 U	3.1 U	3.3 U	3.1 U	2.5 UJ	3 U	2.7 U
Cis-1,3-Dichloropropene	UG/KG	2.9 U	3.1 U	3.3 U	3.1 U	2.5 UJ	3 U	2.7 U
Ethyl benzene	UG/KG	2.9 U	3.1 U	3.3 U	3.1 U	2.5 UJ	3 U	2.7 U
Meta/Para Xylene	UG/KG	2.9 U	3.1 U	3.3 U	3.1 U	2.5 UJ	3 U	2.7 U
Methyl bromide	UG/KG	2.9 UJ	3.1 UJ	3.3 UJ	3.1 U	2.5 UJ	3 UJ	2.7 UJ
Methyl butyl ketone	UG/KG	2.9 UJ	3.1 UJ	3.3 UJ	3.1 U	2.5 UJ	3 UJ	2.7 UJ
Methyl chloride	UG/KG	2.9 U	3.1 U	3.3 U	3.1 UJ	2.5 UJ	3 UJ	2.7 UJ
Methyl ethyl ketone	UG/KG	2.9 U	3.1 U	3.3 UJ	3.1 U	2.5 UJ	7.6 J	2.7 UJ
Methyl isobutyl ketone	UG/KG	2.9 U	3.1 U	3.3 UJ	3.1 U	2.5 UJ	3 U	2.7 U
Methylene chloride	UG/KG	2.9 U	2.6 J	2.9 U	3.1 U	2.5 UJ	3 U	2.7 U
Ortho Xylene	UG/KG	2.9 U	3.1 U	3.3 U	3.1 U	2.5 UJ	3 U	2.7 U
Styrene	UG/KG	2.9 U	3.1 U	3.3 U	3.1 UJ	2.5 UJ	3 U	2.7 U

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SBDRMO-12	SBDRMO-12	SBDRMO-13	SBDRMO-13	SBDRMO-14	SBDRMO-14	SBDRMO-15
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		DRMO-1062	DRMO-1063	DRMO-1065	DRMO-1066	DRMO-1068	DRMO-1069	DRMO-1071
Sample Depth Top		0	2	0	2	0	2	0
Sample Depth Bottom		2	6	2	6	2	6	2
Sample Date		10/25/2002	10/25/2002	10/26/2002	10/26/2002	10/25/2002	10/25/2002	10/26/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Tetrachloroethene	UG/KG	2.9 U	3.1 U	3.3 U	3.1 UJ	2.5 UJ	3 U	2.7 U
Toluene	UG/KG	2.9 U	3.1 U	3.3 U	3.1 U	2.5 UJ	3 U	2.7 U
Total Xylenes	UG/KG							
Trans-1,2-Dichloroethene	UG/KG	2.9 U	3.1 U	3.3 U	3.1 U	2.5 UJ	3 U	2.7 U
Trans-1,3-Dichloropropene	UG/KG	2.9 U	3.1 U	3.3 U	3.1 U	2.5 UJ	3 U	2.7 U
Trichloroethene	UG/KG	2.9 U	3.1 U	3.3 U	3.1 U	2.5 UJ	3 U	2.7 U
Vinyl chloride	UG/KG	2.9 U	3.1 U	3.3 U	3.1 U	2.5 UJ	3 U	2.7 U
Semivolatile Organics								
1,2,4-Trichlorobenzene	UG/KG	380 U	410 UJ	430 U	400 U	360 U	410 U	360 U
1,2-Dichlorobenzene	UG/KG	380 U	410 U	430 U	400 U	360 U	410 U	360 U
1,3-Dichlorobenzene	UG/KG	380 U	410 U	430 U	400 U	360 U	410 U	360 U
1,4-Dichlorobenzene	UG/KG	380 U	410 U	430 U	400 U	360 U	410 U	360 U
2,4,5-Trichlorophenol	UG/KG	970 U	1000 UJ	1100 U	1000 U	910 U	1000 U	890 U
2,4,6-Trichlorophenol	UG/KG	380 U	410 UJ	430 U	400 U	360 U	410 U	360 U
2,4-Dichlorophenol	UG/KG	380 U	410 UJ	430 U	400 U	360 U	410 U	360 U
2,4-Dimethylphenol	UG/KG	380 U	410 UJ	430 U	400 U	360 U	410 U	360 U
2,4-Dinitrophenol	UG/KG	970 R	1000 UJ	1100 U	1000 U	910 UJ	1000 R	890 UJ
2,4-Dinitrotoluene	UG/KG	380 U	410 UJ	430 U	400 U	360 U	410 U	360 U
2,6-Dinitrotoluene	UG/KG	380 U	410 UJ	430 U	400 U	360 U	410 U	360 U
2-Chloronaphthalene	UG/KG	380 U	410 UJ	430 U	400 U	360 U	410 U	360 U
2-Chlorophenol	UG/KG	380 U	410 U	430 U	400 U	360 U	410 U	360 U
2-Methylnaphthalene	UG/KG	380 U	2500 J	430 U	400 U	360 U	410 U	360 U
2-Methylphenol	UG/KG	380 U	410 U	430 U	400 U	360 U	410 U	360 U
2-Nitroaniline	UG/KG	970 UJ	1000 UJ	1100 UJ	1000 U	910 U	1000 UJ	890 U
2-Nitrophenol	UG/KG	380 U	410 UJ	430 U	400 U	360 U	410 U	360 U
3 or 4-Methylphenol	UG/KG	380 U	410 UJ	430 U	400 U	360 U	410 U	360 U
3,3'-Dichlorobenzidine	UG/KG	380 U	410 UJ	430 U	400 U	360 UJ	410 U	360 UJ
3-Nitroaniline	UG/KG	970 U	1000 UJ	1100 U	1000 U	910 U	1000 U	890 U
4,6-Dinitro-2-methylphenol	UG/KG	970 UJ	1000 UJ	1100 U	1000 U	910 U	1000 UJ	890 U
4-Bromophenyl phenyl ether	UG/KG	380 U	410 UJ	430 U	400 U	360 U	410 U	360 U
4-Chloro-3-methylphenol	UG/KG	380 U	410 UJ	430 U	400 U	360 U	410 U	360 U

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification	SBDRMO-12	SBDRMO-12	SBDRMO-13	SBDRMO-13	SBDRMO-14	SBDRMO-14	SBDRMO-15
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	DRMO-1062	DRMO-1063	DRMO-1065	DRMO-1066	DRMO-1068	DRMO-1069	DRMO-1071
Sample Depth Top	0	2	0	2	0	2	0
Sample Depth Bottom	2	6	2	6	2	6	2
Sample Date	10/25/2002	10/25/2002	10/26/2002	10/26/2002	10/25/2002	10/25/2002	10/26/2002
SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
4-Chloroaniline	UG/KG	380 U	410 UJ	430 U	400 U	360 U	410 U	360 U
4-Chlorophenyl phenyl ether	UG/KG	380 U	410 UJ	430 U	400 U	360 U	410 U	360 U
4-Methylphenol	UG/KG							
4-Nitroaniline	UG/KG	970 U	1000 UJ	1100 UJ	1000 U	910 U	1000 U	890 U
4-Nitrophenol	UG/KG	970 UJ	1000 UJ	1100 U	1000 U	910 U	1000 UJ	890 U
Acenaphthene	UG/KG	380 U	410 UJ	430 U	400 U	360 U	410 U	360 U
Acenaphthylene	UG/KG	380 U	410 UJ	430 U	400 U	360 U	410 U	360 U
Anthracene	UG/KG	380 U	410 UJ	430 U	400 U	360 U	410 U	66 J
Benzo(a)anthracene	UG/KG	380 U	410 UJ	430 U	400 U	45 J	410 U	140 J
Benzo(a)pyrene	UG/KG	380 U	410 R	430 U	400 U	360 UJ	410 U	120 J
Benzo(b)fluoranthene	UG/KG	380 U	410 R	430 U	400 U	60 J	54 J	160 J
Benzo(ghi)perylene	UG/KG	380 UJ	410 R	430 UJ	400 U	67 J	67 J	110 J
Benzo(k)fluoranthene	UG/KG	380 U	410 R	430 U	400 U	360 UJ	410 U	150 J
Bis(2-Chloroethoxy)methane	UG/KG	380 U	410 UJ	430 U	400 U	360 U	410 U	360 U
Bis(2-Chloroethyl)ether	UG/KG	380 U	410 UJ	430 U	400 U	360 U	410 U	360 U
Bis(2-Chloroisopropyl)ether	UG/KG	380 U	410 U	430 U	400 U	360 U	410 U	360 U
Bis(2-Ethylhexyl)phthalate	UG/KG	380 U	410 UJ	130 J	400 U	50 J	410 U	96 J
Butylbenzylphthalate	UG/KG	380 U	410 UJ	49 J	400 U	360 UJ	410 U	48 J
Carbazole	UG/KG	380 U	410 UJ	430 U	400 U	360 U	410 U	49 J
Chrysene	UG/KG	380 U	410 UJ	430 U	400 U	60 J	410 U	200 J
Di-n-butylphthalate	UG/KG	380 U	410 UJ	430 U	400 U	360 U	410 U	360 U
Di-n-octylphthalate	UG/KG	380 U	410 UJ	430 U	400 U	360 UJ	410 U	360 UJ
Dibenz(a,h)anthracene	UG/KG	380 UJ	410 R	430 UJ	400 U	360 UJ	410 UJ	360 UJ
Dibenzofuran	UG/KG	380 U	410 UJ	430 U	400 U	360 U	410 U	360 U
Diethyl phthalate	UG/KG	380 U	410 UJ	430 U	400 U	360 U	410 U	360 U
Dimethylphthalate	UG/KG	380 U	410 UJ	430 U	400 U	360 U	410 U	360 U
Fluoranthene	UG/KG	75 J	410 UJ	430 U	400 U	76 J	110 J	310 J
Fluorene	UG/KG	380 U	410 UJ	430 U	400 U	360 U	410 U	360 U
Hexachlorobenzene	UG/KG	380 U	410 UJ	430 U	400 U	360 U	410 U	360 U
Hexachlorobutadiene	UG/KG	380 U	410 UJ	430 U	400 U	360 U	410 U	360 U
Hexachlorocyclopentadiene	UG/KG	380 UJ	410 UJ	430 U	400 UJ	360 UJ	410 UJ	360 UJ

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SBDRMO-12	SBDRMO-12	SBDRMO-13	SBDRMO-13	SBDRMO-14	SBDRMO-14	SBDRMO-15
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		DRMO-1062	DRMO-1063	DRMO-1065	DRMO-1066	DRMO-1068	DRMO-1069	DRMO-1071
Sample Depth Top		0	2	0	2	0	2	0
Sample Depth Bottom		2	6	2	6	2	6	2
Sample Date		10/25/2002	10/25/2002	10/26/2002	10/26/2002	10/25/2002	10/25/2002	10/26/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Hexachloroethane	UG/KG	380 U	410 U	430 U	400 U	360 U	410 U	360 U
Indeno(1,2,3-cd)pyrene	UG/KG	380 UJ	410 UJ	430 UJ	400 U	360 UJ	410 UJ	74 J
Isophorone	UG/KG	380 U	410 UJ	430 U	400 U	360 U	410 U	360 U
N-Nitrosodiphenylamine	UG/KG	380 U	410 U	430 U	400 U	360 U	410 U	360 U
N-Nitrosodipropylamine	UG/KG	380 UJ	410 U	430 UJ	400 U	360 U	410 UJ	360 U
Naphthalene	UG/KG	380 U	1900 J	430 U	400 U	360 U	410 U	360 U
Nitrobenzene	UG/KG	380 U	410 UJ	430 U	400 U	360 U	410 U	360 U
Pentachlorophenol	UG/KG	970 U	1000 UJ	1100 U	1000 U	910 U	1000 U	890 U
Phenanthrene	UG/KG	380 U	74 J	430 U	400 U	360 U	66 J	240 J
Phenol	UG/KG	380 U	410 U	430 U	400 U	360 U	410 U	360 U
Pyrene	UG/KG	67 J	410 U	430 UJ	400 U	110 J	120 J	600 J
Pesticides and PCBs								
4,4'-DDD	UG/KG	2 R	2.1 R	2.2 UJ	2 UJ	1.8 R	2.1 R	1.8 UJ
4,4'-DDE	UG/KG	2 UJ	2.1 UJ	2.2 UJ	2 UJ	1.8 UJ	2.1 UJ	20 J
4,4'-DDT	UG/KG	2 UJ	2.1 UJ	2.2 UJ	2 UJ	1.8 UJ	2.1 UJ	11 NJ
Aldrin	UG/KG	2 UJ	2.1 UJ	2.2 UJ	2 UJ	1.8 UJ	2.1 UJ	1.8 UJ
Alpha-BHC	UG/KG	2 UJ	2.1 UJ	2.2 UJ	2 UJ	1.8 UJ	2.1 UJ	1.8 UJ
Alpha-Chlordane	UG/KG	2 UJ	2.1 UJ	2.2 UJ	2 UJ	1.8 UJ	2.1 UJ	1.8 UJ
Aroclor-1016	UG/KG	20 UJ	21 UJ	22 U	20 UJ	19 UJ	21 UJ	18 U
Aroclor-1221	UG/KG	20 U	21 U	22 U	20 U	19 U	21 U	18 U
Aroclor-1232	UG/KG	20 UJ	21 UJ	22 U	20 UJ	19 UJ	21 UJ	18 U
Aroclor-1242	UG/KG	20 UJ	21 UJ	22 U	20 U	19 UJ	21 UJ	18 U
Aroclor-1248	UG/KG	20 U	21 U	22 U	20 U	19 U	21 U	18 U
Aroclor-1254	UG/KG	20 U	21 U	22 U	20 U	19 U	21 U	18 U
Aroclor-1260	UG/KG	20 UJ	21 UJ	22 U	20 U	19 UJ	21 UJ	18 U
Beta-BHC	UG/KG	2 U	2.1 U	2.2 UJ	2 UJ	1.8 U	2.1 U	1.8 UJ
Chlordane	UG/KG	20 U	21 U	22 U	20 U	18 U	21 U	18 U
Delta-BHC	UG/KG	2 UJ	2.1 UJ	2.2 UJ	2 UJ	1.8 UJ	2.1 UJ	1.8 UJ
Dieldrin	UG/KG	2 UJ	2.1 UJ	2.2 UJ	2 UJ	1.8 UJ	2.1 UJ	1.8 UJ
Endosulfan I	UG/KG	11	2.1 U	2.2 U	2 U	8.7 J	2.1 U	17 J
Endosulfan II	UG/KG	2 U	2.1 U	2.2 U	2 U	1.8 U	2.1 U	1.8 U

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification	SBDRMO-12	SBDRMO-12	SBDRMO-13	SBDRMO-13	SBDRMO-14	SBDRMO-14	SBDRMO-15
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	DRMO-1062	DRMO-1063	DRMO-1065	DRMO-1066	DRMO-1068	DRMO-1069	DRMO-1071
Sample Depth Top	0	2	0	2	0	2	0
Sample Depth Bottom	2	6	2	6	2	6	2
Sample Date	10/25/2002	10/25/2002	10/26/2002	10/26/2002	10/25/2002	10/25/2002	10/26/2002
SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Endosulfan sulfate	UG/KG	2 U	2.1 U	2.2 U	2 U	1.8 U	2.1 U	1.8 U
Endrin	UG/KG	2 UJ	2.1 UJ	2.2 U	2 UJ	1.8 UJ	2.1 UJ	1.8 U
Endrin aldehyde	UG/KG	2 U	2.1 U	2.2 U	2 U	1.8 U	2.1 U	1.8 U
Endrin ketone	UG/KG	2 U	2.1 U	2.2 U	2 U	1.8 U	2.1 U	1.8 U
Gamma-BHC/Lindane	UG/KG	2 UJ	2.1 UJ	2.2 UJ	2 UJ	1.8 UJ	2.1 UJ	1.8 UJ
Gamma-Chlordane	UG/KG	2 U	2.1 U	2.2 UJ	2 UJ	1.8 U	2.1 U	1.8 UJ
Heptachlor	UG/KG	2 U	2.1 U	2.2 UJ	2 UJ	1.8 U	2.1 U	1.8 UJ
Heptachlor epoxide	UG/KG	2 U	2.1 U	2.2 UJ	2 UJ	1.8 U	2.1 U	1.8 UJ
Methoxychlor	UG/KG	2 UJ	2.1 UJ	2.2 U	2 U	1.8 UJ	2.1 UJ	1.8 U
Toxaphene	UG/KG	20 U	21 U	22 U	20 U	18 U	21 U	18 U
Metals								
Aluminum	MG/KG	10700	16100	11500	17600	8570	12500	9170
Antimony	MG/KG	3.6	1.1 U	1.2 U	1.1 U	1.1	1.1 U	6.9
Arsenic	MG/KG	5.6	6.9	3.4	6	5.4	4.6	6
Barium	MG/KG	49.2 J	64.9 J	71 J	78	39.1 J	103 J	275 J
Beryllium	MG/KG	0.61	1	0.74	1	0.52 J	0.76	0.46 J
Cadmium	MG/KG	0.14 U	0.15 U	0.16 U	0.14 U	1.3	0.15 U	16.3
Calcium	MG/KG	24800 J	6830 J	8080 J	18400	18600 J	2890 J	107000 J
Chromium	MG/KG	19	26.3	17.7	28.1	19.1	22.7	47.2
Cobalt	MG/KG	14.2	18.7	9.9	18.2	13.3	11.3	11.3
Copper	MG/KG	43.8 J	27.3 J	18.8 J	25.7	62.5 J	16.7 J	407 J
Cyanide	MG/KG							
Cyanide, Amenable	MG/KG	0.59 U	0.62 U	0.66 U	0.6 U	0.55 U	0.63 U	0.54 U
Cyanide, Total	MG/KG	0.589 U	0.623 U	0.656 U	0.6 U	0.548 U	0.631 U	0.543 U
Iron	MG/KG	22300	34400	21100	33700	21500 *	24000	24400
Lead	MG/KG	60.2	11.3	12.4	11.3	51.5	16.6	371
Magnesium	MG/KG	5350	5890	3700	6490	4860 *	4110	6870
Manganese	MG/KG	484	591	526	754	289	402	403
Mercury	MG/KG	0.04	0.03	0.04		0.04	0.01	0.08
Nickel	MG/KG	36.1 J	41.9 J	23.9 J	44.3 J	38.4 J	29.1 J	52.5 J
Potassium	MG/KG	1280 J	1220 J	829 J	1570 J	1000 J	1160 J	1430 J

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SBDRMO-12	SBDRMO-12	SBDRMO-13	SBDRMO-13	SBDRMO-14	SBDRMO-14	SBDRMO-15
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		DRMO-1062	DRMO-1063	DRMO-1065	DRMO-1066	DRMO-1068	DRMO-1069	DRMO-1071
Sample Depth Top		0	2	0	2	0	2	0
Sample Depth Bottom		2	6	2	6	2	6	2
Sample Date		10/25/2002	10/25/2002	10/26/2002	10/26/2002	10/25/2002	10/25/2002	10/26/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Selenium	MG/KG	0.49 U	0.52 U	0.55 U	0.5 U	0.46 U	0.52 U	0.44 U
Silver	MG/KG	0.32 U	0.34 U	0.35 U	0.32 U	0.29 U	0.33 U	18.1
Sodium	MG/KG	242	125 U	199	141	143	133	439
Thallium	MG/KG	0.36 U	0.39 U	0.4 U	0.37 U	0.34 U	0.38 U	0.33 U
Vanadium	MG/KG	17.9	25.3	20.2	27 J	14.7	20.7	14.1
Zinc	MG/KG	636	123	53.9	89.1 J	225	110	3610
Other Analyses								
Total Organic Carbon	MG/KG	5100	4000	9000	5100	3300	5400	6200
Total Petroleum Hydrocarbons	MG/KG	47 UJ	50 UJ	52 UJ	48 UJ	44 UJ	51 UJ	43 UJ

NOTES:
1) List includes all sample and sample du
(Q)ualifier Code Definitions
U = compound was not detected
J = the reported value is an estimated con
UJ = the compound was not detected; the
R = the data was rejected in the data valic

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification	SBDRMO-16	SBDRMO-16	SBDRMO-16	SBDRMO-17	SBDRMO-17	SBDRMO-18	SBDRMO-18
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	DRMO-1074	DRMO-1080	DRMO-1075	DRMO-1077	DRMO-1078	DRMO-1081	DRMO-1082
Sample Depth Top	0	0	2	0	2	0	2
Sample Depth Bottom	2	2	6	2	6	2	6
Sample Date	10/27/2002	10/27/2002	10/27/2002	10/28/2002	10/28/2002	10/27/2002	10/27/2002
SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organics								
1,1,1-Trichloroethane	UG/KG	2.6 U	2.8 U	3 U	3.1 UJ	2.7 UJ	2.6 UJ	2.7 U
1,1,2,2-Tetrachloroethane	UG/KG	2.6 U	2.8 U	3 U	3.1 UJ	2.7 UJ	2.6 UJ	2.7 U
1,1,2-Trichloroethane	UG/KG	2.6 U	2.8 U	3 U	3.1 UJ	2.7 UJ	2.6 UJ	2.7 U
1,1-Dichloroethane	UG/KG	2.6 U	2.8 U	3 U	3.1 UJ	2.7 UJ	2.6 UJ	2.7 U
1,1-Dichloroethene	UG/KG	2.6 U	2.8 U	3 U	3.1 UJ	2.7 UJ	2.6 UJ	2.7 U
1,2-Dichloroethane	UG/KG	2.6 U	2.8 U	3 U	3.1 UJ	2.7 UJ	2.6 UJ	2.7 U
1,2-Dichloroethene (total)	UG/KG							
1,2-Dichloropropane	UG/KG	2.6 U	2.8 U	3 U	3.1 UJ	2.7 UJ	2.6 UJ	2.7 U
Acetone	UG/KG	2.6 UJ	2.8 UJ	3 UJ	6 UJ	8.8 UJ	2.6 UJ	17 J
Benzene	UG/KG	2.6 U	2.8 U	3 U	3.1 UJ	2.7 UJ	2.6 UJ	2.7 U
Bromodichloromethane	UG/KG	2.6 U	2.8 U	3 U	3.1 UJ	2.7 UJ	2.6 UJ	2.7 U
Bromoform	UG/KG	2.6 UJ	2.8 UJ	3 UJ	3.1 UJ	2.7 UJ	2.6 UJ	2.7 UJ
Carbon disulfide	UG/KG	2.6 U	2.8 U	3 U	3.1 UJ	2.7 UJ	2.6 UJ	2.7 U
Carbon tetrachloride	UG/KG	2.6 U	2.8 U	3 U	3.1 UJ	2.7 UJ	2.6 UJ	2.7 U
Chlorobenzene	UG/KG	2.6 U	2.8 U	3 U	3.1 UJ	2.7 UJ	2.6 UJ	2.7 U
Chlorodibromomethane	UG/KG	2.6 U	2.8 U	3 U	3.1 UJ	2.7 UJ	2.6 UJ	2.7 U
Chloroethane	UG/KG	2.6 U	2.8 U	3 U	3.1 UJ	2.7 UJ	2.6 UJ	2.7 U
Chloroform	UG/KG	2.6 U	2.8 U	3 U	3.1 UJ	2.7 UJ	2.6 UJ	2.7 U
Cis-1,2-Dichloroethene	UG/KG	2.6 U	2.8 U	3 U	3.1 UJ	2.7 UJ	2.6 UJ	2.7 U
Cis-1,3-Dichloropropene	UG/KG	2.6 U	2.8 U	3 U	3.1 UJ	2.7 UJ	2.6 UJ	2.7 U
Ethyl benzene	UG/KG	2.6 U	2.8 U	3 U	3.1 UJ	2.7 UJ	2.6 UJ	2.7 U
Meta/Para Xylene	UG/KG	2.6 U	2.8 U	3 U	3.1 UJ	2.7 UJ	2.6 UJ	2.7 U
Methyl bromide	UG/KG	2.6 U	2.8 U	3 U	3.1 UJ	2.7 UJ	2.6 UJ	2.7 U
Methyl butyl ketone	UG/KG	2.6 U	2.8 U	3 U	3.1 UJ	2.7 UJ	2.6 UJ	2.7 U
Methyl chloride	UG/KG	2.6 UJ	2.8 UJ	3 UJ	3.1 UJ	2.7 UJ	2.6 UJ	2.7 UJ
Methyl ethyl ketone	UG/KG	2.6 U	2.8 U	3 U	3.1 UJ	2.7 UJ	2.6 UJ	2.7 U
Methyl isobutyl ketone	UG/KG	2.6 U	2.8 U	3 U	3.1 UJ	2.7 UJ	2.6 UJ	2.7 U
Methylene chloride	UG/KG	2.6 U	2.8 U	3 U	4.1 UJ	3.7 UJ	2.6 UJ	2.7 U
Ortho Xylene	UG/KG	2.6 U	2.8 U	3 U	3.1 UJ	2.7 UJ	2.6 UJ	2.7 U
Styrene	UG/KG	2.6 UJ	2.8 UJ	3 UJ	3.1 UJ	2.7 UJ	2.6 UJ	2.7 UJ

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SBDRMO-16	SBDRMO-16	SBDRMO-16	SBDRMO-17	SBDRMO-17	SBDRMO-18	SBDRMO-18
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		DRMO-1074	DRMO-1080	DRMO-1075	DRMO-1077	DRMO-1078	DRMO-1081	DRMO-1082
Sample Depth Top		0	0	2	0	2	0	2
Sample Depth Bottom		2	2	6	2	6	2	6
Sample Date		10/27/2002	10/27/2002	10/27/2002	10/28/2002	10/28/2002	10/27/2002	10/27/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Tetrachloroethene	UG/KG	2.6 UJ	2.8 UJ	3 UJ	3.1 UJ	2.7 UJ	2.6 UJ	2.7 UJ
Toluene	UG/KG	2.6 U	2.8 U	3 U	3.1 UJ	2.7 UJ	2.6 UJ	2.7 U
Total Xylenes	UG/KG							
Trans-1,2-Dichloroethene	UG/KG	2.6 U	2.8 U	3 U	3.1 UJ	2.7 UJ	2.6 UJ	2.7 U
Trans-1,3-Dichloropropene	UG/KG	2.6 U	2.8 U	3 U	3.1 UJ	2.7 UJ	2.6 UJ	2.7 U
Trichloroethene	UG/KG	2.6 U	2.8 U	3 U	3.1 UJ	2.7 UJ	2.6 UJ	2.7 U
Vinyl chloride	UG/KG	2.6 U	2.8 U	3 U	3.1 UJ	2.7 UJ	2.6 UJ	2.7 U
Semivolatile Organics								
1,2,4-Trichlorobenzene	UG/KG	360 U	360 U	360 U	1800 U	370 U	350 U	350 U
1,2-Dichlorobenzene	UG/KG	360 U	360 U	360 U	1800 U	370 U	350 U	350 U
1,3-Dichlorobenzene	UG/KG	360 U	360 U	360 U	1800 U	370 U	350 U	350 U
1,4-Dichlorobenzene	UG/KG	360 U	360 U	360 U	1800 U	370 U	350 U	350 U
2,4,5-Trichlorophenol	UG/KG	900 U	900 U	900 U	4600 U	930 U	890 U	880 U
2,4,6-Trichlorophenol	UG/KG	360 U	360 U	360 U	1800 U	370 U	350 U	350 U
2,4-Dichlorophenol	UG/KG	360 U	360 U	360 U	1800 U	370 U	350 U	350 U
2,4-Dimethylphenol	UG/KG	360 U	360 U	360 U	1800 U	370 U	350 U	350 U
2,4-Dinitrophenol	UG/KG	900 U	900 UJ	900 U	4600 U	930 UJ	890 U	880 U
2,4-Dinitrotoluene	UG/KG	360 U	360 U	360 U	1800 U	370 U	350 U	350 U
2,6-Dinitrotoluene	UG/KG	360 U	360 U	360 U	1800 U	370 U	350 U	350 U
2-Chloronaphthalene	UG/KG	360 U	360 U	360 U	1800 U	370 U	350 U	350 U
2-Chlorophenol	UG/KG	360 U	360 U	360 U	1800 U	370 U	350 U	350 U
2-Methylnaphthalene	UG/KG	200 J	210 J	360 U	1800 U	370 U	350 U	350 U
2-Methylphenol	UG/KG	360 U	360 U	360 U	1800 U	370 U	350 U	350 U
2-Nitroaniline	UG/KG	900 U	900 U	900 U	4600 U	930 U	890 U	880 U
2-Nitrophenol	UG/KG	360 U	360 U	360 U	1800 U	370 U	350 U	350 U
3 or 4-Methylphenol	UG/KG	360 U	360 U	360 U	1800 U	370 U	350 U	350 U
3,3'-Dichlorobenzidine	UG/KG	360 U	360 UJ	360 U	1800 UJ	370 U	350 U	350 U
3-Nitroaniline	UG/KG	900 U	900 U	900 U	4600 U	930 U	890 U	880 U
4,6-Dinitro-2-methylphenol	UG/KG	900 U	900 U	900 U	4600 U	930 U	890 U	880 U
4-Bromophenyl phenyl ether	UG/KG	360 U	360 U	360 U	1800 U	370 U	350 U	350 U
4-Chloro-3-methylphenol	UG/KG	360 U	360 U	360 U	1800 U	370 U	350 U	350 U

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SBDRMO-16	SBDRMO-16	SBDRMO-16	SBDRMO-17	SBDRMO-17	SBDRMO-18	SBDRMO-18
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		DRMO-1074	DRMO-1080	DRMO-1075	DRMO-1077	DRMO-1078	DRMO-1081	DRMO-1082
Sample Depth Top		0	0	2	0	2	0	2
Sample Depth Bottom		2	2	6	2	6	2	6
Sample Date		10/27/2002	10/27/2002	10/27/2002	10/28/2002	10/28/2002	10/27/2002	10/27/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
4-Chloroaniline	UG/KG	360 U	360 U	360 U	1800 U	370 U	350 U	350 U
4-Chlorophenyl phenyl ether	UG/KG	360 U	360 U	360 U	1800 U	370 U	350 U	350 U
4-Methylphenol	UG/KG							
4-Nitroaniline	UG/KG	900 U	900 U	900 U	4600 U	930 U	890 U	880 U
4-Nitrophenol	UG/KG	900 U	900 U	900 U	4600 U	930 U	890 U	880 U
Acenaphthene	UG/KG	160 J	170 J	360 U	1800 U	370 U	350 U	350 U
Acenaphthylene	UG/KG	1100	750	220 J	1800 U	370 U	350 U	350 U
Anthracene	UG/KG	1100	950	240 J	1800 U	370 U	81 J	350 U
Benzo(a)anthracene	UG/KG	5500 J	2900 J	940	1800 UJ	370 U	380	350 U
Benzo(a)pyrene	UG/KG	4800 J	2700 J	920 J	1800 R	370 UJ	330 J	350 U
Benzo(b)fluoranthene	UG/KG	6600 J	3700 J	1300 J	1800 R	370 UJ	410	350 U
Benzo(ghi)perylene	UG/KG	1700 J	740 J	210 J	1800 R	370 UJ	160 J	350 UJ
Benzo(k)fluoranthene	UG/KG	3000 J	1700 J	490 J	1800 R	370 UJ	250 J	350 U
Bis(2-Chloroethoxy)methane	UG/KG	360 U	360 U	360 U	1800 U	370 U	350 U	350 U
Bis(2-Chloroethyl)ether	UG/KG	360 U	360 U	360 UJ	1800 U	370 U	350 U	350 UJ
Bis(2-Chloroisopropyl)ether	UG/KG	360 U	360 U	360 U	1800 U	370 U	350 U	350 U
Bis(2-Ethylhexyl)phthalate	UG/KG	97 J	74 J	37 J	1800 UJ	370 U	160 J	41 J
Butylbenzylphthalate	UG/KG	360 U	360 UJ	360 U	1800 UJ	370 U	350 U	350 U
Carbazole	UG/KG	170 J	130 J	45 J	1800 U	370 U	56 J	350 U
Chrysene	UG/KG	5000 J	2700 J	880	1800 UJ	370 U	430	350 U
Di-n-butylphthalate	UG/KG	360 U	360 U	360 U	1800 U	370 U	350 U	350 U
Di-n-octylphthalate	UG/KG	360 U	360 UJ	360 U	1800 UJ	370 U	350 U	350 U
Dibenz(a,h)anthracene	UG/KG	250 J	100 J	360 UJ	1800 R	370 UJ	350 U	350 UJ
Dibenzofuran	UG/KG	170 J	190 J	45 J	1800 U	370 U	350 U	350 U
Diethyl phthalate	UG/KG	360 U	360 U	360 U	1800 U	370 U	350 U	350 U
Dimethylphthalate	UG/KG	360 U	360 U	360 U	1800 U	370 U	350 U	350 U
Fluoranthene	UG/KG	8200 J	5100 J	1600	1800 U	370 U	610	350 U
Fluorene	UG/KG	650	690	160 J	1800 U	370 U	350 U	350 U
Hexachlorobenzene	UG/KG	360 U	360 U	360 U	1800 U	370 U	350 U	350 U
Hexachlorobutadiene	UG/KG	360 U	360 U	360 U	1800 U	370 U	350 U	350 U
Hexachlorocyclopentadiene	UG/KG	360 U	360 U	360 U	1800 U	370 UJ	350 U	350 U

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification	SBDRMO-16	SBDRMO-16	SBDRMO-16	SBDRMO-17	SBDRMO-17	SBDRMO-18	SBDRMO-18
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	DRMO-1074	DRMO-1080	DRMO-1075	DRMO-1077	DRMO-1078	DRMO-1081	DRMO-1082
Sample Depth Top	0	0	2	0	2	0	2
Sample Depth Bottom	2	2	6	2	6	2	6
Sample Date	10/27/2002	10/27/2002	10/27/2002	10/28/2002	10/28/2002	10/27/2002	10/27/2002
SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Hexachloroethane	UG/KG	360 U	360 U	360 U	1800 U	370 U	350 U	350 U
Indeno(1,2,3-cd)pyrene	UG/KG	760	330 J	150 J	1800 UJ	370 U	160 J	350 UJ
Isophorone	UG/KG	360 U	360 U	360 U	1800 U	370 U	350 U	350 U
N-Nitrosodiphenylamine	UG/KG	360 U	360 U	360 U	1800 U	370 U	350 U	350 U
N-Nitrosodipropylamine	UG/KG	360 U	360 U	360 U	1800 U	370 U	350 U	350 U
Naphthalene	UG/KG	100 J	82 J	360 U	1800 U	370 U	350 U	350 U
Nitrobenzene	UG/KG	360 U	360 U	360 U	1800 U	370 U	350 U	350 U
Pentachlorophenol	UG/KG	900 U	900 U	900 U	4600 U	930 U	890 U	880 U
Phenanthrene	UG/KG	4400 J	4000 J	1000	1800 U	370 U	340 J	350 U
Phenol	UG/KG	360 U	360 U	360 U	1800 U	370 U	350 U	350 U
Pyrene	UG/KG	12000 J	5300 J	1700	1800 UJ	370 U	660	350 U
Pesticides and PCBs								
4,4'-DDD	UG/KG	1.8 UJ	6 J	1.9 UJ	0.22 U	0.22 U	44 J	1.8 UJ
4,4'-DDE	UG/KG	1.8 UJ	41 R	1.9 UJ	0.22 UJ	0.22 UJ	83 R	1.8 UJ
4,4'-DDT	UG/KG	19 J	21 J	14 J	0.22 UJ	0.22 UJ	73 R	1.8 UJ
Aldrin	UG/KG	9.9 J	19 NJ	11 J	0.11 U	0.11 U	11 J	1.8 UJ
Alpha-BHC	UG/KG	1.8 UJ	1.8 UJ	1.9 UJ	1.3 U	1.3 U	1.8 UJ	1.8 UJ
Alpha-Chlordane	UG/KG	63 J	71 R	1.9 UJ	0.34 U	0.34 U	21 NJ	1.8 UJ
Aroclor-1016	UG/KG	18 UJ	18 UJ	19 UJ	5.8 UJ	5.8 UJ	18 UJ	18 UJ
Aroclor-1221	UG/KG	18 U	18 U	19 U	1.5 U	1.5 U	18 U	18 U
Aroclor-1232	UG/KG	18 UJ	18 UJ	19 UJ	8.9 UJ	9 UJ	18 UJ	18 UJ
Aroclor-1242	UG/KG	18 UJ	18 UJ	19 UJ	2.5 U	2.5 U	18 UJ	18 UJ
Aroclor-1248	UG/KG	18 U	18 U	19 U	6.1 U	6.2 U	18 U	18 U
Aroclor-1254	UG/KG	18 UJ	18 UJ	19 UJ	12 UJ	12 UJ	930	18 UJ
Aroclor-1260	UG/KG	22 J	35 J	22 J	2.2 UJ	2.2 UJ	18 UJ	18 UJ
Beta-BHC	UG/KG	1.8 UJ	1.8 UJ	1.9 UJ	0.11 U	0.11 U	1.8 UJ	1.8 UJ
Chlordane	UG/KG	18 U	18 U	19 U	2.1 U	2.1 U	18 U	18 U
Delta-BHC	UG/KG	1.8 UJ	1.8 UJ	1.9 UJ	0.22 UJ	0.22 UJ	1.8 UJ	1.8 UJ
Dieldrin	UG/KG	41 J	32 R	65 R	0.11 UJ	0.11 UJ	39 J	1.8 UJ
Endosulfan I	UG/KG	65	69 J	78	0.56 U	0.56 U	27	1.8 U
Endosulfan II	UG/KG	1.8 U	1.8 U	1.9 U	0.34 U	0.34 U	16 R	1.8 U

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification	SBDRMO-16	SBDRMO-16	SBDRMO-16	SBDRMO-17	SBDRMO-17	SBDRMO-18	SBDRMO-18
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	DRMO-1074	DRMO-1080	DRMO-1075	DRMO-1077	DRMO-1078	DRMO-1081	DRMO-1082
Sample Depth Top	0	0	2	0	2	0	2
Sample Depth Bottom	2	2	6	2	6	2	6
Sample Date	10/27/2002	10/27/2002	10/27/2002	10/28/2002	10/28/2002	10/27/2002	10/27/2002
SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Endosulfan sulfate	UG/KG	1.8 U	1.8 U	1.9 U	0.67 U	0.67 U	1.8 U	1.8 U
Endrin	UG/KG	17 J	26 J	23 J	0.9 UJ	0.9 UJ	26 R	1.8 UJ
Endrin aldehyde	UG/KG	1.8 U	1.8 U	1.9 U	0.9 UJ	0.9 UJ	1.8 U	1.8 U
Endrin ketone	UG/KG	7.5 J	10 R	9.7 NJ	0.11 U	0.11 U	3.4 NJ	1.8 U
Gamma-BHC/Lindane	UG/KG	1.8 UJ	1.8 UJ	1.9 UJ	0.11 U	0.11 U	1.8 UJ	1.8 UJ
Gamma-Chlordane	UG/KG	1.8 UJ	1.8 UJ	1.9 UJ	0.34 U	0.34 U	1.8 UJ	1.8 UJ
Heptachlor	UG/KG	1.8 UJ	1.8 UJ	1.9 UJ	1.1 U	1.1 U	14 J	1.8 UJ
Heptachlor epoxide	UG/KG	20 R	1.8 UJ	24 R	0.34 U	0.34 U	27 R	1.8 UJ
Methoxychlor	UG/KG	1.8 U	1.8 U	1.9 U	0.11 U	0.11 U	1.8 U	1.8 U
Toxaphene	UG/KG	18 U	18 U	19 U	3.6 U	3.6 U	18 U	18 U
Metals								
Aluminum	MG/KG	3100	3760	10300	10100 J	15200 J	7610	13800
Antimony	MG/KG	0.98 U	0.99	0.99 U	2.7 J	0.78 J	12.3	0.96 U
Arsenic	MG/KG	4.8	5.5	4.7	4.4 J	4.4 J	7.8	5.2
Barium	MG/KG	42	45.6	57.5	56 J	81 J	320	64.4
Beryllium	MG/KG	0.26 j	0.32 J	0.55	0.6 J	0.85 J	0.32 J	0.68
Cadmium	MG/KG	0.56	0.49 J	0.14 J	0.06 U	0.06 U	19	0.13 U
Calcium	MG/KG	199000	157000	66000	84500 J	18300 J	167000	26200
Chromium	MG/KG	13	13.8	20	33.1 J	28.9 J	74.8	25.8
Cobalt	MG/KG	5.9	6.1	11.5	11.5 J	14.5 J	13.3	14.7
Copper	MG/KG	28.8	34.3	24.9	33.8 J	27 J	456	38.7
Cyanide	MG/KG							
Cyanide, Amenable	MG/KG	0.54 U	0.55 U	0.55 U	0.56 U	0.57 U	0.54 U	0.54 U
Cyanide, Total	MG/KG	0.542 U	0.545 U	0.549 U	0.559 U	0.568 U	0.536 U	0.539 U
Iron	MG/KG	8710	10500	21000	17000 J	27100 J	51700	30000
Lead	MG/KG	89.3	94.5	45.5	30.9 J	11.3 J	720	31
Magnesium	MG/KG	17900	13000	8760	8370 J	6590 J	14800	7720
Manganese	MG/KG	425	390	475	487 J	643 J	567	470
Mercury	MG/KG	0.07	0.07	0.03	0.04	0.03	0.47	0.04
Nickel	MG/KG	19.4 j	22.1 J	31.5	32.5 J	42.6 J	77.7	44.7 J
Potassium	MG/KG	934 j	882 J	1330 J	1780 J	1560 J	1300 J	1220 J

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SBDRMO-16	SBDRMO-16	SBDRMO-16	SBDRMO-17	SBDRMO-17	SBDRMO-18	SBDRMO-18
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		DRMO-1074	DRMO-1080	DRMO-1075	DRMO-1077	DRMO-1078	DRMO-1081	DRMO-1082
Sample Depth Top		0	0	2	0	2	0	2
Sample Depth Bottom		2	2	6	2	6	2	6
Sample Date		10/27/2002	10/27/2002	10/27/2002	10/28/2002	10/28/2002	10/27/2002	10/27/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Selenium	MG/KG	0.46 U	0.45 U	0.46 U	0.36 U	0.38 U	0.45 U	0.45 U
Silver	MG/KG	0.29 U	0.29 U	0.3 U	0.41 U	0.72 J	2.9	0.29 U
Sodium	MG/KG	276	232	161	152	104	273	152
Thallium	MG/KG	0.34 U	0.33 U	0.34 U	0.64 U	1.1 J	0.33 U	0.33 U
Vanadium	MG/KG	11 j	10.7 J	18.1 J	18.1 J	20.6 J	14.3 J	20.3 J
Zinc	MG/KG	130 j	135 J	105 J	93.7 J	75 J	1590 J	130 J
Other Analyses								
Total Organic Carbon	MG/KG	5200	5300	4200	4600	6700	3900	3500
Total Petroleum Hydrocarbons	MG/KG	2800 j	6200 J	3700 J	7600 J	2200 J	710 J	43 J

NOTES:
1) List includes all sample and sample du
(Q)ualifier Code Definitions
U = compound was not detected
J = the reported value is an estimated con
UJ = the compound was not detected; the
R = the data was rejected in the data valic

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification	SBDRMO-19	SBDRMO-20	SBDRMO-20	SBDRMO-21	SBDRMO-21	SBDRMO-22	SBDRMO-23
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	DRMO-1084	DRMO-1087	DRMO-1088	DRMO-1090	DRMO-1102	DRMO-1091	DRMO-1095
Sample Depth Top	0	0	2	0	2	0	0
Sample Depth Bottom	2	2	6	2	6	2	2
Sample Date	10/27/2002	10/26/2002	10/26/2002	10/27/2002	10/27/2002	10/27/2002	10/28/2002
SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organics								
1,1,1-Trichloroethane	UG/KG	3 U	2.6 UJ	2.8 UJ	3.1 U	2.9 U	3 U	2.8 UJ
1,1,2,2-Tetrachloroethane	UG/KG	3 U	2.6 UJ	2.8 UJ	3.1 U	2.9 U	3 U	2.8 UJ
1,1,2-Trichloroethane	UG/KG	3 U	2.6 UJ	2.8 U	3.1 U	2.9 U	3 U	2.8 UJ
1,1-Dichloroethane	UG/KG	3 U	2.6 UJ	2.8 U	3.1 U	2.9 U	3 U	2.8 UJ
1,1-Dichloroethene	UG/KG	3 U	2.6 UJ	2.8 U	3.1 U	2.9 U	3 U	2.8 UJ
1,2-Dichloroethane	UG/KG	3 U	2.6 UJ	2.8 UJ	3.1 U	2.9 U	3 U	2.8 UJ
1,2-Dichloroethene (total)	UG/KG							
1,2-Dichloropropane	UG/KG	3 U	2.6 UJ	2.8 U	3.1 U	2.9 U	3 U	2.8 UJ
Acetone	UG/KG	13 J	2.6 UJ	3.7 J	3.1 U	2.9 U	3 UJ	16 UJ
Benzene	UG/KG	3 U	2.6 UJ	2.8 U	3.1 U	2.9 U	3 U	2.8 UJ
Bromodichloromethane	UG/KG	3 U	2.6 UJ	2.8 UJ	3.1 U	2.9 U	3 U	2.8 UJ
Bromoform	UG/KG	3 UJ	2.6 UJ	2.8 U	3.1 U	2.9 U	3 UJ	2.8 UJ
Carbon disulfide	UG/KG	3 U	2.6 UJ	2.8 U	3.1 U	2.9 U	3 U	2.8 UJ
Carbon tetrachloride	UG/KG	3 U	2.6 UJ	2.8 UJ	3.1 UJ	2.9 UJ	3 U	2.8 UJ
Chlorobenzene	UG/KG	3 U	2.6 UJ	2.8 U	3.1 U	2.9 U	3 U	2.8 UJ
Chlorodibromomethane	UG/KG	3 U	2.6 UJ	2.8 U	3.1 U	2.9 U	3 U	2.8 UJ
Chloroethane	UG/KG	3 U	2.6 UJ	2.8 U	3.1 U	2.9 U	3 U	2.8 UJ
Chloroform	UG/KG	3 U	2.6 UJ	2.8 U	3.1 U	2.9 U	3 U	2.8 UJ
Cis-1,2-Dichloroethene	UG/KG	3 U	2.6 UJ	2.8 U	3.1 U	2.9 U	3 U	2.8 UJ
Cis-1,3-Dichloropropene	UG/KG	3 U	2.6 UJ	2.8 U	3.1 U	2.9 U	3 U	2.8 UJ
Ethyl benzene	UG/KG	3 U	2.6 UJ	2.8 U	3.1 U	2.9 U	3 U	2.8 UJ
Meta/Para Xylene	UG/KG	3 U	2.6 UJ	2.8 U	2 J	2.9 U	3 U	2.8 UJ
Methyl bromide	UG/KG	3 U	2.6 UJ	2.8 UJ	3.1 UJ	2.9 UJ	3 U	2.8 UJ
Methyl butyl ketone	UG/KG	3 U	2.6 UJ	2.8 UJ	3.1 UJ	2.9 UJ	3 U	2.8 UJ
Methyl chloride	UG/KG	3 UJ	2.6 UJ	2.8 UJ	3.1 U	2.9 U	3 UJ	2.8 UJ
Methyl ethyl ketone	UG/KG	3 U	2.6 UJ	2.8 UJ	3.1 UJ	2.9 UJ	3 U	2.8 UJ
Methyl isobutyl ketone	UG/KG	3 U	2.6 UJ	2.8 UJ	3.1 UJ	2.9 UJ	3 U	2.8 UJ
Methylene chloride	UG/KG	3 U	2.6 UJ	2.8 U	2.9 UJ	3 UJ	3 U	3.9 UJ
Ortho Xylene	UG/KG	3 U	2.6 UJ	2.8 U	3.1 U	2.9 U	3 U	2.8 UJ
Styrene	UG/KG	3 UJ	2.6 UJ	2.8 U	3.1 U	2.9 U	3 UJ	2.8 UJ

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SBDRMO-19	SBDRMO-20	SBDRMO-20	SBDRMO-21	SBDRMO-21	SBDRMO-22	SBDRMO-23
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		DRMO-1084	DRMO-1087	DRMO-1088	DRMO-1090	DRMO-1102	DRMO-1091	DRMO-1095
Sample Depth Top		0	0	2	0	2	0	0
Sample Depth Bottom		2	2	6	2	6	2	2
Sample Date		10/27/2002	10/26/2002	10/26/2002	10/27/2002	10/27/2002	10/27/2002	10/28/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Tetrachloroethene	UG/KG	3 UJ	2.6 UJ	2.8 U	3.1 U	2.9 U	3 UJ	2.8 UJ
Toluene	UG/KG	3 U	2.6 UJ	2.8 U	3.1 U	2.9 U	3 U	2.8 UJ
Total Xylenes	UG/KG							
Trans-1,2-Dichloroethene	UG/KG	3 U	2.6 UJ	2.8 U	3.1 U	2.9 U	3 U	2.8 UJ
Trans-1,3-Dichloropropene	UG/KG	3 U	2.6 UJ	2.8 U	3.1 U	2.9 U	3 U	2.8 UJ
Trichloroethene	UG/KG	3 U	2.6 UJ	2.8 U	3.1 U	2.9 U	3 U	2.8 UJ
Vinyl chloride	UG/KG	3 U	2.6 UJ	2.8 U	3.1 U	2.9 U	3 U	2.8 UJ
Semivolatile Organics								
1,2,4-Trichlorobenzene	UG/KG	390 UJ	350 U	400 U	410 U	390 U	400 U	390 U
1,2-Dichlorobenzene	UG/KG	390 U	350 U	400 U	410 U	390 U	400 U	390 U
1,3-Dichlorobenzene	UG/KG	390 U	350 U	400 U	410 U	390 U	400 U	390 U
1,4-Dichlorobenzene	UG/KG	390 U	350 U	400 U	410 U	390 U	400 U	390 U
2,4,5-Trichlorophenol	UG/KG	980 U	890 U	1000 U	1000 U	970 U	1000 U	980 U
2,4,6-Trichlorophenol	UG/KG	390 U	350 U	400 U	410 U	390 U	400 U	390 U
2,4-Dichlorophenol	UG/KG	390 U	350 U	400 U	410 U	390 U	400 U	390 U
2,4-Dimethylphenol	UG/KG	390 U	350 U	400 U	410 U	390 U	400 U	390 U
2,4-Dinitrophenol	UG/KG	980 UJ	890 UJ	1000 UJ	1000 U	970 U	1000 U	980 UJ
2,4-Dinitrotoluene	UG/KG	390 U	350 U	400 U	410 U	390 U	400 U	390 U
2,6-Dinitrotoluene	UG/KG	390 U	350 U	400 U	410 U	390 U	400 U	390 U
2-Chloronaphthalene	UG/KG	390 U	350 U	400 U	410 U	390 U	400 U	390 U
2-Chlorophenol	UG/KG	390 UJ	350 U	400 U	410 U	390 U	400 U	390 U
2-Methylnaphthalene	UG/KG	390 U	350 U	400 U	410 U	390 U	400 U	390 U
2-Methylphenol	UG/KG	390 U	350 U	400 U	410 U	390 U	400 U	390 U
2-Nitroaniline	UG/KG	980 U	890 U	1000 U	1000 UJ	970 UJ	1000 U	980 U
2-Nitrophenol	UG/KG	390 U	350 U	400 U	410 U	390 U	400 U	390 U
3 or 4-Methylphenol	UG/KG	390 U	350 U	400 U	410 U	390 U	400 U	390 U
3,3'-Dichlorobenzidine	UG/KG	390 U	350 UJ	400 U	410 U	390 U	400 U	390 U
3-Nitroaniline	UG/KG	980 U	890 U	1000 U	1000 U	970 U	1000 U	980 U
4,6-Dinitro-2-methylphenol	UG/KG	980 UJ	890 U	1000 UJ	1000 U	970 U	1000 U	980 U
4-Bromophenyl phenyl ether	UG/KG	390 U	350 U	400 U	410 U	390 U	400 U	390 U
4-Chloro-3-methylphenol	UG/KG	390 U	350 U	400 U	410 U	390 U	400 U	390 U

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification	SBDRMO-19	SBDRMO-20	SBDRMO-20	SBDRMO-21	SBDRMO-21	SBDRMO-22	SBDRMO-23
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	DRMO-1084	DRMO-1087	DRMO-1088	DRMO-1090	DRMO-1102	DRMO-1091	DRMO-1095
Sample Depth Top	0	0	2	0	2	0	0
Sample Depth Bottom	2	2	6	2	6	2	2
Sample Date	10/27/2002	10/26/2002	10/26/2002	10/27/2002	10/27/2002	10/27/2002	10/28/2002
SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
4-Chloroaniline	UG/KG	390 U	350 U	400 U	410 U	390 U	400 U	390 U
4-Chlorophenyl phenyl ether	UG/KG	390 U	350 U	400 U	410 U	390 U	400 U	390 U
4-Methylphenol	UG/KG							
4-Nitroaniline	UG/KG	980 U	890 U	1000 U	1000 UJ	970 UJ	1000 U	980 U
4-Nitrophenol	UG/KG	980 U	890 U	1000 U	1000 U	970 U	1000 U	980 U
Acenaphthene	UG/KG	390 U	350 U	400 U	410 U	390 U	400 U	390 U
Acenaphthylene	UG/KG	390 U	95 J	400 U	410 U	390 U	400 U	390 U
Anthracene	UG/KG	390 U	86 J	400 U	410 U	390 U	400 U	390 U
Benzo(a)anthracene	UG/KG	390 U	170 J	400 U	410 U	390 U	400 U	390 U
Benzo(a)pyrene	UG/KG	390 U	410 J	400 U	410 U	390 U	400 U	390 U
Benzo(b)fluoranthene	UG/KG	390 U	310 J	400 U	410 U	390 U	400 U	390 U
Benzo(ghi)perylene	UG/KG	390 UJ	460 J	400 U	410 UJ	390 UJ	400 UJ	390 U
Benzo(k)fluoranthene	UG/KG	390 U	490 J	400 U	410 U	390 U	400 U	390 U
Bis(2-Chloroethoxy)methane	UG/KG	390 UJ	350 U	400 U	410 U	390 U	400 U	390 U
Bis(2-Chloroethyl)ether	UG/KG	390 U	350 U	400 U	410 U	390 U	400 UJ	390 U
Bis(2-Chloroisopropyl)ether	UG/KG	390 U	350 U	400 U	410 U	390 U	400 U	390 U
Bis(2-Ethylhexyl)phthalate	UG/KG	390 U	98 J	400 U	410 UJ	66 J	400 U	390 U
Butylbenzylphthalate	UG/KG	390 U	350 UJ	400 U	410 UJ	390 UJ	400 U	390 U
Carbazole	UG/KG	390 U	350 U	400 U	410 U	390 U	400 U	390 U
Chrysene	UG/KG	390 U	410 J	400 U	410 U	390 U	400 U	390 U
Di-n-butylphthalate	UG/KG	390 U	350 U	400 U	410 U	390 U	400 U	390 U
Di-n-octylphthalate	UG/KG	390 UJ	350 UJ	400 U	410 U	390 U	400 U	390 U
Dibenz(a,h)anthracene	UG/KG	390 UJ	89 J	400 U	410 UJ	390 UJ	400 UJ	390 U
Dibenzofuran	UG/KG	390 U	350 U	400 U	410 U	390 U	400 U	390 U
Diethyl phthalate	UG/KG	390 U	350 U	400 U	410 U	390 U	400 U	390 U
Dimethylphthalate	UG/KG	390 U	350 U	400 U	410 U	390 U	400 U	390 U
Fluoranthene	UG/KG	390 U	150 J	400 U	410 U	390 U	400 U	390 U
Fluorene	UG/KG	390 U	350 U	400 U	410 U	390 U	400 U	390 U
Hexachlorobenzene	UG/KG	390 U	350 U	400 U	410 U	390 U	400 U	390 U
Hexachlorobutadiene	UG/KG	390 UJ	350 U	400 U	410 U	390 U	400 U	390 U
Hexachlorocyclopentadiene	UG/KG	390 U	350 UJ	400 UJ	410 U	390 U	400 U	390 U

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SBDRMO-19	SBDRMO-20	SBDRMO-20	SBDRMO-21	SBDRMO-21	SBDRMO-22	SBDRMO-23
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		DRMO-1084	DRMO-1087	DRMO-1088	DRMO-1090	DRMO-1102	DRMO-1091	DRMO-1095
Sample Depth Top		0	0	2	0	2	0	0
Sample Depth Bottom		2	2	6	2	6	2	2
Sample Date		10/27/2002	10/26/2002	10/26/2002	10/27/2002	10/27/2002	10/27/2002	10/28/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Hexachloroethane	UG/KG	390 U	350 U	400 U	410 U	390 U	400 U	390 U
Indeno(1,2,3-cd)pyrene	UG/KG	390 UJ	390 J	400 U	410 UJ	390 UJ	400 UJ	390 U
Isophorone	UG/KG	390 UJ	350 U	400 U	410 U	390 U	400 U	390 U
N-Nitrosodiphenylamine	UG/KG	390 U	350 U	400 U	410 U	390 U	400 U	390 U
N-Nitrosodipropylamine	UG/KG	390 U	350 U	400 U	410 U	390 UJ	400 U	390 U
Naphthalene	UG/KG	390 UJ	350 U	400 U	410 U	390 U	400 U	390 U
Nitrobenzene	UG/KG	390 UJ	350 U	400 U	410 U	390 U	400 U	390 U
Pentachlorophenol	UG/KG	980 U	890 U	1000 U	1000 U	970 U	1000 U	980 U
Phenanthrene	UG/KG	390 U	120 J	400 U	410 U	390 U	400 U	390 U
Phenol	UG/KG	390 U	350 U	400 U	410 U	390 U	400 U	390 U
Pyrene	UG/KG	390 U	280 J	400 U	410 UJ	390 UJ	400 U	390 U
Pesticides and PCBs								
4,4'-DDD	UG/KG	2 UJ	1.8 UJ	2.1 UJ	2.1 UJ	2 UJ	2 UJ	0.24 U
4,4'-DDE	UG/KG	2 UJ	11 J	2.1 UJ	2.1 UJ	2 UJ	2 UJ	0.24 UJ
4,4'-DDT	UG/KG	2 UJ	1.8 UJ	2.1 UJ	2.1 UJ	2 UJ	2 UJ	0.24 UJ
Aldrin	UG/KG	2 UJ	1.8 UJ	2.1 UJ	2.1 UJ	2 UJ	2 UJ	0.12 U
Alpha-BHC	UG/KG	2 UJ	1.8 UJ	2.1 UJ	2.1 UJ	2 UJ	2 UJ	1.4 U
Alpha-Chlordane	UG/KG	2 UJ	1.8 UJ	2.1 UJ	2.1 UJ	2 UJ	2 UJ	0.35 U
Aroclor-1016	UG/KG	20 UJ	18 U	21 U	21 UJ	20 UJ	20 UJ	6.1 UJ
Aroclor-1221	UG/KG	20 U	18 U	21 U	21 U	20 U	20 U	1.5 U
Aroclor-1232	UG/KG	20 UJ	18 U	21 U	21 UJ	20 UJ	20 UJ	9.5 UJ
Aroclor-1242	UG/KG	20 U	18 U	21 U	21 UJ	20 UJ	20 UJ	2.6 U
Aroclor-1248	UG/KG	20 U	18 U	21 U	21 U	20 U	20 U	6.5 U
Aroclor-1254	UG/KG	20 U	130	21 U	21 U	20 U	20 UJ	13 UJ
Aroclor-1260	UG/KG	20 U	18 U	21 U	21 UJ	20 UJ	9 J	2.4 UJ
Beta-BHC	UG/KG	2 UJ	1.8 UJ	2.1 UJ	2.1 UJ	2 UJ	2 UJ	0.12 U
Chlordane	UG/KG	20 U	18 U	21 U	21 U	20 U	20 U	2.2 U
Delta-BHC	UG/KG	2 UJ	1.8 UJ	2.1 UJ	2.1 UJ	2 UJ	2 UJ	0.24 UJ
Dieldrin	UG/KG	2 UJ	1.8 UJ	2.1 UJ	2.1 UJ	2 UJ	2 UJ	0.12 UJ
Endosulfan I	UG/KG	2 U	18 J	2.1 U	2.1 U	2 U	2 U	0.59 U
Endosulfan II	UG/KG	2 U	1.8 U	2.1 U	2.1 U	2 U	2 U	0.35 U

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

	AOC Location	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
	Sample Location Identification	SBDRMO-19	SBDRMO-20	SBDRMO-20	SBDRMO-21	SBDRMO-21	SBDRMO-22	SBDRMO-23
	Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sample Identification	DRMO-1084	DRMO-1087	DRMO-1088	DRMO-1090	DRMO-1102	DRMO-1091	DRMO-1095
	Sample Depth Top	0	0	2	0	2	0	0
	Sample Depth Bottom	2	2	6	2	6	2	2
	Sample Date	10/27/2002	10/26/2002	10/26/2002	10/27/2002	10/27/2002	10/27/2002	10/28/2002
	SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Endosulfan sulfate	UG/KG	2 U	1.8 U	2.1 U	2.1 U	2 U	2 U	0.71 U
Endrin	UG/KG	2 UJ	1.8 U	2.1 U	2.1 U	2 U	2 UJ	0.94 UJ
Endrin aldehyde	UG/KG	2 U	1.8 U	2.1 U	2.1 U	2 U	2 U	0.94 UJ
Endrin ketone	UG/KG	2 U	1.8 U	2.1 U	2.1 U	2 U	2 U	0.12 U
Gamma-BHC/Lindane	UG/KG	2 UJ	1.8 UJ	2.1 UJ	2.1 UJ	2 UJ	2 UJ	0.12 U
Gamma-Chlordane	UG/KG	2 UJ	1.8 UJ	2.1 UJ	2.1 UJ	2 UJ	2 UJ	0.35 U
Heptachlor	UG/KG	2 UJ	5.5 R	2.1 UJ	2.1 UJ	2 UJ	2 UJ	1.2 U
Heptachlor epoxide	UG/KG	2 UJ	1.8 UJ	2.1 UJ	2.1 UJ	2 UJ	2 UJ	0.35 U
Methoxychlor	UG/KG	2 U	1.8 U	2.1 U	2.1 U	2 U	2 U	0.12 U
Toxaphene	UG/KG	20 U	18 U	21 U	21 U	20 U	20 U	3.8 U
Metals								
Aluminum	MG/KG	12000	10100	15500	11800	12500	11500	9940 J
Antimony	MG/KG	1.1 U	5.1	1.1 U	1.1 U	1.1 U	1.1 U	0.65 J
Arsenic	MG/KG	4.8	5.2	4.2	4.1	5.9	7.3	3.7 J
Barium	MG/KG	89	191 J	95.7 J	134 J	115 J	103	105 J
Beryllium	MG/KG	0.75	0.55	0.96	0.73	0.8	0.68	0.57 J
Cadmium	MG/KG	0.14 U	10	0.14 U	0.15 U	0.14 U	0.14 U	0.06 U
Calcium	MG/KG	3790	38300 J	9560 J	29400 J	22100 J	37700	56300 J
Chromium	MG/KG	19.7	47.4	24.8	16.3	19.2	19.3	16.4 J
Cobalt	MG/KG	10.6	13.5	14.1	9.3	14.3	12.5	7.8 J
Copper	MG/KG	14.8	301 J	20.8 J	18.9 J	20.9 J	26	21.7 J
Cyanide	MG/KG							
Cyanide, Amenable	MG/KG	0.61 U	0.54 U	0.6 U	0.62 U	0.59 U	0.6 U	0.59 U
Cyanide, Total	MG/KG	0.605 U	0.539 U	0.613 U	0.62 U	0.588 U	0.603 U	0.594 U
Iron	MG/KG	24900	36400	27900	19300	26200	23500	14900 J
Lead	MG/KG	19.7	305	18	12.8	16.1	28.5	17.5 J
Magnesium	MG/KG	3740	6400	5230	13100	6630	8150	15600 J
Manganese	MG/KG	529	424	658	472	724	536	419 J
Mercury	MG/KG	0.07	0.13	0.04 J	0.05	0.03	0.07	0.04
Nickel	MG/KG	25.9 J	53.5 J	34.1 J	22.5 J	32.5 J	29.8 J	22 J
Potassium	MG/KG	904 J	1560 J	1640 E	1020 J	1210 J	1030 J	1510 J

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SBDRMO-19	SBDRMO-20	SBDRMO-20	SBDRMO-21	SBDRMO-21	SBDRMO-22	SBDRMO-23
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		DRMO-1084	DRMO-1087	DRMO-1088	DRMO-1090	DRMO-1102	DRMO-1091	DRMO-1095
Sample Depth Top		0	0	2	0	2	0	0
Sample Depth Bottom		2	2	6	2	6	2	2
Sample Date		10/27/2002	10/26/2002	10/26/2002	10/27/2002	10/27/2002	10/27/2002	10/28/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Selenium	MG/KG	0.5 U	0.44 U	0.5 U	0.52 U	0.49 U	0.51 U	0.39 U
Silver	MG/KG	0.32 U	5.2	0.32 U	0.33 U	0.32 U	0.33 U	0.44 UJ
Sodium	MG/KG	121	268	119 U	137	129	120 U	157
Thallium	MG/KG	0.37 U	0.32 U	0.37 U	0.38 U	0.36 U	0.37 U	0.68 U
Vanadium	MG/KG	22.4 J	18.8	25.3	20	23	20.8 J	16.9 J
Zinc	MG/KG	85.1 J	1750	86.5	63.9	70.7	89.6 J	55.3 J
Other Analyses								
Total Organic Carbon	MG/KG	3900	6900	5900	6300	6900	5800	2800
Total Petroleum Hydrocarbons	MG/KG	48 UJ	43 UJ	49 UJ	50 UJ	47 UJ	48 UJ	48 UJ

NOTES:
1) List includes all sample and sample du
(Q)ualifier Code Definitions
U = compound was not detected
J = the reported value is an estimated con
UJ = the compound was not detected; the
R = the data was rejected in the data valic

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification	SBDRMO-23	SBDRMO-24	SBDRMO-24	SBDRMO-5	SBDRMO-5	SBDRMO-6	SBDRMO-6
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	DRMO-1096	DRMO-1098	DRMO-1099	DRMO-1040	DRMO-1041	DRMO-1043	DRMO-1050
Sample Depth Top	2	0	2	0	2	0	0
Sample Depth Bottom	6	2	6	2	6	2	2
Sample Date	10/28/2002	10/28/2002	10/28/2002	10/27/2002	10/27/2002	10/25/2002	10/25/2002
SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organics								
1,1,1-Trichloroethane	UG/KG	2.8 UJ	2.7 UJ	3.2 U	2.7 U	2.8 U	2.6 UJ	2.7 U
1,1,2,2-Tetrachloroethane	UG/KG	2.8 UJ	2.7 UJ	3.2 U	2.7 U	2.8 U	2.6 UJ	2.7 U
1,1,2-Trichloroethane	UG/KG	2.8 UJ	2.7 UJ	3.2 U	2.7 U	2.8 U	2.6 UJ	2.7 U
1,1-Dichloroethane	UG/KG	2.8 UJ	2.7 UJ	3.2 U	2.7 U	2.8 U	2.6 UJ	2.7 U
1,1-Dichloroethene	UG/KG	2.8 UJ	2.7 UJ	3.2 U	2.7 U	2.8 U	2.6 UJ	2.7 U
1,2-Dichloroethane	UG/KG	2.8 UJ	2.7 UJ	3.2 U	2.7 U	2.8 U	2.6 UJ	2.7 UJ
1,2-Dichloroethene (total)	UG/KG							
1,2-Dichloropropane	UG/KG	2.8 UJ	2.7 UJ	3.2 U	2.7 U	2.8 U	2.6 UJ	2.7 U
Acetone	UG/KG	5.7 UJ	3.4 UJ	22	8.8 J	14 J	2.6 UJ	4.6 U
Benzene	UG/KG	2.8 UJ	2.7 UJ	3.2 U	2.7 U	2.8 U	2.6 UJ	2.7 U
Bromodichloromethane	UG/KG	2.8 UJ	2.7 UJ	3.2 U	2.7 U	2.8 U	2.6 UJ	2.7 U
Bromoform	UG/KG	2.8 UJ	2.7 UJ	3.2 U	2.7 UJ	2.8 UJ	2.6 UJ	2.7 U
Carbon disulfide	UG/KG	2.8 UJ	2.7 UJ	3.2 U	2.7 U	2.8 U	2.6 UJ	2.7 U
Carbon tetrachloride	UG/KG	2.8 UJ	2.7 UJ	3.2 U	2.7 U	2.8 U	2.6 UJ	2.7 UJ
Chlorobenzene	UG/KG	2.8 UJ	2.7 UJ	3.2 U	2.7 U	2.8 U	2.6 UJ	2.7 U
Chlorodibromomethane	UG/KG	2.8 UJ	2.7 UJ	3.2 U	2.7 U	2.8 U	2.6 UJ	2.7 U
Chloroethane	UG/KG	2.8 UJ	2.7 UJ	3.2 U	2.7 U	2.8 U	2.6 UJ	2.7 U
Chloroform	UG/KG	2.8 UJ	2.7 UJ	3.2 U	2.7 U	2.8 U	2.6 UJ	2.7 U
Cis-1,2-Dichloroethene	UG/KG	2.8 UJ	2.7 UJ	3.2 U	2.7 U	2.8 U	2.6 UJ	2.7 U
Cis-1,3-Dichloropropene	UG/KG	2.8 UJ	2.7 UJ	3.2 U	2.7 U	2.8 U	2.6 UJ	2.7 U
Ethyl benzene	UG/KG	2.8 UJ	2.7 UJ	3.2 U	2.7 U	2.8 U	0.66 J	2.7 U
Meta/Para Xylene	UG/KG	2.8 UJ	2.7 UJ	3.2 U	2.7 U	2.8 U	4.1 J	2.7 U
Methyl bromide	UG/KG	2.8 UJ	2.7 UJ	3.2 U	2.7 U	2.8 U	2.6 UJ	2.7 UJ
Methyl butyl ketone	UG/KG	2.8 UJ	2.7 UJ	3.2 U	2.7 U	2.8 U	2.6 UJ	2.7 UJ
Methyl chloride	UG/KG	2.8 UJ	2.7 UJ	3.2 U	2.7 UJ	2.8 UJ	2.6 UJ	2.7 UJ
Methyl ethyl ketone	UG/KG	2.8 UJ	2.7 UJ	3.2	2.7 U	2.8 U	2.6 UJ	2.7 UJ
Methyl isobutyl ketone	UG/KG	2.8 UJ	2.7 UJ	3.2 U	2.7 U	2.8 U	2.6 UJ	2.7 U
Methylene chloride	UG/KG	3.9 UJ	3.7 UJ	3.5	2.7 U	2.8 U	2.6 UJ	2.7 U
Ortho Xylene	UG/KG	2.8 UJ	2.7 UJ	3.2 U	2.7 U	2.8 U	2.6 UJ	2.7 U
Styrene	UG/KG	2.8 UJ	2.7 UJ	3.2 U	2.7 UJ	2.8 UJ	2.6 UJ	2.7 U

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SBDRMO-23	SBDRMO-24	SBDRMO-24	SBDRMO-5	SBDRMO-5	SBDRMO-6	SBDRMO-6
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		DRMO-1096	DRMO-1098	DRMO-1099	DRMO-1040	DRMO-1041	DRMO-1043	DRMO-1050
Sample Depth Top		2	0	2	0	2	0	0
Sample Depth Bottom		6	2	6	2	6	2	2
Sample Date		10/28/2002	10/28/2002	10/28/2002	10/27/2002	10/27/2002	10/25/2002	10/25/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Tetrachloroethene	UG/KG	2.8 UJ	2.7 UJ	3.2 U	2.7 UJ	2.8 UJ	2.6 UJ	2.7 U
Toluene	UG/KG	2.8 UJ	2.7 UJ	3.2 U	2.7 U	2.8 U	2.6 UJ	2.7 U
Total Xylenes	UG/KG							
Trans-1,2-Dichloroethene	UG/KG	2.8 UJ	2.7 UJ	3.2 U	2.7 U	2.8 U	2.6 UJ	2.7 U
Trans-1,3-Dichloropropene	UG/KG	2.8 UJ	2.7 UJ	3.2 U	2.7 U	2.8 U	2.6 UJ	2.7 U
Trichloroethene	UG/KG	2.8 UJ	2.7 UJ	3.2 U	2.7 U	2.8 U	2.6 UJ	2.7 U
Vinyl chloride	UG/KG	2.8 UJ	2.7 UJ	3.2 U	2.7 U	2.8 U	2.6 UJ	2.7 U
Semivolatile Organics								
1,2,4-Trichlorobenzene	UG/KG	370 U	350 U	400 U	360 U	370 U	340 U	350 U
1,2-Dichlorobenzene	UG/KG	370 U	350 U	400 U	360 U	370 U	340 U	350 U
1,3-Dichlorobenzene	UG/KG	370 U	350 U	400 U	360 U	370 U	340 U	350 U
1,4-Dichlorobenzene	UG/KG	370 U	350 U	400 U	360 U	370 U	340 U	350 U
2,4,5-Trichlorophenol	UG/KG	940 U	890 U	1000 U	900 U	920 U	870 U	880 U
2,4,6-Trichlorophenol	UG/KG	370 U	350 U	400 U	360 U	370 U	340 U	350 U
2,4-Dichlorophenol	UG/KG	370 U	350 U	400 U	360 U	370 U	340 U	350 U
2,4-Dimethylphenol	UG/KG	370 U	350 U	400 U	360 U	370 U	340 U	350 U
2,4-Dinitrophenol	UG/KG	940 UJ	890 U	1000 UJ	900 U	920 U	870 R	880 UJ
2,4-Dinitrotoluene	UG/KG	370 U	350 U	400 U	360 U	370 U	340 U	350 U
2,6-Dinitrotoluene	UG/KG	370 U	350 U	400 U	360 U	370 U	340 U	350 U
2-Chloronaphthalene	UG/KG	370 U	350 U	400 U	360 U	370 U	340 U	350 U
2-Chlorophenol	UG/KG	370 U	350 U	400 U	360 U	370 U	340 U	350 U
2-Methylnaphthalene	UG/KG	370 U	69 J	400 U	360 U	370 U	340 U	350 U
2-Methylphenol	UG/KG	370 U	350 U	400 U	360 U	370 U	340 U	350 U
2-Nitroaniline	UG/KG	940 U	890 U	1000 U	900 U	920 U	870 UJ	880 U
2-Nitrophenol	UG/KG	370 U	350 U	400 U	360 U	370 U	340 U	350 U
3 or 4-Methylphenol	UG/KG	370 U	350 U	400 U	360 U	370 U	340 U	350 U
3,3'-Dichlorobenzidine	UG/KG	370 U	350 U	400 U	360 U	370 U	340 UJ	350 UJ
3-Nitroaniline	UG/KG	940 UJ	890 U	1000 U	900 U	920 U	870 U	880 U
4,6-Dinitro-2-methylphenol	UG/KG	940 UJ	890 U	1000 U	900 U	920 U	870 UJ	880 UJ
4-Bromophenyl phenyl ether	UG/KG	370 U	350 U	400 U	360 U	370 U	340 U	350 U
4-Chloro-3-methylphenol	UG/KG	370 U	350 U	400 U	360 U	370 U	340 U	350 U

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification	SBDRMO-23	SBDRMO-24	SBDRMO-24	SBDRMO-5	SBDRMO-5	SBDRMO-6	SBDRMO-6
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	DRMO-1096	DRMO-1098	DRMO-1099	DRMO-1040	DRMO-1041	DRMO-1043	DRMO-1050
Sample Depth Top	2	0	2	0	2	0	0
Sample Depth Bottom	6	2	6	2	6	2	2
Sample Date	10/28/2002	10/28/2002	10/28/2002	10/27/2002	10/27/2002	10/25/2002	10/25/2002
SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
4-Chloroaniline	UG/KG	370 U	350 U	400 U	360 U	370 U	340 U	350 U
4-Chlorophenyl phenyl ether	UG/KG	370 U	350 U	400 U	360 U	370 U	340 U	350 U
4-Methylphenol	UG/KG							
4-Nitroaniline	UG/KG	940 U	890 U	1000 U	900 U	920 U	870 U	880 U
4-Nitrophenol	UG/KG	940 U	890 U	1000 U	900 U	920 U	870 UJ	880 U
Acenaphthene	UG/KG	370 U	190 J	50 J	360 U	370 U	340 U	350 U
Acenaphthylene	UG/KG	370 U	2500	73 J	360 U	370 U	340 U	350 U
Anthracene	UG/KG	370 U	1200	400 U	90 J	370 U	340 U	350 U
Benzo(a)anthracene	UG/KG	5200		130 J	410	370 U	340 U	350 UJ
Benzo(a)pyrene	UG/KG	370 U	6800	200 J	320 J	370 U	340 UJ	350 UJ
Benzo(b)fluoranthene	UG/KG	370 U	8000	170 J	400	43 J	50 J	350 UJ
Benzo(ghi)perylene	UG/KG	370 UJ	2100 J	100 J	180 J	370 UJ	110 J	57 J
Benzo(k)fluoranthene	UG/KG	370 U	2700 J	120 J	200 J	370 U	340 UJ	350 UJ
Bis(2-Chloroethoxy)methane	UG/KG	370 U	350 U	400 U	360 U	370 U	340 U	350 U
Bis(2-Chloroethyl)ether	UG/KG	370 UJ	350 U	400 UJ	360 U	370 UJ	340 U	350 U
Bis(2-Chloroisopropyl)ether	UG/KG	370 U	350 U	400 U	360 U	370 U	340 U	350 U
Bis(2-Ethylhexyl)phthalate	UG/KG	370 U	66 J	400 U	53 J	87 J	340 UJ	350 UJ
Butylbenzylphthalate	UG/KG	370 U	350 U	400 U	360 U	370 U	340 UJ	350 UJ
Carbazole	UG/KG	370 U	88 J	400 U	360 U	370 U	340 U	350 U
Chrysene	UG/KG	4900		140 J	400	370 U	340 UJ	350 UJ
Di-n-butylphthalate	UG/KG	370 U	350 U	400 U	360 U	370 U	340 U	350 U
Di-n-octylphthalate	UG/KG	370 U	350 U	400 U	360 U	370 U	340 UJ	350 UJ
Dibenz(a,h)anthracene	UG/KG	370 UJ	210 J	400 U	360 U	370 UJ	340 UJ	350 UJ
Dibenzofuran	UG/KG	370 U	140 J	400 U	360 U	370 U	340 U	350 U
Diethyl phthalate	UG/KG	370 U	350 U	250 J	360 U	370 U	340 U	350 U
Dimethylphthalate	UG/KG	370 U	350 U	400 U	360 U	370 U	340 U	350 U
Fluoranthene	UG/KG	370 U	7700	210 J	670	62 J	53 J	38 J
Fluorene	UG/KG	370 U	560	54 J	360 U	370 U	340 U	350 U
Hexachlorobenzene	UG/KG	370 U	350 U	400 U	360 U	370 U	340 U	350 U
Hexachlorobutadiene	UG/KG	370 UJ	350 U	400 U	360 U	370 U	340 U	350 U
Hexachlorocyclopentadiene	UG/KG	370 U	350 UJ	400 U	360 U	370 U	340 UJ	350 UJ

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

	AOC Location	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
	Sample Location Identification	SBDRMO-23	SBDRMO-24	SBDRMO-24	SBDRMO-5	SBDRMO-5	SBDRMO-6	SBDRMO-6
	Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sample Identification	DRMO-1096	DRMO-1098	DRMO-1099	DRMO-1040	DRMO-1041	DRMO-1043	DRMO-1050
	Sample Depth Top	2	0	2	0	2	0	0
	Sample Depth Bottom	6	2	6	2	6	2	2
	Sample Date	10/28/2002	10/28/2002	10/28/2002	10/27/2002	10/27/2002	10/25/2002	10/25/2002
	SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Hexachloroethane	UG/KG	370 U	350 U	400 U	360 U	370 U	340 U	350 U
Indeno(1,2,3-cd)pyrene	UG/KG	370 U	740	99 J	170 J	370 UJ	60 J	350 UJ
Isophorone	UG/KG	370 UJ	350 U	400 U	360 U	370 U	340 U	350 U
N-Nitrosodiphenylamine	UG/KG	370 U	350 U	400 U	360 U	370 U	340 U	350 U
N-Nitrosodipropylamine	UG/KG	370 U	350 U	400 U	360 U	370 U	340 UJ	350 U
Naphthalene	UG/KG	370 U	59 J	400 U	360 U	370 U	340 U	350 U
Nitrobenzene	UG/KG	370 UJ	350 U	400 UJ	360 U	370 U	340 U	350 U
Pentachlorophenol	UG/KG	940 U	890 U	1000 U	900 U	920 U	870 U	880 U
Phenanthrene	UG/KG	370 U	4400	170 J	440	370 U	340 U	350 U
Phenol	UG/KG	370 U	350 U	400 U	360 U	370 U	340 U	350 U
Pyrene	UG/KG	370 U	16000	260 J	700	50 J	130 J	78 J
Pesticides and PCBs								
4,4'-DDD	UG/KG	0.23 U	0.22 U	0.24 U	1.8 UJ	1.9 UJ	1.8 R	1.8 UJ
4,4'-DDE	UG/KG	0.23 UJ	0.22 UJ	0.24 UJ	47 J	1.9 UJ	6.1 J	6.3 J
4,4'-DDT	UG/KG	0.23 UJ	0.22 UJ	0.24 UJ	27 J	1.9 UJ	1.8 UJ	1.8 UJ
Aldrin	UG/KG	0.11 U	0.11 U	0.12 U	1.8 UJ	1.9 UJ	1.8 UJ	1.8 UJ
Alpha-BHC	UG/KG	1.4 U	1.3 U	1.5 U	1.8 UJ	1.9 UJ	1.8 UJ	1.8 UJ
Alpha-Chlordane	UG/KG	0.34 U	0.32 U	0.37 U	1.8 UJ	1.9 UJ	6.1 J	4.7 J
Aroclor-1016	UG/KG	5.9 UJ	5.6 UJ	6.3 UJ	18 UJ	19 UJ	18 U	18 U
Aroclor-1221	UG/KG	1.5 U	1.4 U	1.6 U	18 U	19 U	18 U	18 U
Aroclor-1232	UG/KG	9.1 UJ	8.6 UJ	9.7 UJ	18 UJ	19 UJ	18 U	18 U
Aroclor-1242	UG/KG	2.5 U	2.4 U	2.7 U	18 U	19 U	18 U	18 U
Aroclor-1248	UG/KG	6.2 U	5.9 U	6.7 U	18 U	19 U	18 U	18 U
Aroclor-1254	UG/KG	12 UJ	11 UJ	13 UJ	570	19 U	18 U	18 U
Aroclor-1260	UG/KG	2.3 UJ	2.1 UJ	2.4 UJ	18 U	19 U	18 U	18 U
Beta-BHC	UG/KG	0.11 U	0.11 U	0.12 U	1.8 UJ	1.9 UJ	1.8 U	1.8 UJ
Chlordane	UG/KG	2.1 U	2.1 U	2.3 U	18 U	19 U	18 U	18 U
Delta-BHC	UG/KG	0.23 UJ	0.22 UJ	0.24 UJ	1.8 UJ	1.9 UJ	1.8 UJ	1.8 UJ
Dieldrin	UG/KG	0.11 UJ	0.11 \UJ	0.12 UJ	1.8 UJ	1.9 UJ	1.8 UJ	1.8 UJ
Endosulfan I	UG/KG	0.56 U	0.54 U	0.61 U	14 J	1.9 U	6.1	5.4
Endosulfan II	UG/KG	0.34 U	9	0.37 U	1.8 U	1.9 U	1.8 U	1.8 U

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification	SBDRMO-23	SBDRMO-24	SBDRMO-24	SBDRMO-5	SBDRMO-5	SBDRMO-6	SBDRMO-6
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	DRMO-1096	DRMO-1098	DRMO-1099	DRMO-1040	DRMO-1041	DRMO-1043	DRMO-1050
Sample Depth Top	2	0	2	0	2	0	0
Sample Depth Bottom	6	2	6	2	6	2	2
Sample Date	10/28/2002	10/28/2002	10/28/2002	10/27/2002	10/27/2002	10/25/2002	10/25/2002
SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Endosulfan sulfate	UG/KG	0.68 U	0.65 U	0.73 U	1.8 U	1.9 U	1.8 U	1.8 U
Endrin	UG/KG	0.9 UJ	0.86 UJ	0.97 UJ	1.8 UJ	1.9 UJ	1.8 UJ	1.8 U
Endrin aldehyde	UG/KG	0.9 UJ	0.86 UJ	0.97 UJ	1.8 U	1.9 U	1.8 U	1.8 U
Endrin ketone	UG/KG	0.11 U	0.11 U	0.12 U	1.8 U	1.9 U	1.8 U	1.8 U
Gamma-BHC/Lindane	UG/KG	0.11 U	0.11 U	0.12 U	1.8 UJ	1.9 UJ	1.8 UJ	1.8 UJ
Gamma-Chlordane	UG/KG	0.34 U	0.32 U	0.37 U	1.8 UJ	1.9 UJ	1.8 U	1.8 UJ
Heptachlor	UG/KG	1.1 U	1.1 U	1.2 U	1.8 UJ	1.9 UJ	1.8 U	1.8 UJ
Heptachlor epoxide	UG/KG	0.34 U	0.32 U	0.37 U	18 R	1.9 UJ	1.8 U	1.8 UJ
Methoxychlor	UG/KG	0.11 U	0.11 U	0.12 U	1.8 U	1.9 U	1.8 UJ	1.8 U
Toxaphene	UG/KG	3.6 U	3.5 U	3.9 U	18 U	19 U	18 U	18 U
Metals								
Aluminum	MG/KG	7070 J	8510 J	14900 J	8650	14100	8030	11100
Antimony	MG/KG	0.26 U	8.5 J	0.28 U	67.3	1 U	1.5	0.96 U
Arsenic	MG/KG	2.4 J	5 J	6.1 J	6.1	7	3.7	4.7
Barium	MG/KG	67.5 J	1680	107 J	273	95.7	37.9 J	66.7 J
Beryllium	MG/KG	0.4 J	0.46 J	0.86 J	0.46 J	0.76	0.44 J	0.6
Cadmium	MG/KG	0.06 U	17.9 J	0.06 U	10.7	0.13 U	0.2 J	0.13 U
Calcium	MG/KG	56200 J	114000 J	12600 J	97900	18800	36500 J	41400 J
Chromium	MG/KG	11.1 J	37.7 J	25.4 J	20.4	26.1	38.8	38.6
Cobalt	MG/KG	6.8 J	14 J	15 J	11.7	17.9	9.5	14.2
Copper	MG/KG	16.4 J	347 J	19.2 J	168	37.6	34.6 J	39.6 J
Cyanide	MG/KG							
Cyanide, Amenable	MG/KG	0.57 U	0.54 U	0.62 U	0.54 U	0.56 U	0.52 U	0.53 U
Cyanide, Total	MG/KG	0.569 U	0.544 U	0.618 U	0.542 U	0.564 U	0.525 U	0.535 U
Iron	MG/KG	10700 J	25100 J	28100 J	22900	32800	18300	24200
Lead	MG/KG	6.2 J	399 J	13.6 J	2690	33.8	66.9	56.3
Magnesium	MG/KG	24900 J	9010 J	6220 J	8170	6880	5080	6940
Manganese	MG/KG	324 J	728 J	646 J	369	790	348	376
Mercury	MG/KG	0.02	0.06	0.04	0.08	0.04	0.04	0.03
Nickel	MG/KG	18 J	37 J	38.7 J	35.8 J	46.4 J	31.8 J	44.4 J
Potassium	MG/KG	1010 J	1530 J	1370 J	1490 J	1260 J	1220 J	1770 J

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SBDRMO-23	SBDRMO-24	SBDRMO-24	SBDRMO-5	SBDRMO-5	SBDRMO-6	SBDRMO-6
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		DRMO-1096	DRMO-1098	DRMO-1099	DRMO-1040	DRMO-1041	DRMO-1043	DRMO-1050
Sample Depth Top		2	0	2	0	2	0	0
Sample Depth Bottom		6	2	6	2	6	2	2
Sample Date		10/28/2002	10/28/2002	10/28/2002	10/27/2002	10/27/2002	10/25/2002	10/25/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Selenium	MG/KG	0.37 U	0.36 U	0.4 U	0.44 U	0.47 U	0.44 U	0.45 U
Silver	MG/KG	0.42 U	0.55 J	0.72 J	0.85 J	0.3 U	0.28 U	0.29 U
Sodium	MG/KG	163	241	124	240	122	223	277
Thallium	MG/KG	0.65 U	1.1 J	1.8 J	0.33 U	0.34 U	0.33 U	0.33 U
Vanadium	MG/KG	11 J	12.2 J	23.2 J	17.1 J	24.7 J	12.9	17.9
Zinc	MG/KG	52.8 J	786 J	126 J	541 J	117 J	123	196
Other Analyses								
Total Organic Carbon	MG/KG	2900	4900	6400	4200	4000	3300	8500
Total Petroleum Hydrocarbons	MG/KG	46 UJ	44 UJ	49 UJ	520 J	45 UJ	42 UJ	43 UJ

NOTES:
1) List includes all sample and sample du
(Q)ualifier Code Definitions
U = compound was not detected
J = the reported value is an estimated con
UJ = the compound was not detected; the
R = the data was rejected in the data valic

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification	SBDRMO-6	SBDRMO-7	SBDRMO-7	SBDRMO-8	SBDRMO-9	SBDRMO-9	SS121C-1
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	DRMO-1044	DRMO-1046	DRMO-1047	DRMO-1049	DRMO-1053	DRMO-1054	EB235
Sample Depth Top	2	0	2	0	0	2	0
Sample Depth Bottom	6	2	6	2	2	6	0.2
Sample Date	10/25/2002	10/27/2002	10/27/2002	10/25/2002	10/25/2002	10/25/2002	3/9/1998
SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	EBS

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organics								
1,1,1-Trichloroethane	UG/KG	2.2 U	2.8 U	2.6 U	3.3 UJ	3 UJ	2.9 UJ	11 UJ
1,1,2,2-Tetrachloroethane	UG/KG	2.2 U	2.8 U	2.6 U	3.3 U	3 UJ	2.9 UJ	11 UJ
1,1,2-Trichloroethane	UG/KG	2.2 U	2.8 U	2.6 U	3.3 U	3 UJ	2.9 UJ	11 UJ
1,1-Dichloroethane	UG/KG	2.2 U	2.8 U	2.6 U	3.3 U	3 UJ	2.9 UJ	11 UJ
1,1-Dichloroethene	UG/KG	2.2 U	2.8 U	2.6 U	3.3 U	3 UJ	2.9 UJ	11 UJ
1,2-Dichloroethane	UG/KG	2.2 UJ	2.8 U	2.6 U	3.3 UJ	3 UJ	2.9 UJ	11 UJ
1,2-Dichloroethene (total)	UG/KG							11 UJ
1,2-Dichloropropane	UG/KG	2.2 U	2.8 U	2.6 U	3.3 U	3 UJ	2.9 UJ	11 UJ
Acetone	UG/KG	2.2 U	8.5 J	2.6 UJ	11 J	3 UJ	2.9 UJ	10 J
Benzene	UG/KG	2.2 U	2.8 U	2.6 U	3.3 U	41	1800 J	11 UJ
Bromodichloromethane	UG/KG	2.2 U	2.8 U	2.6 U	3.3 U	3 UJ	2.9 UJ	11 UJ
Bromoform	UG/KG	2.2 U	2.8 UJ	2.6 UJ	3.3 U	3 UJ	2.9 UJ	11 UJ
Carbon disulfide	UG/KG	2.2 U	2.8 U	2.6 U	3.3 U	4.7	2.9 UJ	11 UJ
Carbon tetrachloride	UG/KG	2.2 UJ	2.8 U	2.6 U	3.3 UJ	3 UJ	2.9 UJ	11 UJ
Chlorobenzene	UG/KG	2.2 U	2.8 U	2.6 U	3.3 U	3 UJ	2.9 UJ	11 UJ
Chlorodibromomethane	UG/KG	2.2 U	2.8 U	2.6 U	3.3 U	3 UJ	2.9 UJ	11 UJ
Chloroethane	UG/KG	2.2 U	2.8 U	2.6 U	3.3 U	3 UJ	2.9 UJ	11 UJ
Chloroform	UG/KG	2.2 U	2.8 U	2.6 U	3.3 U	3 UJ	2.9 UJ	11 UJ
Cis-1,2-Dichloroethene	UG/KG	2.2 U	2.8 U	2.6 U	3.3 U	3 UJ	2.9 UJ	
Cis-1,3-Dichloropropene	UG/KG	2.2 U	2.8 U	2.6 U	3.3 U	3 UJ	2.9 UJ	11 UJ
Ethyl benzene	UG/KG	2.2 U	2.8 U	2.6 U	3.3 U	3300 J	24000 J	11 UJ
Meta/Para Xylene	UG/KG	2.2 U	2.8 U	2.6 U	3.3 U	4400 J	130000 J	
Methyl bromide	UG/KG	2.2 UJ	2.8 U	2.6 U	3.3 UJ	3 UJ	2.9 UJ	11 UJ
Methyl butyl ketone	UG/KG	2.2 UJ	2.8 U	2.6 U	3.3 UJ	3 UJ	2.9 UJ	11 UJ
Methyl chloride	UG/KG	2.2 UJ	2.8 UJ	2.6 UJ	3.3 U	3 UJ	2.9 UJ	11 UJ
Methyl ethyl ketone	UG/KG	2.2 UJ	2.8 U	2.6 U	3.3 U	3 UJ	2.9 UJ	11 UJ
Methyl isobutyl ketone	UG/KG	2.2 U	2.8 U	2.6 U	3.3 U	3 UJ	2.9 UJ	11 UJ
Methylene chloride	UG/KG	2.2 U	2.8 U	2.6 U	3.3 U	3 UJ	2.9 UJ	11 UJ
Ortho Xylene	UG/KG	2.2 U	2.8 U	2.6 U	3.3 U	16	75	
Styrene	UG/KG	2.2 U	2.8 UJ	2.6 UJ	3.3 U	3 UJ	2.7 J	11 UJ

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification	SBDRMO-6	SBDRMO-7	SBDRMO-7	SBDRMO-8	SBDRMO-9	SBDRMO-9	SS121C-1
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	DRMO-1044	DRMO-1046	DRMO-1047	DRMO-1049	DRMO-1053	DRMO-1054	EB235
Sample Depth Top	2	0	2	0	0	2	0
Sample Depth Bottom	6	2	6	2	2	6	0.2
Sample Date	10/25/2002	10/27/2002	10/27/2002	10/25/2002	10/25/2002	10/25/2002	3/9/1998
SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	EBS

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Tetrachloroethene	UG/KG	2.2 U	2.8 UJ	2.6 UJ	3.3 U	3 UJ	2.9 UJ	11 UJ
Toluene	UG/KG	2.2 U	2.8 U	2.6 U	3.3 U	4.9	84	9 J
Total Xylenes	UG/KG							11 UJ
Trans-1,2-Dichloroethene	UG/KG	2.2 U	2.8 U	2.6 U	3.3 U	3 UJ	2.9 UJ	
Trans-1,3-Dichloropropene	UG/KG	2.2 U	2.8 U	2.6 U	3.3 U	3 UJ	2.9 UJ	11 UJ
Trichloroethene	UG/KG	2.2 U	2.8 U	2.6 U	3.3 U	3 UJ	2.9 UJ	11 UJ
Vinyl chloride	UG/KG	2.2 U	2.8 U	2.6 U	3.3 U	3 UJ	2.9 UJ	11 UJ
Semivolatile Organics								
1,2,4-Trichlorobenzene	UG/KG	350 U	370 U	350 UJ	400 U	390 U	390 UJ	72 U
1,2-Dichlorobenzene	UG/KG	350 U	370 U	350 U	400 U	390 U	390 U	72 U
1,3-Dichlorobenzene	UG/KG	350 U	370 U	350 U	400 U	390 U	390 U	72 U
1,4-Dichlorobenzene	UG/KG	350 U	370 U	350 U	400 U	390 U	390 U	72 U
2,4,5-Trichlorophenol	UG/KG	890 U	920 U	890 U	1000 U	990 U	970 UJ	180 U
2,4,6-Trichlorophenol	UG/KG	350 U	370 U	350 U	400 U	390 U	390 UJ	72 U
2,4-Dichlorophenol	UG/KG	350 U	370 U	350 U	400 U	390 U	390 UJ	72 U
2,4-Dimethylphenol	UG/KG	350 U	370 U	350 U	400 U	390 U	390 UJ	72 U
2,4-Dinitrophenol	UG/KG	890 UJ	920 U	890 UJ	1000 U	990 UJ	970 UJ	180 U
2,4-Dinitrotoluene	UG/KG	350 U	370 U	350 U	400 U	390 U	390 UJ	72 U
2,6-Dinitrotoluene	UG/KG	350 U	370 U	350 U	400 U	390 U	390 UJ	72 U
2-Chloronaphthalene	UG/KG	350 U	370 U	350 U	400 U	390 U	390 UJ	72 U
2-Chlorophenol	UG/KG	350 U	370 U	350 UJ	400 U	390 U	390 U	72 U
2-Methylnaphthalene	UG/KG	350 U	370 U	350 U	400 U	390 U	1600 J	72 U
2-Methylphenol	UG/KG	350 U	370 U	350 U	400 U	390 U	390 U	72 U
2-Nitroaniline	UG/KG	890 U	920 U	890 U	1000 UJ	990 U	970 UJ	180 U
2-Nitrophenol	UG/KG	350 U	370 U	350 U	400 U	390 U	390 UJ	72 U
3 or 4-Methylphenol	UG/KG	350 U	370 U	350 U	400 U	390 U	390 UJ	
3,3'-Dichlorobenzidine	UG/KG	350 UJ	370 U	350 U	400 U	390 U	390 UJ	72 U
3-Nitroaniline	UG/KG	890 U	920 U	890 U	1000 U	990 U	970 UJ	180 U
4,6-Dinitro-2-methylphenol	UG/KG	890 UJ	920 U	890 UJ	1000 U	990 U	970 UJ	180 U
4-Bromophenyl phenyl ether	UG/KG	350 U	370 U	350 U	400 U	390 U	390 UJ	72 U
4-Chloro-3-methylphenol	UG/KG	350 U	370 U	350 U	400 U	390 U	390 UJ	72 U

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SBDRMO-6	SBDRMO-7	SBDRMO-7	SBDRMO-8	SBDRMO-9	SBDRMO-9	SS121C-1
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		DRMO-1044	DRMO-1046	DRMO-1047	DRMO-1049	DRMO-1053	DRMO-1054	EB235
Sample Depth Top		2	0	2	0	0	2	0
Sample Depth Bottom		6	2	6	2	2	6	0.2
Sample Date		10/25/2002	10/27/2002	10/27/2002	10/25/2002	10/25/2002	10/25/2002	3/9/1998
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	EBS
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
4-Chloroaniline	UG/KG	350 U	370 U	350 U	400 U	390 U	390 UJ	72 U
4-Chlorophenyl phenyl ether	UG/KG	350 U	370 U	350 U	400 U	390 U	390 UJ	72 U
4-Methylphenol	UG/KG							72 U
4-Nitroaniline	UG/KG	890 U	920 U	890 U	1000 UJ	990 U	970 UJ	180 U
4-Nitrophenol	UG/KG	890 U	920 U	890 U	1000 U	990 U	970 UJ	180 U
Acenaphthene	UG/KG	350 U	370 U	350 U	400 U	390 U	390 UJ	72 U
Acenaphthylene	UG/KG	350 U	370 U	350 U	400 U	390 U	390 UJ	72 U
Anthracene	UG/KG	350 U	370 U	350 U	400 U	390 U	390 UJ	72 U
Benzo(a)anthracene	UG/KG	350 UJ	370 U	350 U	400 U	390 U	390 UJ	72 U
Benzo(a)pyrene	UG/KG	350 UJ	370 U	350 U	400 U	390 U	390 UJ	72 U
Benzo(b)fluoranthene	UG/KG	350 UJ	370 U	350 U	400 U	390 U	390 UJ	72 U
Benzo(ghi)perylene	UG/KG	350 UJ	370 U	350 UJ	400 UJ	390 U	390 UJ	72 U
Benzo(k)fluoranthene	UG/KG	350 UJ	370 U	350 U	400 U	390 U	390 UJ	72 U
Bis(2-Chloroethoxy)methane	UG/KG	350 U	370 U	350 UJ	400 U	390 U	390 UJ	72 U
Bis(2-Chloroethyl)ether	UG/KG	350 U	370 U	350 U	400 U	390 U	390 U	72 U
Bis(2-Chloroisopropyl)ether	UG/KG	350 U	370 U	350 U	400 U	390 U	390 UJ	72 U
Bis(2-Ethylhexyl)phthalate	UG/KG	350 UJ	370 U	350 U	49 J	46 J	390 UJ	7.2 J
Butylbenzylphthalate	UG/KG	350 UJ	370 U	350 U	400 UJ	390 U	390 UJ	72 U
Carbazole	UG/KG	350 U	370 U	350 U	400 U	390 U	390 UJ	72 U
Chrysene	UG/KG	350 UJ	370 U	350 U	400 U	390 U	390 UJ	72 U
Di-n-butylphthalate	UG/KG	350 U	370 U	350 U	400 U	390 U	390 UJ	8.2 J
Di-n-octylphthalate	UG/KG	350 UJ	370 U	350 UJ	400 U	390 U	390 UJ	72 U
Dibenz(a,h)anthracene	UG/KG	350 UJ	370 U	350 UJ	400 UJ	390 U	390 UJ	72 U
Dibenzofuran	UG/KG	350 U	370 U	350 U	400 U	390 U	390 UJ	72 U
Diethyl phthalate	UG/KG	350 U	370 U	350 U	400 U	390 U	390 UJ	11 J
Dimethylphthalate	UG/KG	350 U	370 U	350 U	400 U	390 U	390 UJ	72 U
Fluoranthene	UG/KG	350 U	370 U	350 U	400 U	390 U	390 UJ	72 U
Fluorene	UG/KG	350 U	370 U	350 U	400 U	390 U	390 UJ	72 U
Hexachlorobenzene	UG/KG	350 U	370 U	350 U	400 U	390 U	390 UJ	72 U
Hexachlorobutadiene	UG/KG	350 U	370 U	350 UJ	400 U	390 U	390 UJ	72 U
Hexachlorocyclopentadiene	UG/KG	350 UJ	370 UJ	350 U	400 U	390 UJ	390 UJ	72 U

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification	SBDRMO-6	SBDRMO-7	SBDRMO-7	SBDRMO-8	SBDRMO-9	SBDRMO-9	SS121C-1
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	DRMO-1044	DRMO-1046	DRMO-1047	DRMO-1049	DRMO-1053	DRMO-1054	EB235
Sample Depth Top	2	0	2	0	0	2	0
Sample Depth Bottom	6	2	6	2	2	6	0.2
Sample Date	10/25/2002	10/27/2002	10/27/2002	10/25/2002	10/25/2002	10/25/2002	3/9/1998
SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	EBS

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Hexachloroethane	UG/KG	350 U	370 U	350 U	400 U	390 U	390 U	72 U
Indeno(1,2,3-cd)pyrene	UG/KG	350 UJ	370 U	350 UJ	400 UJ	390 U	390 UJ	72 U
Isophorone	UG/KG	350 U	370 U	350 UJ	400 U	390 U	390 UJ	72 U
N-Nitrosodiphenylamine	UG/KG	350 U	370 U	350 U	400 U	390 U	390 U	72 U
N-Nitrosodipropylamine	UG/KG	350 U	370 U	350 U	400 UJ	390 U	390 U	72 U
Naphthalene	UG/KG	350 U	370 U	350 UJ	400 U	390 U	1200 J	72 U
Nitrobenzene	UG/KG	350 U	370 U	350 UJ	400 U	390 U	390 UJ	72 U
Pentachlorophenol	UG/KG	890 U	920 U	890 U	1000 U	990 U	970 UJ	180 U
Phenanthrene	UG/KG	350 U	370 U	350 U	400 U	390 U	62 J	72 U
Phenol	UG/KG	350 U	370 U	350 U	400 U	390 U	390 U	72 U
Pyrene	UG/KG	350 UJ	370 U	350 U	400 UJ	390 U	390 UJ	72 U
Pesticides and PCBs								
4,4'-DDD	UG/KG	1.8 UJ	1.9 UJ	1.8 UJ	2 R	2 R	2 R	3.6 U
4,4'-DDE	UG/KG	1.8 UJ	1.9 UJ	1.8 UJ	2 UJ	2 UJ	2 UJ	3.6 U
4,4'-DDT	UG/KG	1.8 UJ	1.9 UJ	1.8 UJ	2 UJ	2 UJ	2 UJ	3.6 U
Aldrin	UG/KG	1.8 UJ	1.9 UJ	1.8 UJ	2 UJ	2 UJ	2 UJ	1.9 U
Alpha-BHC	UG/KG	1.8 UJ	1.9 UJ	1.8 UJ	2 UJ	2 UJ	2 UJ	1.9 U
Alpha-Chlordane	UG/KG	1.8 UJ	1.9 UJ	1.8 UJ	2 UJ	2 UJ	2 UJ	1.9 U
Aroclor-1016	UG/KG	18 U	19 UJ	18 UJ	20 UJ	20 UJ	20 U	36 U
Aroclor-1221	UG/KG	18 U	19 U	18 U	20 U	20 U	20 U	74 U
Aroclor-1232	UG/KG	18 U	19 UJ	18 UJ	20 UJ	20 UJ	20 U	36 U
Aroclor-1242	UG/KG	18 U	19 U	18 U	20 UJ	20 UJ	20 U	36 U
Aroclor-1248	UG/KG	18 U	19 U	18 U	20 U	20 U	20 U	36 U
Aroclor-1254	UG/KG	18 U	19 U	18 U	20 U	20 U	20 U	36 U
Aroclor-1260	UG/KG	18 U	19 U	18 U	20 UJ	20 UJ	20 U	36 U
Beta-BHC	UG/KG	1.8 UJ	1.9 UJ	1.8 UJ	2 U	2 U	2 U	1.9 U
Chlordane	UG/KG	18 U	19 U	18 U	20 U	20 U	20 U	
Delta-BHC	UG/KG	1.8 UJ	1.9 UJ	1.8 UJ	2 UJ	2 UJ	2 UJ	1.9 U
Dieldrin	UG/KG	1.8 UJ	1.9 UJ	1.8 UJ	2 UJ	2 UJ	2 UJ	3.6 U
Endosulfan I	UG/KG	1.8 U	1.9 U	1.8 U	2 U	2 U	2 U	1.9 U
Endosulfan II	UG/KG	1.8 U	1.9 U	1.8 U	2 U	2 U	2 U	3.6 U

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification	SBDRMO-6	SBDRMO-7	SBDRMO-7	SBDRMO-8	SBDRMO-9	SBDRMO-9	SS121C-1
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	DRMO-1044	DRMO-1046	DRMO-1047	DRMO-1049	DRMO-1053	DRMO-1054	EB235
Sample Depth Top	2	0	2	0	0	2	0
Sample Depth Bottom	6	2	6	2	2	6	0.2
Sample Date	10/25/2002	10/27/2002	10/27/2002	10/25/2002	10/25/2002	10/25/2002	3/9/1998
SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	EBS

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Endosulfan sulfate	UG/KG	1.8 U	1.9 U	1.8 U	2 U	2 U	2 U	3.6 U
Endrin	UG/KG	1.8 U	1.9 UJ	1.8 UJ	2 UJ	2 UJ	2 UJ	3.6 U
Endrin aldehyde	UG/KG	1.8 U	1.9 U	1.8 U	2 U	2 U	2 U	3.6 U
Endrin ketone	UG/KG	1.8 U	1.9 U	1.8 U	2 U	2 U	2 U	3.6 U
Gamma-BHC/Lindane	UG/KG	1.8 UJ	1.9 UJ	1.8 UJ	2 UJ	2 UJ	2 UJ	1.9 U
Gamma-Chlordane	UG/KG	1.8 UJ	1.9 UJ	1.8 UJ	2 U	2 U	2 U	1.9 U
Heptachlor	UG/KG	1.8 UJ	1.9 UJ	1.8 UJ	2 U	2 U	2 U	1.9 U
Heptachlor epoxide	UG/KG	1.8 UJ	1.9 UJ	1.8 UJ	2 U	2 U	2 U	1.9 U
Methoxychlor	UG/KG	1.8 U	1.9 U	1.8 U	2 UJ	2 UJ	2 UJ	19 U
Toxaphene	UG/KG	18 U	19 U	18 U	20 U	20 U	20 U	190 U
Metals								
Aluminum	MG/KG	11600	12600	16100	17000	11900	12300	12800
Antimony	MG/KG	0.96 U	1.3	0.97 U	1.1 U	1.1 U	1.1 U	2.5 J
Arsenic	MG/KG	5	6.1	7.5	4.9	5.4	4.5	5.2
Barium	MG/KG	61 J	101	54.4	75.1 J	82.6 J	82.3 J	57.7
Beryllium	MG/KG	0.65	0.74	0.81	1.2	0.68	0.72	0.56
Cadmium	MG/KG	0.13 U	0.13 U	0.13 U	0.14 U	0.14 U	0.14 U	21.1
Calcium	MG/KG	22100 J	19300	7870	2100 J	41800 J	19000 J	11800
Chromium	MG/KG	30.2	22.5	29.6	28.4	20.8	22.3	32.9
Cobalt	MG/KG	13.6	15.2	17.9	17	12.7	12	14
Copper	MG/KG	96.7 J	35	32.3	21.4 J	26.2 J	22.3 J	139 J
Cyanide	MG/KG							0.62 U
Cyanide, Amenable	MG/KG	0.54 U	0.56 U	0.54 U	0.6 U	0.61 U	0.59 U	
Cyanide, Total	MG/KG	0.539 U	0.558 U	0.54 U	0.602 U	0.606 U	0.59 U	
Iron	MG/KG	25300	27900	34600	32700	22200	23400	41300
Lead	MG/KG	19.3	43.4	19	7.3	28.3	26.2	78.2 J
Magnesium	MG/KG	5960	6510	8740	5780	6590	5040	6220
Manganese	MG/KG	526	620	323	444	424	438	364
Mercury	MG/KG	0.02	0.06	0.03	0.03	0.03	0.03	0.05 U
Nickel	MG/KG	40.2 J	43.8 J	53.7 J	45.9 J	34.2 J	31.5 J	58.6
Potassium	MG/KG	1490 J	1080 J	1380 J	972 J	1650 J	1360 J	1480

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SBDRMO-6	SBDRMO-7	SBDRMO-7	SBDRMO-8	SBDRMO-9	SBDRMO-9	SS121C-1
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		DRMO-1044	DRMO-1046	DRMO-1047	DRMO-1049	DRMO-1053	DRMO-1054	EB235
Sample Depth Top		2	0	2	0	0	2	0
Sample Depth Bottom		6	2	6	2	2	6	0.2
Sample Date		10/25/2002	10/27/2002	10/27/2002	10/25/2002	10/25/2002	10/25/2002	3/9/1998
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	EBS
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Selenium	MG/KG	0.45 U	0.47 U	0.45 U	0.5 U	0.5 U	0.49 U	1 U
Silver	MG/KG	0.29 U	0.3 U	0.29 U	0.32 U	0.32 U	0.32 U	21.8
Sodium	MG/KG	162	146	107 U	154	191	167	223
Thallium	MG/KG	0.33 U	0.34 U	0.33 U	0.37 U	0.37 U	0.36 U	1.4 UJ
Vanadium	MG/KG	17.4	22.5 J	24.5 J	25.4	20.4	21	18.6
Zinc	MG/KG	68.3	91.7 J	167 J	67.6	106	73.9	585
Other Analyses								
Total Organic Carbon	MG/KG	3600	3200	9500	4200	3800	3600	
Total Petroleum Hydrocarbons	MG/KG	43 UJ	45 UJ	43 UJ	48 UJ	600 UJ	1900 J	

NOTES:
1) List includes all sample and sample du
(Q)ualifier Code Definitions
U = compound was not detected
J = the reported value is an estimated con
UJ = the compound was not detected; the
R = the data was rejected in the data valic

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SS121C-2	SS121C-3	SS121C-4	SSDRMO-10	SSDRMO-11	SSDRMO-12	SSDRMO-13
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		EB236	EB237	EB241	DRMO-1006	DRMO-1007	DRMO-1008	DRMO-1009
Sample Depth Top		0	0	0	0	0	0	0
Sample Depth Bottom		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Sample Date		3/9/1998	3/9/1998	3/10/1998	10/23/2002	10/23/2002	10/23/2002	10/23/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		EBS	EBS	EBS	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organics								
1,1,1-Trichloroethane	UG/KG	11 UJ	11 U	11 U	2.9 UJ	2.7 UJ	2.7 UJ	2.9 UJ
1,1,2,2-Tetrachloroethane	UG/KG	11 UJ	11 U	11 U	2.9 UJ	2.7 UJ	2.7 UJ	2.9 UJ
1,1,2-Trichloroethane	UG/KG	11 UJ	11 U	11 U	2.9 UJ	2.7 UJ	2.7 UJ	2.9 UJ
1,1-Dichloroethane	UG/KG	11 UJ	11 U	11 U	2.9 UJ	2.7 UJ	2.7 UJ	2.9 UJ
1,1-Dichloroethene	UG/KG	11 UJ	11 U	11 U	2.9 UJ	2.7 UJ	2.7 UJ	2.9 UJ
1,2-Dichloroethane	UG/KG	11 UJ	11 U	11 U	2.9 UJ	2.7 UJ	2.7 UJ	2.9 UJ
1,2-Dichloroethene (total)	UG/KG	11 UJ	11 U	11 U				
1,2-Dichloropropane	UG/KG	11 UJ	11 U	11 U	2.9 UJ	2.7 UJ	2.7 UJ	2.9 UJ
Acetone	UG/KG	11 UJ	11 U	11 U	2.9 UJ	10 J	2.7 UJ	2.9 UJ
Benzene	UG/KG	11 UJ	11 U	11 U	2.9 UJ	2.7 UJ	2.7 UJ	2.9 UJ
Bromodichloromethane	UG/KG	11 UJ	11 U	11 U	2.9 UJ	2.7 UJ	2.7 UJ	2.9 UJ
Bromoform	UG/KG	11 UJ	11 U	11 U	2.9 UJ	2.7 UJ	2.7 UJ	2.9 UJ
Carbon disulfide	UG/KG	11 UJ	11 U	11 U	2.9 UJ	2.2 J	2.7 UJ	2.9 UJ
Carbon tetrachloride	UG/KG	11 UJ	11 U	11 U	2.9 UJ	2.7 UJ	2.7 UJ	2.9 UJ
Chlorobenzene	UG/KG	11 UJ	11 U	11 U	2.9 UJ	2.7 UJ	2.7 UJ	2.9 UJ
Chlorodibromomethane	UG/KG	11 UJ	11 U	11 U	2.9 UJ	2.7 UJ	2.7 UJ	2.9 UJ
Chloroethane	UG/KG	11 UJ	11 U	11 U	2.9 UJ	2.7 UJ	2.7 UJ	2.9 UJ
Chloroform	UG/KG	11 UJ	11 U	4 J	2.9 UJ	2.7 UJ	2.7 UJ	2.9 UJ
Cis-1,2-Dichloroethene	UG/KG				2.9 UJ	2.7 UJ	2.7 UJ	2.9 UJ
Cis-1,3-Dichloropropene	UG/KG	11 UJ	11 U	11 U	2.9 UJ	2.7 UJ	2.7 UJ	2.9 UJ
Ethyl benzene	UG/KG	11 UJ	11 U	11 U	2.9 UJ	2.7 UJ	2.7 UJ	2.9 UJ
Meta/Para Xylene	UG/KG				2.9 UJ	2.7 UJ	2.7 UJ	2.9 UJ
Methyl bromide	UG/KG	11 UJ	11 U	11 U	2.9 UJ	2.7 UJ	2.7 UJ	2.9 UJ
Methyl butyl ketone	UG/KG	11 UJ	11 U	11 U	2.9 UJ	2.7 UJ	2.7 UJ	2.9 UJ
Methyl chloride	UG/KG	11 UJ	11 U	11 U	2.9 UJ	2.7 UJ	2.7 UJ	2.9 UJ
Methyl ethyl ketone	UG/KG	11 UJ	11 U	11 U	2.9 UJ	2.7 UJ	2.7 UJ	2.9 UJ
Methyl isobutyl ketone	UG/KG	11 UJ	11 U	11 U	2.9 UJ	2.7 UJ	2.7 UJ	2.9 UJ
Methylene chloride	UG/KG	11 UJ	11 U	11 U	2.9 UJ	2.7 UJ	2.7 UJ	2.9 UJ
Ortho Xylene	UG/KG				2.9 UJ	2.7 UJ	2.7 UJ	2.9 UJ
Styrene	UG/KG	11 UJ	11 U	11 U	2.9 UJ	2.7 UJ	2.7 UJ	2.9 UJ

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SS121C-2	SS121C-3	SS121C-4	SSDRMO-10	SSDRMO-11	SSDRMO-12	SSDRMO-13
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		EB236	EB237	EB241	DRMO-1006	DRMO-1007	DRMO-1008	DRMO-1009
Sample Depth Top		0	0	0	0	0	0	0
Sample Depth Bottom		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Sample Date		3/9/1998	3/9/1998	3/10/1998	10/23/2002	10/23/2002	10/23/2002	10/23/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		EBS	EBS	EBS	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Tetrachloroethene	UG/KG	11 UJ	11 U	11 U	2.9 UJ	2.7 UJ	2.7 UJ	2.9 UJ
Toluene	UG/KG	28 J	4 J	16	2.9 UJ	2.7 UJ	2.7 UJ	2.9 UJ
Total Xylenes	UG/KG	11 UJ	11 U	11 U				
Trans-1,2-Dichloroethene	UG/KG				2.9 UJ	2.7 UJ	2.7 UJ	2.9 UJ
Trans-1,3-Dichloropropene	UG/KG	11 UJ	11 U	11 U	2.9 UJ	2.7 UJ	2.7 UJ	2.9 UJ
Trichloroethene	UG/KG	11 UJ	11 U	11 U	2.9 UJ	2.7 UJ	2.7 UJ	2.9 UJ
Vinyl chloride	UG/KG	11 UJ	11 U	11 U	2.9 UJ	2.7 UJ	2.7 UJ	2.9 UJ
Semivolatile Organics								
1,2,4-Trichlorobenzene	UG/KG	69 U	180 U	170 U	380 U	370 U	350 U	360 U
1,2-Dichlorobenzene	UG/KG	69 U	180 U	170 U	380 U	370 U	350 U	360 U
1,3-Dichlorobenzene	UG/KG	69 U	180 U	170 U	380 U	370 U	350 U	360 U
1,4-Dichlorobenzene	UG/KG	69 U	180 U	170 U	380 U	370 U	350 U	360 U
2,4,5-Trichlorophenol	UG/KG	170 U	440 U	420 U	960 U	920 U	890 U	890 U
2,4,6-Trichlorophenol	UG/KG	69 U	180 U	170 U	380 U	370 U	350 U	360 U
2,4-Dichlorophenol	UG/KG	69 U	180 U	170 U	380 U	370 U	350 U	360 U
2,4-Dimethylphenol	UG/KG	69 U	180 U	170 U	380 U	370 U	350 U	360 U
2,4-Dinitrophenol	UG/KG	170 U	440 U	420 U	960 U	920 UJ	890 U	890 U
2,4-Dinitrotoluene	UG/KG	69 U	180 U	170 U	380 U	370 U	350 U	360 U
2,6-Dinitrotoluene	UG/KG	69 U	180 U	170 U	380 U	370 U	350 U	360 U
2-Chloronaphthalene	UG/KG	69 U	180 U	170 U	380 U	370 U	350 U	360 U
2-Chlorophenol	UG/KG	69 U	180 U	170 U	380 U	370 U	350 U	360 U
2-Methylnaphthalene	UG/KG	69 U	18 J	9.9 J	380 U	370 U	610	360 U
2-Methylphenol	UG/KG	69 U	180 U	170 U	380 U	370 U	350 U	360 U
2-Nitroaniline	UG/KG	170 U	440 U	420 U	960 U	920 U	890 U	890 U
2-Nitrophenol	UG/KG	69 U	180 U	170 U	380 U	370 U	350 U	360 U
3 or 4-Methylphenol	UG/KG				380 U	370 U	350 U	360 U
3,3'-Dichlorobenzidine	UG/KG	69 U	180 U	170 U	380 U	370 U	350 UJ	360 U
3-Nitroaniline	UG/KG	170 U	440 U	420 U	960 U	920 UJ	890 U	890 UJ
4,6-Dinitro-2-methylphenol	UG/KG	170 U	440 U	420 U	960 U	920 U	890 U	890 U
4-Bromophenyl phenyl ether	UG/KG	69 U	180 U	170 U	380 U	370 U	350 U	360 U
4-Chloro-3-methylphenol	UG/KG	69 U	180 U	170 U	380 U	370 U	350 U	360 U

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SS121C-2	SS121C-3	SS121C-4	SSDRMO-10	SSDRMO-11	SSDRMO-12	SSDRMO-13
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		EB236	EB237	EB241	DRMO-1006	DRMO-1007	DRMO-1008	DRMO-1009
Sample Depth Top		0	0	0	0	0	0	0
Sample Depth Bottom		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Sample Date		3/9/1998	3/9/1998	3/10/1998	10/23/2002	10/23/2002	10/23/2002	10/23/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		EBS	EBS	EBS	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
4-Chloroaniline	UG/KG	69 U	180 U	170 U	380 U	370 U	350 U	360 U
4-Chlorophenyl phenyl ether	UG/KG	69 U	180 U	170 U	380 U	370 U	350 U	360 U
4-Methylphenol	UG/KG	69 U	180 U	170 U				
4-Nitroaniline	UG/KG	170 U	440 U	420 U	960 U	920 U	890 U	890 U
4-Nitrophenol	UG/KG	170 U	440 U	420 U	960 U	920 U	890 U	890 U
Acenaphthene	UG/KG	6.5 J	50 J	52 J	380 U	370 U	2600	360 U
Acenaphthylene	UG/KG	69 U	180 U	170 U	380 U	370 U	61 J	360 U
Anthracene	UG/KG	6.5 J	96 J	70 J	380 U	370 U	7100	360 U
Benzo(a)anthracene	UG/KG	30 J	420	320	380 U	370 U	10000 J	360 U
Benzo(a)pyrene	UG/KG	28 J	370	260	380 U	370 U	8700 J	360 U
Benzo(b)fluoranthene	UG/KG	40 J	530	310	47 J	40 J	12000 J	360 U
Benzo(ghi)perylene	UG/KG	15 J	380	190	380 U	370 UJ	2800 J	360 UJ
Benzo(k)fluoranthene	UG/KG	29 J	340	390	380 UJ	370 UJ	7500 J	360 UJ
Bis(2-Chloroethoxy)methane	UG/KG	69 U	180 U	170 U	380 U	370 UJ	350 U	360 UJ
Bis(2-Chloroethyl)ether	UG/KG	69 U	180 U	170 U	380 U	370 UJ	350 U	360 UJ
Bis(2-Chloroisopropyl)ether	UG/KG	69 U	180 U	170 U	380 U	370 U	350 U	360 U
Bis(2-Ethylhexyl)phthalate	UG/KG	9.2 J	200	52 J	57 J	37 J	91 J	360 U
Butylbenzylphthalate	UG/KG	7.8 J	24 J	10 J	380 UJ	370 U	350 UJ	360 U
Carbazole	UG/KG	14 J	130 J	100 J	380 U	370 U	4200	360 U
Chrysene	UG/KG	35 J	510	360	380 U	370 U	9100 J	360 U
Di-n-butylphthalate	UG/KG	69 U	50 J	20 J	380 U	370 U	350 U	360 U
Di-n-octylphthalate	UG/KG	3.8 J	180 U	170 U	380 U	370 U	350 UJ	360 U
Dibenz(a,h)anthracene	UG/KG	7.6 J	150 J	79 J	380 U	370 U	370 J	360 U
Dibenzofuran	UG/KG	69 U	22 J	22 J	380 U	370 U	1700	360 U
Diethyl phthalate	UG/KG	9.4 J	11 J	170 U	380 U	370 U	350 U	360 U
Dimethylphthalate	UG/KG	69 U	180 U	170 U	380 U	370 U	350 U	360 U
Fluoranthene	UG/KG	65 J	820	760	83 J	56 J	27000	43 J
Fluorene	UG/KG	5 J	41 J	43 J	380 U	370 U	3500	360 U
Hexachlorobenzene	UG/KG	69 U	180 U	170 U	380 U	370 U	350 U	360 U
Hexachlorobutadiene	UG/KG	69 U	180 U	170 U	380 UJ	370 UJ	350 UJ	360 UJ
Hexachlorocyclopentadiene	UG/KG	69 U	180 U	170 U	380 U	370 U	350 U	360 U

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SS121C-2	SS121C-3	SS121C-4	SSDRMO-10	SSDRMO-11	SSDRMO-12	SSDRMO-13
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		EB236	EB237	EB241	DRMO-1006	DRMO-1007	DRMO-1008	DRMO-1009
Sample Depth Top		0	0	0	0	0	0	0
Sample Depth Bottom		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Sample Date		3/9/1998	3/9/1998	3/10/1998	10/23/2002	10/23/2002	10/23/2002	10/23/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		EBS	EBS	EBS	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Hexachloroethane	UG/KG	69 U	180 U	170 U	380 U	370 U	350 U	360 U
Indeno(1,2,3-cd)pyrene	UG/KG	17 J	350	180	380 UJ	370 UJ	740 J	360 UJ
Isophorone	UG/KG	69 U	180 U	170 U	380 UJ	370 UJ	350 UJ	360 UJ
N-Nitrosodiphenylamine	UG/KG	69 U	180 U	170 U	380 U	370 U	350 U	360 U
N-Nitrosodipropylamine	UG/KG	69 U	180 U	170 U	380 U	370 U	350 U	360 U
Naphthalene	UG/KG	4 J	14 J	12 J	380 U	370 U	400	360 U
Nitrobenzene	UG/KG	69 U	180 U	170 U	380 UJ	370 UJ	350 UJ	360 UJ
Pentachlorophenol	UG/KG	170 UJ	440 U	420 U	960 U	920 U	890 U	890 U
Phenanthrene	UG/KG	38 J	520	440	380 U	370 U	29000	360 U
Phenol	UG/KG	69 U	180 U	170 U	380 U	370 U	350 U	360 U
Pyrene	UG/KG	53 J	820	580	61 J	42 J	34000 J	360 U
Pesticides and PCBs								
4,4'-DDD	UG/KG	3.5 U	7.4	3.5 U	2 UJ	1.9 J	5.5 J	1.8 UJ
4,4'-DDE	UG/KG	3.5 U	69 J	50	2 UJ	7.1 J	13 NJ	1.8 UJ
4,4'-DDT	UG/KG	3.5 U	100 J	37	2 UJ	3.5 J	19 J	1.8 UJ
Aldrin	UG/KG	1.8 U	1.9 U	1.8 U	2 U	1.9 U	4.5	1.8 U
Alpha-BHC	UG/KG	1.8 U	1.9 U	1.8 U	2 UJ	1.9 UJ	1.8 UJ	1.8 UJ
Alpha-Chlordane	UG/KG	1.8 U	1.9 U	1 J	2 UJ	1.9 UJ	1.8 UJ	1.8 UJ
Aroclor-1016	UG/KG	35 U	36 U	35 U	20 U	19 U	18 U	18 U
Aroclor-1221	UG/KG	70 U	74 U	71 U	20 U	19 U	18 U	18 U
Aroclor-1232	UG/KG	35 U	36 U	35 U	20 U	19 U	18 U	18 U
Aroclor-1242	UG/KG	35 U	36 U	58 J	20 U	19 U	18 U	18 U
Aroclor-1248	UG/KG	35 U	36 U	35 U	20 U	19 U	18 U	18 U
Aroclor-1254	UG/KG	35 U	72	79	20 UJ	19 UJ	230 J	18 UJ
Aroclor-1260	UG/KG	35 U	85 J	36 J	20 UJ	19 UJ	18 UJ	18 UJ
Beta-BHC	UG/KG	1.8 U	1.9 U	1.8 U	2 UJ	1.9 UJ	1.8 UJ	1.8 UJ
Chlordane	UG/KG				20 U	19 U	18 U	18 U
Delta-BHC	UG/KG	1.8 U	1.2 J	2 J	2 UJ	1.9 UJ	1.8 UJ	1.8 UJ
Dieldrin	UG/KG	3.5 U	3.6 U	3.5 U	2 UJ	1.9 UJ	1.8 UJ	1.8 UJ
Endosulfan I	UG/KG	1.8 U	1.9 U	1.8 U	2 UJ	9.6 J	25 J	1.8 UJ
Endosulfan II	UG/KG	3.5 U	3.6 U	3.5 U	2 U	1.9 U	1.8 U	1.8 U

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SS121C-2	SS121C-3	SS121C-4	SSDRMO-10	SSDRMO-11	SSDRMO-12	SSDRMO-13
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		EB236	EB237	EB241	DRMO-1006	DRMO-1007	DRMO-1008	DRMO-1009
Sample Depth Top		0	0	0	0	0	0	0
Sample Depth Bottom		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Sample Date		3/9/1998	3/9/1998	3/10/1998	10/23/2002	10/23/2002	10/23/2002	10/23/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		EBS	EBS	EBS	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Endosulfan sulfate	UG/KG	3.5 U	3.6 U	3.5 U	2 U	1.9 U	1.8 U	1.8 U
Endrin	UG/KG	3.5 U	3.6 U	3.5 U	2 UJ	1.9 UJ	1.8 UJ	1.8 UJ
Endrin aldehyde	UG/KG	3.5 U	3.6 U	3.5 U	2 UJ	1.9 UJ	1.8 UJ	1.8 UJ
Endrin ketone	UG/KG	3.5 U	3.8 J	3.5 U	2 U	1.9 U	1.8 U	1.8 U
Gamma-BHC/Lindane	UG/KG	1.8 U	1.9 U	1.8 U	2 UJ	1.9 UJ	1.8 UJ	1.8 U
Gamma-Chlordane	UG/KG	1.8 U	1.9 U	1.2 J	2 U	1.9 U	1.8 U	1.8 UJ
Heptachlor	UG/KG	1.8 U	2.1 J	1.8 U	2 U	1.9 U	1.8 U	1.8 U
Heptachlor epoxide	UG/KG	1.8 U	2.8 J	1.4 J	2 UJ	1.9 UJ	1.8 UJ	1.8 UJ
Methoxychlor	UG/KG	18 U	19 U	18 U	2 UJ	1.9 UJ	1.8 UJ	1.8 UJ
Toxaphene	UG/KG	180 U	190 U	180 U	20 U	19 U	18 U	18 U
Metals								
Aluminum	MG/KG	12600	7650	2700	11300	9400	9050	8530
Antimony	MG/KG	2.2 J	3.4 J	2.9 J	2.7 J	1.6 J	3.2 J	1.2 J
Arsenic	MG/KG	6.3	6.4	5.4	5.9	5.9	5.8	5
Barium	MG/KG	252	394	90.6	68.6 J	91.6 J	53.7 J	38.5
Beryllium	MG/KG	0.48	0.3	0.21	0.63	0.51	0.47	0.42
Cadmium	MG/KG	7.1	18.5	12.6	1	1.7	4.3	0.47
Calcium	MG/KG	53100	129000	296000	30700 J	35600 J	38800 J	38800 J
Chromium	MG/KG	45.7	49.2	9.2	20 J	17.7 J	26 J	16.9 J
Cobalt	MG/KG	15.5	11.3	9.6	11.5 R	15.5 R	12.3 R	12.6 R
Copper	MG/KG	324 J	383 J	532 J	33.6 J	34.3 J	77.2 J	38.5 J
Cyanide	MG/KG	0.53 U	0.59 U	0.54 U				
Cyanide, Amenable	MG/KG				0.58 U	0.56 U	0.54 U	0.54 U
Cyanide, Total	MG/KG				0.582 U	0.556 U	0.54 U	0.542 U
Iron	MG/KG	43600	35000	8050	25100	24200	26000	21600
Lead	MG/KG	251	577 J	171 J	46.1	33.5	129	28.6
Magnesium	MG/KG	12800	8770	15400	5270	5250	6070	6010
Manganese	MG/KG	403	494	407	534	858	376	314
Mercury	MG/KG	0.1	0.15	0.13	0.04	0.04	0.06	0.03
Nickel	MG/KG	224	62.5	19.5	31.7 J	40.9 J	42.3 J	38.7 J
Potassium	MG/KG	1890	1600	1290	980 J	891 J	958 J	820 J

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SS121C-2	SS121C-3	SS121C-4	SSDRMO-10	SSDRMO-11	SSDRMO-12	SSDRMO-13
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		EB236	EB237	EB241	DRMO-1006	DRMO-1007	DRMO-1008	DRMO-1009
Sample Depth Top		0	0	0	0	0	0	0
Sample Depth Bottom		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Sample Date		3/9/1998	3/9/1998	3/10/1998	10/23/2002	10/23/2002	10/23/2002	10/23/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		EBS	EBS	EBS	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Selenium	MG/KG	0.99 U	1 U	1 U	0.5 J	0.93	1	1.2
Silver	MG/KG	1.3	4.7	2.1	0.31 U	0.29 U	0.56	0.29 U
Sodium	MG/KG	196	255	147	205	191	195	106 U
Thallium	MG/KG	1.3 UJ	1.4 UJ	1.3 UJ	0.36 U	0.55	0.55 J	0.58 J
Vanadium	MG/KG	20.1	21.5	8.5	19.4 J	17 J	15.2 J	13.2 J
Zinc	MG/KG	431	525	250	82.6 J	309 J	247 J	134 J
Other Analyses								
Total Organic Carbon	MG/KG				5100	5500	7600	4600
Total Petroleum Hydrocarbons	MG/KG				47 U	44 U	43 U	43 U

NOTES:
1) List includes all sample and sample du
(Q)ualifier Code Definitions
U = compound was not detected
J = the reported value is an estimated con
UJ = the compound was not detected; the
R = the data was rejected in the data valic

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification	SSDRMO-14	SSDRMO-15	SSDRMO-16	SSDRMO-17	SSDRMO-18	SSDRMO-19	SSDRMO-20
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	DRMO-1010	DRMO-1011	DRMO-1012	DRMO-1013	DRMO-1014	DRMO-1015	DRMO-1016
Sample Depth Top	0	0	0	0	0	0	0
Sample Depth Bottom	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Sample Date	10/23/2002	10/30/2002	10/30/2002	10/30/2002	10/30/2002	10/30/2002	10/24/2002
SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organics								
1,1,1-Trichloroethane	UG/KG	3.1 UJ	3.1 U	2.9 U	3.3 U	3.2 U	3.2 UJ	2.8 UJ
1,1,2,2-Tetrachloroethane	UG/KG	3.1 UJ	3.1 U	2.9 U	3.3 U	3.2 U	3.2 UJ	2.8 UJ
1,1,2-Trichloroethane	UG/KG	3.1 UJ	3.1 U	2.9 U	3.3 U	3.2 U	3.2 UJ	2.8 UJ
1,1-Dichloroethane	UG/KG	3.1 UJ	3.1 U	2.9 U	3.3 U	3.2 U	3.2 UJ	2.8 UJ
1,1-Dichloroethene	UG/KG	3.1 UJ	3.1 U	2.9 U	3.3 U	3.2 U	3.2 UJ	2.8 UJ
1,2-Dichloroethane	UG/KG	3.1 UJ	3.1 U	2.9 U	3.3 U	3.2 U	3.2 UJ	2.8 UJ
1,2-Dichloroethene (total)	UG/KG							
1,2-Dichloropropane	UG/KG	3.1 UJ	3.1 U	2.9 U	3.3 U	3.2 U	3.2 UJ	2.8 UJ
Acetone	UG/KG	3.1 UJ	21 U	11 U	5.2 U	19 U	9.9 J	2.8 UJ
Benzene	UG/KG	3.1 UJ	3.1 U	2.9 U	3.3 U	3.2 U	3.2 UJ	2.8 UJ
Bromodichloromethane	UG/KG	3.1 UJ	3.1 U	2.9 U	3.3 U	3.2 U	3.2 UJ	2.8 UJ
Bromoform	UG/KG	3.1 UJ	3.1 U	2.9 U	3.3 U	3.2 U	3.2 UJ	2.8 UJ
Carbon disulfide	UG/KG	3.1 UJ	3.1 U	2.9 U	3.3 U	3.2 U	3.2 UJ	2.8 UJ
Carbon tetrachloride	UG/KG	3.1 UJ	3.1 U	2.9 U	3.3 U	3.2 U	3.2 UJ	2.8 UJ
Chlorobenzene	UG/KG	3.1 UJ	3.1 U	2.9 U	3.3 U	3.2 U	3.2 UJ	2.8 UJ
Chlorodibromomethane	UG/KG	3.1 UJ	3.1 U	2.9 U	3.3 U	3.2 U	3.2 UJ	2.8 UJ
Chloroethane	UG/KG	3.1 UJ	3.1 U	2.9 U	3.3 U	3.2 U	3.2 UJ	2.8 UJ
Chloroform	UG/KG	3.1 UJ	3.1 U	2.9 U	3.3 U	3.2 U	3.2 UJ	2.8 UJ
Cis-1,2-Dichloroethene	UG/KG	3.1 UJ	3.1 U	2.9 U	3.3 U	3.2 U	3.2 UJ	2.8 UJ
Cis-1,3-Dichloropropene	UG/KG	3.1 UJ	3.1 U	2.9 U	3.3 U	3.2 U	3.2 UJ	2.8 UJ
Ethyl benzene	UG/KG	3.1 UJ	3.1 U	2.9 U	3.3 U	3.2 U	3.2 UJ	2.8 UJ
Meta/Para Xylene	UG/KG	3.1 UJ	3.1 U	2.9 U	3.3 U	3.2 U	3.2 UJ	2.8 UJ
Methyl bromide	UG/KG	3.1 UJ	3.1 U	2.9 U	3.3 U	3.2 U	3.2 UJ	2.8 UJ
Methyl butyl ketone	UG/KG	3.1 UJ	3.1 U	2.9 U	3.3 U	3.2 U	3.2 UJ	2.8 UJ
Methyl chloride	UG/KG	3.1 UJ	3.1 U	2.9 U	3.3 U	3.2 U	3.2 UJ	2.8 UJ
Methyl ethyl ketone	UG/KG	3.1 UJ	3.1 U	2.9 U	3.3 U	3.2 U	3.2 UJ	2.8 UJ
Methyl isobutyl ketone	UG/KG	3.1 UJ	3.1 U	2.9 U	3.3 U	3.2 U	3.2 UJ	2.8 UJ
Methylene chloride	UG/KG	3.1 UJ	4.1 U	3.9 U	3.8 U	4.5 U	3.2 UJ	2.8 UJ
Ortho Xylene	UG/KG	3.1 UJ	3.1 U	2.9 U	3.3 U	3.2 U	3.2 UJ	2.8 UJ
Styrene	UG/KG	3.1 UJ	3.1 U	2.9 U	3.3 U	3.2 U	3.2 UJ	2.8 UJ

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SSDRMO-14	SSDRMO-15	SSDRMO-16	SSDRMO-17	SSDRMO-18	SSDRMO-19	SSDRMO-20
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		DRMO-1010	DRMO-1011	DRMO-1012	DRMO-1013	DRMO-1014	DRMO-1015	DRMO-1016
Sample Depth Top		0	0	0	0	0	0	0
Sample Depth Bottom		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Sample Date		10/23/2002	10/30/2002	10/30/2002	10/30/2002	10/30/2002	10/30/2002	10/24/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Tetrachloroethene	UG/KG	3.1 UJ	3.1 U	2.9 U	3.3 U	3.2 U	3.2 UJ	2.8 UJ
Toluene	UG/KG	3.1 UJ	3.1 U	2.9 U	3.3 U	3.2 U	3.2 UJ	2.8 UJ
Total Xylenes	UG/KG							
Trans-1,2-Dichloroethene	UG/KG	3.1 UJ	3.1 U	2.9 U	3.3 U	3.2 U	3.2 UJ	2.8 UJ
Trans-1,3-Dichloropropene	UG/KG	3.1 UJ	3.1 U	2.9 U	3.3 U	3.2 U	3.2 UJ	2.8 UJ
Trichloroethene	UG/KG	3.1 UJ	3.1 U	2.9 U	3.3 U	3.2 U	3.2 UJ	2.8 UJ
Vinyl chloride	UG/KG	3.1 UJ	3.1 U	2.9 U	3.3 U	3.2 U	3.2 UJ	2.8 UJ
Semivolatile Organics								
1,2,4-Trichlorobenzene	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	380 U
1,2-Dichlorobenzene	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	380 U
1,3-Dichlorobenzene	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	380 U
1,4-Dichlorobenzene	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	380 U
2,4,5-Trichlorophenol	UG/KG	910 U	1000 U	960 U	960 U	1000 U	1000 U	940 U
2,4,6-Trichlorophenol	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	380 U
2,4-Dichlorophenol	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	380 U
2,4-Dimethylphenol	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	380 U
2,4-Dinitrophenol	UG/KG	910 UJ	1000 UJ	960 UJ	960 UJ	1000 UJ	1000 UJ	940 UJ
2,4-Dinitrotoluene	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	380 U
2,6-Dinitrotoluene	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	380 U
2-Chloronaphthalene	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	380 U
2-Chlorophenol	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	380 U
2-Methylnaphthalene	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	380 U
2-Methylphenol	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	380 U
2-Nitroaniline	UG/KG	910 UJ	1000 U	960 U	960 U	1000 U	1000 U	940 U
2-Nitrophenol	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	380 U
3 or 4-Methylphenol	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	380 U
3,3'-Dichlorobenzidine	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	380 U
3-Nitroaniline	UG/KG	910 U	1000 U	960 U	960 U	1000 U	1000 U	940 UJ
4,6-Dinitro-2-methylphenol	UG/KG	910 U	1000 U	960 U	960 UJ	1000 U	1000 U	940 U
4-Bromophenyl phenyl ether	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	380 U
4-Chloro-3-methylphenol	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	380 U

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification	SSDRMO-14	SSDRMO-15	SSDRMO-16	SSDRMO-17	SSDRMO-18	SSDRMO-19	SSDRMO-20
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	DRMO-1010	DRMO-1011	DRMO-1012	DRMO-1013	DRMO-1014	DRMO-1015	DRMO-1016
Sample Depth Top	0	0	0	0	0	0	0
Sample Depth Bottom	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Sample Date	10/23/2002	10/30/2002	10/30/2002	10/30/2002	10/30/2002	10/30/2002	10/24/2002
SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
4-Chloroaniline	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	380 U
4-Chlorophenyl phenyl ether	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	380 U
4-Methylphenol	UG/KG							
4-Nitroaniline	UG/KG	910 U	1000 U	960 U	960 U	1000 U	1000 U	940 U
4-Nitrophenol	UG/KG	910 U	1000 U	960 U	960 U	1000 U	1000 U	940 U
Acenaphthene	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	85 J
Acenaphthylene	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	180 J
Anthracene	UG/KG	86 J	400 U	380 U	380 U	410 U	410 U	250 J
Benzo(a)anthracene	UG/KG	320 J	78 J	380 U	380 U	55 J	410 U	950
Benzo(a)pyrene	UG/KG	360 J	74 J	380 U	380 U	410 U	410 U	1400 J
Benzo(b)fluoranthene	UG/KG	540	98 J	380 U	380 U	77 J	410 U	1800 J
Benzo(ghi)perylene	UG/KG	120 J	400 U	380 U	380 U	410 U	410 U	620 J
Benzo(k)fluoranthene	UG/KG	230 J	400 UJ	380 UJ	380 U	410 UJ	410 UJ	1100 J
Bis(2-Chloroethoxy)methane	UG/KG	360 UJ	400 U	380 U	380 U	410 U	410 U	380 UJ
Bis(2-Chloroethyl)ether	UG/KG	360 U	400 UJ	380 UJ	380 U	410 UJ	410 UJ	380 U
Bis(2-Chloroisopropyl)ether	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	380 U
Bis(2-Ethylhexyl)phthalate	UG/KG	98 J	400 U	380 U	380 U	410 U	410 U	56 J
Butylbenzylphthalate	UG/KG	120 J	400 U	380 U	380 U	410 U	410 U	380 U
Carbazole	UG/KG	56 J	400 U	380 U	380 U	410 U	410 U	140 J
Chrysene	UG/KG	340 J	94 J	380 U	380 U	410 U	410 U	1000
Di-n-butylphthalate	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	380 U
Di-n-octylphthalate	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	380 U
Dibenz(a,h)anthracene	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	59 J
Dibenzofuran	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	39 J
Diethyl phthalate	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	380 U
Dimethylphthalate	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	380 U
Fluoranthene	UG/KG	710	170 J	39 J	380 U	110 J	410 U	1900
Fluorene	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	110 J
Hexachlorobenzene	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	380 U
Hexachlorobutadiene	UG/KG	360 UJ	400 U	380 U	380 U	410 U	410 U	380 UJ
Hexachlorocyclopentadiene	UG/KG	360 U	400 U	380 U	380 UJ	410 U	410 U	380 U

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SSDRMO-14	SSDRMO-15	SSDRMO-16	SSDRMO-17	SSDRMO-18	SSDRMO-19	SSDRMO-20
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		DRMO-1010	DRMO-1011	DRMO-1012	DRMO-1013	DRMO-1014	DRMO-1015	DRMO-1016
Sample Depth Top		0	0	0	0	0	0	0
Sample Depth Bottom		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Sample Date		10/23/2002	10/30/2002	10/30/2002	10/30/2002	10/30/2002	10/30/2002	10/24/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Hexachloroethane	UG/KG	360 U	400 U	380 UJ	380 U	410 UJ	410 UJ	380 U
Indeno(1,2,3-cd)pyrene	UG/KG	67 J	400 U	380 U	380 U	410 U	410 U	160 J
Isophorone	UG/KG	360 UJ	400 U	380 U	380 U	410 U	410 U	380 UJ
N-Nitrosodiphenylamine	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	380 U
N-Nitrosodipropylamine	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	380 U
Naphthalene	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	380 U
Nitrobenzene	UG/KG	360 UJ	400 UJ	380 UJ	380 U	410 UJ	410 UJ	380 UJ
Pentachlorophenol	UG/KG	910 U	1000 U	960 U	960 U	1000 U	1000 U	940 U
Phenanthrene	UG/KG	370	110 J	380 U	380 U	410 U	410 U	1200
Phenol	UG/KG	360 U	400 U	380 U	380 U	410 U	410 U	380 U
Pyrene	UG/KG	530	150 J	380 U	380 U	87 J	410 U	86 J
Pesticides and PCBs								
4,4'-DDD	UG/KG	1.9 UJ	0.25 U	0.23 U	0.23 U	0.25 U	0.25 U	1.9 UJ
4,4'-DDE	UG/KG	6.6 J	0.25 UJ	0.23 UJ	0.23 UJ	0.25 UJ	0.25 UJ	1.9 UJ
4,4'-DDT	UG/KG	1.9 UJ	0.25 UJ	0.23 UJ	0.23 UJ	0.25 UJ	0.25 UJ	9.5 NJ
Aldrin	UG/KG	1.9 U	0.12 U	0.11 U	0.12 U	0.12 U	0.13 U	1.9 U
Alpha-BHC	UG/KG	1.9 UJ	1.5 U	1.4 U	1.4 UJ	1.5 UJ	1.5 UJ	1.9 UJ
Alpha-Chlordane	UG/KG	1.9 UJ	0.37 U	0.34 U	0.35 U	0.37 U	0.38 U	1.9 UJ
Aroclor-1016	UG/KG	19 U	6.4 UJ	6 UJ	6.1 UJ	6.3 UJ	6.5 UJ	19 U
Aroclor-1221	UG/KG	19 U	1.6 U	1.5 U	1.5 U	1.6 U	1.6 U	19 U
Aroclor-1232	UG/KG	19 U	9.8 UJ	9.3 UJ	9.3 UJ	9.7 UJ	10 UJ	19 U
Aroclor-1242	UG/KG	19 U	2.7 U	2.5 U	2.6 UJ	2.7 UJ	2.8 UJ	19 U
Aroclor-1248	UG/KG	19 U	6.7 U	6.4 U	6.4 U	6.7 U	6.9 U	19 U
Aroclor-1254	UG/KG	120 J	13 UJ	12 UJ	12 U	13 U	13 U	44 J
Aroclor-1260	UG/KG	19 UJ	2.4 UJ	2.3 UJ	2.3 UJ	2.4 UJ	2.5 UJ	19 UJ
Beta-BHC	UG/KG	1.9 UJ	0.12 U	0.11 U	0.12 U	0.12 U	0.13 U	1.9 UJ
Chlordane	UG/KG	19 U	2.3 U	2.2 U	2.2 U	2.3 U	2.4 U	19 U
Delta-BHC	UG/KG	1.9 UJ	0.25 UJ	0.23 UJ	0.23 UJ	0.25 UJ	0.25 UJ	1.9 UJ
Dieldrin	UG/KG	1.9 UJ	0.12 UJ	0.11 UJ	0.12 UJ	0.12 UJ	0.13 UJ	1.9 UJ
Endosulfan I	UG/KG	13 J	0.62 U	0.57 U	0.59 U	0.61 U	0.63 U	37 J
Endosulfan II	UG/KG	1.9 U	0.37 U	0.34 U	0.35 U	0.37 U	0.38 U	1.9 U

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

	AOC Location	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
	Sample Location Identification	SSDRMO-14	SSDRMO-15	SSDRMO-16	SSDRMO-17	SSDRMO-18	SSDRMO-19	SSDRMO-20
	Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sample Identification	DRMO-1010	DRMO-1011	DRMO-1012	DRMO-1013	DRMO-1014	DRMO-1015	DRMO-1016
	Sample Depth Top	0	0	0	0	0	0	0
	Sample Depth Bottom	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	Sample Date	10/23/2002	10/30/2002	10/30/2002	10/30/2002	10/30/2002	10/30/2002	10/24/2002
	SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Endosulfan sulfate	UG/KG	1.9 U	0.74 U	0.69 U	0.7 UJ	0.74 UJ	0.75 UJ	1.9 U
Endrin	UG/KG	1.9 UJ	0.98 UJ	0.92 UJ	0.94 UJ	0.98 UJ	1 UJ	1.9 UJ
Endrin aldehyde	UG/KG	1.9 UJ	0.98 UJ	0.92 UJ	0.94 UJ	0.98 UJ	1 UJ	1.9 UJ
Endrin ketone	UG/KG	1.9 U	0.12 U	0.11 U	0.12 U	0.12 U	0.13 U	1.9 U
Gamma-BHC/Lindane	UG/KG	1.9 U	0.12 U	0.11 U	0.12 UJ	0.12 UJ	0.13 UJ	1.9 U
Gamma-Chlordane	UG/KG	1.9 UJ	0.37 U	0.34 U	0.35 U	0.37 U	0.38 U	1.9 UJ
Heptachlor	UG/KG	1.9 U	1.2 U	1.1 U	1.2 UJ	1.2 UJ	1.3 UJ	1.9 U
Heptachlor epoxide	UG/KG	1.9 UJ	0.37 U	0.34 U	0.35 U	0.37 U	0.38 U	1.9 UJ
Methoxychlor	UG/KG	1.9 UJ	0.12 U	0.11 U	0.12 U	0.12 U	0.13 U	1.9 UJ
Toxaphene	UG/KG	19 U	3.9 U	3.7 U	3.8 U	3.9 U	4 U	19 U
Metals								
Aluminum	MG/KG	7860	14300 J	14900 J	11800 J	12300 J	10600 J	3540
Antimony	MG/KG	16.2	28.5 J	0.72 J	0.32 J	15.5 J	1.6 J	1 U
Arsenic	MG/KG	9.2	4.7 J	3.8 J	5.3 J	4.7 J	5.5 J	4.1
Barium	MG/KG	686 J	119 J	50.8 J	76.6 J	76.3 J	99.2 J	35.2 J
Beryllium	MG/KG	0.37	0.83 J	0.78 J	0.7 J	0.73 J	0.64 J	0.24
Cadmium	MG/KG	29.1	0.7 J	0.56 J	0.06 U	0.06 J	0.06 U	1.1
Calcium	MG/KG	101000 J	4670 J	14900 J	22800 J	7720 J	20000 J	197000 J
Chromium	MG/KG	46.8 J	29.9 J	24.8 J	18.2 J	26.5 J	16 J	9.8
Cobalt	MG/KG	12.4 R	11.3 J	12.7 J	11.9 J	12.7 J	9.1 J	5.5
Copper	MG/KG	1450 J	195 J	33.5 J	21.2 J	64.9 J	40.2 J	40.5 J
Cyanide	MG/KG							
Cyanide, Amenable	MG/KG	0.56 U	0.62 U	0.58 U	0.59 U	0.62 U	0.63 U	0.57 U
Cyanide, Total	MG/KG	0.556 U	0.619 U	0.583 U	0.589 U	0.615 U	0.633 U	0.571 U
Iron	MG/KG	50000	23600 J	23300 J	19500 J	23300 J	16900 J	10200
Lead	MG/KG	653	250 J	31.7 J	13.1 J	170 J	51.1 J	62.3
Magnesium	MG/KG	7610	4480 J	6110 J	6940 J	5570 J	12000 J	10500
Manganese	MG/KG	579	474 J	503 J	537 J	415 J	250 J	315
Mercury	MG/KG	0.3	0.09	0.04	0.04	0.05	0.29	0.03
Nickel	MG/KG	54 J	32.6 J	39.4 J	29.6 J	39.7 J	24.4 J	16.2 J
Potassium	MG/KG	1140 J	1470 J	1680 J	1590 J	1660 J	1980 J	841 J

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SSDRMO-14	SSDRMO-15	SSDRMO-16	SSDRMO-17	SSDRMO-18	SSDRMO-19	SSDRMO-20
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		DRMO-1010	DRMO-1011	DRMO-1012	DRMO-1013	DRMO-1014	DRMO-1015	DRMO-1016
Sample Depth Top		0	0	0	0	0	0	0
Sample Depth Bottom		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Sample Date		10/23/2002	10/30/2002	10/30/2002	10/30/2002	10/30/2002	10/30/2002	10/24/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Selenium	MG/KG	1.3	0.4 U	0.38 U	0.39 U	0.41 U	0.41 U	0.48 U
Silver	MG/KG	5.5	2.2 J	0.43 U	0.44 U	0.46 J	0.46 U	0.34
Sodium	MG/KG	478	162 J	88 J	94.1	58.2	63.9	289
Thallium	MG/KG	0.59 J	0.7 U	0.87 J	0.68 U	0.72 U	0.73 U	0.35 U
Vanadium	MG/KG	14.7 J	21.4 J	19.1 J	16.7 J	18.5 J	15.2 J	7.8 J
Zinc	MG/KG	2910 J	1120 J	213 J	57.8 J	124 J	103 J	104 J
Other Analyses								
Total Organic Carbon	MG/KG	6400	5600	4200	7200	8700	5800	4100
Total Petroleum Hydrocarbons	MG/KG	370	50 UJ	47 UJ	47 UJ	49 UJ	51 UJ	46 U

NOTES:
1) List includes all sample and sample du
(Q)ualifier Code Definitions
U = compound was not detected
J = the reported value is an estimated con
UJ = the compound was not detected; the
R = the data was rejected in the data valic

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification	SSDRMO-21	SSDRMO-22	SSDRMO-23	SSDRMO-24	SSDRMO-5	SSDRMO-6	SSDRMO-7
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	DRMO-1017	DRMO-1018	DRMO-1019	DRMO-1020	DRMO-1000	DRMO-1001	DRMO-1002
Sample Depth Top	0	0	0	0	0	0	0
Sample Depth Bottom	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Sample Date	10/24/2002	10/24/2002	10/30/2002	10/23/2002	10/23/2002	10/24/2002	10/24/2002
SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organics								
1,1,1-Trichloroethane	UG/KG	3.1 UJ	2.8 UJ	3 UJ	2.7 UJ	3.1 UJ	2.7 U	3.1 UJ
1,1,2,2-Tetrachloroethane	UG/KG	3.1 UJ	2.8 UJ	3 UJ	2.7 UJ	3.1 UJ	2.7 U	3.1 UJ
1,1,2-Trichloroethane	UG/KG	3.1 UJ	2.8 UJ	3 UJ	2.7 UJ	3.1 UJ	2.7 U	3.1 UJ
1,1-Dichloroethane	UG/KG	3.1 UJ	2.8 UJ	3 UJ	2.7 UJ	3.1 UJ	2.7 U	3.1 UJ
1,1-Dichloroethene	UG/KG	3.1 UJ	2.8 UJ	3 UJ	2.7 UJ	3.1 UJ	2.7 U	3.1 UJ
1,2-Dichloroethane	UG/KG	3.1 UJ	2.8 UJ	3 UJ	2.7 UJ	3.1 UJ	2.7 U	3.1 UJ
1,2-Dichloroethene (total)	UG/KG							
1,2-Dichloropropane	UG/KG	3.1 UJ	2.8 UJ	3 UJ	2.7 UJ	3.1 UJ	2.7 U	3.1 UJ
Acetone	UG/KG	11 J	10 J	13 UJ	2.7 UJ	3.1 UJ	2.7 R	3.1 UJ
Benzene	UG/KG	3.1 UJ	2.8 UJ	3 UJ	2.7 UJ	3.1 UJ	2.7 U	3.1 UJ
Bromodichloromethane	UG/KG	3.1 UJ	2.8 UJ	3 UJ	2.7 UJ	3.1 UJ	2.7 U	3.1 UJ
Bromoform	UG/KG	3.1 UJ	2.8 UJ	3 UJ	2.7 UJ	3.1 UJ	2.7 U	3.1 UJ
Carbon disulfide	UG/KG	3.1 UJ	2.8 UJ	3 UJ	2.7 UJ	3.1 UJ	2.7 U	3.1 UJ
Carbon tetrachloride	UG/KG	3.1 UJ	2.8 UJ	3 UJ	2.7 UJ	3.1 UJ	2.7 U	3.1 UJ
Chlorobenzene	UG/KG	3.1 UJ	2.8 UJ	3 UJ	2.7 UJ	3.1 UJ	2.7 U	3.1 UJ
Chlorodibromomethane	UG/KG	3.1 UJ	2.8 UJ	3 UJ	2.7 UJ	3.1 UJ	2.7 U	3.1 UJ
Chloroethane	UG/KG	3.1 UJ	2.8 UJ	3 UJ	2.7 UJ	3.1 UJ	2.7 U	3.1 UJ
Chloroform	UG/KG	3.1 UJ	2.8 UJ	3 UJ	2.7 UJ	3.1 UJ	2.7 U	3.1 UJ
Cis-1,2-Dichloroethene	UG/KG	3.1 UJ	2.8 UJ	3 UJ	2.7 UJ	3.1 UJ	2.7 U	3.1 UJ
Cis-1,3-Dichloropropene	UG/KG	3.1 UJ	2.8 UJ	3 UJ	2.7 UJ	3.1 UJ	2.7 U	3.1 UJ
Ethyl benzene	UG/KG	3.1 UJ	2.8 UJ	3 UJ	2.7 UJ	3.1 UJ	2.7 U	3.1 UJ
Meta/Para Xylene	UG/KG	3.1 UJ	2.8 UJ	3 UJ	2.7 UJ	3.1 UJ	2.7 U	3.1 UJ
Methyl bromide	UG/KG	3.1 UJ	2.8 UJ	3 UJ	2.7 UJ	3.1 UJ	2.7 U	3.1 UJ
Methyl butyl ketone	UG/KG	3.1 UJ	2.8 UJ	3 UJ	2.7 UJ	3.1 UJ	2.7 U	3.1 UJ
Methyl chloride	UG/KG	3.1 UJ	2.8 UJ	3 UJ	2.7 UJ	3.1 UJ	2.7 U	3.1 UJ
Methyl ethyl ketone	UG/KG	3.1 UJ	2.8 UJ	3 UJ	2.7 UJ	3.1 UJ	2.7 UJ	3.1 UJ
Methyl isobutyl ketone	UG/KG	3.1 UJ	2.8 UJ	3 UJ	2.7 UJ	3.1 UJ	2.7 U	3.1 UJ
Methylene chloride	UG/KG	2.6 J	2.8 UJ	5 UJ	2.7 UJ	3.1 UJ	0.84 U	3.1 UJ
Ortho Xylene	UG/KG	3.1 UJ	2.8 UJ	3 UJ	2.7 UJ	3.1 UJ	2.7 U	3.1 UJ
Styrene	UG/KG	3.1 UJ	2.8 UJ	3 UJ	2.7 UJ	3.1 UJ	2.7 U	3.1 UJ

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SSDRMO-21	SSDRMO-22	SSDRMO-23	SSDRMO-24	SSDRMO-5	SSDRMO-6	SSDRMO-7
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		DRMO-1017	DRMO-1018	DRMO-1019	DRMO-1020	DRMO-1000	DRMO-1001	DRMO-1002
Sample Depth Top		0	0	0	0	0	0	0
Sample Depth Bottom		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Sample Date		10/24/2002	10/24/2002	10/30/2002	10/23/2002	10/23/2002	10/24/2002	10/24/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Tetrachloroethene	UG/KG	3.1 UJ	2.8 UJ	3 UJ	2.7 UJ	3.1 UJ	2.7 U	3.1 UJ
Toluene	UG/KG	3.1 UJ	2.8 UJ	3 UJ	2.7 UJ	3.1 UJ	2.7 U	3.1 UJ
Total Xylenes	UG/KG							
Trans-1,2-Dichloroethene	UG/KG	3.1 UJ	2.8 UJ	3 UJ	2.7 UJ	3.1 UJ	2.7 U	3.1 UJ
Trans-1,3-Dichloropropene	UG/KG	3.1 UJ	2.8 UJ	3 UJ	2.7 UJ	3.1 UJ	2.7 U	3.1 UJ
Trichloroethene	UG/KG	3.1 UJ	2.8 UJ	3 UJ	2.7 UJ	3.1 UJ	2.7 U	3.1 UJ
Vinyl chloride	UG/KG	3.1 UJ	2.8 UJ	3 UJ	2.7 UJ	3.1 UJ	2.7 U	3.1 UJ
Semivolatile Organics								
1,2,4-Trichlorobenzene	UG/KG	430 U	390 U	400 U	360 UJ	360 U	350 U	380 U
1,2-Dichlorobenzene	UG/KG	430 U	390 U	400 U	360 UJ	360 U	350 U	380 U
1,3-Dichlorobenzene	UG/KG	430 U	390 U	400 U	360 UJ	360 U	350 U	380 U
1,4-Dichlorobenzene	UG/KG	430 U	390 U	400 U	360 UJ	360 U	350 U	380 U
2,4,5-Trichlorophenol	UG/KG	1100 U	980 U	1000 U	900 UJ	910 U	870 U	960 U
2,4,6-Trichlorophenol	UG/KG	430 U	390 U	400 U	360 UJ	360 U	350 U	380 U
2,4-Dichlorophenol	UG/KG	430 U	390 U	400 U	360 UJ	360 U	350 U	380 U
2,4-Dimethylphenol	UG/KG	430 U	390 U	400 U	360 UJ	360 U	350 U	380 U
2,4-Dinitrophenol	UG/KG	1100 U	980 U	1000 UJ	900 UJ	910 UJ	870 UJ	960 U
2,4-Dinitrotoluene	UG/KG	430 U	390 U	400 U	360 UJ	360 U	350 U	380 U
2,6-Dinitrotoluene	UG/KG	430 U	390 U	400 U	360 UJ	360 U	350 U	380 U
2-Chloronaphthalene	UG/KG	430 U	390 U	400 U	360 UJ	360 U	350 U	380 U
2-Chlorophenol	UG/KG	430 U	390 U	400 U	360 UJ	360 U	350 U	380 U
2-Methylnaphthalene	UG/KG	430 U	390 U	400 U	360 UJ	360 U	350 U	140 J
2-Methylphenol	UG/KG	430 U	390 U	400 U	360 UJ	360 U	350 U	380 U
2-Nitroaniline	UG/KG	1100 U	980 U	1000 U	900 UJ	910 U	870 U	960 U
2-Nitrophenol	UG/KG	430 U	390 U	400 U	360 UJ	360 U	350 U	380 U
3 or 4-Methylphenol	UG/KG	430 U	390 U	400 U	360 UJ	360 U	350 U	380 U
3,3'-Dichlorobenzidine	UG/KG	430 U	390 UJ	400 U	360 UJ	360 UJ	350 U	380 UJ
3-Nitroaniline	UG/KG	1100 U	980 U	1000 U	900 UJ	910 UJ	870 UJ	960 U
4,6-Dinitro-2-methylphenol	UG/KG	1100 U	980 U	1000 U	900 UJ	910 U	870 U	960 U
4-Bromophenyl phenyl ether	UG/KG	430 U	390 U	400 U	360 UJ	360 U	350 U	380 U
4-Chloro-3-methylphenol	UG/KG	430 U	390 U	400 U	360 UJ	360 U	350 U	380 U

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification	SSDRMO-21	SSDRMO-22	SSDRMO-23	SSDRMO-24	SSDRMO-5	SSDRMO-6	SSDRMO-7
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	DRMO-1017	DRMO-1018	DRMO-1019	DRMO-1020	DRMO-1000	DRMO-1001	DRMO-1002
Sample Depth Top	0	0	0	0	0	0	0
Sample Depth Bottom	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Sample Date	10/24/2002	10/24/2002	10/30/2002	10/23/2002	10/23/2002	10/24/2002	10/24/2002
SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
4-Chloroaniline	UG/KG	430 U	390 U	400 U	360 UJ	360 U	350 U	380 U
4-Chlorophenyl phenyl ether	UG/KG	430 U	390 U	400 U	360 UJ	360 U	350 U	380 U
4-Methylphenol	UG/KG							
4-Nitroaniline	UG/KG	1100 U	980 U	1000 U	900 UJ	910 U	870 U	960 U
4-Nitrophenol	UG/KG	1100 U	980 U	1000 U	900 UJ	910 U	870 U	960 U
Acenaphthene	UG/KG	430 U	390 U	400 U	360 UJ	360 U	95 J	310 J
Acenaphthylene	UG/KG	430 U	230 J	400 U	360 UJ	78 J	42 J	1000
Anthracene	UG/KG	430 U	230 J	400 U	110 J	51 J	160 J	1600
Benzo(a)anthracene	UG/KG	430 U	610 J	400 U	380 J	320 J	460	6700 J
Benzo(a)pyrene	UG/KG	430 U	910 J	400 U	420 J	510 J	610 J	7600 J
Benzo(b)fluoranthene	UG/KG	430 U	1100 J	400 U	480 J	730 J	880 J	11000 J
Benzo(ghi)perylene	UG/KG	430 U	660 J	400 U	130 J	270 J	230 J	3800 J
Benzo(k)fluoranthene	UG/KG	430 UJ	500 J	400 UJ	360 J	340 J	530 J	4900 J
Bis(2-Chloroethoxy)methane	UG/KG	430 U	390 U	400 U	360 UJ	360 UJ	350 UJ	380 U
Bis(2-Chloroethyl)ether	UG/KG	430 U	390 U	400 U	360 UJ	360 U	350 U	380 U
Bis(2-Chloroisopropyl)ether	UG/KG	430 U	390 U	400 U	360 UJ	360 U	350 U	380 U
Bis(2-Ethylhexyl)phthalate	UG/KG	430 U	68 J	400 U	81 J	360 UJ	350 U	200 J
Butylbenzylphthalate	UG/KG	430 UJ	390 UJ	400 U	360 UJ	360 UJ	350 U	380 UJ
Carbazole	UG/KG	430 U	76 J	400 U	44 J	360 U	200 J	910
Chrysene	UG/KG	430 U	620 J	400 U	360 J	360 J	500	6800 J
Di-n-butylphthalate	UG/KG	430 U	390 U	400 U	360 UJ	360 U	350 U	380 U
Di-n-octylphthalate	UG/KG	430 U	390 UJ	400 U	360 UJ	360 UJ	350 U	380 UJ
Dibenz(a,h)anthracene	UG/KG	430 U	390 UJ	400 U	360 UJ	58 J	350 UJ	570 J
Dibenzofuran	UG/KG	430 U	390 U	400 U	360 UJ	360 U	63 J	330 J
Diethyl phthalate	UG/KG	430 U	390 U	400 U	360 UJ	360 U	350 U	380 U
Dimethylphthalate	UG/KG	430 U	390 U	400 U	360 UJ	360 U	350 U	380 U
Fluoranthene	UG/KG	58 J	890	54 J	870 J	590	1500	15000
Fluorene	UG/KG	430 U	87 J	400 U	360 UJ	360 U	84 J	1000
Hexachlorobenzene	UG/KG	430 U	390 U	400 U	360 UJ	360 U	350 U	380 U
Hexachlorobutadiene	UG/KG	430 UJ	390 UJ	400 U	360 UJ	360 UJ	350 UJ	380 UJ
Hexachlorocyclopentadiene	UG/KG	430 U	390 U	400 U	360 UJ	360 U	350 U	380 U

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification	SSDRMO-21	SSDRMO-22	SSDRMO-23	SSDRMO-24	SSDRMO-5	SSDRMO-6	SSDRMO-7
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	DRMO-1017	DRMO-1018	DRMO-1019	DRMO-1020	DRMO-1000	DRMO-1001	DRMO-1002
Sample Depth Top	0	0	0	0	0	0	0
Sample Depth Bottom	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Sample Date	10/24/2002	10/24/2002	10/30/2002	10/23/2002	10/23/2002	10/24/2002	10/24/2002
SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Hexachloroethane	UG/KG	430 U	390 U	400 UJ	360 UJ	360 U	350 U	380 U
Indeno(1,2,3-cd)pyrene	UG/KG	430 UJ	160 J	400 U	84 J	62 J	79 J	1100 J
Isophorone	UG/KG	430 UJ	390 UJ	400 U	360 UJ	360 UJ	350 UJ	380 UJ
N-Nitrosodiphenylamine	UG/KG	430 U	390 U	400 U	360 UJ	360 U	350 U	380 U
N-Nitrosodipropylamine	UG/KG	430 U	390 U	400 U	360 UJ	360 U	350 U	380 U
Naphthalene	UG/KG	430 U	390 U	400 U	360 UJ	360 U	57 J	97 J
Nitrobenzene	UG/KG	430 UJ	390 UJ	400 UJ	360 UJ	360 UJ	350 UJ	380 UJ
Pentachlorophenol	UG/KG	1100 U	980 U	1000 U	900 UJ	910 U	870 U	960 U
Phenanthrene	UG/KG	430 U	700	400 U	490 J	260 J	1100	13000
Phenol	UG/KG	430 U	390 U	400 U	360 UJ	360 U	350 U	380 U
Pyrene	UG/KG	430 U	1900 J	44 J	600 J	1000 J	1200	24000 J
Pesticides and PCBs								
4,4'-DDD	UG/KG	2.2 UJ	2 UJ	0.24 UJ	1.8 UJ	1.9 UJ	1.9 UJ	2 UJ
4,4'-DDE	UG/KG	2.2 UJ	2 UJ	0.24 UJ	1.8 UJ	1.9 UJ	9.1 J	2 UJ
4,4'-DDT	UG/KG	2.2 UJ	2 UJ	0.24 U	1.8 UJ	1.9 UJ	3.1 NJ	2 UJ
Aldrin	UG/KG	2.2 U	2 U	0.12 U	1.8 U	1.9 U	1.8 U	2 U
Alpha-BHC	UG/KG	2.2 UJ	2 UJ	1.4 UJ	1.8 UJ	1.9 UJ	1.8 UJ	2 UJ
Alpha-Chlordane	UG/KG	2.2 UJ	2 UJ	0.36 U	1.8 UJ	1.9 UJ	1.8 UJ	2 UJ
Aroclor-1016	UG/KG	22 U	20 U	6.3 UJ	18 U	19 U	18 U	20 U
Aroclor-1221	UG/KG	22 U	20 U	1.6 U	18 U	19 U	18 U	20 U
Aroclor-1232	UG/KG	22 U	20 U	9.6 UJ	18 U	19 U	18 U	20 U
Aroclor-1242	UG/KG	22 U	20 U	2.6 UJ	18 U	19 U	18 U	20 U
Aroclor-1248	UG/KG	22 U	20 U	6.6 U	18 U	19 U	18 U	20 U
Aroclor-1254	UG/KG	22 UJ	20 UJ	13 U	18 UJ	19 UJ	18 UJ	20 UJ
Aroclor-1260	UG/KG	22 UJ	20 UJ	2.4 UJ	18 UJ	19 UJ	18 UJ	20 UJ
Beta-BHC	UG/KG	2.2 UJ	2 UJ	0.12 U	1.8 UJ	1.9 UJ	1.8 UJ	2 UJ
Chlordane	UG/KG	22 U	20 U	2.3 U	18 U	19 U	18 U	20 U
Delta-BHC	UG/KG	2.2 UJ	2 UJ	0.24 UJ	1.8 UJ	1.9 UJ	1.8 UJ	2 UJ
Dieldrin	UG/KG	2.2 UJ	2 UJ	0.12 UJ	1.8 UJ	1.9 UJ	1.8 UJ	2 UJ
Endosulfan I	UG/KG	2.2 UJ	21 J	0.6 U	1.8 UJ	8.3 J	6.6 J	190 J
Endosulfan II	UG/KG	2.2 U	2 U	0.36 U	1.8 U	1.9 U	1.8 U	2 U

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

	AOC Location	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
	Sample Location Identification	SSDRMO-21	SSDRMO-22	SSDRMO-23	SSDRMO-24	SSDRMO-5	SSDRMO-6	SSDRMO-7
	Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sample Identification	DRMO-1017	DRMO-1018	DRMO-1019	DRMO-1020	DRMO-1000	DRMO-1001	DRMO-1002
	Sample Depth Top	0	0	0	0	0	0	0
	Sample Depth Bottom	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	Sample Date	10/24/2002	10/24/2002	10/30/2002	10/23/2002	10/23/2002	10/24/2002	10/24/2002
	SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Endosulfan sulfate	UG/KG	2.2 U	2 U	0.72 UJ	1.8 U	1.9 U	1.8 U	2 U
Endrin	UG/KG	2.2 UJ	2 UJ	0.96 UJ	1.8 UJ	1.9 UJ	1.8 UJ	2 U
Endrin aldehyde	UG/KG	2.2 UJ	2 UJ	0.96 UJ	1.8 UJ	1.9 UJ	1.8 UJ	2 U
Endrin ketone	UG/KG	2.2 U	2 U	0.12 U	1.8 U	1.9 U	1.8 U	2 U
Gamma-BHC/Lindane	UG/KG	2.2 U	2 U	0.12 UJ	1.8 U	1.9 U	1.8 U	2 U
Gamma-Chlordane	UG/KG	2.2 UJ	2 UJ	0.36 U	1.8 UJ	1.9 UJ	1.8 UJ	2 U
Heptachlor	UG/KG	2.2 U	2 U	1.2 UJ	1.8 U	1.9 U	1.8 U	2 U
Heptachlor epoxide	UG/KG	2.2 UJ	2 UJ	0.36 U	1.8 UJ	1.9 UJ	1.8 UJ	2 U
Methoxychlor	UG/KG	2.2 UJ	2 UJ	0.12 U	1.8 UJ	1.9 UJ	1.8 UJ	2 U
Toxaphene	UG/KG	22 U	20 U	3.9 U	18 U	19 U	18 U	20 U
Metals								
Aluminum	MG/KG	11200	10500	11100 J	8110	5520	10900	7420
Antimony	MG/KG	1.6 J	8.1	1.4 J	236	4.4 J	2 J	3.2 J
Arsenic	MG/KG	7	6.7	4.1 J	11.6	3.9	4.6	6.2
Barium	MG/KG	105 J	113 J	99.3 J	2030 J	46.5 J	57.1 J	80.9 J
Beryllium	MG/KG	0.75	0.65	0.65 J	0.43	0.31	0.53	0.5
Cadmium	MG/KG	0.16 U	0.14 U	0.06 U	4.3	0.55	7.8	0.57
Calcium	MG/KG	12100 J	20400 J	11700 J	48800 J	59700 J	34700 J	63600 J
Chromium	MG/KG	19.2 J	19.5 J	17.7 J	26.8 J	12.3 J	22.9 J	17.6 J
Cobalt	MG/KG	9.4 R	11.5 R	8.6 J	17.5 R	6.7 R	14.4 R	8.6 R
Copper	MG/KG	25.1 J	55.4 J	43.8 J	5050 J	44.2 J	49.3 J	39.8 J
Cyanide	MG/KG							
Cyanide, Amenable	MG/KG	0.66 U	0.59 U	0.61 U	0.54 U	0.55 U	0.53 U	0.58 U
Cyanide, Total	MG/KG	0.661 U	0.588 U	0.612 U	0.545 U	0.548 U	0.534 U	0.582 U
Iron	MG/KG	22700	23700	17300 J	28800	13900	24700	18500
Lead	MG/KG	29.5	344	59.2 J	18900	195	130	117
Magnesium	MG/KG	4660	5130	4700 J	6060	20700	6840	12700
Manganese	MG/KG	279	513	266 J	532	364	468	480
Mercury	MG/KG	0.05	0.14	0.08	0.31	0.07	0.07	0.07
Nickel	MG/KG	27.1 J	29.4 J	25 J	45.7 J	20.8 J	42.5 J	22.4 J
Potassium	MG/KG	909 J	949 J	1430 J	910 J	891 J	1200 J	862 J

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SSDRMO-21	SSDRMO-22	SSDRMO-23	SSDRMO-24	SSDRMO-5	SSDRMO-6	SSDRMO-7
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		DRMO-1017	DRMO-1018	DRMO-1019	DRMO-1020	DRMO-1000	DRMO-1001	DRMO-1002
Sample Depth Top		0	0	0	0	0	0	0
Sample Depth Bottom		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Sample Date		10/24/2002	10/24/2002	10/30/2002	10/23/2002	10/23/2002	10/24/2002	10/24/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Selenium	MG/KG	1.1	0.53 J	0.39 U	1	0.46 U	0.64	0.49 U
Silver	MG/KG	2.9	0.31 U	0.44 U	0.76	0.29 U	0.29 U	0.31 U
Sodium	MG/KG	197	116 U	65.2	108 U	240	204	191
Thallium	MG/KG	0.4 U	0.5 J	0.69 U	0.52 J	0.34 U	0.55 J	0.36 U
Vanadium	MG/KG	20.7 J	18.7 J	16.1 J	16.1 J	10.7 J	17 J	15.3 J
Zinc	MG/KG	85.2 J	103 J	111 J	990 J	137 J	77.5 J	107 J
Other Analyses								
Total Organic Carbon	MG/KG	6200	7400	7500	4000	3600	4600	5800
Total Petroleum Hydrocarbons	MG/KG	53 U	59	49 UJ	44 U	830	43 U	190

NOTES:
1) List includes all sample and sample du
(Q)ualifier Code Definitions
U = compound was not detected
J = the reported value is an estimated con
UJ = the compound was not detected; the
R = the data was rejected in the data valic

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification	SSDRMO-7	SSDRMO-8	SSDRMO-9
Matrix	SOIL	SOIL	SOIL
Sample Identification	DRMO-1003	DRMO-1004	DRMO-1005
Sample Depth Top	0	0	0
Sample Depth Bottom	0.2	0.2	0.2
Sample Date	10/24/2002	10/23/2002	10/23/2002
SAmple or **DU**plicate	SA	SA	SA
See Notes at Bottom of Table	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)
Volatile Organics				
1,1,1-Trichloroethane	UG/KG	2.9 U	2.5 UJ	2.7 UJ
1,1,2,2-Tetrachloroethane	UG/KG	2.9 U	2.5 UJ	2.7 UJ
1,1,2-Trichloroethane	UG/KG	2.9 U	2.5 UJ	2.7 UJ
1,1-Dichloroethane	UG/KG	2.9 U	2.5 UJ	2.7 UJ
1,1-Dichloroethene	UG/KG	2.9 U	2.5 UJ	2.7 UJ
1,2-Dichloroethane	UG/KG	2.9 U	2.5 UJ	2.7 UJ
1,2-Dichloroethene (total)	UG/KG			
1,2-Dichloropropane	UG/KG	2.9 U	2.5 UJ	2.7 UJ
Acetone	UG/KG	2.9 R	2.5 UJ	2.7 UJ
Benzene	UG/KG	2.9 U	2.5 UJ	2.7 UJ
Bromodichloromethane	UG/KG	2.9 U	2.5 UJ	2.7 UJ
Bromoform	UG/KG	2.9 U	2.5 UJ	2.7 UJ
Carbon disulfide	UG/KG	2.9 U	2.5 UJ	2.7 UJ
Carbon tetrachloride	UG/KG	2.9 U	2.5 UJ	2.7 UJ
Chlorobenzene	UG/KG	2.9 U	2.5 UJ	2.7 UJ
Chlorodibromomethane	UG/KG	2.9 U	2.5 UJ	2.7 UJ
Chloroethane	UG/KG	2.9 U	2.5 UJ	2.7 UJ
Chloroform	UG/KG	2.9 U	2.5 UJ	2.7 UJ
Cis-1,2-Dichloroethene	UG/KG	2.9 U	2.5 UJ	2.7 UJ
Cis-1,3-Dichloropropene	UG/KG	2.9 U	2.5 UJ	2.7 UJ
Ethyl benzene	UG/KG	2.9 U	2.5 UJ	2.7 UJ
Meta/Para Xylene	UG/KG	2.9 U	2.5 UJ	2.7 UJ
Methyl bromide	UG/KG	2.9 U	2.5 UJ	2.7 UJ
Methyl butyl ketone	UG/KG	2.9 U	2.5 UJ	2.7 UJ
Methyl chloride	UG/KG	2.9 U	2.5 UJ	2.7 UJ
Methyl ethyl ketone	UG/KG	2.9 UJ	2.5 UJ	2.7 UJ
Methyl isobutyl ketone	UG/KG	2.9 U	2.5 UJ	2.7 UJ
Methylene chloride	UG/KG	1.7 U	2.5 UJ	2.7 UJ
Ortho Xylene	UG/KG	2.9 U	2.5 UJ	2.7 UJ
Styrene	UG/KG	2.9 U	2.5 UJ	2.7 UJ

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification	SSDRMO-7	SSDRMO-8	SSDRMO-9
Matrix	SOIL	SOIL	SOIL
Sample Identification	DRMO-1003	DRMO-1004	DRMO-1005
Sample Depth Top	0	0	0
Sample Depth Bottom	0.2	0.2	0.2
Sample Date	10/24/2002	10/23/2002	10/23/2002
SAmple or **DU**plicate	SA	SA	SA
See Notes at Bottom of Table	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)
Tetrachloroethene	UG/KG	2.9 U	2.5 UJ	2.7 UJ
Toluene	UG/KG	2.9 U	2.5 UJ	2.7 UJ
Total Xylenes	UG/KG			
Trans-1,2-Dichloroethene	UG/KG	2.9 U	2.5 UJ	2.7 UJ
Trans-1,3-Dichloropropene	UG/KG	2.9 U	2.5 UJ	2.7 UJ
Trichloroethene	UG/KG	2.9 U	2.5 UJ	2.7 UJ
Vinyl chloride	UG/KG	2.9 U	2.5 UJ	2.7 UJ
Semivolatile Organics				
1,2,4-Trichlorobenzene	UG/KG	380 U	350 U	360 U
1,2-Dichlorobenzene	UG/KG	380 U	350 U	360 U
1,3-Dichlorobenzene	UG/KG	380 U	350 U	360 U
1,4-Dichlorobenzene	UG/KG	380 U	350 U	360 U
2,4,5-Trichlorophenol	UG/KG	950 U	880 U	900 U
2,4,6-Trichlorophenol	UG/KG	380 U	350 U	360 U
2,4-Dichlorophenol	UG/KG	380 U	350 U	360 U
2,4-Dimethylphenol	UG/KG	380 U	350 U	360 U
2,4-Dinitrophenol	UG/KG	950 U	880 UJ	900 U
2,4-Dinitrotoluene	UG/KG	380 U	350 U	360 U
2,6-Dinitrotoluene	UG/KG	380 U	350 U	360 U
2-Chloronaphthalene	UG/KG	380 U	350 U	360 U
2-Chlorophenol	UG/KG	380 U	350 U	360 U
2-Methylnaphthalene	UG/KG	110 J	350 U	360 U
2-Methylphenol	UG/KG	380 U	350 U	360 U
2-Nitroaniline	UG/KG	950 U	880 U	900 U
2-Nitrophenol	UG/KG	380 U	350 U	360 U
3 or 4-Methylphenol	UG/KG	380 U	350 U	360 U
3,3'-Dichlorobenzidine	UG/KG	380 UJ	350 U	360 U
3-Nitroaniline	UG/KG	950 U	880 UJ	900 U
4,6-Dinitro-2-methylphenol	UG/KG	950 U	880 U	900 U
4-Bromophenyl phenyl ether	UG/KG	380 U	350 U	360 U
4-Chloro-3-methylphenol	UG/KG	380 U	350 U	360 U

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification	SSDRMO-7	SSDRMO-8	SSDRMO-9
Matrix	SOIL	SOIL	SOIL
Sample Identification	DRMO-1003	DRMO-1004	DRMO-1005
Sample Depth Top	0	0	0
Sample Depth Bottom	0.2	0.2	0.2
Sample Date	10/24/2002	10/23/2002	10/23/2002
SAmple or **DU**plicate	SA	SA	SA
See Notes at Bottom of Table	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)
4-Chloroaniline	UG/KG	380	U	350	U	360	U
4-Chlorophenyl phenyl ether	UG/KG	380	U	350	U	360	U
4-Methylphenol	UG/KG						
4-Nitroaniline	UG/KG	950	U	880	U	900	U
4-Nitrophenol	UG/KG	950	U	880	U	900	U
Acenaphthene	UG/KG	190	J	350	U	360	U
Acenaphthylene	UG/KG	810		65	J	360	U
Anthracene	UG/KG	850		110	J	360	U
Benzo(a)anthracene	UG/KG	3900	J	360		160	J
Benzo(a)pyrene	UG/KG	5000	J	520	J	180	J
Benzo(b)fluoranthene	UG/KG	6600	J	720	J	240	J
Benzo(ghi)perylene	UG/KG	2500	J	210	J	53	J
Benzo(k)fluoranthene	UG/KG	3100	J	490	J	130	J
Bis(2-Chloroethoxy)methane	UG/KG	380	U	350	UJ	360	U
Bis(2-Chloroethyl)ether	UG/KG	380	U	350	U	360	U
Bis(2-Chloroisopropyl)ether	UG/KG	380	U	350	U	360	U
Bis(2-Ethylhexyl)phthalate	UG/KG	97	J	58	J	64	J
Butylbenzylphthalate	UG/KG	380	UJ	350	U	360	UJ
Carbazole	UG/KG	550		73	J	360	U
Chrysene	UG/KG	4300	J	430		160	J
Di-n-butylphthalate	UG/KG	73	J	350	U	360	U
Di-n-octylphthalate	UG/KG	380	UJ	350	U	360	U
Dibenz(a,h)anthracene	UG/KG	370	J	350	UJ	360	U
Dibenzofuran	UG/KG	160	J	350	U	360	U
Diethyl phthalate	UG/KG	380	U	350	U	360	U
Dimethylphthalate	UG/KG	380	U	350	U	360	U
Fluoranthene	UG/KG	8800		950		350	J
Fluorene	UG/KG	560		51	J	360	U
Hexachlorobenzene	UG/KG	380	U	350	U	360	U
Hexachlorobutadiene	UG/KG	380	UJ	350	UJ	360	UJ
Hexachlorocyclopentadiene	UG/KG	380	U	350	U	360	U

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification	SSDRMO-7	SSDRMO-8	SSDRMO-9
Matrix	SOIL	SOIL	SOIL
Sample Identification	DRMO-1003	DRMO-1004	DRMO-1005
Sample Depth Top	0	0	0
Sample Depth Bottom	0.2	0.2	0.2
Sample Date	10/24/2002	10/23/2002	10/23/2002
SAmple or **DU**plicate	SA	SA	SA
See Notes at Bottom of Table	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)
Hexachloroethane	UG/KG	380	U	350	U	360	U
Indeno(1,2,3-cd)pyrene	UG/KG	840	J	83	J	360	UJ
Isophorone	UG/KG	380	UJ	350	UJ	360	UJ
N-Nitrosodiphenylamine	UG/KG	380	U	350	U	360	U
N-Nitrosodipropylamine	UG/KG	380	U	350	U	360	U
Naphthalene	UG/KG	74	J	350	U	360	U
Nitrobenzene	UG/KG	380	UJ	350	UJ	360	UJ
Pentachlorophenol	UG/KG	950	U	880	U	900	U
Phenanthrene	UG/KG	7600		550		160	J
Phenol	UG/KG	380	U	350	U	360	U
Pyrene	UG/KG	14000	J	720		250	J
Pesticides and PCBs							
4,4'-DDD	UG/KG	1.9	UJ	5.4	J	1.8	UJ
4,4'-DDE	UG/KG	1.9	UJ	26	J	12	J
4,4'-DDT	UG/KG	1.9	UJ	9	NJ	1.8	UJ
Aldrin	UG/KG	1.9	U	1.8	U	1.8	U
Alpha-BHC	UG/KG	1.9	UJ	1.8	UJ	1.8	UJ
Alpha-Chlordane	UG/KG	1.9	UJ	1.8	UJ	1.8	UJ
Aroclor-1016	UG/KG	19	U	18	U	18	U
Aroclor-1221	UG/KG	19	U	18	U	18	U
Aroclor-1232	UG/KG	19	U	18	U	18	U
Aroclor-1242	UG/KG	19	U	18	U	18	U
Aroclor-1248	UG/KG	19	U	18	U	18	U
Aroclor-1254	UG/KG	19	UJ	18	UJ	74	J
Aroclor-1260	UG/KG	19	UJ	18	UJ	18	UJ
Beta-BHC	UG/KG	1.9	UJ	1.8	UJ	1.8	UJ
Chlordane	UG/KG	19	U	18	U	18	U
Delta-BHC	UG/KG	1.9	UJ	1.8	UJ	1.8	UJ
Dieldrin	UG/KG	1.9	UJ	1.8	UJ	1.8	UJ
Endosulfan I	UG/KG			23	NJ	7.5	J
Endosulfan II	UG/KG	1.9	U	1.8	U	1.8	U

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification	SSDRMO-7	SSDRMO-8	SSDRMO-9
Matrix	SOIL	SOIL	SOIL
Sample Identification	DRMO-1003	DRMO-1004	DRMO-1005
Sample Depth Top	0	0	0
Sample Depth Bottom	0.2	0.2	0.2
Sample Date	10/24/2002	10/23/2002	10/23/2002
SAmple or **DU**plicate	SA	SA	SA
See Notes at Bottom of Table	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)
Endosulfan sulfate	UG/KG	1.9 U	1.8 U	1.8 U
Endrin	UG/KG	1.9 UJ	1.8 UJ	1.8 UJ
Endrin aldehyde	UG/KG	1.9 UJ	1.8 UJ	1.8 UJ
Endrin ketone	UG/KG	1.9 U	1.8 U	1.8 U
Gamma-BHC/Lindane	UG/KG	1.9 U	1.8 U	1.8 U
Gamma-Chlordane	UG/KG	1.9 UJ	1.8 UJ	1.8 UJ
Heptachlor	UG/KG	1.9 U	1.8 U	1.8 U
Heptachlor epoxide	UG/KG	1.9 UJ	1.8 UJ	1.8 UJ
Methoxychlor	UG/KG	1.9 UJ	1.8 UJ	1.8 UJ
Toxaphene	UG/KG	19 U	18 U	18 U
Metals				
Aluminum	MG/KG	8280	7840	10200
Antimony	MG/KG	1.4 J	1.8 J	3.2 J
Arsenic	MG/KG	5.4	5.1	5.3
Barium	MG/KG	84.5 J	41.1 J	71.1 J
Beryllium	MG/KG	0.53	0.4	0.47
Cadmium	MG/KG	0.44	0.97	3
Calcium	MG/KG	61200 J	94200 J	92500 J
Chromium	MG/KG	18.8 J	17.6 J	22.6 J
Cobalt	MG/KG	8.7 R	11.5 R	11.4 R
Copper	MG/KG	32.8 J	46.1 J	216 J
Cyanide	MG/KG			
Cyanide, Amenable	MG/KG	0.57 U	0.53 U	0.54 U
Cyanide, Total	MG/KG	0.575 U	0.532 U	0.542 U
Iron	MG/KG	18700	18100	25000
Lead	MG/KG	93.8	66.8	122
Magnesium	MG/KG	6180	8290	7770
Manganese	MG/KG	553	610	581
Mercury	MG/KG	0.06	0.06	0.04
Nickel	MG/KG	23.5 J	31 J	32.9 J
Potassium	MG/KG	712 J	1070 J	1120 J

Appendix D Table 1
SEAD-121C Sample Results - Surface Soil, Subsurface Soil and Ditch Soil

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification	SSDRMO-7	SSDRMO-8	SSDRMO-9
Matrix	SOIL	SOIL	SOIL
Sample Identification	DRMO-1003	DRMO-1004	DRMO-1005
Sample Depth Top	0	0	0
Sample Depth Bottom	0.2	0.2	0.2
Sample Date	10/24/2002	10/23/2002	10/23/2002
SAmple or **DU**plicate	SA	SA	SA
See Notes at Bottom of Table	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)
Selenium	MG/KG	0.47 U	0.44 U	0.49 J
Silver	MG/KG	0.3 U	0.28 U	1.4
Sodium	MG/KG	194	302	235 J
Thallium	MG/KG	0.35 U	0.33 U	0.33 U
Vanadium	MG/KG	14.4 J	12.4 J	14.1 J
Zinc	MG/KG	96.8 J	93.2 J	157 J
Other Analyses				
Total Organic Carbon	MG/KG	6000	5300	6000
Total Petroleum Hydrocarbons	MG/KG	46 U	43 U	140

NOTES:
1) List includes all sample and sample du
(Q)ualifier Code Definitions
U = compound was not detected
J = the reported value is an estimated con
UJ = the compound was not detected; the
R = the data was rejected in the data valic

Appendix D Table 2
SEAD-121C Sample Results - Groundwater

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C		SEAD-121C		SEAD-121C		SEAD-121C	SEAD-121C	SEAD-121C	
Sample Location Identification		MW121C-1		MW121C-1		MW121C-2		MW121C-3	MW121C-3	MW121C-4	
Matrix		GRND WTR		GRND WTR		GRND WTR		GRND WTR	GRND WTR	GRND WTR	
Sample Identification		EB023		EB153		EB154		121C-2000	121C-2009	121C-2002	
Sample Depth Top		0		2.1		1.6		7.75	7.75	4.5	
Sample Depth Bottom		0		9.7		5.1		9.5	9.5	10	
Sample Date		3/17/1998		3/17/1998		3/17/1998		2/3/2003	5/7/2003	2/3/2003	
SAmple or **DU**plicate		DU		SA		SA		SA	SA	SA	
See Notes at Bottom of Table		EBS		EBS		EBS		PID-RI	PID-RI	PID-RI	
								2	3	2	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value (Q)	Value (Q)	Value (Q)	
Volatile Organics											
1,1,1-Trichloroethane	UG/L	1	U	1	U	1	U	5 U	0.4 U	5 U	
1,1,2,2-Tetrachloroethane	UG/L	1	U	1	U	1	U	5 U	0.3 U	5 U	
1,1,2-Trichloroethane	UG/L	1	U	1	U	1	U	5 U	0.3 U	5 U	
1,1-Dichloroethane	UG/L	1	U	1	U	1	U	5 U	0.4 U	5 U	
1,1-Dichloroethene	UG/L	1	U	1	U	1	U	5 U	0.3 UJ	5 U	
1,2-Dibromo-3-chloropropane	UG/L	1	U	1	U	1	U				
1,2-Dibromoethane	UG/L	1	U	1	U	1	U				
1,2-Dichlorobenzene	UG/L	1	U	1	U	1	U				
1,2-Dichloroethane	UG/L	1	U	1	U	1	U	5 U	0.3 U	5 U	
1,2-Dichloropropane	UG/L	1	U	1	U	1	U	5 U	0.4 U	5 U	
1,3-Dichlorobenzene	UG/L	1	U	1	U	1	U				
1,4-Dichlorobenzene	UG/L	1	U	1	U	36					
Acetone	UG/L	52		61		1	U	5 UJ	5.8 R	5 UJ	
Benzene	UG/L	1	U	1	U	1	U	5 U	0.3 U	5 U	
Bromochloromethane	UG/L	1	U	1	U	1					
Bromodichloromethane	UG/L	1	U	1	U	1	U	5 U	0.4 U	5 U	
Bromoform	UG/L	1	U	1	U	4		5 U	0.3 U	5 U	
Carbon disulfide	UG/L	2		2		1	U	5 UJ	0.3 UJ	5 UJ	
Carbon tetrachloride	UG/L	1	U	1	U	1	U	5 U	0.4 U	5 U	
Chlorobenzene	UG/L	1	U	1	U	2		5 U	0.4 U	5 U	
Chlorodibromomethane	UG/L	1	U	1	U	1	U	5 U	0.4 U	5 U	
Chloroethane	UG/L	1	U	1	U	1	U	5 U	0.4 UJ	5 U	
Chloroform	UG/L	1	U	1	U	1	U	5 U	0.4 U	5 U	
Cis-1,2-Dichloroethene	UG/L	1	U	1	U	1	U	5 U	0.3 U	5 U	

Appendix D Table 2
SEAD-121C Sample Results - Groundwater

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		MW121C-1	MW121C-1	MW121C-2	MW121C-3	MW121C-3	MW121C-4
Matrix		GRND WTR	GRND WTR	GRND WTR	GRND WTR	GRND WTR	GRND WTR
Sample Identification		EB023	EB153	EB154	121C-2000	121C-2009	121C-2002
Sample Depth Top		0	2.1	1.6	7.75	7.75	4.5
Sample Depth Bottom		0	9.7	5.1	9.5	9.5	10
Sample Date		3/17/1998	3/17/1998	3/17/1998	2/3/2003	5/7/2003	2/3/2003
SAmple or **DU**plicate		DU	SA	SA	SA	SA	SA
See Notes at Bottom of Table		EBS	EBS	EBS	PID-RI	PID-RI	PID-RI
					2	3	2
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Cis-1,3-Dichloropropene	UG/L	1 U	1 U	1 U	5 U	0.3 UJ	5 U
Ethyl benzene	UG/L	1 U	1 U	1 U	5 U	0.4 U	5 U
Meta/Para Xylene	UG/L				5 U	0.8 U	5 U
Methyl bromide	UG/L	1 U	1 U	5 U	5 U	0.4 U	5 U
Methyl butyl ketone	UG/L	5 U	5 U	1 U	5 U	2.8 U	5 U
Methyl chloride	UG/L	1 U	1 U	5 U	5 UJ	0.4 U	5 UJ
Methyl ethyl ketone	UG/L	5 U	5 U	5 U	5 UJ	3.6 R	5 UJ
Methyl isobutyl ketone	UG/L	5 U	5 U	2 U	5 U	2.5 U	5 U
Methylene chloride	UG/L	2 U	2 U	1 U	5 U	0.7 UJ	5 U
Ortho Xylene	UG/L				5 U	0.4 U	5 U
Styrene	UG/L	1 U	1 U	1 U	5 U	0.3 U	5 U
Tetrachloroethene	UG/L	1 U	1 U	1 U	5 U	0.5 U	5 U
Toluene	UG/L	1 U	1 U	1 U	5 U	0.4 U	5 U
Total Xylenes	UG/L	1 U	1 U	1 U			
Trans-1,2-Dichloroethene	UG/L	1 U	1 U	1 U	5 U	0.4 U	5 U
Trans-1,3-Dichloropropene	UG/L	1 U	1 U	1 U	5 U	0.3 U	5 U
Trichloroethene	UG/L	1 U	1 U	1 U	5 U	0.4 U	5 U
Vinyl chloride	UG/L	1 U	1 U	1	5 U	0.3 U	5 U
Semivolatile Organics							
1,2,4-Trichlorobenzene	UG/L		1.1 U	1.1 U	1.2 U	1.2 U	1.2 U
1,2-Dichlorobenzene	UG/L		1.1 U	1.1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	UG/L		1.1 U	1.1 U	1.2 U	1.2 U	1.2 U
1,4-Dichlorobenzene	UG/L		1.1 U	1.1 U	1 U	1 U	1 U
2,4,5-Trichlorophenol	UG/L		2.7 U	2.8 U	1 U	1 U	1 U
2,4,6-Trichlorophenol	UG/L		1.1 U	1.1 U	1 U	1 U	1 U

Appendix D Table 2
SEAD-121C Sample Results - Groundwater

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C		SEAD-121C		SEAD-121C		SEAD-121C		SEAD-121C		SEAD-121C	
Sample Location Identification		MW121C-1		MW121C-1		MW121C-2		MW121C-3		MW121C-3		MW121C-4	
Matrix		GRND WTR		GRND WTR		GRND WTR		GRND WTR		GRND WTR		GRND WTR	
Sample Identification		EB023		EB153		EB154		121C-2000		121C-2009		121C-2002	
Sample Depth Top		0		2.1		1.6		7.75		7.75		4.5	
Sample Depth Bottom		0		9.7		5.1		9.5		9.5		10	
Sample Date		3/17/1998		3/17/1998		3/17/1998		2/3/2003		5/7/2003		2/3/2003	
SAmple or **DU**plicate		DU		SA		SA		SA		SA		SA	
See Notes at Bottom of Table		EBS		EBS		EBS		PID-RI		PID-RI		PID-RI	
								2		3		2	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
2,4-Dichlorophenol	UG/L			1.1	U	1.1	U	1.3	U	1.3	U	1.4	U
2,4-Dimethylphenol	UG/L			1.1	U	1.1	U	2.3	U	2.3	U	2.4	U
2,4-Dinitrophenol	UG/L			2.7	U	2.8	U			2	UJ		
2,4-Dinitrotoluene	UG/L			1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
2,6-Dinitrotoluene	UG/L			1.1	U	1.1	U	1	U	1	U	1	U
2-Chloronaphthalene	UG/L			1.1	U	1.1	U	1.2	U	1.2	U	1.2	U
2-Chlorophenol	UG/L			1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
2-Methylnaphthalene	UG/L			1.1	U	1.1	U	1.2	U	1.2	U	1.2	U
2-Methylphenol	UG/L			1.1	U	1.1	U	1	U	1	U	1	U
2-Nitroaniline	UG/L			2.7	U	2.8	U	1	U	1	U	1	U
2-Nitrophenol	UG/L			1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
3 or 4-Methylphenol	UG/L							1.8	U			1.9	U
3,3'-Dichlorobenzidine	UG/L			1.1	U	1.1	U	1	UJ	1	U	1	UJ
3-Nitroaniline	UG/L			2.7	U	2.8	U	1.2	U	1.2	UJ	1.2	U
4,6-Dinitro-2-methylphenol	UG/L			2.7	U	2.8	U	1.2	U	1.2	U	1.2	U
4-Bromophenyl phenyl ether	UG/L			1.1	U	1.1	U	1.3	U	1.3	U	1.4	U
4-Chloro-3-methylphenol	UG/L			1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
4-Chloroaniline	UG/L			1.1	U	1.1	U	1.2	UJ	1.2	U	1.2	UJ
4-Chlorophenyl phenyl ether	UG/L			1.1	U	1.1	U	1.2	U	1.2	U	1.2	U
4-Methylphenol	UG/L			1.1	U	1.1	U			1.8	U		
4-Nitroaniline	UG/L			2.7	U	2.8	U	2.4	U	2.4	U	2.5	U
4-Nitrophenol	UG/L			2.7	U	2.8	U	1.1	U	1.1	U	1.1	U
Acenaphthene	UG/L			1.1	U	1.1	U	1	U	1	U	1	U
Acenaphthylene	UG/L			1.1	U	1.1	U	1.2	U	1.2	U	1.2	U
Anthracene	UG/L			1.1	U	1.1	U	1.3	U	1.3	U	1.4	U

Appendix D Table 2
SEAD-121C Sample Results - Groundwater

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C		SEAD-121C		SEAD-121C		SEAD-121C		SEAD-121C		SEAD-121C	
Sample Location Identification		MW121C-1		MW121C-1		MW121C-2		MW121C-3		MW121C-3		MW121C-4	
Matrix		GRND WTR		GRND WTR		GRND WTR		GRND WTR		GRND WTR		GRND WTR	
Sample Identification		EB023		EB153		EB154		121C-2000		121C-2009		121C-2002	
Sample Depth Top		0		2.1		1.6		7.75		7.75		4.5	
Sample Depth Bottom		0		9.7		5.1		9.5		9.5		10	
Sample Date		3/17/1998		3/17/1998		3/17/1998		2/3/2003		5/7/2003		2/3/2003	
SAmple or **DU**plicate		DU		SA		SA		SA		SA		SA	
See Notes at Bottom of Table		EBS		EBS		EBS		PID-RI		PID-RI		PID-RI	
								2		3		2	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Benzo(a)anthracene	UG/L			1.1	U	1.1	U	1	U	1	U	1	U
Benzo(a)pyrene	UG/L			1.1	U	1.1	U	1.5	U	1.5	U	1.6	U
Benzo(b)fluoranthene	UG/L			1.1	U	1.1	U	1	U	1	U	1	U
Benzo(ghi)perylene	UG/L			1.1	U	1.1	U	1.3	UJ	1.3	UJ	1.4	UJ
Benzo(k)fluoranthene	UG/L			1.1	U	1.1	U	2.6	U	2.6	U	2.7	U
Bis(2-Chloroethoxy)methane	UG/L			1.1	U	1.1	U	1	U	1	U	1	U
Bis(2-Chloroethyl)ether	UG/L			1.1	U	1.1	U	1.2	U	1.2	U	1.2	U
Bis(2-Chloroisopropyl)ether	UG/L			1.1	U	1.1	U	1	U	1	U	1	U
Bis(2-Ethylhexyl)phthalate	UG/L			0.23	J	0.4	J	1	U	1	U	1	U
Butylbenzylphthalate	UG/L			0.12	J	1.1	U	1	U	1	U	1	U
Carbazole	UG/L			1.1	U	1.1	U	0.42	U	0.42	U	0.43	U
Chrysene	UG/L			1.1	U	1.1	U	1.6	U	1.6	U	1.7	U
Di-n-butylphthalate	UG/L			1.7		0.79	J	1.2	U	1.2	U	1.2	U
Di-n-octylphthalate	UG/L			1.1	U	1.1	U	1.5	U	1.5	U	1.6	U
Dibenz(a,h)anthracene	UG/L			1.1	UJ	1.1	U	1.5	UJ	1.5	UJ	1.6	UJ
Dibenzofuran	UG/L			1.1	U	1.1	U	1	U	1	U	1	U
Diethyl phthalate	UG/L			0.057	J	1.1	U	1	U	1	U	1	U
Dimethylphthalate	UG/L			1.1	U	1.1	U	1	U	1	U	1	U
Fluoranthene	UG/L			1.1	U	1.1	U	1	U	1	U	1	U
Fluorene	UG/L			1.1	U	0.48	J	1.1	U	1.1	U	1.1	U
Hexachlorobenzene	UG/L			1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
Hexachlorobutadiene	UG/L			0.061	J	0.4	J	1.5	U	1.5	U	1.6	U
Hexachlorocyclopentadiene	UG/L			1.1	UJ	1.1	U	3.8	U	3.8	R	4	U
Hexachloroethane	UG/L			1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
Indeno(1,2,3-cd)pyrene	UG/L			1.1	U	1.1	U	1.6	U	1.6	UJ	1.7	U

Appendix D Table 2
SEAD-121C Sample Results - Groundwater

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C			SEAD-121C			SEAD-121C			SEAD-121C			SEAD-121C			SEAD-121C		
Sample Location Identification		MW121C-1			MW121C-1			MW121C-2			MW121C-3			MW121C-3			MW121C-4		
Matrix		GRND WTR			GRND WTR			GRND WTR			GRND WTR			GRND WTR			GRND WTR		
Sample Identification		EB023			EB153			EB154			121C-2000			121C-2009			121C-2002		
Sample Depth Top		0			2.1			1.6			7.75			7.75			4.5		
Sample Depth Bottom		0			9.7			5.1			9.5			9.5			10		
Sample Date		3/17/1998			3/17/1998			3/17/1998			2/3/2003			5/7/2003			2/3/2003		
SAmple or **DU**plicate		DU			SA			SA			SA			SA			SA		
See Notes at Bottom of Table		EBS			EBS			EBS			PID-RI			PID-RI			PID-RI		
											2			3			2		
Parameter	**Units**	Value	(Q)		Value	(Q)		Value	(Q)		Value	(Q)		Value	(Q)		Value	(Q)	
Isophorone	UG/L				1.1	U		1.1	U		1	U		1	U		1	U	
N-Nitrosodiphenylamine	UG/L				1.1	U		1.1	U		2	U		2	U		2.1	U	
N-Nitrosodipropylamine	UG/L				1.1	U		1.1	U		1	U		1	UJ		1	U	
Naphthalene	UG/L				1.1	U		1.1	U		1.2	U		1.2	U		1.2	U	
Nitrobenzene	UG/L				1.1	U		1.1	U		1	U		1	U		1	U	
Pentachlorophenol	UG/L				2.7	U		2.8	U		1.9	U		1.9	U		2	U	
Phenanthrene	UG/L				1.1	U		0.24	J		1	U		1	U		1	U	
Phenol	UG/L				1.1	U		1.1	U		1	U		1	U		1	U	
Pyrene	UG/L				1.1	U		0.13	J		1	U		1	U		1	U	
Pesticides and PCBs																			
4,4'-DDD	UG/L	0.9			0.11	U		0.81	J		0.01	R		0.01	UJ		0.01	R	
4,4'-DDE	UG/L	0.27	J		0.093	J		0.3	J		0.005	UJ		0.005	U		0.005	UJ	
4,4'-DDT	UG/L	0.29	J		0.28			0.56	J		0.01	R		0.01	U		0.01	R	
Aldrin	UG/L	0.057	U		0.057	U		0.054	U		0.02	U		0.02	UJ		0.02	U	
Alpha-BHC	UG/L	0.057	U		0.036	J		0.059	J		0.01	U		0.01	UJ		0.01	U	
Alpha-Chlordane	UG/L	0.096			0.068			0.054	U		0.02	U		0.02	UJ		0.02	U	
Aroclor-1016	UG/L	1.1	U		1.1	U		1.1	U		0.24	U		0.24	UJ		0.24	U	
Aroclor-1221	UG/L	2.3	U		2.3	U		2.2	U		0.08	U		0.081	U		0.08	U	
Aroclor-1232	UG/L	1.1	U		1.1	U		1.1	U		0.09	U		0.091	UJ		0.09	U	
Aroclor-1242	UG/L	1.1	U		1.1	U		1.1	U		0.08	U		0.081	UJ		0.08	U	
Aroclor-1248	UG/L	1.1	U		1.1	U		1.1	U		0.12	U		0.12	U		0.12	U	
Aroclor-1254	UG/L	1.1	U		1.1	U		1.1	U		0.05	U		0.051	U		0.05	U	
Aroclor-1260	UG/L	1.1	U		1.1	U		1.1	U		0.01	U		0.01	UJ		0.01	U	
Beta-BHC	UG/L	0.56	J		0.096	J		0.061	J		0.01	U		0.01	U		0.01	U	
Chlordane	UG/L										0.14	U					0.14	U	

Appendix D Table 2
SEAD-121C Sample Results - Groundwater

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C		SEAD-121C		SEAD-121C		SEAD-121C		SEAD-121C		SEAD-121C	
Sample Location Identification		MW121C-1		MW121C-1		MW121C-2		MW121C-3		MW121C-3		MW121C-4	
Matrix		GRND WTR		GRND WTR		GRND WTR		GRND WTR		GRND WTR		GRND WTR	
Sample Identification		EB023		EB153		EB154		121C-2000		121C-2009		121C-2002	
Sample Depth Top		0		2.1		1.6		7.75		7.75		4.5	
Sample Depth Bottom		0		9.7		5.1		9.5		9.5		10	
Sample Date		3/17/1998		3/17/1998		3/17/1998		2/3/2003		5/7/2003		2/3/2003	
SAmple or **DU**plicate		DU		SA		SA		SA		SA		SA	
See Notes at Bottom of Table		EBS		EBS		EBS		PID-RI		PID-RI		PID-RI	
								2		3		2	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Delta-BHC	UG/L	0.23	J	0.094		0.16	J	0.004	UJ	0.004	UJ	0.004	UJ
Dieldrin	UG/L	0.11	U	0.052	J	0.2	J	0.009	U	0.009	U	0.009	U
Endosulfan I	UG/L	0.11	J	0.08	J	0.054	U	0.02	UJ	0.02	UJ	0.02	UJ
Endosulfan II	UG/L	0.28	J	0.11	U	0.28		0.01	UJ	0.01	UJ	0.01	UJ
Endosulfan sulfate	UG/L	0.28	J	0.14	J	0.69	J	0.02	U	0.02	U	0.02	U
Endrin	UG/L	0.11	U	0.11	U	0.71	J	0.02	UJ	0.02	U	0.02	UJ
Endrin aldehyde	UG/L	0.22	J	0.073	J	0.97	J	0.02	UJ	0.02	U	0.02	UJ
Endrin ketone	UG/L	0.11	U	0.11	U	0.2		0.009	U	0.009	UJ	0.009	U
Gamma-BHC/Lindane	UG/L	0.057	U	0.057	U	0.038	J	0.009	U	0.009	UJ	0.009	U
Gamma-Chlordane	UG/L	0.47		0.086	J	0.17	J	0.01	U	0.01	U	0.01	U
Heptachlor	UG/L	0.23	J	0.058	J	0.054	U	0.007	U	0.007	U	0.007	U
Heptachlor epoxide	UG/L	0.057	U	0.072	J	0.11	J	0.009	UJ	0.009	U	0.009	UJ
Methoxychlor	UG/L	0.57		0.57	U	0.62	J	0.008	UJ	0.008	U	0.008	UJ
Toxaphene	UG/L	5.7	U	5.7	U	5.4	U	0.12	U	0.12	U	0.12	U
Metals													
Aluminum	UG/L	133		738	J	5350	J	401		239		146	J
Antimony	UG/L	5.1	U	5.1	U	5.1	U	7.5	U	3.8	U	7.5	U
Arsenic	UG/L	3.7	U	3.8		3.7	U	4.5	U	4.5	U	4.5	U
Barium	UG/L	39.5		38		106		73.7		69.3	J	29.6	
Beryllium	UG/L	0.1	U	0.1	U	0.1		0.9	U	0.1	U	0.9	U
Cadmium	UG/L	0.39		0.3	U	0.3	U	0.8	U	0.8	U	0.8	U
Calcium	UG/L	172000	J	163000		162000	J	115000		114000		420000	
Chromium	UG/L	1.2		2.4		6.5		1.4	U	3.1	J	1.4	U
Cobalt	UG/L	1.4	U	1.6		3.6		2.3	U	0.7	U	2.3	U
Copper	UG/L	1.2	U	2		5.2		2	U	6.2	J	2	U

Appendix D Table 2
SEAD-121C Sample Results - Groundwater

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

	AOC Location	SEAD-121C		SEAD-121C		SEAD-121C		SEAD-121C		SEAD-121C		SEAD-121C	
	Sample Location Identification	MW121C-1		MW121C-1		MW121C-2		MW121C-3		MW121C-3		MW121C-4	
	Matrix	GRND WTR		GRND WTR		GRND WTR		GRND WTR		GRND WTR		GRND WTR	
	Sample Identification	EB023		EB153		EB154		121C-2000		121C-2009		121C-2002	
	Sample Depth Top	0		2.1		1.6		7.75		7.75		4.5	
	Sample Depth Bottom	0		9.7		5.1		9.5		9.5		10	
	Sample Date	3/17/1998		3/17/1998		3/17/1998		2/3/2003		5/7/2003		2/3/2003	
	SAmple or **DU**plicate	DU		SA		SA		SA		SA		SA	
See Notes at Bottom of Table		EBS		EBS		EBS		PID-RI		PID-RI		PID-RI	
								2		3		2	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Cyanide	UG/L	5	U	5	U	5	U						
Cyanide, Amenable	MG/L							0.01	U	0.01	U	0.01	U
Cyanide, Total	MG/L							0.01	U			0.01	U
Iron	UG/L	346		1430		5620		540		516		34.9	U
Lead	UG/L	1.8	U	1.8	U	1.8	U	4.1		3	U	5.6	
Magnesium	UG/L	23800		24100		23200		27700		27800		73600	
Manganese	UG/L	1590		1140		1100		139		135		328	
Mercury	UG/L	0.1	U	0.1	U	0.1	U	0.2	U	0.2		0.2	U
Nickel	UG/L	2.8		4.2		10.6		2	U	2	U	2	U
Potassium	UG/L	7610		10900		21400		2070		1790	J	9430	
Selenium	UG/L	3.7	J	5.6	J	4.3		4.2	U	1.3	U	3	U
Silver	UG/L	1.3	U	1.3	U	1.3	U	3.7	U	3.7	U	3.7	U
Sodium	UG/L	8920		11200		95200		18300		17900		60100	
Thallium	UG/L	6.7	U	6.7	U	6.7	U	4.2	U	5.3	U	4.2	U
Vanadium	UG/L	1.5	U	2.4		6.5	J	2.5	U	1.4	U	2.5	U
Zinc	UG/L	2.4		9.3		16.4		12.8	J	38.2		9.2	J
Other Analyses													
Total Petroleum Hydrocarbons	MG/L							0.04	U	1	U	0.041	U

NOTES:
1) List includes all sample and sample duplicate pair members as discrete samples.
(Q)ualifier Code Definitions
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

Appendix D Table 2
SEAD-121C Sample Results - Groundwater

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		MW121C-1	MW121C-1	MW121C-2	MW121C-3	MW121C-3	MW121C-4
Matrix		GRND WTR	GRND WTR	GRND WTR	GRND WTR	GRND WTR	GRND WTR
Sample Identification		EB023	EB153	EB154	121C-2000	121C-2009	121C-2002
Sample Depth Top		0	2.1	1.6	7.75	7.75	4.5
Sample Depth Bottom		0	9.7	5.1	9.5	9.5	10
Sample Date		3/17/1998	3/17/1998	3/17/1998	2/3/2003	5/7/2003	2/3/2003
SAmple or **DU**plicate		DU	SA	SA	SA	SA	SA
See Notes at Bottom of Table		EBS	EBS	EBS	PID-RI	PID-RI	PID-RI
					2	3	2
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)

R = the data was rejected in the data validating process

Appendix D Table 2
SEAD-121C Sample Results - Groundwater

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C		SEAD-121C		SEAD-121C		SEAD-121C	
Sample Location Identification		MW121C-4		MW121C-4		MW121C-6		MW121C-6	
Matrix		GRND WTR		GRND WTR		GRND WTR		GRND WTR	
Sample Identification		121C-2004		121C-2010		121C-2003		121C-2012	
Sample Depth Top		4.5		4.5		6.9		6.9	
Sample Depth Bottom		10		10		10		10	
Sample Date		2/4/2003		5/7/2003		2/3/2003		5/7/2003	
SAmple or **DU**plicate		SA		SA		SA		SA	
See Notes at Bottom of Table		PID-RI		PID-RI		PID-RI		PID-RI	
		2		3		2		3	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Volatile Organics									
1,1,1-Trichloroethane	UG/L	5	U	0.4	U	5	U	0.4	U
1,1,2,2-Tetrachloroethane	UG/L	5	U	0.3	U	5	U	0.3	U
1,1,2-Trichloroethane	UG/L	5	U	0.3	U	5	U	0.3	U
1,1-Dichloroethane	UG/L	5	U	0.4	U	5	U	0.4	U
1,1-Dichloroethene	UG/L	5	U	0.3	U	5	U	0.3	UJ
1,2-Dibromo-3-chloropropane	UG/L								
1,2-Dibromoethane	UG/L								
1,2-Dichlorobenzene	UG/L								
1,2-Dichloroethane	UG/L	5	U	0.3	U	5	U	0.3	U
1,2-Dichloropropane	UG/L	5	U	0.4	U	5	U	0.4	U
1,3-Dichlorobenzene	UG/L								
1,4-Dichlorobenzene	UG/L								
Acetone	UG/L	5	UJ	5.8	R	5	UJ	8.5	UJ
Benzene	UG/L	5	U	0.3	U	5	U	0.3	U
Bromochloromethane	UG/L								
Bromodichloromethane	UG/L	5	U	0.4	U	5	U	0.4	U
Bromoform	UG/L	5	U	0.3	U	5	U	0.3	U
Carbon disulfide	UG/L	5	UJ	0.3	U	5	UJ	0.3	UJ
Carbon tetrachloride	UG/L	5	U	0.4	U	5	U	0.4	U
Chlorobenzene	UG/L	5	U	0.4	U	5	U	0.4	U
Chlorodibromomethane	UG/L	5	U	0.4	U	5	U	0.4	U
Chloroethane	UG/L	5	U	0.4	U	5	U	0.4	UJ
Chloroform	UG/L	5	U	0.4	U	5	U	0.4	U
Cis-1,2-Dichloroethene	UG/L	5	U	0.3	U	5	U	0.3	U

Appendix D Table 2
SEAD-121C Sample Results - Groundwater

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C		SEAD-121C		SEAD-121C		SEAD-121C	
Sample Location Identification		MW121C-4		MW121C-4		MW121C-6		MW121C-6	
Matrix		GRND WTR		GRND WTR		GRND WTR		GRND WTR	
Sample Identification		121C-2004		121C-2010		121C-2003		121C-2012	
Sample Depth Top		4.5		4.5		6.9		6.9	
Sample Depth Bottom		10		10		10		10	
Sample Date		2/4/2003		5/7/2003		2/3/2003		5/7/2003	
SAmple or **DU**plicate		SA		SA		SA		SA	
See Notes at Bottom of Table		PID-RI		PID-RI		PID-RI		PID-RI	
		2		3		2		3	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Cis-1,3-Dichloropropene	UG/L	5	U	0.3	U	5	U	0.3	UJ
Ethyl benzene	UG/L	5	U	0.4	U	5	U	0.4	U
Meta/Para Xylene	UG/L	5	U	0.8	U	5	U	0.8	U
Methyl bromide	UG/L	5	U	0.4	U	5	U	0.4	U
Methyl butyl ketone	UG/L	5	U	2.8	U	5	U	2.8	U
Methyl chloride	UG/L	5	UJ	0.4	UJ	5	UJ	0.4	U
Methyl ethyl ketone	UG/L	5	UJ	3.6	R	5	UJ	3.6	R
Methyl isobutyl ketone	UG/L	5	U	2.5	U	5	U	2.5	U
Methylene chloride	UG/L	5	U	1.3	UJ	5	U	0.6	UJ
Ortho Xylene	UG/L	5	U	0.4	U	5	U	0.4	U
Styrene	UG/L	5	U	0.3	U	5	U	0.3	U
Tetrachloroethene	UG/L	5	U	0.5	U	5	U	0.5	U
Toluene	UG/L	5	U	0.4	U	5	U	0.4	U
Total Xylenes	UG/L								
Trans-1,2-Dichloroethene	UG/L	5	U	0.4	U	5	U	0.4	U
Trans-1,3-Dichloropropene	UG/L	5	U	0.3	U	5	U	0.3	U
Trichloroethene	UG/L	5	U	0.4	U	5	U	0.4	U
Vinyl chloride	UG/L	5	U	0.3	U	5	U	0.3	U
Semivolatile Organics									
1,2,4-Trichlorobenzene	UG/L	1.3	UJ	1.2	U	1.2	U	1.2	U
1,2-Dichlorobenzene	UG/L	1.1	UJ	1	U	1	U	1	U
1,3-Dichlorobenzene	UG/L	1.3	UJ	1.2	U	1.2	U	1.2	U
1,4-Dichlorobenzene	UG/L	1.1	UJ	1	U	1	U	1	U
2,4,5-Trichlorophenol	UG/L	1.1	U	1	U	1	U	1	U
2,4,6-Trichlorophenol	UG/L	1.1	U	1	U	1	U	1	U

Appendix D Table 2
SEAD-121C Sample Results - Groundwater

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C		SEAD-121C		SEAD-121C		SEAD-121C	
Sample Location Identification		MW121C-4		MW121C-4		MW121C-6		MW121C-6	
Matrix		GRND WTR		GRND WTR		GRND WTR		GRND WTR	
Sample Identification		121C-2004		121C-2010		121C-2003		121C-2012	
Sample Depth Top		4.5		4.5		6.9		6.9	
Sample Depth Bottom		10		10		10		10	
Sample Date		2/4/2003		5/7/2003		2/3/2003		5/7/2003	
SAmple or **DU**plicate		SA		SA		SA		SA	
See Notes at Bottom of Table		PID-RI		PID-RI		PID-RI		PID-RI	
		2		3		2		3	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
2,4-Dichlorophenol	UG/L	1.4	U	1.3	U	1.3	U	1.3	U
2,4-Dimethylphenol	UG/L	2.4	U	2.3	U	2.4	U	2.3	U
2,4-Dinitrophenol	UG/L			2	U			2	UJ
2,4-Dinitrotoluene	UG/L	1.2	UJ	1.1	U	1.1	U	1.1	U
2,6-Dinitrotoluene	UG/L	1.1	UJ	1	U	1	U	1	U
2-Chloronaphthalene	UG/L	1.3	UJ	1.2	U	1.2	U	1.2	U
2-Chlorophenol	UG/L	1.2	U	1.1	U	1.1	U	1.1	U
2-Methylnaphthalene	UG/L	1.3	UJ	1.2	U	1.2	U	1.2	U
2-Methylphenol	UG/L	1.1	U	1	U	1	U	1	U
2-Nitroaniline	UG/L	1.1	UJ	1	U	1	U	1	U
2-Nitrophenol	UG/L	1.2	U	1.1	U	1.1	U	1.1	U
3 or 4-Methylphenol	UG/L	1.9	U			1.9	U		
3,3'-Dichlorobenzidine	UG/L	1.1	UJ	1	U	1	UJ	1	U
3-Nitroaniline	UG/L	1.3	UJ	1.2	U	1.2	U	1.2	UJ
4,6-Dinitro-2-methylphenol	UG/L	1.3	U	1.2	U	1.2	U	1.2	UJ
4-Bromophenyl phenyl ether	UG/L	1.4	UJ	1.3	U	1.3	U	1.3	U
4-Chloro-3-methylphenol	UG/L	1.2	U	1.1	U	1.1	U	1.1	U
4-Chloroaniline	UG/L	1.3	UJ	1.2	U	1.2	UJ	1.2	UJ
4-Chlorophenyl phenyl ether	UG/L	1.3	UJ	1.2	U	1.2	U	1.2	U
4-Methylphenol	UG/L			1.8	U			1.8	U
4-Nitroaniline	UG/L	2.5	UJ	2.4	U	2.5	U	2.4	UJ
4-Nitrophenol	UG/L	1.2	U	1.1	U	1.1	U	1.1	U
Acenaphthene	UG/L	1.1	UJ	1	U	1	U	1	U
Acenaphthylene	UG/L	1.3	UJ	1.2	U	1.2	U	1.2	U
Anthracene	UG/L	1.4	UJ	1.3	U	1.3	U	1.3	U

Appendix D Table 2
SEAD-121C Sample Results - Groundwater

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C		SEAD-121C		SEAD-121C		SEAD-121C	
Sample Location Identification		MW121C-4		MW121C-4		MW121C-6		MW121C-6	
Matrix		GRND WTR		GRND WTR		GRND WTR		GRND WTR	
Sample Identification		121C-2004		121C-2010		121C-2003		121C-2012	
Sample Depth Top		4.5		4.5		6.9		6.9	
Sample Depth Bottom		10		10		10		10	
Sample Date		2/4/2003		5/7/2003		2/3/2003		5/7/2003	
SAmple or **DU**plicate		SA		SA		SA		SA	
See Notes at Bottom of Table		PID-RI		PID-RI		PID-RI		PID-RI	
		2		3		2		3	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Benzo(a)anthracene	UG/L	1.1	UJ	1	U	1	U	1	U
Benzo(a)pyrene	UG/L	1.6	UJ	1.5	U	1.5	U	1.5	U
Benzo(b)fluoranthene	UG/L	1.1	UJ	1	U	1	U	1	U
Benzo(ghi)perylene	UG/L	1.4	UJ	1.3	U	1.3	UJ	1.3	UJ
Benzo(k)fluoranthene	UG/L	2.7	UJ	2.7	U	2.7	U	2.6	U
Bis(2-Chloroethoxy)methane	UG/L	1.1	UJ	1	U	1	U	1	U
Bis(2-Chloroethyl)ether	UG/L	1.3	UJ	1.2	U	1.2	U	1.2	U
Bis(2-Chloroisopropyl)ether	UG/L	1.1	UJ	1	U	1	U	1	U
Bis(2-Ethylhexyl)phthalate	UG/L	1.1	UJ	1.4	J	1	U	1	U
Butylbenzylphthalate	UG/L	1.1	UJ	1	U	1	U	1	U
Carbazole	UG/L	0.44	UJ	0.42	U	0.43	U	0.42	U
Chrysene	UG/L	1.7	UJ	1.6	U	1.6	U	1.6	U
Di-n-butylphthalate	UG/L	1.3	UJ	1.2	U	1.2	U	1.6	J
Di-n-octylphthalate	UG/L	1.6	UJ	1.5	U	1.5	U	1.5	U
Dibenz(a,h)anthracene	UG/L	1.6	UJ	1.5	U	1.5	UJ	1.5	UJ
Dibenzofuran	UG/L	1.1	UJ	1	U	1	U	1	U
Diethyl phthalate	UG/L	1.1	UJ	1	U	1	U	1	U
Dimethylphthalate	UG/L	1.1	UJ	1	U	1	U	1	U
Fluoranthene	UG/L	1.1	UJ	1	U	1	U	1	U
Fluorene	UG/L	1.2	UJ	1.1	U	1.1	U	1.1	U
Hexachlorobenzene	UG/L	1.2	UJ	1.1	U	1.1	U	1.1	U
Hexachlorobutadiene	UG/L	1.6	UJ	1.5	U	1.5	U	1.5	U
Hexachlorocyclopentadiene	UG/L	4	UJ	3.9	U	3.9	U	3.8	R
Hexachloroethane	UG/L	1.2	UJ	1.1	U	1.1	U	1.1	U
Indeno(1,2,3-cd)pyrene	UG/L	1.7	UJ	1.6	U	1.6	U	1.6	UJ

Appendix D Table 2
SEAD-121C Sample Results - Groundwater

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C		SEAD-121C		SEAD-121C		SEAD-121C	
Sample Location Identification		MW121C-4		MW121C-4		MW121C-6		MW121C-6	
Matrix		GRND WTR		GRND WTR		GRND WTR		GRND WTR	
Sample Identification		121C-2004		121C-2010		121C-2003		121C-2012	
Sample Depth Top		4.5		4.5		6.9		6.9	
Sample Depth Bottom		10		10		10		10	
Sample Date		2/4/2003		5/7/2003		2/3/2003		5/7/2003	
SAmple or **DU**plicate		SA		SA		SA		SA	
See Notes at Bottom of Table		PID-RI		PID-RI		PID-RI		PID-RI	
		2		3		2		3	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Isophorone	UG/L	1.1	UJ	1	U	1	U	1	U
N-Nitrosodiphenylamine	UG/L	2.1	UJ	2	U	2.1	U	2	U
N-Nitrosodipropylamine	UG/L	1.1	UJ	1	U	1	U	1	UJ
Naphthalene	UG/L	1.3	UJ	1.2	U	1.2	U	1.2	U
Nitrobenzene	UG/L	1.1	UJ	1	U	1	U	1	U
Pentachlorophenol	UG/L	2	U	1.9	U	2	U	1.9	U
Phenanthrene	UG/L	1.1	UJ	1	U	1	U	1	U
Phenol	UG/L	1.1	U	1	U	1	U	1	U
Pyrene	UG/L	1.1	UJ	1	U	1	U	1	U
Pesticides and PCBs									
4,4'-DDD	UG/L	0.01	R	0.01	UJ	0.01	R		
4,4'-DDE	UG/L	0.005	UJ	0.005	U	0.005	UJ		
4,4'-DDT	UG/L	0.01	R	0.01	UJ	0.01	R		
Aldrin	UG/L	0.02	U	0.02	U	0.02	U		
Alpha-BHC	UG/L	0.01	U	0.01	UJ	0.01	U		
Alpha-Chlordane	UG/L	0.02	U	0.02	U	0.02	U		
Aroclor-1016	UG/L	0.24	U	0.24	U	0.24	U		
Aroclor-1221	UG/L	0.08	U	0.081	U	0.08	U		
Aroclor-1232	UG/L	0.09	U	0.091	U	0.09	U		
Aroclor-1242	UG/L	0.08	U	0.081	U	0.08	U		
Aroclor-1248	UG/L	0.12	U	0.12	U	0.12	U		
Aroclor-1254	UG/L	0.05	U	0.051	U	0.05	U		
Aroclor-1260	UG/L	0.01	U	0.01	U	0.01	U		
Beta-BHC	UG/L	0.01	U	0.01	U	0.01	U		
Chlordane	UG/L	0.14	U			0.14	U		

Appendix D Table 2
SEAD-121C Sample Results - Groundwater

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C		SEAD-121C		SEAD-121C		SEAD-121C
Sample Location Identification		MW121C-4		MW121C-4		MW121C-6		MW121C-6
Matrix		GRND WTR		GRND WTR		GRND WTR		GRND WTR
Sample Identification		121C-2004		121C-2010		121C-2003		121C-2012
Sample Depth Top		4.5		4.5		6.9		6.9
Sample Depth Bottom		10		10		10		10
Sample Date		2/4/2003		5/7/2003		2/3/2003		5/7/2003
SAmple or **DU**plicate		SA		SA		SA		SA
See Notes at Bottom of Table		PID-RI		PID-RI		PID-RI		PID-RI
		2		3		2		3
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value (Q)
Delta-BHC	UG/L	0.004	UJ	0.004	UJ	0.004	UJ	
Dieldrin	UG/L	0.009	U	0.009	U	0.009	U	
Endosulfan I	UG/L	0.02	UJ	0.01	U	0.02	UJ	
Endosulfan II	UG/L	0.01	UJ	0.01	UJ	0.01	UJ	
Endosulfan sulfate	UG/L	0.02	U	0.02	UJ	0.02	U	
Endrin	UG/L	0.02	UJ	0.02	UJ	0.02	UJ	
Endrin aldehyde	UG/L	0.02	UJ	0.02	U	0.02	UJ	
Endrin ketone	UG/L	0.009	U	0.009	U	0.009	U	
Gamma-BHC/Lindane	UG/L	0.009	U	0.009	UJ	0.009	U	
Gamma-Chlordane	UG/L	0.01	U	0.01	U	0.01	U	
Heptachlor	UG/L	0.007	U	0.007	U	0.007	U	
Heptachlor epoxide	UG/L	0.009	UJ	0.008	U	0.009	UJ	
Methoxychlor	UG/L	0.008	UJ	0.008	UJ	0.008	UJ	
Toxaphene	UG/L	0.12	U	0.12	U	0.12	U	
Metals								
Aluminum	UG/L	1030		19.9	J	88.7	J	41.1 J
Antimony	UG/L	10.9	J	3.8	U	8.4	J	3.8 U
Arsenic	UG/L	4.5	U	4.5	U	4.5	U	4.5 U
Barium	UG/L	32.4		21	J	19.4		18.2 J
Beryllium	UG/L	0.9	U	0.24	J	0.9	U	0.1 U
Cadmium	UG/L	0.8	U	0.8	U	0.8	U	1.1 J
Calcium	UG/L	513000		338000	J	558000		418000
Chromium	UG/L	5.8		1.5	J	3.3		21.4
Cobalt	UG/L	4.8	J	1.5	J	3	J	0.7 U
Copper	UG/L	2	U	11.8	J	2	U	17.7 J

Appendix D Table 2
SEAD-121C Sample Results - Groundwater

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C		SEAD-121C		SEAD-121C		SEAD-121C	
Sample Location Identification		MW121C-4		MW121C-4		MW121C-6		MW121C-6	
Matrix		GRND WTR		GRND WTR		GRND WTR		GRND WTR	
Sample Identification		121C-2004		121C-2010		121C-2003		121C-2012	
Sample Depth Top		4.5		4.5		6.9		6.9	
Sample Depth Bottom		10		10		10		10	
Sample Date		2/4/2003		5/7/2003		2/3/2003		5/7/2003	
SAmple or **DU**plicate		SA		SA		SA		SA	
See Notes at Bottom of Table		PID-RI		PID-RI		PID-RI		PID-RI	
		2		3		2		3	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Cyanide	UG/L								
Cyanide, Amenable	MG/L	0.01	U	0.01	U	0.01	U	0.01	U
Cyanide, Total	MG/L	0.01	U			0.01	U		
Iron	UG/L	1720		22.2	U	34.9	U	22.2	U
Lead	UG/L	4.8		9		3.8		10.5	
Magnesium	UG/L	88000		61800		109000		89000	
Manganese	UG/L	244		279		297		170	
Mercury	UG/L	0.2	U	0.2	U	0.2	U	0.2	
Nickel	UG/L	3.2	J	2	U	2	U	2	U
Potassium	UG/L	6320		9400		3850		6320	J
Selenium	UG/L	5	U	1.9	J	6.8		1.3	U
Silver	UG/L	3.7	U	3.7	U	3.7	U	3.7	U
Sodium	UG/L	56700		54100		26400		17600	
Thallium	UG/L	4.2	U	5.3	U	4.2	U	5.3	U
Vanadium	UG/L	2.5	U	1.4	U	2.5	U	1.4	U
Zinc	UG/L	24		24.8		12.6	J	96.2	
Other Analyses									
Total Petroleum Hydrocarbons	MG/L	0.04	U	1	U	0.04	U	1	U

NOTES:
1) List includes all sample and sample d
(Q)ualifier Code Definitions
U = compound was not detected
J = the reported value is an estimated cc
UJ = the compound was not detected; th

Appendix D Table 2
SEAD-121C Sample Results - Groundwater

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C		SEAD-121C		SEAD-121C		SEAD-121C	
Sample Location Identification		MW121C-4		MW121C-4		MW121C-6		MW121C-6	
Matrix		GRND WTR		GRND WTR		GRND WTR		GRND WTR	
Sample Identification		121C-2004		121C-2010		121C-2003		121C-2012	
Sample Depth Top		4.5		4.5		6.9		6.9	
Sample Depth Bottom		10		10		10		10	
Sample Date		2/4/2003		5/7/2003		2/3/2003		5/7/2003	
SAmple or **DU**plicate		SA		SA		SA		SA	
See Notes at Bottom of Table		PID-RI		PID-RI		PID-RI		PID-RI	
		2		3		2		3	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)

R = the data was rejected in the data val

Appendix D Table 3
SEAD-121C Sample Results - Surface Water

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SWDRMO-1	SWDRMO-10	SWDRMO-2	SWDRMO-3	SWDRMO-4	SWDRMO-5
		SURFACE	SURFACE	SURFACE	SURFACE	SURFACE	SURFACE
Matrix		WATER	WATER	WATER	WATER	WATER	WATER
Sample Identification		DRMO-3000	DRMO-3010	DRMO-3001	DRMO-3002	DRMO-3003	DRMO-3004
Sample Depth Top		0	0	0	0	0	0
Sample Depth Bottom		N/A	N/A	N/A	N/A	N/A	N/A
Sample Date		11/5/2002	11/5/2002	11/5/2002	11/5/2002	11/5/2002	11/5/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
		1		1	1	1	1
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organics							
1,1,1-Trichloroethane	UG/L	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U
1,1,2,2-Tetrachloroethane	UG/L	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
1,1,2-Trichloroethane	UG/L	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U
1,1-Dichloroethane	UG/L	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U
1,1-Dichloroethene	UG/L	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U
1,2-Dichloroethane	UG/L	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U
1,2-Dichloropropane	UG/L	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
Acetone	UG/L	3.5 UJ	3.5 UJ	3.5 UJ	3.5 UJ	3.5 UJ	3.5 UJ
Benzene	UG/L	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U
Bromodichloromethane	UG/L	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
Bromoform	UG/L	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U
Carbon disulfide	UG/L	0.72 UJ	0.72 U	0.72 UJ	0.72 UJ	0.72 UJ	0.72 UJ
Carbon tetrachloride	UG/L	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U
Chlorobenzene	UG/L	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U
Chlorodibromomethane	UG/L	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U
Chloroethane	UG/L	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U
Chloroform	UG/L	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U
Cis-1,2-Dichloroethene	UG/L	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U
Cis-1,3-Dichloropropene	UG/L	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U
Ethyl benzene	UG/L	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U
Meta/Para Xylene	UG/L	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
Methyl bromide	UG/L	0.38 U	0.38 UJ	0.38 U	0.38 U	0.38 U	0.38 U
Methyl butyl ketone	UG/L	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U

Appendix D Table 3
SEAD-121C Sample Results - Surface Water

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C		SEAD-121C		SEAD-121C		SEAD-121C		SEAD-121C	
Sample Location Identification		SWDRMO-1		SWDRMO-10		SWDRMO-2		SWDRMO-3		SWDRMO-4	
		SURFACE		SURFACE		SURFACE		SURFACE		SURFACE	
Matrix		WATER		WATER		WATER		WATER		WATER	
Sample Identification		DRMO-3000		DRMO-3010		DRMO-3001		DRMO-3002		DRMO-3003	
Sample Depth Top		0		0		0		0		0	
Sample Depth Bottom		N/A		N/A		N/A		N/A		N/A	
Sample Date		11/5/2002		11/5/2002		11/5/2002		11/5/2002		11/5/2002	
SAmple or **DU**plicate		SA		SA		SA		SA		SA	
See Notes at Bottom of Table		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI	
		1				1		1		1	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Methyl chloride	UG/L	0.51	U	0.51	U	0.51	U	0.51	U	0.51	U
Methyl ethyl ketone	UG/L	2.3	U	2.3	U	2.3	U	2.3	U	2.3	U
Methyl isobutyl ketone	UG/L	0.81	U	0.81	UJ	0.81	U	0.81	U	0.81	U
Methylene chloride	UG/L	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U
Ortho Xylene	UG/L	0.72	U	0.72	U	0.72	U	0.72	U	0.72	U
Styrene	UG/L	0.92	U	0.92	U	0.92	U	0.92	U	0.92	U
Tetrachloroethene	UG/L	0.7	UJ	0.7	UJ	0.7	UJ	0.7	UJ	0.7	UJ
Toluene	UG/L	0.71	U	0.71	U	0.71	U	0.71	U	0.71	U
Trans-1,2-Dichloroethene	UG/L	0.81	UJ	0.81	U	0.81	UJ	0.81	UJ	0.81	UJ
Trans-1,3-Dichloropropene	UG/L	0.66	U	0.66	U	0.66	U	0.66	U	0.66	U
Trichloroethene	UG/L	0.72	U	0.72	U	0.72	U	0.72	U	0.72	U
Vinyl chloride	UG/L	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U
Semivolatile Organics											
1,2,4-Trichlorobenzene	UG/L	10	U	10	U	10	U	10	U	10	U
1,2-Dichlorobenzene	UG/L	10	U	10	U	10	U	10	U	10	U
1,3-Dichlorobenzene	UG/L	10	U	10	U	10	U	10	U	10	U
1,4-Dichlorobenzene	UG/L	10	U	10	U	10	U	10	U	10	U
2,4,5-Trichlorophenol	UG/L	10	U	10	U	10	U	10	U	10	U
2,4,6-Trichlorophenol	UG/L	10	U	10	U	10	U	10	U	10	U
2,4-Dichlorophenol	UG/L	10	U	10	U	10	U	10	U	10	U
2,4-Dimethylphenol	UG/L	10	U	10	U	10	U	10	U	10	U
2,4-Dinitrophenol	UG/L	10	UJ	10	UJ	10	U	10	UJ	10	U
2,4-Dinitrotoluene	UG/L	10	U	10	U	10	U	10	U	10	U
2,6-Dinitrotoluene	UG/L	10	U	10	U	10	U	10	U	10	U

Appendix D Table 3
SEAD-121C Sample Results - Surface Water

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SWDRMO-1	SWDRMO-10	SWDRMO-2	SWDRMO-3	SWDRMO-4	SWDRMO-5
		SURFACE	SURFACE	SURFACE	SURFACE	SURFACE	SURFACE
Matrix		WATER	WATER	WATER	WATER	WATER	WATER
Sample Identification		DRMO-3000	DRMO-3010	DRMO-3001	DRMO-3002	DRMO-3003	DRMO-3004
Sample Depth Top		0	0	0	0	0	0
Sample Depth Bottom		N/A	N/A	N/A	N/A	N/A	N/A
Sample Date		11/5/2002	11/5/2002	11/5/2002	11/5/2002	11/5/2002	11/5/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
		1		1	1	1	1
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
2-Chloronaphthalene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylphenol	UG/L	10 U	10 UJ	10 U	10 U	10 U	10 UJ
2-Nitroaniline	UG/L	10 UJ	10 U	10 U	10 U	10 U	10 U
2-Nitrophenol	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
3 or 4-Methylphenol	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
3-Nitroaniline	UG/L	10 UJ	10 U	10 U	10 U	10 U	10 UJ
4,6-Dinitro-2-methylphenol	UG/L	10 UJ	10 UJ	10 U	10 U	10 UJ	10 UJ
4-Bromophenyl phenyl ether	UG/L	10 UJ	10 UJ	10 U	10 U	10 UJ	10 UJ
4-Chloro-3-methylphenol	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloroaniline	UG/L	10 UJ	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl phenyl ether	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitroaniline	UG/L	10 UJ	10 UJ	10 U	10 U	10 UJ	10 UJ
4-Nitrophenol	UG/L	10 UJ	10 UJ	10 U	10 U	10 UJ	10 UJ
Acenaphthene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Anthracene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)anthracene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	UG/L	10 U	10 U	10 UJ	10 U	10 U	10 UJ
Benzo(ghi)perylene	UG/L	10 UJ	10 UJ	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U

Appendix D Table 3
SEAD-121C Sample Results - Surface Water

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SWDRMO-1	SWDRMO-10	SWDRMO-2	SWDRMO-3	SWDRMO-4	SWDRMO-5
		SURFACE	SURFACE	SURFACE	SURFACE	SURFACE	SURFACE
Matrix		WATER	WATER	WATER	WATER	WATER	WATER
Sample Identification		DRMO-3000	DRMO-3010	DRMO-3001	DRMO-3002	DRMO-3003	DRMO-3004
Sample Depth Top		0	0	0	0	0	0
Sample Depth Bottom		N/A	N/A	N/A	N/A	N/A	N/A
Sample Date		11/5/2002	11/5/2002	11/5/2002	11/5/2002	11/5/2002	11/5/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
		1		1	1	1	1
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Bis(2-Chloroethoxy)methane	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-Chloroethyl)ether	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-Chloroisopropyl)ether	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-Ethylhexyl)phthalate	UG/L	10 U	10 U	4.2 J	10 U	10 U	10 U
Butylbenzylphthalate	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Carbazole	UG/L	10 UJ	10 U	10 U	10 U	10 U	10 U
Chrysene	UG/L	10 UJ	10 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	UG/L	10 UJ	10 UJ	10 U	10 U	10 UJ	10 UJ
Di-n-octylphthalate	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	UG/L	10 UJ	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Diethyl phthalate	UG/L	10 UJ	10 U	10 U	10 U	10 U	10 U
Dimethylphthalate	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Fluorene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	UG/L	10 UJ	10 UJ	10 U	10 U	10 UJ	10 UJ
Hexachlorobutadiene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	UG/L	10 UJ	10 U	10 UJ	10 UJ	10 U	10 UJ
Hexachloroethane	UG/L	10 U	10 U	10 U	10 U	10 U	10 UJ
Indeno(1,2,3-cd)pyrene	UG/L	10 UJ	10 UJ	10 U	10 U	10 UJ	10 U
Isophorone	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
N-Nitrosodiphenylamine	UG/L	10 U	10 U	10 U	10 UJ	10 U	10 UJ
N-Nitrosodipropylamine	UG/L	10 U	10 U	10 UJ	10 U	10 U	10 U
Naphthalene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U

Appendix D Table 3
SEAD-121C Sample Results - Surface Water

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SWDRMO-1	SWDRMO-10	SWDRMO-2	SWDRMO-3	SWDRMO-4	SWDRMO-5
		SURFACE	SURFACE	SURFACE	SURFACE	SURFACE	SURFACE
Matrix		WATER	WATER	WATER	WATER	WATER	WATER
Sample Identification		DRMO-3000	DRMO-3010	DRMO-3001	DRMO-3002	DRMO-3003	DRMO-3004
Sample Depth Top		0	0	0	0	0	0
Sample Depth Bottom		N/A	N/A	N/A	N/A	N/A	N/A
Sample Date		11/5/2002	11/5/2002	11/5/2002	11/5/2002	11/5/2002	11/5/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
		1		1	1	1	1
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Nitrobenzene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	UG/L	10 UJ	10 UJ	10 U	10 U	10 UJ	10 UJ
Phenanthrene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Phenol	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Pyrene	UG/L	10 UJ	10 UJ	10 U	10 U	10 UJ	10 UJ
Pesticides and PCBs							
4,4'-DDD	UG/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
4,4'-DDE	UG/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
4,4'-DDT	UG/L	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
Aldrin	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Alpha-BHC	UG/L	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
Alpha-Chlordane	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Beta-BHC	UG/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Chlordane	UG/L	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
Delta-BHC	UG/L	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Dieldrin	UG/L	0.009 UJ	0.009 U	0.009 UJ	0.009 UJ	0.009 UJ	0.009 UJ
Endosulfan I	UG/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Endosulfan II	UG/L	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
Endosulfan sulfate	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin aldehyde	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin ketone	UG/L	0.009 U	0.009 U	0.009 U	0.009 U	0.009 U	0.009 U
Gamma-BHC/Lindane	UG/L	0.009 U	0.009 U	0.009 U	0.009 U	0.009 U	0.009 U
Gamma-Chlordane	UG/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U

Appendix D Table 3
SEAD-121C Sample Results - Surface Water

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C		SEAD-121C		SEAD-121C		SEAD-121C		SEAD-121C		SEAD-121C	
Sample Location Identification		SWDRMO-1		SWDRMO-10		SWDRMO-2		SWDRMO-3		SWDRMO-4		SWDRMO-5	
Matrix		SURFACE WATER		SURFACE WATER		SURFACE WATER		SURFACE WATER		SURFACE WATER		SURFACE WATER	
Sample Identification		DRMO-3000		DRMO-3010		DRMO-3001		DRMO-3002		DRMO-3003		DRMO-3004	
Sample Depth Top		0		0		0		0		0		0	
Sample Depth Bottom		N/A		N/A		N/A		N/A		N/A		N/A	
Sample Date		11/5/2002		11/5/2002		11/5/2002		11/5/2002		11/5/2002		11/5/2002	
SAmple or **DU**plicate		SA		SA		SA		SA		SA		SA	
See Notes at Bottom of Table		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI	
		1				1		1		1		1	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Heptachlor	UG/L	0.007	U	0.007	U	0.007	U	0.007	U	0.007	U	0.007	U
Heptachlor epoxide	UG/L	0.008	U	0.008	U	0.008	U	0.008	U	0.008	U	0.008	U
Methoxychlor	UG/L	0.008	U	0.008	U	0.008	U	0.008	U	0.008	U	0.008	U
Toxaphene	UG/L	0.12	U	0.12	U	0.12	U	0.12	U	0.12	U	0.12	U
Aroclor-1016	UG/L	0.24	UJ	0.24	UJ	0.24	UJ	0.24	UJ	0.24	UJ	0.24	UJ
Aroclor-1221	UG/L	0.08	U	0.08	U	0.08	U	0.08	U	0.08	U	0.08	U
Aroclor-1232	UG/L	0.09	UJ	0.09	UJ	0.09	UJ	0.09	UJ	0.09	UJ	0.09	UJ
Aroclor-1242	UG/L	0.08	UJ	0.08	UJ	0.08	UJ	0.08	UJ	0.08	UJ	0.08	UJ
Aroclor-1248	UG/L	0.12	U	0.12	U	0.12	U	0.12	U	0.12	U	0.12	U
Aroclor-1254	UG/L	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
Aroclor-1260	UG/L	0.01	UJ	0.01	UJ	0.01	UJ	0.01	UJ	0.01	UJ	0.01	UJ
Metals													
Aluminum	UG/L	146		219		8760		4500		39		524	
Antimony	UG/L	4.7	U	4.7	U	4.7	U	4.7	U	4.7	U	4.7	U
Arsenic	UG/L	2.8	U	2.8	U	50.3		2.8	U	2.8	U	2.8	U
Barium	UG/L	53.7		75.9		423		149		49.5		72.5	
Beryllium	UG/L	0.1	U	0.16	J	0.86	J	0.52	J	0.12	J	0.16	
Cadmium	UG/L	0.4	U	0.4	U	19.5		4.3		0.4	U	1.4	
Calcium	UG/L	73800		115000		150000		166000		66700		92600	
Chromium	UG/L	1.8		1.9		129		13.7		0.69		2.2	
Cobalt	UG/L	2.2		0.6	U	47		9.7		0.6	U	3	
Copper	UG/L	4		3.8		1160		118		2.3		12.3	
Cyanide, Amenable	MG/L	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
Cyanide, Total	MG/L	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U

Appendix D Table 3
SEAD-121C Sample Results - Surface Water

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C		SEAD-121C		SEAD-121C		SEAD-121C		SEAD-121C	
Sample Location Identification		SWDRMO-1		SWDRMO-10		SWDRMO-2		SWDRMO-3		SWDRMO-4	
		SURFACE		SURFACE		SURFACE		SURFACE		SURFACE	
Matrix		WATER		WATER		WATER		WATER		WATER	
Sample Identification		DRMO-3000		DRMO-3010		DRMO-3001		DRMO-3002		DRMO-3003	
Sample Depth Top		0		0		0		0		0	
Sample Depth Bottom		N/A		N/A		N/A		N/A		N/A	
Sample Date		11/5/2002		11/5/2002		11/5/2002		11/5/2002		11/5/2002	
SAmple or **DU**plicate		SA		SA		SA		SA		SA	
See Notes at Bottom of Table		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI	
		1				1		1		1	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Iron	UG/L	1460		421		110000		17200		105	
Lead	UG/L	6.5	J	8	J	839		261		5.9	J
Magnesium	UG/L	12200		16100		26200		20000		11400	
Manganese	UG/L	315		55.2		2380		828		37.4	
Mercury	UG/L	0.2	U	0.2	U	2.1		0.26		0.2	U
Nickel	UG/L	1.8	U	1.8	U	154		20.4		1.8	U
Potassium	UG/L	3420	J	2310	J	2580	J	5350	J	3440	J
Selenium	UG/L	3	U	3	U	4.6	J	3	U	3	U
Silver	UG/L	1	U	1	U	8		1.7		1	U
Sodium	UG/L	123000	J	73900	J	71500	J	75200	J	117000	J
Thallium	UG/L	5.5	J	5.4	U	5.4	U	5.4	U	6.3	
Vanadium	UG/L	1.2		0.7	U	233		14.6		0.7	U
Zinc	UG/L	19.6		19.7		6910		425		16.4	
Other Analyses											
Total Petroleum Hydrocarbons	MG/L	1	U	1	U	8.08		1	U	1	U

AOC Location		SEAD-121C									
Sample Location Identification		SWDRMO-5									
		SURFACE									
Matrix		WATER									
Sample Identification		DRMO-3004									
Sample Depth Top		0									
Sample Depth Bottom		N/A									
Sample Date		11/5/2002									
SAmple or **DU**plicate		SA									
See Notes at Bottom of Table		PID-RI									
		1									
Parameter	**Units**	Value	(Q)								
Iron	UG/L	2020									
Lead	UG/L	16.1									
Magnesium	UG/L	12300									
Manganese	UG/L	235									
Mercury	UG/L	0.2	U								
Nickel	UG/L	10.6									
Potassium	UG/L	3720	J								
Selenium	UG/L	3	U								
Silver	UG/L	1	U								
Sodium	UG/L	70400	J								
Thallium	UG/L	5.4	U								
Vanadium	UG/L	2.1									
Zinc	UG/L	102									
Other Analyses											
Total Petroleum Hydrocarbons	MG/L	1	U								

NOTES:
1) List includes all sample and sample duplicate pair members as discrete samples.
(Q)ualifier Code Definitions
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 data was rejected in the data validating process

Appendix D Table 3
SEAD-121C Sample Results - Surface Water

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SWDRMO-6	SWDRMO-7	SWDRMO-8	SWDRMO-8	SWDRMO-9
		SURFACE	SURFACE	SURFACE	SURFACE	SURFACE
Matrix		WATER	WATER	WATER	WATER	WATER
Sample Identification		DRMO-3006	DRMO-3007	DRMO-3008	DRMO-3005	DRMO-3009
Sample Depth Top		0	0	0	0	0
Sample Depth Bottom		N/A	N/A	N/A	N/A	N/A
Sample Date		11/5/2002	11/5/2002	11/5/2002	11/5/2002	11/5/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
		1	1	1		
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organics						
1,1,1-Trichloroethane	UG/L	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U
1,1,2,2-Tetrachloroethane	UG/L	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
1,1,2-Trichloroethane	UG/L	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U
1,1-Dichloroethane	UG/L	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U
1,1-Dichloroethene	UG/L	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U
1,2-Dichloroethane	UG/L	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U
1,2-Dichloropropane	UG/L	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
Acetone	UG/L	3.5 UJ	3.5 UJ	3.5 UJ	3.5 UJ	3.5 UJ
Benzene	UG/L	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U
Bromodichloromethane	UG/L	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
Bromoform	UG/L	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U
Carbon disulfide	UG/L	0.72 UJ	0.72 UJ	0.72 U	0.72 U	0.72 U
Carbon tetrachloride	UG/L	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U
Chlorobenzene	UG/L	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U
Chlorodibromomethane	UG/L	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U
Chloroethane	UG/L	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U
Chloroform	UG/L	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U
Cis-1,2-Dichloroethene	UG/L	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U
Cis-1,3-Dichloropropene	UG/L	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U
Ethyl benzene	UG/L	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U
Meta/Para Xylene	UG/L	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
Methyl bromide	UG/L	0.38 U	0.38 U	0.38 UJ	0.38 UJ	0.38 UJ
Methyl butyl ketone	UG/L	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U

Appendix D Table 3
SEAD-121C Sample Results - Surface Water

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SWDRMO-6	SWDRMO-7	SWDRMO-8	SWDRMO-8	SWDRMO-9
		SURFACE	SURFACE	SURFACE	SURFACE	SURFACE
Matrix		WATER	WATER	WATER	WATER	WATER
Sample Identification		DRMO-3006	DRMO-3007	DRMO-3008	DRMO-3005	DRMO-3009
Sample Depth Top		0	0	0	0	0
Sample Depth Bottom		N/A	N/A	N/A	N/A	N/A
Sample Date		11/5/2002	11/5/2002	11/5/2002	11/5/2002	11/5/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
		1	1	1		
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl chloride	UG/L	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
Methyl ethyl ketone	UG/L	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U
Methyl isobutyl ketone	UG/L	0.81 U	0.81 U	0.81 UJ	0.81 UJ	0.81 UJ
Methylene chloride	UG/L	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
Ortho Xylene	UG/L	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U
Styrene	UG/L	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U
Tetrachloroethene	UG/L	0.7 UJ	0.7 UJ	0.7 UJ	0.7 UJ	0.7 UJ
Toluene	UG/L	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U
Trans-1,2-Dichloroethene	UG/L	0.81 UJ	0.81 UJ	0.81 U	0.81 U	0.81 U
Trans-1,3-Dichloropropene	UG/L	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U
Trichloroethene	UG/L	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U
Vinyl chloride	UG/L	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U
Semivolatile Organics						
1,2,4-Trichlorobenzene	UG/L	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	UG/L	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	UG/L	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	UG/L	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	UG/L	10 U	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	UG/L	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	UG/L	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	UG/L	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	UG/L	10 UJ	10 UJ	10 U	10 U	10 UJ
2,4-Dinitrotoluene	UG/L	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	UG/L	10 U	10 U	10 U	10 U	10 U

Appendix D Table 3
SEAD-121C Sample Results - Surface Water

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SWDRMO-6	SWDRMO-7	SWDRMO-8	SWDRMO-8	SWDRMO-9
		SURFACE	SURFACE	SURFACE	SURFACE	SURFACE
Matrix		WATER	WATER	WATER	WATER	WATER
Sample Identification		DRMO-3006	DRMO-3007	DRMO-3008	DRMO-3005	DRMO-3009
Sample Depth Top		0	0	0	0	0
Sample Depth Bottom		N/A	N/A	N/A	N/A	N/A
Sample Date		11/5/2002	11/5/2002	11/5/2002	11/5/2002	11/5/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
		1	1	1		
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
2-Chloronaphthalene	UG/L	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	UG/L	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	UG/L	10 U	10 U	10 U	10 U	10 U
2-Methylphenol	UG/L	10 UJ	10 UJ	10 U	10 U	10 UJ
2-Nitroaniline	UG/L	10 U	10 U	10 U	10 U	10 U
2-Nitrophenol	UG/L	10 U	10 U	10 U	10 U	10 U
3 or 4-Methylphenol	UG/L	10 U	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	UG/L	10 U	10 U	10 U	10 U	10 U
3-Nitroaniline	UG/L	10 UJ	10 U	10 U	10 U	10 U
4,6-Dinitro-2-methylphenol	UG/L	10 UJ	10 UJ	10 U	10 U	10 UJ
4-Bromophenyl phenyl ether	UG/L	10 UJ	10 UJ	10 U	10 U	10 UJ
4-Chloro-3-methylphenol	UG/L	10 U	10 U	10 U	10 U	10 U
4-Chloroaniline	UG/L	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl phenyl ether	UG/L	10 U	10 U	10 U	10 U	10 U
4-Nitroaniline	UG/L	10 UJ	10 UJ	10 U	10 U	10 UJ
4-Nitrophenol	UG/L	10 UJ	10 UJ	10 U	10 U	10 UJ
Acenaphthene	UG/L	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	UG/L	10 U	10 U	10 U	10 U	10 U
Anthracene	UG/L	10 U	10 U	10 U	10 U	10 U
Benzo(a)anthracene	UG/L	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	UG/L	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	UG/L	10 UJ	10 U	10 U	10 U	10 U
Benzo(ghi)perylene	UG/L	10 U	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	UG/L	10 U	10 U	10 U	10 U	10 U

Appendix D Table 3
SEAD-121C Sample Results - Surface Water

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SWDRMO-6	SWDRMO-7	SWDRMO-8	SWDRMO-8	SWDRMO-9
		SURFACE	SURFACE	SURFACE	SURFACE	SURFACE
Matrix		WATER	WATER	WATER	WATER	WATER
Sample Identification		DRMO-3006	DRMO-3007	DRMO-3008	DRMO-3005	DRMO-3009
Sample Depth Top		0	0	0	0	0
Sample Depth Bottom		N/A	N/A	N/A	N/A	N/A
Sample Date		11/5/2002	11/5/2002	11/5/2002	11/5/2002	11/5/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
		1	1	1		
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Bis(2-Chloroethoxy)methane	UG/L	10 U	10 U	10 U	10 U	10 U
Bis(2-Chloroethyl)ether	UG/L	10 U	10 U	10 UJ	10 UJ	10 U
Bis(2-Chloroisopropyl)ether	UG/L	10 U	10 U	10 U	10 U	10 U
Bis(2-Ethylhexyl)phthalate	UG/L	10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate	UG/L	10 U	10 U	10 U	10 U	10 U
Carbazole	UG/L	10 U	10 U	10 U	10 U	10 U
Chrysene	UG/L	10 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	UG/L	10 UJ	10 UJ	10 U	10 U	10 UJ
Di-n-octylphthalate	UG/L	10 U	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	UG/L	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	UG/L	10 U	10 U	10 U	10 U	10 U
Diethyl phthalate	UG/L	10 U	10 U	10 U	10 U	10 U
Dimethylphthalate	UG/L	10 U	10 U	10 U	10 U	10 U
Fluoranthene	UG/L	10 U	10 U	10 U	10 U	10 U
Fluorene	UG/L	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	UG/L	10 UJ	10 UJ	10 U	10 U	10 UJ
Hexachlorobutadiene	UG/L	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	UG/L	10 UJ	10 U	10 UJ	10 UJ	10 U
Hexachloroethane	UG/L	10 UJ	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	UG/L	10 U	10 UJ	10 U	10 U	10 UJ
Isophorone	UG/L	10 U	10 U	10 U	10 U	10 U
N-Nitrosodiphenylamine	UG/L	10 UJ	10 U	10 U	10 U	10 U
N-Nitrosodipropylamine	UG/L	10 U	10 U	10 U	10 U	10 U
Naphthalene	UG/L	10 U	10 U	10 U	10 U	10 U

Appendix D Table 3
SEAD-121C Sample Results - Surface Water

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C		SEAD-121C		SEAD-121C		SEAD-121C		SEAD-121C	
Sample Location Identification		SWDRMO-6		SWDRMO-7		SWDRMO-8		SWDRMO-8		SWDRMO-9	
		SURFACE		SURFACE		SURFACE		SURFACE		SURFACE	
Matrix		WATER		WATER		WATER		WATER		WATER	
Sample Identification		DRMO-3006		DRMO-3007		DRMO-3008		DRMO-3005		DRMO-3009	
Sample Depth Top		0		0		0		0		0	
Sample Depth Bottom		N/A		N/A		N/A		N/A		N/A	
Sample Date		11/5/2002		11/5/2002		11/5/2002		11/5/2002		11/5/2002	
SAmple or **DU**plicate		SA		SA		SA		SA		SA	
See Notes at Bottom of Table		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI	
		1		1		1					
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Nitrobenzene	UG/L	10	U	10	U	10	U	10	U	10	U
Pentachlorophenol	UG/L	10	UJ	10	UJ	10	U	10	U	10	UJ
Phenanthrene	UG/L	10	U	10	U	10	U	10	U	10	U
Phenol	UG/L	10	U	10	U	10	U	10	U	10	U
Pyrene	UG/L	10	UJ	10	UJ	10	U	10	U	10	UJ
Pesticides and PCBs											
4,4'-DDD	UG/L	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
4,4'-DDE	UG/L	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
4,4'-DDT	UG/L	0.01	UJ	0.01	UJ	0.01	UJ	0.01	UJ	0.01	UJ
Aldrin	UG/L	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
Alpha-BHC	UG/L	0.01	UJ	0.01	UJ	0.01	UJ	0.01	UJ	0.01	UJ
Alpha-Chlordane	UG/L	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
Beta-BHC	UG/L	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
Chlordane	UG/L	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U
Delta-BHC	UG/L	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U
Dieldrin	UG/L	0.009	UJ	0.009	UJ	0.009	UJ	0.009	U	0.009	U
Endosulfan I	UG/L	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
Endosulfan II	UG/L	0.01	UJ	0.01	UJ	0.01	UJ	0.01	UJ	0.01	UJ
Endosulfan sulfate	UG/L	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
Endrin	UG/L	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
Endrin aldehyde	UG/L	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
Endrin ketone	UG/L	0.009	U	0.009	U	0.009	U	0.009	U	0.009	U
Gamma-BHC/Lindane	UG/L	0.009	U	0.009	U	0.009	U	0.009	U	0.009	U
Gamma-Chlordane	UG/L	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U

Appendix D Table 3
SEAD-121C Sample Results - Surface Water

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C	SEAD-121C
Sample Location Identification		SWDRMO-6	SWDRMO-7	SWDRMO-8	SWDRMO-8	SWDRMO-9
		SURFACE	SURFACE	SURFACE	SURFACE	SURFACE
Matrix		WATER	WATER	WATER	WATER	WATER
Sample Identification		DRMO-3006	DRMO-3007	DRMO-3008	DRMO-3005	DRMO-3009
Sample Depth Top		0	0	0	0	0
Sample Depth Bottom		N/A	N/A	N/A	N/A	N/A
Sample Date		11/5/2002	11/5/2002	11/5/2002	11/5/2002	11/5/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
		1	1	1		
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Heptachlor	UG/L	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U
Heptachlor epoxide	UG/L	0.008 U	0.008 U	0.008 U	0.008 U	0.008 U
Methoxychlor	UG/L	0.008 U	0.008 U	0.008 U	0.008 U	0.008 U
Toxaphene	UG/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Aroclor-1016	UG/L	0.24 UJ	0.24 UJ	0.24 UJ	0.24 UJ	0.24 UJ
Aroclor-1221	UG/L	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Aroclor-1232	UG/L	0.09 UJ	0.09 UJ	0.09 UJ	0.09 UJ	0.09 UJ
Aroclor-1242	UG/L	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ
Aroclor-1248	UG/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Aroclor-1254	UG/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Aroclor-1260	UG/L	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
Metals						
Aluminum	UG/L	27.5	14.4	23.9	23.4	19.4
Antimony	UG/L	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
Arsenic	UG/L	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U
Barium	UG/L	50.4	54	43.7	47.4	37.2
Beryllium	UG/L	0.16	0.16	0.14	0.12	0.14
Cadmium	UG/L	0.4 U	0.4 U	0.4 U	0.4 U	0.46
Calcium	UG/L	72300	91700	67700	72200	84100
Chromium	UG/L	0.6 U	0.89	0.6 U	0.6 U	1.9
Cobalt	UG/L	1.1	0.6 U	0.6	0.6	0.91
Copper	UG/L	2.6	1.7	1.8	2.1	6.7
Cyanide, Amenable	MG/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Cyanide, Total	MG/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U

Appendix D Table 3
SEAD-121C Sample Results - Surface Water

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121C		SEAD-121C		SEAD-121C		SEAD-121C		SEAD-121C	
Sample Location Identification		SWDRMO-6		SWDRMO-7		SWDRMO-8		SWDRMO-8		SWDRMO-9	
		SURFACE		SURFACE		SURFACE		SURFACE		SURFACE	
Matrix		WATER		WATER		WATER		WATER		WATER	
Sample Identification		DRMO-3006		DRMO-3007		DRMO-3008		DRMO-3005		DRMO-3009	
Sample Depth Top		0		0		0		0		0	
Sample Depth Bottom		N/A		N/A		N/A		N/A		N/A	
Sample Date		11/5/2002		11/5/2002		11/5/2002		11/5/2002		11/5/2002	
SAmple or **DU**plicate		SA		SA		SA		SA		SA	
See Notes at Bottom of Table		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI	
		1		1		1					
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Iron	UG/L	109		17.3	U	19	J	34.2	J	17.3	U
Lead	UG/L	6.8	J	7.7	J	3.7		5.1	J	5.7	J
Magnesium	UG/L	12000		12400		11600		12300		11100	
Manganese	UG/L	45.7		20.7		11.6		26.1		3.2	
Mercury	UG/L	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Nickel	UG/L	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U
Potassium	UG/L	3860	J	2070	J	3450	J	3660	J	4380	J
Selenium	UG/L	3	U	3	U	3	U	3	U	3	U
Silver	UG/L	1	U	1	U	1	U	1	U	1	U
Sodium	UG/L	113000	J	34800	J	102000	J	108000	J	4490	
Thallium	UG/L	5.4	U	5.4	U	5.4	U	5.4	U	5.4	U
Vanadium	UG/L	0.89		0.7	U	0.7	U	0.7	U	0.7	U
Zinc	UG/L	17.8		15.9		13.9		16.8		42.7	
Other Analyses											
Total Petroleum Hydrocarbons	MG/L	1	U	1	U	1	U	1	U		

NOTES:
1) List includes all sample and sample d
(Q)ualifier Code Definitions
U = compound was not detected
J = the reported value is an estimated cc
UJ = the compound was not detected; th
R = the data was rejected in the data val

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification		SB121I-1	SB121I-2	SB121I-2	SB121I-3	SB121I-4	SB121I-5
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		121I-1040	121I-1043	121I-1044	121I-1047	121I-1050	121I-1053
Sample Depth Top		0	0	0	0	0	0
Sample Depth Bottom		2	2	2	2	2	2
Sample Date		10/24/2002	10/24/2002	10/24/2002	10/24/2002	10/24/2002	10/24/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organics							
1,1,1-Trichloroethane	UG/KG	2.9 UJ	3.1 U	2.8 UJ	2.9 UJ	3.1 UJ	3.2 UJ
1,1,2,2-Tetrachloroethane	UG/KG	2.9 UJ	3.1 U	2.8 UJ	2.9 UJ	3.1 UJ	3.2 UJ
1,1,2-Trichloroethane	UG/KG	2.9 UJ	3.1 U	2.8 UJ	2.9 UJ	3.1 UJ	3.2 UJ
1,1-Dichloroethane	UG/KG	2.9 UJ	3.1 U	2.8 UJ	2.9 UJ	3.1 UJ	3.2 UJ
1,1-Dichloroethene	UG/KG	2.9 UJ	3.1 U	2.8 UJ	2.9 UJ	3.1 UJ	3.2 UJ
1,2-Dichloroethane	UG/KG	2.9 UJ	3.1 U	2.8 UJ	2.9 UJ	3.1 UJ	3.2 UJ
1,2-Dichloropropane	UG/KG	2.9 UJ	3.1 U	2.8 UJ	2.9 UJ	3.1 UJ	3.2 UJ
Acetone	UG/KG	11 UJ	110 U	33 UJ	7.3 UJ	7.6 UJ	17 UJ
Benzene	UG/KG	2.9 UJ	6.6 J	10 J	2.9 UJ	3.1 UJ	3.2 UJ
Bromodichloromethane	UG/KG	2.9 UJ	3.1 U	2.8 UJ	2.9 UJ	3.1 UJ	3.2 UJ
Bromoform	UG/KG	2.9 UJ	3.1 U	2.8 UJ	2.9 UJ	3.1 UJ	3.2 UJ
Carbon disulfide	UG/KG	2.9 UJ	3.1 U	2.8 UJ	2.9 UJ	3.1 UJ	3.2 UJ
Carbon tetrachloride	UG/KG	2.9 UJ	3.1 U	2.8 UJ	2.9 UJ	3.1 UJ	3.2 UJ
Chlorobenzene	UG/KG	2.9 UJ	3.1 U	2.8 UJ	2.9 UJ	3.1 UJ	3.2 UJ
Chlorodibromomethane	UG/KG	2.9 UJ	3.1 U	2.8 UJ	2.9 UJ	3.1 UJ	3.2 UJ
Chloroethane	UG/KG	2.9 UJ	3.1 U	2.8 UJ	2.9 UJ	3.1 UJ	3.2 UJ
Chloroform	UG/KG	2.9 UJ	3.1 U	2.8 UJ	2.9 UJ	3.1 UJ	3.2 UJ
Cis-1,2-Dichloroethene	UG/KG	2.9 UJ	3.1 U	2.8 UJ	2.9 UJ	3.1 UJ	3.2 UJ
Cis-1,3-Dichloropropene	UG/KG	2.9 UJ	3.1 U	2.8 UJ	2.9 UJ	3.1 UJ	3.2 UJ
Ethyl benzene	UG/KG	2.9 UJ	2 J	3.5 J	2.9 UJ	3.1 UJ	3.2 UJ
Meta/Para Xylene	UG/KG	2.9 UJ	2.2 J	3.4 J	2.9 UJ	3.1 UJ	3.2 UJ
Methyl bromide	UG/KG	2.9 UJ	3.1 U	2.8 UJ	2.9 UJ	3.1 UJ	3.2 UJ
Methyl butyl ketone	UG/KG	2.9 UJ	3.1 U	2.8 UJ	2.9 UJ	3.1 UJ	3.2 UJ
Methyl chloride	UG/KG	2.9 UJ	3.1 U	2.8 UJ	2.9 UJ	3.1 UJ	3.2 UJ

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification		SB121I-1	SB121I-2	SB121I-2	SB121I-3	SB121I-4	SB121I-5
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		121I-1040	121I-1043	121I-1044	121I-1047	121I-1050	121I-1053
Sample Depth Top		0	0	0	0	0	0
Sample Depth Bottom		2	2	2	2	2	2
Sample Date		10/24/2002	10/24/2002	10/24/2002	10/24/2002	10/24/2002	10/24/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl ethyl ketone	UG/KG	2.9 UJ	55	27 J	2.9 UJ	3.1 UJ	3.2 UJ
Methyl isobutyl ketone	UG/KG	2.9 UJ	3.1 U	2.8 U	2.9 UJ	3.1 UJ	3.2 UJ
Methylene chloride	UG/KG	1.8 J	3.1 U	2.7 J	1.6 J	2.8 J	2.4 J
Ortho Xylene	UG/KG	2.9 UJ	1.1 J	2 J	2.9 UJ	3.1 UJ	3.2 UJ
Styrene	UG/KG	2.9 UJ	3.1 U	2.8 UJ	2.9 UJ	3.1 UJ	3.2 UJ
Tetrachloroethene	UG/KG	2.9 UJ	3.1 U	2.8 UJ	2.9 UJ	3.1 UJ	3.2 UJ
Toluene	UG/KG	2.9 UJ	6.9	11 J	2.9 UJ	3.1 UJ	3.2 UJ
Trans-1,2-Dichloroethene	UG/KG	2.9 UJ	3.1 U	2.8 UJ	2.9 UJ	3.1 UJ	3.2 UJ
Trans-1,3-Dichloropropene	UG/KG	2.9 UJ	3.1 U	2.8 UJ	2.9 UJ	3.1 UJ	3.2 UJ
Trichloroethene	UG/KG	2.9 UJ	3.1 U	2.8 UJ	2.9 UJ	3.1 UJ	3.2 UJ
Vinyl chloride	UG/KG	2.9 UJ	3.1 U	2.8 UJ	2.9 UJ	3.1 UJ	3.2 UJ
Semivolatile Organics							
1,2,4-Trichlorobenzene	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
1,2-Dichlorobenzene	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
1,3-Dichlorobenzene	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
1,4-Dichlorobenzene	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
2,4,5-Trichlorophenol	UG/KG	970 U	970 U	980 U	900 U	950 U	990 U
2,4,6-Trichlorophenol	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
2,4-Dichlorophenol	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
2,4-Dimethylphenol	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
2,4-Dinitrophenol	UG/KG	970 U	970 U	980 U	900 U	950 U	990 U
2,4-Dinitrotoluene	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
2,6-Dinitrotoluene	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
2-Chloronaphthalene	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
2-Chlorophenol	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification	SB121I-1	SB121I-2	SB121I-2	SB121I-3	SB121I-4	SB121I-5
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	121I-1040	121I-1043	121I-1044	121I-1047	121I-1050	121I-1053
Sample Depth Top	0	0	0	0	0	0
Sample Depth Bottom	2	2	2	2	2	2
Sample Date	10/24/2002	10/24/2002	10/24/2002	10/24/2002	10/24/2002	10/24/2002
SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
2-Methylnaphthalene	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
2-Methylphenol	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
2-Nitroaniline	UG/KG	970 U	970 U	980 U	900 U	950 U	990 U
2-Nitrophenol	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
3 or 4-Methylphenol	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
3,3'-Dichlorobenzidine	UG/KG	390 U	390 J	390 U	360 U	380 U	390 U
3-Nitroaniline	UG/KG	970 U	970 U	980 U	900 U	950 U	990 U
4,6-Dinitro-2-methylphenol	UG/KG	970 U	970 U	980 UJ	900 UJ	950 U	990 UJ
4-Bromophenyl phenyl ether	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
4-Chloro-3-methylphenol	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
4-Chloroaniline	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
4-Chlorophenyl phenyl ether	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
4-Methylphenol	UG/KG						
4-Nitroaniline	UG/KG	970 U	970 U	980 U	900 U	950 U	990 U
4-Nitrophenol	UG/KG	970 U	970 U	980 U	900 U	950 U	990 U
Acenaphthene	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
Acenaphthylene	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
Anthracene	UG/KG	390 U	89 J	74 J	360 U	380 U	390 U
Benzo(a)anthracene	UG/KG	67 J	350 J	350 J	100 J	380 U	43 J
Benzo(a)pyrene	UG/KG	97 J	390 J	450 J	150 J	380 UJ	390 U
Benzo(b)fluoranthene	UG/KG	140 J	600 J	620 J	160 J	380 UJ	66 J
Benzo(ghi)perylene	UG/KG	390 U	220 J	140 J	73 J	380 UJ	390 U
Benzo(k)fluoranthene	UG/KG	390 UJ	300 J	360 J	100 J	380 UJ	390 UJ
Bis(2-Chloroethoxy)methane	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
Bis(2-Chloroethyl)ether	UG/KG	390 U	390 U	390 U	360 U	380 UJ	390 U

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification	SB121I-1	SB121I-2	SB121I-2	SB121I-3	SB121I-4	SB121I-5
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	121I-1040	121I-1043	121I-1044	121I-1047	121I-1050	121I-1053
Sample Depth Top	0	0	0	0	0	0
Sample Depth Bottom	2	2	2	2	2	2
Sample Date	10/24/2002	10/24/2002	10/24/2002	10/24/2002	10/24/2002	10/24/2002
SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Bis(2-Chloroisopropyl)ether	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
Bis(2-Ethylhexyl)phthalate	UG/KG	58 J	78 J	390 U	38 J	380 U	390 U
Butylbenzylphthalate	UG/KG	130 J	390 UJ	390 U	360 U	380 U	390 U
Carbazole	UG/KG	390 U	56 J	67 J	360 U	380 U	390 U
Chrysene	UG/KG	89 J	380 J	400	100 J	380 U	390 U
Di-n-butylphthalate	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
Di-n-octylphthalate	UG/KG	390 U	390 UJ	390 U	360 U	380 U	390 U
Dibenz(a,h)anthracene	UG/KG	390 U	390 UJ	390 U	360 U	380 UJ	390 U
Dibenzofuran	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
Diethyl phthalate	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
Dimethylphthalate	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
Fluoranthene	UG/KG	170 J	720	920	210 J	380 U	120 J
Fluorene	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
Hexachlorobenzene	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
Hexachlorobutadiene	UG/KG	390 UJ	390 UJ	390 UJ	360 U	380 U	390 UJ
Hexachlorocyclopentadiene	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
Hexachloroethane	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
Indeno(1,2,3-cd)pyrene	UG/KG	390 UJ	63 J	79 J	360 UJ	380 U	390 UJ
Isophorone	UG/KG	390 UJ	390 UJ	390 UJ	360 UJ	380 UJ	390 UJ
N-Nitrosodiphenylamine	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
N-Nitrosodipropylamine	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
Naphthalene	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
Nitrobenzene	UG/KG	390 UJ	390 UJ	390 UJ	360 UJ	380 UJ	390 UJ
Pentachlorophenol	UG/KG	970 U	970 U	980 U	900 U	950 U	990 U
Phenanthrene	UG/KG	69 J	450	440	110 J	380 U	53 J

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification	SB121I-1	SB121I-2	SB121I-2	SB121I-3	SB121I-4	SB121I-5
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	121I-1040	121I-1043	121I-1044	121I-1047	121I-1050	121I-1053
Sample Depth Top	0	0	0	0	0	0
Sample Depth Bottom	2	2	2	2	2	2
Sample Date	10/24/2002	10/24/2002	10/24/2002	10/24/2002	10/24/2002	10/24/2002
SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Phenol	UG/KG	390	U	390	U	390	U	360	U	380	UJ	390	U
Pyrene	UG/KG	120	J	1200	J	660		160	J	380	U	72	J
Pesticides and PCBs													
4,4'-DDD	UG/KG	2	UJ	2	UJ	2	UJ	1.8	UJ	1.9	UJ	2	UJ
4,4'-DDE	UG/KG	2	U	2	U	2	U	1.8	U	1.9	U	2	U
4,4'-DDT	UG/KG	2	U	2	U	2	U	1.8	U	1.9	U	2	U
Aldrin	UG/KG	2	U	2	U	2	U	1.8	U	1.9	U	2	U
Alpha-BHC	UG/KG	2	UJ	2	UJ	2	U	1.8	UJ	1.9	UJ	2	UJ
Alpha-Chlordane	UG/KG	2	U	2	U	2	U	1.8	U	1.9	U	2	U
Beta-BHC	UG/KG	2	U	2	U	2	U	1.8	U	1.9	U	2	U
Chlordane	UG/KG	20	U	20	U	20	U	18	U	19	U	20	U
Delta-BHC	UG/KG	2	UJ	2	UJ	2	UJ	1.8	UJ	1.9	UJ	2	UJ
Dieldrin	UG/KG	2	UJ	2	UJ	2	UJ	1.8	UJ	1.9	UJ	2	UJ
Endosulfan I	UG/KG	2	U	11	J	6.9	J	1.8	U	1.9	U	2	U
Endosulfan II	UG/KG	2	U	2	U	2	U	1.8	U	1.9	U	2	U
Endosulfan sulfate	UG/KG	2	U	2	U	2	U	1.8	U	1.9	U	2	U
Endrin	UG/KG	2	U	2	U	2	U	1.8	U	1.9	U	2	U
Endrin aldehyde	UG/KG	2	U	2	U	2	U	1.8	U	1.9	U	2	U
Endrin ketone	UG/KG	2	U	2	U	2	U	1.8	U	1.9	U	2	U
Gamma-BHC/Lindane	UG/KG	2	U	2	U	2	U	1.8	U	1.9	U	2	U
Gamma-Chlordane	UG/KG	2	U	2	U	2	U	1.8	U	1.9	U	2	U
Heptachlor	UG/KG	2	U	2	U	2	U	1.8	U	1.9	U	2	U
Heptachlor epoxide	UG/KG	2	U	2	U	2	U	1.8	U	1.9	U	2	U
Methoxychlor	UG/KG	2	U	2	U	2	U	1.8	U	1.9	U	2	U
Toxaphene	UG/KG	20	U	20	U	20	U	18	U	19	U	20	U

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification		SB121I-1	SB121I-2	SB121I-2	SB121I-3	SB121I-4	SB121I-5
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		121I-1040	121I-1043	121I-1044	121I-1047	121I-1050	121I-1053
Sample Depth Top		0	0	0	0	0	0
Sample Depth Bottom		2	2	2	2	2	2
Sample Date		10/24/2002	10/24/2002	10/24/2002	10/24/2002	10/24/2002	10/24/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Aroclor-1016	UG/KG	20 U	20 U	20 U	18 U	19 U	20 U
Aroclor-1221	UG/KG	20 U	20 U	20 U	18 U	19 U	20 U
Aroclor-1232	UG/KG	20 U	20 U	20 U	18 U	19 U	20 U
Aroclor-1242	UG/KG	20 U	20 U	20 U	18 U	19 U	20 U
Aroclor-1248	UG/KG	20 U	20 U	20 U	18 U	19 U	20 U
Aroclor-1254	UG/KG	20 UJ	20 UJ	20 UJ	18 UJ	19 UJ	20 UJ
Aroclor-1260	UG/KG	20 UJ	20 UJ	20 UJ	18 UJ	19 UJ	20 UJ
Metals							
Aluminum	MG/KG	4400	9700	9020	5510	13000	13200
Antimony	MG/KG	3.8 B	1.8	8.6	1.7	1 U	1.1 U
Arsenic	MG/KG	4.5 J	21.2 J	43 J	5.4 J	7.3 J	11.5 J
Barium	MG/KG	105 J	74.3 J	83.6 J	67.3 J	102 J	91.3 J
Beryllium	MG/KG	0.27	0.49	0.46	0.31	0.67	0.68
Cadmium	MG/KG	0.53	0.14 U	0.14 U	6.6	0.14 U	0.14 U
Calcium	MG/KG	171000	30900	27800	121000	10300	18800
Chromium	MG/KG	11.2 J	25.9 J	50 J	14.1 J	22 J	22.6 J
Cobalt	MG/KG	6.9 J	23.9 J	40.6 J	12.4 J	18 J	13.7 J
Copper	MG/KG	21 R	37.5 R	66.1 R	20.6 R	24.4 R	27.6 R
Cyanide, Amenable	MG/KG	0.59 U	0.59 U	0.6 U	0.55 U	0.58 U	0.6 U
Cyanide, Total	MG/KG	0.592 U	0.592 U	0.595 U	0.552 U	0.575 U	0.602 U
Iron	MG/KG	11500	27100	31500	15400	30400	30200
Lead	MG/KG	15.7	31.3	42.1	20.3	13.7	12.8
Magnesium	MG/KG	18800	6110	4240	12000	5240	5980
Manganese	MG/KG	474 J	33200 J	57800 J	534 J	1420 J	1010 J
Mercury	MG/KG	0.07	0.04	0.05	0.03	0.05	0.05

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification		SB121I-1	SB121I-2	SB121I-2	SB121I-3	SB121I-4	SB121I-5
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		121I-1040	121I-1043	121I-1044	121I-1047	121I-1050	121I-1053
Sample Depth Top		0	0	0	0	0	0
Sample Depth Bottom		2	2	2	2	2	2
Sample Date		10/24/2002	10/24/2002	10/24/2002	10/24/2002	10/24/2002	10/24/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Nickel	MG/KG	53.6 J	38.9 J	46.3 J	26.7 J	37.4 J	33.3 J
Potassium	MG/KG	1080 J	859 J	929 J	950 J	1090 J	949 J
Selenium	MG/KG	0.65 J	5.1 J	17.9 J	0.46 UJ	1.4 J	1.4 J
Silver	MG/KG	0.31 UJ	1.9 J	4.2 J	0.29	0.3 UJ	0.32 UJ
Sodium	MG/KG	372	118 U	115 U	207	113 U	118 U
Thallium	MG/KG	0.36 U	3	14.4	0.34 U	0.35 U	0.5 J
Vanadium	MG/KG	8.3 J	22.6 J	31.6 J	11.4 J	24.3 J	21 J
Zinc	MG/KG	176 J	85.1 J	82 J	70.7 J	92.1 J	93.9 J
Other Analyses							
Total Organic Carbon	MG/KG	5400	5600	6800	6500	7100	6700
Total Petroleum Hydrocarbons	MG/KG	47 U	47 U	48 U	44 U	46 U	48 U

NOTES:
1) List includes all sample and sample duplicate pair members as discrete samples.
(Q)ualifier Code Definitions
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 data was rejected in the data validating process

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification		SS121I-1	SS121I-10	SS121I-10	SS121I-11	SS121I-12	SS121I-13
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		EB147	121I-1006	121I-1031	121I-1007	121I-1008	121I-1009
Sample Depth Top		0	0	0	0	0	0
Sample Depth Bottom		0.2	0.2	0.2	0.2	0.2	0.2
Sample Date		3/10/1998	10/22/2002	10/22/2002	10/22/2002	10/22/2002	10/22/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organics							
1,1,1-Trichloroethane	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
1,1,2,2-Tetrachloroethane	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
1,1,2-Trichloroethane	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
1,1-Dichloroethane	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
1,1-Dichloroethene	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
1,2-Dichloroethane	UG/KG		2.5 UJ	2.2 U	3.1 UJ	2.8 UJ	2.6 UJ
1,2-Dichloropropane	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
Acetone	UG/KG		4.5 J	2.2 U	15 J	12 J	30 J
Benzene	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
Bromodichloromethane	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
Bromoform	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
Carbon disulfide	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
Carbon tetrachloride	UG/KG		2.5 UJ	2.2 U	3.1 UJ	2.8 UJ	2.6 UJ
Chlorobenzene	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
Chlorodibromomethane	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
Chloroethane	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
Chloroform	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
Cis-1,2-Dichloroethene	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
Cis-1,3-Dichloropropene	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
Ethyl benzene	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
Meta/Para Xylene	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
Methyl bromide	UG/KG		2.5 UJ	2.2 U	3.1 UJ	2.8 UJ	2.6 UJ
Methyl butyl ketone	UG/KG		2.5 UJ	2.2 U	3.1 UJ	2.8 UJ	2.6 UJ
Methyl chloride	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification		SS121I-1	SS121I-10	SS121I-10	SS121I-11	SS121I-12	SS121I-13
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		EB147	121I-1006	121I-1031	121I-1007	121I-1008	121I-1009
Sample Depth Top		0	0	0	0	0	0
Sample Depth Bottom		0.2	0.2	0.2	0.2	0.2	0.2
Sample Date		3/10/1998	10/22/2002	10/22/2002	10/22/2002	10/22/2002	10/22/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl ethyl ketone	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	5
Methyl isobutyl ketone	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
Methylene chloride	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
Ortho Xylene	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
Styrene	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
Tetrachloroethene	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
Toluene	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
Trans-1,2-Dichloroethene	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
Trans-1,3-Dichloropropene	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
Trichloroethene	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
Vinyl chloride	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
Semivolatile Organics							
1,2,4-Trichlorobenzene	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
1,2-Dichlorobenzene	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
1,3-Dichlorobenzene	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
1,4-Dichlorobenzene	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
2,4,5-Trichlorophenol	UG/KG	1100 U	910 U	910 U	930 U	920 U	4500 U
2,4,6-Trichlorophenol	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
2,4-Dichlorophenol	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
2,4-Dimethylphenol	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
2,4-Dinitrophenol	UG/KG	1100 UJ	910 UJ	910 UJ	930 U	920 UJ	4500 UJ
2,4-Dinitrotoluene	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
2,6-Dinitrotoluene	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
2-Chloronaphthalene	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
2-Chlorophenol	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification		SS121I-1	SS121I-10	SS121I-10	SS121I-11	SS121I-12	SS121I-13
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		EB147	121I-1006	121I-1031	121I-1007	121I-1008	121I-1009
Sample Depth Top		0	0	0	0	0	0
Sample Depth Bottom		0.2	0.2	0.2	0.2	0.2	0.2
Sample Date		3/10/1998	10/22/2002	10/22/2002	10/22/2002	10/22/2002	10/22/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
2-Methylnaphthalene	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
2-Methylphenol	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
2-Nitroaniline	UG/KG	1100 U	910 U	910 UJ	930 UJ	920 U	4500 UJ
2-Nitrophenol	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
3 or 4-Methylphenol	UG/KG		360 U	360 U	370 U	370 U	1800 U
3,3'-Dichlorobenzidine	UG/KG	470 U	360 U	360 U	370 UJ	370 UJ	1800 U
3-Nitroaniline	UG/KG	1100 U	910 U	910 U	930 U	920 U	4500 U
4,6-Dinitro-2-methylphenol	UG/KG	1100 UJ	910 UJ	910 UJ	930 U	920 UJ	4500 UJ
4-Bromophenyl phenyl ether	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
4-Chloro-3-methylphenol	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
4-Chloroaniline	UG/KG	470 U	360 UJ	360 U	370 U	370 UJ	1800 U
4-Chlorophenyl phenyl ether	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
4-Methylphenol	UG/KG	470 U					
4-Nitroaniline	UG/KG	1100 UJ	910 U	910 U	930 U	920 U	4500 U
4-Nitrophenol	UG/KG	1100 U	910 U	910 U	930 U	920 U	4500 U
Acenaphthene	UG/KG	170 J	360 U	360 U	370 U	370 U	1800 U
Acenaphthylene	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
Anthracene	UG/KG	170 J	360 U	360 U	370 U	370 U	1800 U
Benzo(a)anthracene	UG/KG	1400	48 J	47 J	63 J	120 J	660 J
Benzo(a)pyrene	UG/KG	1300	66 J	60 J	75 J	180 J	1100 J
Benzo(b)fluoranthene	UG/KG	1500	53 J	51 J	100 J	160 J	920 J
Benzo(ghi)perylene	UG/KG	820	67 J	63 J	70 J	160 J	840 J
Benzo(k)fluoranthene	UG/KG	1500	360 U	360 U	110 J	150 J	980 J
Bis(2-Chloroethoxy)methane	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
Bis(2-Chloroethyl)ether	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification	SS121I-1	SS121I-10	SS121I-10	SS121I-11	SS121I-12	SS121I-13
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	EB147	121I-1006	121I-1031	121I-1007	121I-1008	121I-1009
Sample Depth Top	0	0	0	0	0	0
Sample Depth Bottom	0.2	0.2	0.2	0.2	0.2	0.2
Sample Date	3/10/1998	10/22/2002	10/22/2002	10/22/2002	10/22/2002	10/22/2002
SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table	EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Bis(2-Chloroisopropyl)ether	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
Bis(2-Ethylhexyl)phthalate	UG/KG	51 J	360 UJ	360 U	370 UJ	370 UJ	1800 U
Butylbenzylphthalate	UG/KG	470 U	360 U	360 U	370 UJ	370 UJ	1800 U
Carbazole	UG/KG	230 J	360 U	360 U	370 U	370 U	1800 U
Chrysene	UG/KG	1700	62 J	63 J	100 J	210 J	800 J
Di-n-butylphthalate	UG/KG	45 J	360 U	360 U	370 U	370 U	1800 U
Di-n-octylphthalate	UG/KG	470 UJ	360 U	360 U	370 UJ	370 UJ	1800 U
Dibenz(a,h)anthracene	UG/KG	350 J	360 U	360 UJ	370 R	370 UJ	1800 UJ
Dibenzofuran	UG/KG	29 J	360 U	360 U	370 U	370 U	1800 U
Diethyl phthalate	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
Dimethylphthalate	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
Fluoranthene	UG/KG	3200	100 J	78 J	130 J	220 J	1200 J
Fluorene	UG/KG	83 J	360 U	360 U	370 U	370 U	1800 U
Hexachlorobenzene	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
Hexachlorobutadiene	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
Hexachlorocyclopentadiene	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
Hexachloroethane	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
Indeno(1,2,3-cd)pyrene	UG/KG	760	83 J	74 J	370 UJ	250 J	440 J
Isophorone	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
N-Nitrosodiphenylamine	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
N-Nitrosodipropylamine	UG/KG	470 U	360 U	360 UJ	370 UJ	370 U	1800 UJ
Naphthalene	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
Nitrobenzene	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
Pentachlorophenol	UG/KG	1100 U	910 U	910 U	930 U	920 U	4500 U
Phenanthrene	UG/KG	1200	60 J	56 J	70 J	170 J	760 J

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification		SS121I-1	SS121I-10	SS121I-10	SS121I-11	SS121I-12	SS121I-13
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		EB147	121I-1006	121I-1031	121I-1007	121I-1008	121I-1009
Sample Depth Top		0	0	0	0	0	0
Sample Depth Bottom		0.2	0.2	0.2	0.2	0.2	0.2
Sample Date		3/10/1998	10/22/2002	10/22/2002	10/22/2002	10/22/2002	10/22/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Phenol	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
Pyrene	UG/KG	2700	79 J	98 J	160 J	270 J	1500 J
Pesticides and PCBs							
4,4'-DDD	UG/KG		1.9 UJ	1.8 UJ	1.9 UJ	1.9 UJ	1.8 UJ
4,4'-DDE	UG/KG		1.9 U	1.8 U	1.9 U	1.9 U	1.8 U
4,4'-DDT	UG/KG		1.9 UJ	1.8 UJ	1.9 UJ	1.9 UJ	1.8 UJ
Aldrin	UG/KG		1.9 U	1.8 U	1.9 U	1.9 U	1.8 U
Alpha-BHC	UG/KG		1.9 UJ	1.8 UJ	1.9 UJ	1.9 UJ	1.8 UJ
Alpha-Chlordane	UG/KG		1.9 UJ	1.8 UJ	1.9 UJ	1.9 UJ	1.8 UJ
Beta-BHC	UG/KG		1.9 U	1.8 U	1.9 U	1.9 U	1.8 U
Chlordane	UG/KG		19 U	18 U	19 U	19 U	18 U
Delta-BHC	UG/KG		1.9 UJ	1.8 UJ	1.9 UJ	1.9 UJ	1.8 UJ
Dieldrin	UG/KG		1.9 UJ	1.8 UJ	1.9 UJ	1.9 UJ	1.8 UJ
Endosulfan I	UG/KG		3.7 J	4.2 J	4.9	5.4	12
Endosulfan II	UG/KG		1.9 U	1.8 U	1.9 U	1.9 U	1.8 U
Endosulfan sulfate	UG/KG		1.9 U	1.8 U	1.9 U	1.9 U	1.8 U
Endrin	UG/KG		1.9 UJ	1.8 UJ	1.9 UJ	1.9 UJ	1.8 UJ
Endrin aldehyde	UG/KG		1.9 U	1.8 U	1.9 U	1.9 U	1.8 U
Endrin ketone	UG/KG		1.9 U	1.8 U	1.9 U	1.9 U	1.8 U
Gamma-BHC/Lindane	UG/KG		1.9 UJ	1.8 UJ	1.9 UJ	1.9 UJ	1.8 UJ
Gamma-Chlordane	UG/KG		1.9 U	1.8 U	1.9 U	1.9 U	1.8 U
Heptachlor	UG/KG		1.9 U	1.8 U	1.9 U	1.9 U	1.8 U
Heptachlor epoxide	UG/KG		1.9 U	1.8 U	1.9 U	1.9 U	6.1
Methoxychlor	UG/KG		1.9 U	1.8 U	1.9 U	1.9 U	1.8 U
Toxaphene	UG/KG		19 U	18 U	19 U	19 U	18 U

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I	
Sample Location Identification		SS121I-1		SS121I-10		SS121I-10		SS121I-11		SS121I-12		SS121I-13	
Matrix		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Sample Identification		EB147		121I-1006		121I-1031		121I-1007		121I-1008		121I-1009	
Sample Depth Top		0		0		0		0		0		0	
Sample Depth Bottom		0.2		0.2		0.2		0.2		0.2		0.2	
Sample Date		3/10/1998		10/22/2002		10/22/2002		10/22/2002		10/22/2002		10/22/2002	
SAmple or **DU**plicate		SA		SA		SA		SA		SA		SA	
See Notes at Bottom of Table		EBS		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Aroclor-1016	UG/KG			19	UJ	19	UJ	19	U	19	UJ	18	UJ
Aroclor-1221	UG/KG			19	U	19	U	19	U	19	U	18	U
Aroclor-1232	UG/KG			19	UJ	19	UJ	19	U	19	UJ	18	UJ
Aroclor-1242	UG/KG			19	UJ	19	UJ	19	U	19	UJ	18	UJ
Aroclor-1248	UG/KG			19	U	19	U	19	U	19	U	18	U
Aroclor-1254	UG/KG			19	U	19	U	19	UJ	19	U	18	U
Aroclor-1260	UG/KG			19	U	19	U	19	UJ	19	U	8.3	J
Metals													
Aluminum	MG/KG			6480		7510		4290		5050		3380	
Antimony	MG/KG			3.4		2.5		1.3		1.8		6.5	U
Arsenic	MG/KG			5.2		5.2		5.9		5.6		6.4	
Barium	MG/KG			116		119		142		81.8		167	
Beryllium	MG/KG			0.38	J	0.43	J	0.36	J	0.32		0.27	
Cadmium	MG/KG			5		4.1		0.55	U	0.17	J	0.54	U
Calcium	MG/KG			166000		143000		223000		205000		220000	
Chromium	MG/KG			14.3		14.7		8.7		12.3		15.8	
Cobalt	MG/KG			8.4		8.9		6.8		7.4		7.9	
Copper	MG/KG			24.5	J	22.6	J	18.9	J	19.4	J	21.4	J
Cyanide, Amenable	MG/KG			0.56	UJ	0.55	UJ	0.56	UJ	0.56	UJ	0.55	UJ
Cyanide, Total	MG/KG			0.556	UJ	0.551	UJ	0.56	UJ	0.559	UJ	0.546	UJ
Iron	MG/KG			17100		17600		12600		13900		12500	
Lead	MG/KG			19		16.3		22.5		21.9		22.3	
Magnesium	MG/KG			13500		9040		5410		16200		16300	
Manganese	MG/KG			786		822		1120		709		2650	J
Mercury	MG/KG			0.03		0.03		0.02		0.02		0.02	

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification		SS121I-1	SS121I-10	SS121I-10	SS121I-11	SS121I-12	SS121I-13
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		EB147	121I-1006	121I-1031	121I-1007	121I-1008	121I-1009
Sample Depth Top		0	0	0	0	0	0
Sample Depth Bottom		0.2	0.2	0.2	0.2	0.2	0.2
Sample Date		3/10/1998	10/22/2002	10/22/2002	10/22/2002	10/22/2002	10/22/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Nickel	MG/KG		26.7	26.9	18.1	21.1	23
Potassium	MG/KG		786	1150	819	956	908
Selenium	MG/KG		0.87	0.8	0.55 U	1.1	0.54 U
Silver	MG/KG		1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Sodium	MG/KG		210	188	263	238	309
Thallium	MG/KG		1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Vanadium	MG/KG		11.6	13.2	10.7	9.9	10.8
Zinc	MG/KG		84 J	67.9 J	55.5 J	57.7 J	88.1 J
Other Analyses							
Total Organic Carbon	MG/KG		5600	4500	5400	4400	3700
Total Petroleum Hydrocarbons	MG/KG		44 UJ	44 UJ	45 UJ	45 UJ	1200 J

NOTES:
1) List includes all sample and sample dup
(Q)ualifier Code Definitions
U = compound was not detected
J = the reported value is an estimated con
UJ = the compound was not detected; the
R = the data was rejected in the data valid

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification		SS121I-14	SS121I-15	SS121I-16	SS121I-17	SS121I-18	SS121I-19
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		121I-1010	121I-1011	121I-1012	121I-1013	121I-1014	121I-1015
Sample Depth Top		0	0	0	0	0	0
Sample Depth Bottom		0.2	0.2	0.2	0.2	0.2	0.2
Sample Date		10/23/2002	10/23/2002	10/23/2002	10/23/2002	10/22/2002	10/22/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organics							
1,1,1-Trichloroethane	UG/KG	3 U	2.9 U	2.6 U	3 U	2.7 UJ	2.9 UJ
1,1,2,2-Tetrachloroethane	UG/KG	3 U	2.9 U	2.6 U	3 U	2.7 U	2.9 U
1,1,2-Trichloroethane	UG/KG	3 U	2.9 U	2.6 U	3 U	2.7 U	2.9 U
1,1-Dichloroethane	UG/KG	3 U	2.9 U	2.6 U	3 U	2.7 U	2.9 U
1,1-Dichloroethene	UG/KG	3 U	2.9 U	2.6 U	3 U	2.7 U	2.9 U
1,2-Dichloroethane	UG/KG	3 UJ	2.9 UJ	2.6 UJ	3 UJ	2.7 UJ	2.9 UJ
1,2-Dichloropropane	UG/KG	3 U	2.9 U	2.6 U	3 U	2.7 U	2.9 U
Acetone	UG/KG	37	110	18	9.2	3.7	7
Benzene	UG/KG	3 U	29	2.6 U	3 U	2.7 U	2.9 U
Bromodichloromethane	UG/KG	3 U	2.9 U	2.6 U	3 U	2.7 U	2.9 UJ
Bromoform	UG/KG	3 U	2.9 U	2.6 U	3 U	2.7 U	2.9 U
Carbon disulfide	UG/KG	3 U	2.9 U	2.6 U	3 U	2.7 U	2.9 U
Carbon tetrachloride	UG/KG	3 UJ	2.9 UJ	2.6 UJ	3 UJ	2.7 UJ	2.9 UJ
Chlorobenzene	UG/KG	3 U	2.9 U	2.6 U	3 U	2.7 U	2.9 U
Chlorodibromomethane	UG/KG	3 U	2.9 U	2.6 U	3 U	2.7 UJ	2.9 UJ
Chloroethane	UG/KG	3 UJ	2.9 UJ	2.6 UJ	3 UJ	2.7 UJ	2.9 UJ
Chloroform	UG/KG	3 U	2.9 U	2.6 U	3 U	2.7 U	2.9 U
Cis-1,2-Dichloroethene	UG/KG	3 U	2.9 U	2.6 U	3 U	2.7 U	2.9 U
Cis-1,3-Dichloropropene	UG/KG	3 U	2.9 U	2.6 U	3 U	2.7 U	2.9 U
Ethyl benzene	UG/KG	3 U	7.8	2.6 U	3 U	2.7 U	2.9 U
Meta/Para Xylene	UG/KG	3 U	5.9	2.6 U	3 U	2.7 U	2.9 U
Methyl bromide	UG/KG	3 UJ	2.9 UJ	2.6 UJ	3 UJ	2.7 UJ	2.9 UJ
Methyl butyl ketone	UG/KG	3 UJ	2.9 UJ	2.6 UJ	3 UJ	2.7 UJ	2.9 UJ
Methyl chloride	UG/KG	3 U	2.9 U	2.6 U	3 U	2.7 U	2.9 U

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification		SS121I-14	SS121I-15	SS121I-16	SS121I-17	SS121I-18	SS121I-19
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		121I-1010	121I-1011	121I-1012	121I-1013	121I-1014	121I-1015
Sample Depth Top		0	0	0	0	0	0
Sample Depth Bottom		0.2	0.2	0.2	0.2	0.2	0.2
Sample Date		10/23/2002	10/23/2002	10/23/2002	10/23/2002	10/22/2002	10/22/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl ethyl ketone	UG/KG	14	70	2.6 U	3.6	2.7 U	2.9 U
Methyl isobutyl ketone	UG/KG	3 U	2.9 U	2.6 U	3 U	2.7 U	2.9 U
Methylene chloride	UG/KG	2.1 J	2.9 U	2.8	2.2 J	2.7 U	2.9 U
Ortho Xylene	UG/KG	3 U	3.4	2.6 U	3 U	2.7 U	2.9 U
Styrene	UG/KG	3 U	2.9 U	2.6 U	3 U	2.7 U	2.9 U
Tetrachloroethene	UG/KG	3 UJ	2.9 UJ	2.6 UJ	3 UJ	2.7 U	2.9 U
Toluene	UG/KG	3 U	25	2.6 U	3 U	2.7 U	2.9 U
Trans-1,2-Dichloroethene	UG/KG	3 U	2.9 U	2.6 U	3 U	2.7 U	2.9 U
Trans-1,3-Dichloropropene	UG/KG	3 U	2.9 U	2.6 U	3 U	2.7 U	2.9 U
Trichloroethene	UG/KG	3 U	2.9 U	2.6 U	3 U	2.7 U	2.9 U
Vinyl chloride	UG/KG	3 U	2.9 U	2.6 U	3 U	2.7 U	2.9 U
Semivolatile Organics							
1,2,4-Trichlorobenzene	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
1,2-Dichlorobenzene	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
1,3-Dichlorobenzene	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
1,4-Dichlorobenzene	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
2,4,5-Trichlorophenol	UG/KG	980 U	970 U	890 U	950 U	900 U	920 U
2,4,6-Trichlorophenol	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
2,4-Dichlorophenol	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
2,4-Dimethylphenol	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
2,4-Dinitrophenol	UG/KG	980 U	970 U	890 UJ	950 UJ	900 U	920 U
2,4-Dinitrotoluene	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
2,6-Dinitrotoluene	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
2-Chloronaphthalene	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
2-Chlorophenol	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification		SS121I-14	SS121I-15	SS121I-16	SS121I-17	SS121I-18	SS121I-19
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		121I-1010	121I-1011	121I-1012	121I-1013	121I-1014	121I-1015
Sample Depth Top		0	0	0	0	0	0
Sample Depth Bottom		0.2	0.2	0.2	0.2	0.2	0.2
Sample Date		10/23/2002	10/23/2002	10/23/2002	10/23/2002	10/22/2002	10/22/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
2-Methylnaphthalene	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
2-Methylphenol	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
2-Nitroaniline	UG/KG	980 UJ	970 UJ	890 UJ	950 UJ	900 U	920 UJ
2-Nitrophenol	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
3 or 4-Methylphenol	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
3,3'-Dichlorobenzidine	UG/KG	390 UJ	390 UJ	360 U	380 U	360 UJ	370 UJ
3-Nitroaniline	UG/KG	980 U	970 U	890 UJ	950 UJ	900 U	920 U
4,6-Dinitro-2-methylphenol	UG/KG	980 U	970 U	890 UJ	950 UJ	900 U	920 U
4-Bromophenyl phenyl ether	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
4-Chloro-3-methylphenol	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
4-Chloroaniline	UG/KG	390 U	390 U	360 U	380 U	360 UJ	370 U
4-Chlorophenyl phenyl ether	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
4-Methylphenol	UG/KG						
4-Nitroaniline	UG/KG	980 U	970 U	890 UJ	950 UJ	900 U	920 U
4-Nitrophenol	UG/KG	980 U	970 U	890 U	950 U	900 U	920 U
Acenaphthene	UG/KG	53 J	57 J	360 U	380 U	54 J	90 J
Acenaphthylene	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
Anthracene	UG/KG	79 J	110 J	360 U	380 U	94 J	150 J
Benzo(a)anthracene	UG/KG	270 J	180 J	58 J	110 J	470 J	600 J
Benzo(a)pyrene	UG/KG	290 J	190 J	74 J	120 J	610 J	620 J
Benzo(b)fluoranthene	UG/KG	280 J	140 J	74 J	110 J	580 J	660 J
Benzo(ghi)perylene	UG/KG	290 J	160 J	360 UJ	56 J	300 J	490 J
Benzo(k)fluoranthene	UG/KG	280 J	220 J	360 U	140 J	760 J	540 J
Bis(2-Chloroethoxy)methane	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
Bis(2-Chloroethyl)ether	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification	SS121I-14	SS121I-15	SS121I-16	SS121I-17	SS121I-18	SS121I-19
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	121I-1010	121I-1011	121I-1012	121I-1013	121I-1014	121I-1015
Sample Depth Top	0	0	0	0	0	0
Sample Depth Bottom	0.2	0.2	0.2	0.2	0.2	0.2
Sample Date	10/23/2002	10/23/2002	10/23/2002	10/23/2002	10/22/2002	10/22/2002
SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Bis(2-Chloroisopropyl)ether	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
Bis(2-Ethylhexyl)phthalate	UG/KG	390 UJ	390 UJ	360 UJ	380 UJ	360 UJ	370 UJ
Butylbenzylphthalate	UG/KG	390 UJ	390 UJ	360 UJ	380 UJ	360 UJ	370 UJ
Carbazole	UG/KG	65 J	78 J	360 UJ	380 UJ	120 J	140 J
Chrysene	UG/KG	300 J	190 J	83 J	120 J	740 J	740 J
Di-n-butylphthalate	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
Di-n-octylphthalate	UG/KG	390 UJ	390 UJ	360 U	380 U	360 UJ	370 UJ
Dibenz(a,h)anthracene	UG/KG	390 U	390 UJ	360 U	380 U	360 R	370 UJ
Dibenzofuran	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
Diethyl phthalate	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
Dimethylphthalate	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
Fluoranthene	UG/KG	570	430	170 J	240 J	1100	1400
Fluorene	UG/KG	390 U	46 J	360 U	380 U	360 U	55 J
Hexachlorobenzene	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
Hexachlorobutadiene	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
Hexachlorocyclopentadiene	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
Hexachloroethane	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
Indeno(1,2,3-cd)pyrene	UG/KG	290 J	91 J	360 UJ	61 J	170 J	390 J
Isophorone	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
N-Nitrosodiphenylamine	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
N-Nitrosodipropylamine	UG/KG	390 UJ	390 UJ	360 UJ	380 UJ	360 UJ	370 UJ
Naphthalene	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
Nitrobenzene	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
Pentachlorophenol	UG/KG	980 U	970 U	890 U	950 U	900 U	920 U
Phenanthrene	UG/KG	400	430	140 J	170 J	650	900

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I	
Sample Location Identification		SS121I-14		SS121I-15		SS121I-16		SS121I-17		SS121I-18		SS121I-19	
Matrix		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Sample Identification		121I-1010		121I-1011		121I-1012		121I-1013		121I-1014		121I-1015	
Sample Depth Top		0		0		0		0		0		0	
Sample Depth Bottom		0.2		0.2		0.2		0.2		0.2		0.2	
Sample Date		10/23/2002		10/23/2002		10/23/2002		10/23/2002		10/22/2002		10/22/2002	
SAmple or **DU**plicate		SA		SA		SA		SA		SA		SA	
See Notes at Bottom of Table		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Phenol	UG/KG	390	U	390	U	360	U	380	U	360	U	370	U
Pyrene	UG/KG	610	J	590	J	140	J	250	J	1600		2000	J
Pesticides and PCBs													
4,4'-DDD	UG/KG	2	UJ	2	UJ	1.8	UJ	1.9	UJ	1.9	UJ	1.9	UJ
4,4'-DDE	UG/KG	2	U	2	U	1.8	U	1.9	U	1.9	U	1.9	U
4,4'-DDT	UG/KG	2	UJ	2	UJ	1.8	UJ	1.9	UJ	1.9	U	1.9	U
Aldrin	UG/KG	2	U	2	U	1.8	U	1.9	U	1.9	UJ	1.9	UJ
Alpha-BHC	UG/KG	2	UJ	2	UJ	1.8	UJ	1.9	UJ	1.9	UJ	1.9	UJ
Alpha-Chlordane	UG/KG	2	UJ	2	UJ	1.8	UJ	1.9	UJ	1.9	UJ	1.9	UJ
Beta-BHC	UG/KG	2	U	2	U	1.8	U	1.9	U	1.9	U	1.9	U
Chlordane	UG/KG	20	U	20	U	18	U	19	U	19	U	19	U
Delta-BHC	UG/KG	2	UJ	2	UJ	1.8	UJ	1.9	UJ	1.9	UJ	1.9	UJ
Dieldrin	UG/KG	16	J	2	UJ	1.8	UJ	1.9	UJ	1.9	UJ	1.9	UJ
Endosulfan I	UG/KG	7.4	J	2	U	1.8	U	1.9	U	18		13	
Endosulfan II	UG/KG	2	U	2	U	1.8	U	1.9	U	1.9	U	1.9	U
Endosulfan sulfate	UG/KG	2	U	2	U	1.8	U	1.9	U	1.9	U	1.9	U
Endrin	UG/KG	2	U	2	U	1.8	U	1.9	U	1.9	U	1.9	U
Endrin aldehyde	UG/KG	2	U	2	U	1.8	U	1.9	U	1.9	U	1.9	U
Endrin ketone	UG/KG	2	U	2	U	1.8	U	1.9	U	1.9	U	1.9	U
Gamma-BHC/Lindane	UG/KG	2	U	2	U	1.8	U	1.9	U	1.9	UJ	1.9	UJ
Gamma-Chlordane	UG/KG	2	U	2	U	1.8	U	1.9	U	1.9	U	1.9	U
Heptachlor	UG/KG	2	U	2	U	1.8	U	1.9	U	1.9	U	1.9	U
Heptachlor epoxide	UG/KG	4.1	R	2	U	1.8	U	1.9	U	13		6.5	
Methoxychlor	UG/KG	2	UJ	2	UJ	1.8	UJ	1.9	UJ	1.9	U	1.9	U
Toxaphene	UG/KG	20	U	20	U	18	U	19	U	19	U	19	U

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

See Notes at Bottom of Table

AOC Location		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I	
Sample Location Identification		SS121I-14		SS121I-15		SS121I-16		SS121I-17		SS121I-18		SS121I-19	
Matrix		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Sample Identification		121I-1010		121I-1011		121I-1012		121I-1013		121I-1014		121I-1015	
Sample Depth Top		0		0		0		0		0		0	
Sample Depth Bottom		0.2		0.2		0.2		0.2		0.2		0.2	
Sample Date		10/23/2002		10/23/2002		10/23/2002		10/23/2002		10/22/2002		10/22/2002	
SAmple or **DU**plicate		SA		SA		SA		SA		SA		SA	
		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Aroclor-1016	UG/KG	20	UJ	20	UJ	18	UJ	19	UJ	18	U	19	U
Aroclor-1221	UG/KG	20	UJ	20	UJ	18	UJ	19	UJ	18	U	19	U
Aroclor-1232	UG/KG	20	UJ	20	UJ	18	UJ	19	UJ	18	U	19	U
Aroclor-1242	UG/KG	20	UJ	20	UJ	18	UJ	19	UJ	18	U	19	U
Aroclor-1248	UG/KG	20	UJ	20	UJ	18	UJ	19	UJ	18	U	19	U
Aroclor-1254	UG/KG	20	UJ	20	UJ	18	UJ	19	UJ	18	UJ	19	UJ
Aroclor-1260	UG/KG	46	J	20	UJ	18	UJ	19	UJ	18	UJ	19	UJ
Metals													
Aluminum	MG/KG	10700		10600		10900		10300		5810		7410	
Antimony	MG/KG	1.1	U	1.1	U	0.96	U	1	U	6.5	U	6.7	U
Arsenic	MG/KG	8.4	R	67.4	R	6	R	10.4	R	4.5		5.9	
Barium	MG/KG	81.4	J	80	J	61.8	J	75	J	74.4		92	
Beryllium	MG/KG	0.61		0.51		0.55		0.54		0.35		0.46	J
Cadmium	MG/KG	0.2		0.14	U	0.13	U	0.14	U	0.54	U	0.56	U
Calcium	MG/KG	7700	J	24700	J	5370	J	15800	J	143000		132000	
Chromium	MG/KG	39.7		24.1		19.6		17.9		10.7		11.9	
Cobalt	MG/KG	12.5	J	66.1	J	11.2	J	14.1	J	6.1		9.9	
Copper	MG/KG	25		108		17.6		32.2		12.8	J	14.3	J
Cyanide, Amenable	MG/KG	0.59	U	0.59	U	0.54	U	0.58	U	0.55	UJ	0.56	UJ
Cyanide, Total	MG/KG	0.595	U	0.585	U	0.543	U	0.578	U	1.1	J	0.565	UJ
Iron	MG/KG	26100		39800		24400		23900		14000		16900	
Lead	MG/KG	45.8	J	27.9	J	8.6	J	15.3	J	21.5		14.8	
Magnesium	MG/KG	4980	J	5100	J	4630	J	6270	J	7180		5810	
Manganese	MG/KG	2340		93100		442		6560		648		854	
Mercury	MG/KG	0.04		0.04		0.03		0.04		0.02		0.03	

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I	
Sample Location Identification		SS121I-14		SS121I-15		SS121I-16		SS121I-17		SS121I-18		SS121I-19	
Matrix		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Sample Identification		121I-1010		121I-1011		121I-1012		121I-1013		121I-1014		121I-1015	
Sample Depth Top		0		0		0		0		0		0	
Sample Depth Bottom		0.2		0.2		0.2		0.2		0.2		0.2	
Sample Date		10/23/2002		10/23/2002		10/23/2002		10/23/2002		10/22/2002		10/22/2002	
SAmple or **DU**plicate		SA		SA		SA		SA		SA		SA	
See Notes at Bottom of Table		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Nickel	MG/KG	66.1	J	125	J	29.9	J	31.8	J	16.4		21	
Potassium	MG/KG	1040	J	995		807		965		882		960	
Selenium	MG/KG	1.4	J	37.6	J	1.3	J	1.5	J	0.54	U	0.56	U
Silver	MG/KG	0.32	R	6.4	R	0.29	R	0.38	R	1.1	U	1.1	U
Sodium	MG/KG	145		143		106	U	122		209		154	
Thallium	MG/KG	0.37	UJ	37.8	J	0.33	UJ	0.35	UJ	1.1	U	1.1	U
Vanadium	MG/KG	20.5	J	62	J	17.4	J	20.4	J	10.5		13.2	
Zinc	MG/KG	109	J	140		70.8	J	75.4	J	53.5	J	55.1	J
Other Analyses													
Total Organic Carbon	MG/KG	4800		5000		6000		8100		3300		5700	
Total Petroleum Hydrocarbons	MG/KG	48	U	47	U	43	U	46	U	100	J	45	UJ

NOTES:
1) List includes all sample and sample dup
(Q)ualifier Code Definitions
U = compound was not detected
J = the reported value is an estimated con
UJ = the compound was not detected; the
R = the data was rejected in the data valid

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification	SS121I-2	SS121I-20	SS121I-21	SS121I-22	SS121I-23	SS121I-24
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	EB150	121I-1016	121I-1017	121I-1018	121I-1019	121I-1020
Sample Depth Top	0	0	0	0	0	0
Sample Depth Bottom	0.2	0.2	0.2	0.2	0.2	0.2
Sample Date	3/10/1998	10/22/2002	10/22/2002	10/23/2002	10/22/2002	10/22/2002
SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table	EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organics							
1,1,1-Trichloroethane	UG/KG		3 UJ	2.7 U	2.7 U	2.5 UJ	2.3 U
1,1,2,2-Tetrachloroethane	UG/KG		3 UJ	2.7 U	2.7 U	2.5 UJ	2.3 U
1,1,2-Trichloroethane	UG/KG		3 UJ	2.7 U	2.7 U	2.5 UJ	2.3 U
1,1-Dichloroethane	UG/KG		3 UJ	2.7 U	2.7 U	2.5 UJ	2.3 U
1,1-Dichloroethene	UG/KG		3 UJ	2.7 U	2.7 U	2.5 UJ	2.3 U
1,2-Dichloroethane	UG/KG		3 UJ	2.7 UJ	2.7 UJ	2.5 UJ	2.3 UJ
1,2-Dichloropropane	UG/KG		3 UJ	2.7 U	2.7 U	2.5 UJ	2.3 U
Acetone	UG/KG		15 J	10	4.4	3.8 UJ	2.2 J
Benzene	UG/KG		3 UJ	2.7 U	2.7 U	2.5 UJ	2.3 U
Bromodichloromethane	UG/KG		3 UJ	2.7 U	2.7 U	2.5 UJ	2.3 U
Bromoform	UG/KG		3 UJ	2.7 U	2.7 U	2.5 UJ	2.3 U
Carbon disulfide	UG/KG		3 UJ	2.7 U	2.7 U	2.5 UJ	2.3 U
Carbon tetrachloride	UG/KG		3 UJ	2.7 UJ	2.7 UJ	2.5 UJ	2.3 UJ
Chlorobenzene	UG/KG		3 UJ	2.7 U	2.7 U	2.5 UJ	2.3 U
Chlorodibromomethane	UG/KG		3 UJ	2.7 U	2.7 U	2.5 UJ	2.3 U
Chloroethane	UG/KG		3 UJ	2.7 U	2.7 UJ	2.5 UJ	2.3 U
Chloroform	UG/KG		3 UJ	2.7 U	2.7 U	2.5 UJ	2.3 U
Cis-1,2-Dichloroethene	UG/KG		3 UJ	2.7 U	2.7 U	2.5 UJ	2.3 U
Cis-1,3-Dichloropropene	UG/KG		3 UJ	2.7 U	2.7 U	2.5 UJ	2.3 U
Ethyl benzene	UG/KG		3 UJ	2.7 U	2.7 U	2.5 UJ	2.3 U
Meta/Para Xylene	UG/KG		3 UJ	2.7 U	2.7 U	2.5 UJ	2.3 U
Methyl bromide	UG/KG		3 UJ	2.7 UJ	2.7 UJ	2.5 UJ	2.3 UJ
Methyl butyl ketone	UG/KG		3 UJ	2.7 UJ	2.7 UJ	2.5 UJ	2.3 UJ
Methyl chloride	UG/KG		3 UJ	2.7 U	2.7 U	2.5 UJ	2.3 U

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification		SS121I-2	SS121I-20	SS121I-21	SS121I-22	SS121I-23	SS121I-24
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		EB150	121I-1016	121I-1017	121I-1018	121I-1019	121I-1020
Sample Depth Top		0	0	0	0	0	0
Sample Depth Bottom		0.2	0.2	0.2	0.2	0.2	0.2
Sample Date		3/10/1998	10/22/2002	10/22/2002	10/23/2002	10/22/2002	10/22/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl ethyl ketone	UG/KG		3 UJ	2.7 U	2.7 U	2.5 UJ	2.3 U
Methyl isobutyl ketone	UG/KG		3 UJ	2.7 U	2.7 U	2.5 UJ	2.3 U
Methylene chloride	UG/KG		3 UJ	2.7 U	2 J	2.5 UJ	2.3 U
Ortho Xylene	UG/KG		3 UJ	2.7 U	2.7 U	2.5 UJ	2.3 U
Styrene	UG/KG		3 UJ	2.7 U	2.7 U	2.5 UJ	2.3 U
Tetrachloroethene	UG/KG		3 UJ	2.7 U	2.7 UJ	2.5 UJ	2.3 U
Toluene	UG/KG		3 UJ	2.7 U	2.7 U	2.5 UJ	2.3 U
Trans-1,2-Dichloroethene	UG/KG		3 UJ	2.7 U	2.7 U	2.5 UJ	2.3 U
Trans-1,3-Dichloropropene	UG/KG		3 UJ	2.7 U	2.7 U	2.5 UJ	2.3 U
Trichloroethene	UG/KG		3 UJ	2.7 U	2.7 U	2.5 UJ	2.3 U
Vinyl chloride	UG/KG		3 UJ	2.7 U	2.7 U	2.5 UJ	2.3 U
Semivolatile Organics							
1,2,4-Trichlorobenzene	UG/KG	7400 UJ	1800 U	1800 U	360 U	340 U	350 U
1,2-Dichlorobenzene	UG/KG	7400 UJ	1800 U	1800 U	360 U	340 U	350 U
1,3-Dichlorobenzene	UG/KG	7400 UJ	1800 U	1800 U	360 U	340 U	350 U
1,4-Dichlorobenzene	UG/KG	7400 UJ	1800 U	1800 U	360 U	340 U	350 U
2,4,5-Trichlorophenol	UG/KG	18000 UJ	4600 U	4400 U	910 U	870 U	880 U
2,4,6-Trichlorophenol	UG/KG	7400 UJ	1800 U	1800 U	360 U	340 U	350 U
2,4-Dichlorophenol	UG/KG	7400 UJ	1800 U	1800 U	360 U	340 U	350 U
2,4-Dimethylphenol	UG/KG	7400 UJ	1800 U	1800 U	360 U	340 U	350 U
2,4-Dinitrophenol	UG/KG	18000 UJ	4600 U	4400 U	910 UJ	870 UJ	880 UJ
2,4-Dinitrotoluene	UG/KG	7400 UJ	1800 U	1800 U	360 U	340 U	350 U
2,6-Dinitrotoluene	UG/KG	7400 UJ	1800 U	1800 U	360 U	340 U	350 U
2-Chloronaphthalene	UG/KG	7400 UJ	1800 U	1800 U	360 U	340 U	350 U
2-Chlorophenol	UG/KG	7400 UJ	1800 U	1800 U	360 U	340 U	350 U

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification		SS121I-2	SS121I-20	SS121I-21	SS121I-22	SS121I-23	SS121I-24
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		EB150	121I-1016	121I-1017	121I-1018	121I-1019	121I-1020
Sample Depth Top		0	0	0	0	0	0
Sample Depth Bottom		0.2	0.2	0.2	0.2	0.2	0.2
Sample Date		3/10/1998	10/22/2002	10/22/2002	10/23/2002	10/22/2002	10/22/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
2-Methylnaphthalene	UG/KG	7400 UJ	260 J	1800 U	360 U	58 J	350 U
2-Methylphenol	UG/KG	7400 UJ	1800 U	1800 U	360 U	340 U	350 U
2-Nitroaniline	UG/KG	18000 UJ	4600 U	4400 U	910 UJ	870 UJ	880 UJ
2-Nitrophenol	UG/KG	7400 UJ	1800 U	1800 U	360 U	340 U	350 U
3 or 4-Methylphenol	UG/KG		1800 U	1800 U	360 U	340 U	350 U
3,3'-Dichlorobenzidine	UG/KG	7400 U	1800 UJ	8800 U	360 R	340 R	350 UJ
3-Nitroaniline	UG/KG	18000 UJ	4600 U	4400 U	910 UJ	870 UJ	880 UJ
4,6-Dinitro-2-methylphenol	UG/KG	18000 UJ	4600 U	4400 U	910 UJ	870 UJ	880 U
4-Bromophenyl phenyl ether	UG/KG	7400 UJ	1800 U	1800 U	360 UJ	340 UJ	350 U
4-Chloro-3-methylphenol	UG/KG	7400 UJ	1800 U	1800 U	360 U	340 U	350 U
4-Chloroaniline	UG/KG	7400 UJ	1800 UJ	1800 UJ	360 U	340 U	350 U
4-Chlorophenyl phenyl ether	UG/KG	7400 UJ	1800 U	1800 U	360 U	340 U	350 U
4-Methylphenol	UG/KG	7400 UJ					
4-Nitroaniline	UG/KG	18000 U	4600 U	4400 U	910 UJ	870 UJ	880 U
4-Nitrophenol	UG/KG	18000 UJ	4600 U	4400 U	910 U	870 U	880 U
Acenaphthene	UG/KG	1900 J	6100	1400 J	230 J	1300	84 J
Acenaphthylene	UG/KG	7400 U	1800 U	560 J	360 U	340 U	350 U
Anthracene	UG/KG	2600 J	12000	2200	400 J	2100 J	120 J
Benzo(a)anthracene	UG/KG	13000 J	28000 J	6100 J	1300 J	9000 J	910 J
Benzo(a)pyrene	UG/KG	13000 J	23000	5800 J	1400 J	5600 J	880 J
Benzo(b)fluoranthene	UG/KG	12000 J	29000	5700 J	1300 J	6300 J	970 J
Benzo(ghi)perylene	UG/KG	8100 J	29000 J	5000 J	1500 J	8300 J	900 J
Benzo(k)fluoranthene	UG/KG	15000 J	21000 J	7100 J	1600 J	6100 J	650 J
Bis(2-Chloroethoxy)methane	UG/KG	7400 UJ	1800 U	1800 U	360 U	340 U	350 U
Bis(2-Chloroethyl)ether	UG/KG	7400 UJ	1800 U	1800 U	360 U	340 U	350 U

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification	SS121I-2	SS121I-20	SS121I-21	SS121I-22	SS121I-23	SS121I-24
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	EB150	121I-1016	121I-1017	121I-1018	121I-1019	121I-1020
Sample Depth Top	0	0	0	0	0	0
Sample Depth Bottom	0.2	0.2	0.2	0.2	0.2	0.2
Sample Date	3/10/1998	10/22/2002	10/22/2002	10/23/2002	10/22/2002	10/22/2002
SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table	EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Bis(2-Chloroisopropyl)ether	UG/KG	7400	UJ	1800	U	1800	U	360	U	340	U	350	U
Bis(2-Ethylhexyl)phthalate	UG/KG	7400	UJ	1800	UJ	8800	U	130	UJ	63	J	39	J
Butylbenzylphthalate	UG/KG	7400	UJ	1800	UJ	8800	U	360	R	340	R	350	UJ
Carbazole	UG/KG	3100	J	6800		1900		310	J	830	J	89	J
Chrysene	UG/KG	16000	J	32000	J	8500	J	1700	J	14000	J	1200	J
Di-n-butylphthalate	UG/KG	7400	UJ	1800	U	1800	U	360	UJ	340	UJ	350	U
Di-n-octylphthalate	UG/KG	7400	UJ	1800	UJ	8800	U	360	R	340	R	350	UJ
Dibenz(a,h)anthracene	UG/KG	4600	J	2200	J	710	J	160	J	660	J	72	J
Dibenzofuran	UG/KG	440	J	2000		700	J	92	J	220	J	350	U
Diethyl phthalate	UG/KG	7400	UJ	1800	U	1800	U	360	U	340	U	350	U
Dimethylphthalate	UG/KG	7400	UJ	1800	U	1800	U	360	U	340	U	350	U
Fluoranthene	UG/KG	35000	J	62000		13000		2600	J	27000	J	1500	
Fluorene	UG/KG	1100	J	4200		1000	J	160	J	520		350	U
Hexachlorobenzene	UG/KG	7400	UJ	1800	U	1800	U	360	UJ	340	UJ	350	U
Hexachlorobutadiene	UG/KG	7400	UJ	1800	U	1800	U	360	U	340	U	350	U
Hexachlorocyclopentadiene	UG/KG	7400	UJ	1800	U	1800	U	360	U	340	U	350	U
Hexachloroethane	UG/KG	7400	UJ	1800	U	1800	U	360	U	340	U	350	U
Indeno(1,2,3-cd)pyrene	UG/KG	8000	J	8100	J	2300	J	520	J	2200	J	890	J
Isophorone	UG/KG	7400	UJ	1800	U	1800	U	360	U	340	U	350	U
N-Nitrosodiphenylamine	UG/KG	7400	UJ	1800	U	1800	U	360	UJ	340	UJ	350	U
N-Nitrosodipropylamine	UG/KG	7400	UJ	1800	UJ	1800	UJ	360	UJ	340	UJ	350	UJ
Naphthalene	UG/KG	7400	UJ	480	J	630	J	67	J	120	J	350	U
Nitrobenzene	UG/KG	7400	UJ	1800	U	1800	U	360	U	340	U	350	U
Pentachlorophenol	UG/KG	18000	UJ	4600	U	4400	U	910	UJ	870	UJ	880	U
Phenanthrene	UG/KG	15000	J	52000		14000		2400	J	12000	J	520	

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I	
Sample Location Identification		SS121I-2		SS121I-20		SS121I-21		SS121I-22		SS121I-23		SS121I-24	
Matrix		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Sample Identification		EB150		121I-1016		121I-1017		121I-1018		121I-1019		121I-1020	
Sample Depth Top		0		0		0		0		0		0	
Sample Depth Bottom		0.2		0.2		0.2		0.2		0.2		0.2	
Sample Date		3/10/1998		10/22/2002		10/22/2002		10/23/2002		10/22/2002		10/22/2002	
SAmple or **DU**plicate		SA		SA		SA		SA		SA		SA	
See Notes at Bottom of Table		EBS		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Phenol	UG/KG	7400	UJ	1800	U	1800	U	360	U	340	U	350	U
Pyrene	UG/KG	23000		44000	J	13000		6300	J	64000	J	2500	J
Pesticides and PCBs													
4,4'-DDD	UG/KG			1.9	UJ	1.8	UJ	1.9	U	1.8	UJ	1.8	UJ
4,4'-DDE	UG/KG			1.9	U	26	J	11	NJ	34	NJ	1.8	U
4,4'-DDT	UG/KG			1.9	UJ	39	J	6.3	R	24	NJ	1.8	UJ
Aldrin	UG/KG			12		1.8	U	4.5	UJ	10	J	1.8	U
Alpha-BHC	UG/KG			1.9	UJ	1.8	UJ	1.9	UJ	1.8	UJ	1.8	UJ
Alpha-Chlordane	UG/KG			1.9	UJ	1.8	UJ	1.9	U	1.8	UJ	1.8	UJ
Beta-BHC	UG/KG			1.9	U	1.8	U	1.9	U	1.8	U	1.8	U
Chlordane	UG/KG			19	U	18	U	19	U	18	U	18	U
Delta-BHC	UG/KG			1.9	UJ	1.8	UJ	1.9	UJ	1.8	UJ	1.8	UJ
Dieldrin	UG/KG			1.9	UJ	34	J	1.9	UJ	1.8	UJ	1.8	UJ
Endosulfan I	UG/KG			95	J	20	J	28		63	J	24	
Endosulfan II	UG/KG			1.9	U	1.8	U	1.9	U	1.8	U	1.8	U
Endosulfan sulfate	UG/KG			1.9	U	1.8	U	1.9	U	1.8	U	1.8	U
Endrin	UG/KG			1.9	UJ	30	J	1.9	U	1.8	U	1.8	UJ
Endrin aldehyde	UG/KG			1.9	U	1.8	U	1.9	U	1.8	U	1.8	U
Endrin ketone	UG/KG			1.9	U	1.8	U	1.9	U	1.8	U	1.8	U
Gamma-BHC/Lindane	UG/KG			1.9	UJ	1.8	UJ	1.9	U	1.8	U	1.8	UJ
Gamma-Chlordane	UG/KG			1.9	U	1.8	U	1.9	U	1.8	U	1.8	U
Heptachlor	UG/KG			1.9	U	1.8	U	1.9	U	1.8	U	1.8	U
Heptachlor epoxide	UG/KG			1.9	U	55	J	21		1.8	U	1.8	U
Methoxychlor	UG/KG			1.9	U	1.8	U	1.9	UJ	1.8	UJ	1.8	U
Toxaphene	UG/KG			19	U	18	U	19	U	18	U	18	U

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I	
Sample Location Identification		SS121I-2		SS121I-20		SS121I-21		SS121I-22		SS121I-23		SS121I-24	
Matrix		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Sample Identification		EB150		121I-1016		121I-1017		121I-1018		121I-1019		121I-1020	
Sample Depth Top		0		0		0		0		0		0	
Sample Depth Bottom		0.2		0.2		0.2		0.2		0.2		0.2	
Sample Date		3/10/1998		10/22/2002		10/22/2002		10/23/2002		10/22/2002		10/22/2002	
SAmple or **DU**plicate		SA		SA		SA		SA		SA		SA	
See Notes at Bottom of Table		EBS		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Aroclor-1016	UG/KG			19	U	18	UJ	19	UJ	18	UJ	18	UJ
Aroclor-1221	UG/KG			19	U	18	U	19	UJ	18	UJ	18	U
Aroclor-1232	UG/KG			19	U	18	UJ	19	UJ	18	UJ	18	UJ
Aroclor-1242	UG/KG			19	U	18	UJ	19	UJ	18	UJ	18	UJ
Aroclor-1248	UG/KG			19	U	18	U	19	UJ	18	UJ	18	U
Aroclor-1254	UG/KG			19	UJ	18	U	30	J	18	UJ	18	U
Aroclor-1260	UG/KG			19	UJ	18	U	19	UJ	18	UJ	18	U
Metals													
Aluminum	MG/KG			7590		2870		4430		1530		1510	
Antimony	MG/KG			6.6	U	0.99		0.98	U	1.7		1.3	
Arsenic	MG/KG			8.9		7.3		7.7	R	4.4	R	5.7	
Barium	MG/KG			111		168		71	J	73.5	J	88.7	
Beryllium	MG/KG			0.56		0.28	J	0.32		0.2		0.19	J
Cadmium	MG/KG			0.55	U	1.4		0.27		0.33		0.19	J
Calcium	MG/KG			67500		202000		177000	J	269000	J	225000	
Chromium	MG/KG			16.4		12.4		10.7		6.1		4.1	
Cobalt	MG/KG			12.3		8		7.3		4.6		6.3	
Copper	MG/KG			44.1	J	29.6	J	31.9		13		15	J
Cyanide, Amenable	MG/KG			0.56	UJ	0.54	UJ	0.56	U	0.53	U	0.53	UJ
Cyanide, Total	MG/KG			0.558	UJ	0.536	UJ	0.557	U	0.526	U	0.534	UJ
Iron	MG/KG			19400		14100		11800		6130		6100	
Lead	MG/KG			48.8		90.9		34	J	31	J	19.1	
Magnesium	MG/KG			6470		10900		12500	J	12600	J	15100	
Manganese	MG/KG			779		909		557		594		406	
Mercury	MG/KG			0.03		0.04		0.01		0.02		0.02	

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification		SS121I-2	SS121I-20	SS121I-21	SS121I-22	SS121I-23	SS121I-24
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		EB150	121I-1016	121I-1017	121I-1018	121I-1019	121I-1020
Sample Depth Top		0	0	0	0	0	0
Sample Depth Bottom		0.2	0.2	0.2	0.2	0.2	0.2
Sample Date		3/10/1998	10/22/2002	10/22/2002	10/23/2002	10/22/2002	10/22/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Nickel	MG/KG		30.7	17.1	19 J	11.9 J	17.2
Potassium	MG/KG		830	767	941	871	1100
Selenium	MG/KG		0.7	0.48 J	0.66 J	0.43 UJ	0.53 U
Silver	MG/KG		1.1 U	1.1 U	0.29 R	0.28 R	1.1 U
Sodium	MG/KG		161	286	302	324	256
Thallium	MG/KG		1.1 U	1.1 U	0.34 UJ	0.32 UJ	1.1 U
Vanadium	MG/KG		17.1	14.6	11.1 J	5.9	7.2
Zinc	MG/KG		145 J	157 J	71.3 J	80.5 J	44.9 J
Other Analyses							
Total Organic Carbon	MG/KG		6200	3000	3600	5000	3900
Total Petroleum Hydrocarbons	MG/KG		810 J	850 J	370	470	43 UJ

NOTES:
1) List includes all sample and sample dup
(Q)ualifier Code Definitions
U = compound was not detected
J = the reported value is an estimated con
UJ = the compound was not detected; the
R = the data was rejected in the data valid

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification		SS121I-25	SS121I-26	SS121I-27	SS121I-28	SS121I-29	SS121I-29
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		121I-1021	121I-1022	121I-1023	121I-1024	121I-1025	121I-1030
Sample Depth Top		0	0	0	0	0	0
Sample Depth Bottom		0.2	0.2	0.2	0.2	0.2	0.2
Sample Date		10/22/2002	10/23/2002	10/23/2002	10/22/2002	10/23/2002	10/23/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organics							
1,1,1-Trichloroethane	UG/KG	2.6 U	2.7 UJ	2.9 UJ	2.7 U	3.1 U	3.6 UJ
1,1,2,2-Tetrachloroethane	UG/KG	2.6 U	2.7 UJ	2.9 UJ	2.7 U	3.1 U	3.6 UJ
1,1,2-Trichloroethane	UG/KG	2.6 U	2.7 UJ	2.9 UJ	2.7 U	3.1 U	3.6 UJ
1,1-Dichloroethane	UG/KG	2.6 U	2.7 UJ	2.9 UJ	2.7 U	3.1 U	3.6 UJ
1,1-Dichloroethene	UG/KG	2.6 U	2.7 UJ	2.9 UJ	2.7 U	3.1 U	3.6 UJ
1,2-Dichloroethane	UG/KG	2.6 UJ	2.7 UJ	2.9 UJ	2.7 UJ	3.1 UJ	3.6 UJ
1,2-Dichloropropane	UG/KG	2.6 U	2.7 UJ	2.9 UJ	2.7 U	3.1 U	3.6 UJ
Acetone	UG/KG	5.1 J	5.6 J	45 UJ	16 J	3.1 U	3.6 UJ
Benzene	UG/KG	2.6 U	2.7 UJ	4.6 J	2.7 U	24	57 J
Bromodichloromethane	UG/KG	2.6 U	2.7 UJ	2.9 UJ	2.7 U	3.1 U	3.6 UJ
Bromoform	UG/KG	2.6 U	2.7 UJ	2.9 UJ	2.7 U	3.1 U	3.6 UJ
Carbon disulfide	UG/KG	2.6 U	2.7 UJ	2.9 UJ	2.7 U	3.1 U	3.6 UJ
Carbon tetrachloride	UG/KG	2.6 UJ	2.7 UJ	2.9 UJ	2.7 UJ	3.1 UJ	3.6 UJ
Chlorobenzene	UG/KG	2.6 U	2.7 UJ	2.9 UJ	2.7 U	3.1 U	3.6 UJ
Chlorodibromomethane	UG/KG	2.6 U	2.7 UJ	2.9 UJ	2.7 U	3.1 U	3.6 UJ
Chloroethane	UG/KG	2.6 U	2.7 UJ	2.9 UJ	2.7 U	3.1 UJ	3.6 UJ
Chloroform	UG/KG	2.6 U	2.7 UJ	2.9 UJ	2.7 U	3.1 U	3.6 UJ
Cis-1,2-Dichloroethene	UG/KG	2.6 U	2.7 UJ	2.9 UJ	2.7 U	3.1 U	3.6 UJ
Cis-1,3-Dichloropropene	UG/KG	2.6 U	2.7 UJ	2.9 UJ	2.7 U	3.1 U	3.6 UJ
Ethyl benzene	UG/KG	2.6 U	2.7 UJ	2.9 UJ	2.7 U	4.4	9.5 J
Meta/Para Xylene	UG/KG	2.6 U	2.7 UJ	2.9 UJ	2.7 U	3.9	8.7 J
Methyl bromide	UG/KG	2.6 UJ	2.7 UJ	2.9 UJ	2.7 UJ	3.1 UJ	3.6 UJ
Methyl butyl ketone	UG/KG	2.6 UJ	2.7 UJ	2.9 UJ	2.7 UJ	3.1 UJ	3.6 UJ
Methyl chloride	UG/KG	2.6 U	2.7 UJ	2.9 UJ	2.7 U	3.1 U	3.6 UJ

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification		SS121I-25	SS121I-26	SS121I-27	SS121I-28	SS121I-29	SS121I-29
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		121I-1021	121I-1022	121I-1023	121I-1024	121I-1025	121I-1030
Sample Depth Top		0	0	0	0	0	0
Sample Depth Bottom		0.2	0.2	0.2	0.2	0.2	0.2
Sample Date		10/22/2002	10/23/2002	10/23/2002	10/22/2002	10/23/2002	10/23/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl ethyl ketone	UG/KG	2.6 U	2.7 UJ	28 J	2.7 U	3.1 U	67 J
Methyl isobutyl ketone	UG/KG	2.6 U	2.7 UJ	2.9 UJ	2.7 U	3.1 U	3.6 UJ
Methylene chloride	UG/KG	2.6 U	2.7 UJ	2.9 UJ	2.7 U	3.1 U	3.6 UJ
Ortho Xylene	UG/KG	2.6 U	2.7 UJ	2.9 UJ	2.7 U	2.1 J	5.1 J
Styrene	UG/KG	2.6 U	2.7 UJ	2.9 UJ	2.7 U	3.1 U	3.6 UJ
Tetrachloroethene	UG/KG	2.6 U	2.7 UJ	2.9 UJ	2.7 U	3.1 UJ	3.6 UJ
Toluene	UG/KG	2.6 U	2.7 UJ	2.8 J	2.7 U	18	43 J
Trans-1,2-Dichloroethene	UG/KG	2.6 U	2.7 UJ	2.9 UJ	2.7 U	3.1 U	3.6 UJ
Trans-1,3-Dichloropropene	UG/KG	2.6 U	2.7 UJ	2.9 UJ	2.7 U	3.1 U	3.6 UJ
Trichloroethene	UG/KG	2.6 U	2.7 UJ	2.9 UJ	2.7 U	3.1 U	3.6 UJ
Vinyl chloride	UG/KG	2.6 U	2.7 UJ	2.9 UJ	2.7 U	3.1 U	3.6 UJ
Semivolatile Organics							
1,2,4-Trichlorobenzene	UG/KG	350 U	370 U	390 U	360 U	2100 U	2300 U
1,2-Dichlorobenzene	UG/KG	350 U	370 U	390 U	360 U	2100 U	2300 U
1,3-Dichlorobenzene	UG/KG	350 U	370 U	390 U	360 U	2100 U	2300 U
1,4-Dichlorobenzene	UG/KG	350 U	370 U	390 U	360 U	2100 U	2300 U
2,4,5-Trichlorophenol	UG/KG	890 U	940 U	970 UJ	890 U	5200 U	5700 U
2,4,6-Trichlorophenol	UG/KG	350 U	370 U	390 UJ	360 U	2100 U	2300 U
2,4-Dichlorophenol	UG/KG	350 U	370 U	390 U	360 U	2100 U	2300 U
2,4-Dimethylphenol	UG/KG	350 U	370 U	390 U	360 U	2100 U	2300 U
2,4-Dinitrophenol	UG/KG	890 U	940 U	970 UJ	890 U	5200 R	5700 UJ
2,4-Dinitrotoluene	UG/KG	350 U	370 U	390 UJ	360 U	2100 U	2300 U
2,6-Dinitrotoluene	UG/KG	350 U	370 U	390 UJ	360 U	2100 U	2300 U
2-Chloronaphthalene	UG/KG	350 U	370 U	390 U	360 U	2100 U	2300 U
2-Chlorophenol	UG/KG	350 U	370 U	390 U	360 U	2100 U	2300 U

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification		SS121I-25	SS121I-26	SS121I-27	SS121I-28	SS121I-29	SS121I-29
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		121I-1021	121I-1022	121I-1023	121I-1024	121I-1025	121I-1030
Sample Depth Top		0	0	0	0	0	0
Sample Depth Bottom		0.2	0.2	0.2	0.2	0.2	0.2
Sample Date		10/22/2002	10/23/2002	10/23/2002	10/22/2002	10/23/2002	10/23/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
2-Methylnaphthalene	UG/KG	350 U	370 U	390 U	360 U	2100 U	2300 U
2-Methylphenol	UG/KG	350 U	370 U	390 U	360 U	2100 U	2300 U
2-Nitroaniline	UG/KG	890 U	940 UJ	970 UJ	890 UJ	5200 UJ	5700 UJ
2-Nitrophenol	UG/KG	350 U	370 U	390 U	360 U	2100 U	2300 U
3 or 4-Methylphenol	UG/KG	350 U	370 U	390 U	360 U	2100 U	2300 U
3,3'-Dichlorobenzidine	UG/KG	350 UJ	370 UJ	390 UJ	360 R	2100 UJ	2300 R
3-Nitroaniline	UG/KG	890 U	940 U	970 UJ	890 U	5200 U	5700 UJ
4,6-Dinitro-2-methylphenol	UG/KG	890 UJ	940 U	970 R	890 U	5200 R	5700 J
4-Bromophenyl phenyl ether	UG/KG	350 UJ	370 U	390 R	360 U	2100 U	2300 U
4-Chloro-3-methylphenol	UG/KG	350 U	370 U	390 U	360 U	2100 U	2300 U
4-Chloroaniline	UG/KG	350 UJ	370 U	390 U	360 U	2100 U	2300 U
4-Chlorophenyl phenyl ether	UG/KG	350 U	370 U	390 UJ	360 U	2100 U	2300 U
4-Methylphenol	UG/KG						
4-Nitroaniline	UG/KG	890 U	940 U	970 UJ	890 U	5200 U	5700 UJ
4-Nitrophenol	UG/KG	890 U	940 U	970 UJ	890 U	5200 U	5700 U
Acenaphthene	UG/KG	760	66 J	390 UJ	360 U	2100 U	2300 U
Acenaphthylene	UG/KG	350 U	370 U	390 UJ	360 U	2100 U	2300 U
Anthracene	UG/KG	900 J	110 J	390 R	360 U	330 J	2300 U
Benzo(a)anthracene	UG/KG	5500	660 J	120 J	56 J	700 J	260 J
Benzo(a)pyrene	UG/KG	5500	740 J	240 J	86 J	700 J	2300 R
Benzo(b)fluoranthene	UG/KG	7000	820 J	140 J	72 J	720 J	2300 R
Benzo(ghi)perylene	UG/KG	5000	470 J	65 J	70 J	430 J	2300 R
Benzo(k)fluoranthene	UG/KG	4500	820 J	260 J	360 R	720 J	2300 R
Bis(2-Chloroethoxy)methane	UG/KG	350 U	370 U	390 U	360 U	2100 U	2300 U
Bis(2-Chloroethyl)ether	UG/KG	350 U	370 U	390 U	360 U	2100 U	2300 U

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification	SS121I-25	SS121I-26	SS121I-27	SS121I-28	SS121I-29	SS121I-29
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	121I-1021	121I-1022	121I-1023	121I-1024	121I-1025	121I-1030
Sample Depth Top	0	0	0	0	0	0
Sample Depth Bottom	0.2	0.2	0.2	0.2	0.2	0.2
Sample Date	10/22/2002	10/23/2002	10/23/2002	10/22/2002	10/23/2002	10/23/2002
SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Bis(2-Chloroisopropyl)ether	UG/KG	350 U	370 U	390 U	360 U	2100 U	2300 U
Bis(2-Ethylhexyl)phthalate	UG/KG	350 UJ	74 J	110 J	66 J	2100 U	260 J
Butylbenzylphthalate	UG/KG	350 UJ	370 UJ	390 UJ	55 J	2100 U	2300 R
Carbazole	UG/KG	1000	110 J	390 UJ	360 U	340 J	2300 UJ
Chrysene	UG/KG	6300	1100 J	220 J	100 J	790 J	2300 R
Di-n-butylphthalate	UG/KG	350 UJ	370 U	390 R	360 U	2100 U	2300 U
Di-n-octylphthalate	UG/KG	350 UJ	370 UJ	390 UJ	360 R	2100 U	2300 R
Dibenz(a,h)anthracene	UG/KG	300 J	370 UJ	390 R	360 R	2100 UJ	2300 R
Dibenzofuran	UG/KG	120 J	370 U	390 UJ	360 U	2100 U	2300 U
Diethyl phthalate	UG/KG	350 U	370 U	390 UJ	360 U	2100 U	230 J
Dimethylphthalate	UG/KG	350 U	370 U	390 UJ	360 U	2100 U	2300 U
Fluoranthene	UG/KG	11000	1500	130 J	86 J	2500	490 J
Fluorene	UG/KG	310 J	370 U	390 UJ	360 U	2100 U	2300 U
Hexachlorobenzene	UG/KG	350 UJ	370 U	390 R	360 U	2100 U	2300 U
Hexachlorobutadiene	UG/KG	350 U	370 U	390 U	360 U	2100 U	2300 U
Hexachlorocyclopentadiene	UG/KG	350 U	370 U	390 UJ	360 U	2100 UJ	2300 U
Hexachloroethane	UG/KG	350 U	370 U	390 U	360 U	2100 U	2300 U
Indeno(1,2,3-cd)pyrene	UG/KG	1400 J	470 J	390 UJ	360 R	2100 UJ	2300 R
Isophorone	UG/KG	350 U	370 U	390 U	360 U	2100 U	2300 U
N-Nitrosodiphenylamine	UG/KG	350 UJ	370 U	390 R	360 U	2100 U	2300 U
N-Nitrosodipropylamine	UG/KG	350 UJ	370 UJ	390 UJ	360 UJ	2100 U	2300 UJ
Naphthalene	UG/KG	350 U	370 U	390 U	360 U	2100 U	2300 U
Nitrobenzene	UG/KG	350 U	370 U	390 U	360 UJ	2100 U	2300 U
Pentachlorophenol	UG/KG	890 UJ	940 U	970 R	890 U	5200 UJ	5700 U
Phenanthrene	UG/KG	5200	640	150 J	74 J	2200	530 J

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I	
Sample Location Identification		SS121I-25		SS121I-26		SS121I-27		SS121I-28		SS121I-29		SS121I-29	
Matrix		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Sample Identification		121I-1021		121I-1022		121I-1023		121I-1024		121I-1025		121I-1030	
Sample Depth Top		0		0		0		0		0		0	
Sample Depth Bottom		0.2		0.2		0.2		0.2		0.2		0.2	
Sample Date		10/22/2002		10/23/2002		10/23/2002		10/22/2002		10/23/2002		10/23/2002	
SAmple or **DU**plicate		SA		SA		SA		SA		SA		SA	
See Notes at Bottom of Table		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Phenol	UG/KG	350	U	370	U	390	U	360	U	2100	U	2300	U
Pyrene	UG/KG	13000		2500	J	500	J	120	J	2300		1600	J
Pesticides and PCBs													
4,4'-DDD	UG/KG	1.8	UJ	1.9	UJ	2	UJ	1.8	UJ	2.2	UJ	2.3	UJ
4,4'-DDE	UG/KG	1.8	U	24		2	U	1.8	U	2.2	U	2.3	U
4,4'-DDT	UG/KG	1.8	UJ	1.9	UJ	2	UJ	1.8	UJ	2.2	UJ	2.3	UJ
Aldrin	UG/KG	12	J	1.9	U	2	U	1.8	U	2.2	U	2.3	U
Alpha-BHC	UG/KG	1.8	UJ	1.9	UJ	2	UJ	1.8	UJ	2.2	UJ	2.3	UJ
Alpha-Chlordane	UG/KG	1.8	UJ	1.9	UJ	2	UJ	1.8	UJ	2.2	UJ	2.3	UJ
Beta-BHC	UG/KG	1.8	U	1.9	U	2	U	1.8	U	2.2	U	2.3	U
Chlordane	UG/KG	18	U	19	U	20	U	18	U	22	U	23	U
Delta-BHC	UG/KG	1.8	UJ	1.9	UJ	2	UJ	1.8	UJ	2.2	UJ	2.3	UJ
Dieldrin	UG/KG	1.8	UJ	1.9	UJ	2	UJ	1.8	UJ	2.2	UJ	2.3	UJ
Endosulfan I	UG/KG	47	J	20		2	U	1.8	U	23		2.3	U
Endosulfan II	UG/KG	1.8	U	1.9	U	2	U	1.8	U	2.2	U	2.3	U
Endosulfan sulfate	UG/KG	1.8	U	1.9	U	2	U	1.8	U	2.2	U	2.3	U
Endrin	UG/KG	6.5	J	1.9	U	2	U	1.8	UJ	2.2	U	2.3	U
Endrin aldehyde	UG/KG	1.8	U	1.9	U	2	U	1.8	U	2.2	U	2.3	U
Endrin ketone	UG/KG	1.8	U	1.9	U	2	U	1.8	U	2.2	U	2.3	U
Gamma-BHC/Lindane	UG/KG	1.8	UJ	1.9	U	2	U	1.8	UJ	2.2	U	2.3	U
Gamma-Chlordane	UG/KG	1.8	U	1.9	U	2	U	1.8	U	2.2	U	2.3	U
Heptachlor	UG/KG	1.8	U	1.9	U	2	U	1.8	U	2.2	U	2.3	U
Heptachlor epoxide	UG/KG	1.8	U	11	R	2	U	1.8	U	17	R	2.3	U
Methoxychlor	UG/KG	1.8	U	1.9	UJ	2	UJ	1.8	U	2.2	UJ	2.3	UJ
Toxaphene	UG/KG	18	U	19	U	20	U	18	U	22	U	23	U

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I	
Sample Location Identification		SS121I-25		SS121I-26		SS121I-27		SS121I-28		SS121I-29		SS121I-29	
Matrix		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Sample Identification		121I-1021		121I-1022		121I-1023		121I-1024		121I-1025		121I-1030	
Sample Depth Top		0		0		0		0		0		0	
Sample Depth Bottom		0.2		0.2		0.2		0.2		0.2		0.2	
Sample Date		10/22/2002		10/23/2002		10/23/2002		10/22/2002		10/23/2002		10/23/2002	
SAmple or **DU**plicate		SA		SA		SA		SA		SA		SA	
See Notes at Bottom of Table		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Aroclor-1016	UG/KG	18	UJ	19	UJ	20	UJ	18	UJ	21	UJ	23	UJ
Aroclor-1221	UG/KG	18	U	19	UJ	20	UJ	18	U	21	UJ	23	UJ
Aroclor-1232	UG/KG	18	UJ	19	UJ	20	UJ	18	UJ	21	UJ	23	UJ
Aroclor-1242	UG/KG	18	UJ	19	UJ	20	UJ	18	UJ	21	UJ	23	UJ
Aroclor-1248	UG/KG	18	U	19	UJ	20	UJ	18	U	21	UJ	23	UJ
Aroclor-1254	UG/KG	18	U	19	UJ	20	UJ	18	U	21	UJ	23	UJ
Aroclor-1260	UG/KG	18	U	19	UJ	20	UJ	18	U	21	UJ	23	UJ
Metals													
Aluminum	MG/KG	1560		1950		4110		2310		3730		2200	
Antimony	MG/KG	6.3	U	1	U	1.1	U	7.5		1.1	U	1.2	U
Arsenic	MG/KG	3.5		5.8	R	9.1	R	3.9		349	R	239	R
Barium	MG/KG	74.8		207		97.4	J	112		87.4	J	84.9	J
Beryllium	MG/KG	0.16		0.25		0.32		0.19	J	0.16	U	0.18	U
Cadmium	MG/KG	0.52	U	0.13	U	0.14	U	3.4		0.15	U	0.16	U
Calcium	MG/KG	232000		298000	J	180000	J	230000		29900	J	46500	J
Chromium	MG/KG	3.9		4.6		10.7		10.3		516		362	
Cobalt	MG/KG	5		5.3		10.8	J	5.5		237	J	174	J
Copper	MG/KG	10.4	J	14.9		17.9		19.1	J	243		175	
Cyanide, Amenable	MG/KG	0.54	UJ	0.57	U	0.59	U	0.55	UJ	0.63	U	0.68	U
Cyanide, Total	MG/KG	0.538	UJ	0.569	U	0.588	U	0.546	UJ	1.26		2.73	
Iron	MG/KG	5720		8350		15400		8250		69400		47400	
Lead	MG/KG	122		16.3	J	11.1	J	32.8		47.8	J	45.9	J
Magnesium	MG/KG	16800	*	5470	J	22300	J	12900		2770	J	6090	J
Manganese	MG/KG	593		1230		9720		699		349000		272000	
Mercury	MG/KG	0.02		0.01		0.04		0.02		0.02		0.02	

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I	
Sample Location Identification		SS121I-25		SS121I-26		SS121I-27		SS121I-28		SS121I-29		SS121I-29	
Matrix		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Sample Identification		121I-1021		121I-1022		121I-1023		121I-1024		121I-1025		121I-1030	
Sample Depth Top		0		0		0		0		0		0	
Sample Depth Bottom		0.2		0.2		0.2		0.2		0.2		0.2	
Sample Date		10/22/2002		10/23/2002		10/23/2002		10/22/2002		10/23/2002		10/23/2002	
SAmple or **DU**plicate		SA		SA		SA		SA		SA		SA	
See Notes at Bottom of Table		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Nickel	MG/KG	11.1		12.8	J	25.5	J	14.3		394	J	289	J
Potassium	MG/KG	846		747		903		861		656		612	
Selenium	MG/KG	0.52	U	0.47	UJ	0.86	J	0.54	U	160	J	131	J
Silver	MG/KG	1	U	0.3	R	0.6	R	1.1	U	24.1	R	18.6	R
Sodium	MG/KG	232		365		240		284		126	U	135	U
Thallium	MG/KG	1	U	0.35	UJ	0.36	UJ	1.1	U	173	J	152	J
Vanadium	MG/KG	6.3		9.1		29	J	6.7		217	J	147	J
Zinc	MG/KG	47.2	J	49.9	J	116		162	J	47.7	J	37.8	J
Other Analyses													
Total Organic Carbon	MG/KG	3500		5600		4600		6900		7300		4900	
Total Petroleum Hydrocarbons	MG/KG	43	UJ	46	U	2200		44	UJ	240		1600	

NOTES:
1) List includes all sample and sample dup
(Q)ualifier Code Definitions
U = compound was not detected
J = the reported value is an estimated con
UJ = the compound was not detected; the
R = the data was rejected in the data valid

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification	SS121I-3	SS121I-30	SS121I-31	SS121I-32	SS121I-33	SS121I-34
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	EB149	121I-1026	121I-1027	121I-1028	121I-1029	121I-1032
Sample Depth Top	0	0	0	0	0	0
Sample Depth Bottom	0.2	0.2	0.2	0.2	0.2	0.2
Sample Date	3/10/1998	10/22/2002	10/22/2002	10/22/2002	10/22/2002	10/22/2002
SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table	EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organics							
1,1,1-Trichloroethane	UG/KG		2.8 U	3.4 UJ	2.7 U	2.7 UJ	3 UJ
1,1,2,2-Tetrachloroethane	UG/KG		2.8 U	3.4 U	2.7 U	2.7 UJ	3 UJ
1,1,2-Trichloroethane	UG/KG		2.8 U	3.4 U	2.7 U	2.7 UJ	3 UJ
1,1-Dichloroethane	UG/KG		2.8 U	3.4 U	2.7 U	2.7 UJ	3 UJ
1,1-Dichloroethene	UG/KG		2.8 U	3.4 U	2.7 U	2.7 UJ	3 UJ
1,2-Dichloroethane	UG/KG		2.8 UJ	3.4 UJ	2.7 UJ	2.7 UJ	3 UJ
1,2-Dichloropropane	UG/KG		2.8 U	3.4 U	2.7 U	2.7 UJ	3 UJ
Acetone	UG/KG		9.8	11	5.1	7.6 J	9.8 J
Benzene	UG/KG		2.8 U	3.4 U	2.7 U	2.7 UJ	3 UJ
Bromodichloromethane	UG/KG		2.8 U	3.4 UJ	2.7 U	2.7 UJ	3 UJ
Bromoform	UG/KG		2.8 U	3.4 U	2.7 U	2.7 UJ	3 UJ
Carbon disulfide	UG/KG		2.8 U	3.4 U	2.7 U	2.7 UJ	3 UJ
Carbon tetrachloride	UG/KG		2.8 UJ	3.4 UJ	2.7 UJ	2.7 UJ	3 UJ
Chlorobenzene	UG/KG		2.8 U	3.4 U	2.7 U	2.7 UJ	3 UJ
Chlorodibromomethane	UG/KG		2.8 U	3.4 UJ	2.7 U	2.7 UJ	3 UJ
Chloroethane	UG/KG		2.8 U	3.4 UJ	2.7 U	2.7 UJ	3 UJ
Chloroform	UG/KG		2.8 U	3.4 U	2.7 U	2.7 UJ	3 UJ
Cis-1,2-Dichloroethene	UG/KG		2.8 U	3.4 U	2.7 U	2.7 UJ	3 UJ
Cis-1,3-Dichloropropene	UG/KG		2.8 U	3.4 U	2.7 U	2.7 UJ	3 UJ
Ethyl benzene	UG/KG		2.8 U	3.4 U	2.7 U	2.7 UJ	3 UJ
Meta/Para Xylene	UG/KG		2.8 U	3.4 U	2.7 U	2.7 UJ	3 UJ
Methyl bromide	UG/KG		2.8 UJ	3.4 UJ	2.7 UJ	2.7 UJ	3 UJ
Methyl butyl ketone	UG/KG		2.8 UJ	3.4 UJ	2.7 UJ	2.7 UJ	3 UJ
Methyl chloride	UG/KG		2.8 U	3.4 U	2.7 U	2.7 UJ	3 UJ

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification		SS121I-3	SS121I-30	SS121I-31	SS121I-32	SS121I-33	SS121I-34
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		EB149	121I-1026	121I-1027	121I-1028	121I-1029	121I-1032
Sample Depth Top		0	0	0	0	0	0
Sample Depth Bottom		0.2	0.2	0.2	0.2	0.2	0.2
Sample Date		3/10/1998	10/22/2002	10/22/2002	10/22/2002	10/22/2002	10/22/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl ethyl ketone	UG/KG		2.8 U	3.4 U	2.7 U	2.7 UJ	3 UJ
Methyl isobutyl ketone	UG/KG		2.8 U	3.4 U	2.7 U	2.7 UJ	3 UJ
Methylene chloride	UG/KG		2.8 U	3.4 U	2.7 U	2.7 UJ	3 UJ
Ortho Xylene	UG/KG		2.8 U	3.4 U	2.7 U	2.7 UJ	3 UJ
Styrene	UG/KG		2.8 U	3.4 U	2.7 U	2.7 UJ	3 UJ
Tetrachloroethene	UG/KG		2.8 U	3.4 U	2.7 U	2.7 UJ	3 UJ
Toluene	UG/KG		2.8 U	3.4 U	2.7 U	2.7 UJ	3 UJ
Trans-1,2-Dichloroethene	UG/KG		2.8 U	3.4 U	2.7 U	2.7 UJ	3 UJ
Trans-1,3-Dichloropropene	UG/KG		2.8 U	3.4 U	2.7 U	2.7 UJ	3 UJ
Trichloroethene	UG/KG		2.8 U	3.4 U	2.7 U	2.7 UJ	3 UJ
Vinyl chloride	UG/KG		2.8 U	3.4 U	2.7 U	2.7 UJ	3 UJ
Semivolatile Organics							
1,2,4-Trichlorobenzene	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
1,2-Dichlorobenzene	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
1,3-Dichlorobenzene	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
1,4-Dichlorobenzene	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
2,4,5-Trichlorophenol	UG/KG	1900 U	920 U	890 U	940 U	900 U	910 U
2,4,6-Trichlorophenol	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
2,4-Dichlorophenol	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
2,4-Dimethylphenol	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
2,4-Dinitrophenol	UG/KG	1900 U	920 UJ	890 U	940 U	900 UJ	910 U
2,4-Dinitrotoluene	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
2,6-Dinitrotoluene	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
2-Chloronaphthalene	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
2-Chlorophenol	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification		SS121I-3	SS121I-30	SS121I-31	SS121I-32	SS121I-33	SS121I-34
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		EB149	121I-1026	121I-1027	121I-1028	121I-1029	121I-1032
Sample Depth Top		0	0	0	0	0	0
Sample Depth Bottom		0.2	0.2	0.2	0.2	0.2	0.2
Sample Date		3/10/1998	10/22/2002	10/22/2002	10/22/2002	10/22/2002	10/22/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
2-Methylnaphthalene	UG/KG	54 J	370 U	360 U	380 U	360 U	360 U
2-Methylphenol	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
2-Nitroaniline	UG/KG	1900 U	920 U	890 U	940 U	900 UJ	910 UJ
2-Nitrophenol	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
3 or 4-Methylphenol	UG/KG		370 U	360 U	380 U	360 U	360 U
3,3'-Dichlorobenzidine	UG/KG	770 U	370 UJ	360 UJ	380 UJ	360 UJ	360 UJ
3-Nitroaniline	UG/KG	1900 U	920 U	890 U	940 U	900 UJ	910 U
4,6-Dinitro-2-methylphenol	UG/KG	1900 U	920 UJ	890 U	940 U	900 UJ	910 U
4-Bromophenyl phenyl ether	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
4-Chloro-3-methylphenol	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
4-Chloroaniline	UG/KG	770 U	370 UJ	360 UJ	380 UJ	360 U	360 U
4-Chlorophenyl phenyl ether	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
4-Methylphenol	UG/KG	770 U					
4-Nitroaniline	UG/KG	1900 U	920 U	890 U	940 U	900 UJ	910 U
4-Nitrophenol	UG/KG	1900 U	920 U	890 U	940 U	900 U	910 U
Acenaphthene	UG/KG	140 J	370 U	360 U	380 U	360 U	360 U
Acenaphthylene	UG/KG	770 U	370 U	360 U	64 J	360 U	360 U
Anthracene	UG/KG	220 J	370 U	360 U	69 J	360 U	360 U
Benzo(a)anthracene	UG/KG	1600	370 UJ	43 J	190 J	80 J	99 J
Benzo(a)pyrene	UG/KG	1800	370 U	61 J	290 J	110 J	130 J
Benzo(b)fluoranthene	UG/KG	2100	370 U	67 J	360 J	110 J	130 J
Benzo(ghi)perylene	UG/KG	1600	370 UJ	50 J	320 J	110 J	90 J
Benzo(k)fluoranthene	UG/KG	2500	370 U	360 UJ	340 J	95 J	120 J
Bis(2-Chloroethoxy)methane	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
Bis(2-Chloroethyl)ether	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification	SS121I-3	SS121I-30	SS121I-31	SS121I-32	SS121I-33	SS121I-34
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	EB149	121I-1026	121I-1027	121I-1028	121I-1029	121I-1032
Sample Depth Top	0	0	0	0	0	0
Sample Depth Bottom	0.2	0.2	0.2	0.2	0.2	0.2
Sample Date	3/10/1998	10/22/2002	10/22/2002	10/22/2002	10/22/2002	10/22/2002
SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table	EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Bis(2-Chloroisopropyl)ether	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
Bis(2-Ethylhexyl)phthalate	UG/KG	230 J	370 UJ	1600	380 UJ	360 UJ	360 UJ
Butylbenzylphthalate	UG/KG	770 U	370 UJ	360 UJ	380 UJ	360 UJ	360 UJ
Carbazole	UG/KG	320 J	370 U	360 U	60 J	360 UJ	360 U
Chrysene	UG/KG	2000	370 UJ	68 J	350 J	130 J	170 J
Di-n-butylphthalate	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
Di-n-octylphthalate	UG/KG	770 U	370 UJ	360 UJ	380 UJ	360 UJ	360 UJ
Dibenz(a,h)anthracene	UG/KG	720 J	370 U	360 UJ	380 UJ	360 UJ	360 R
Dibenzofuran	UG/KG	42 J	370 U	360 U	380 U	360 U	360 U
Diethyl phthalate	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
Dimethylphthalate	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
Fluoranthene	UG/KG	4000	370 U	80 J	500	120 J	180 J
Fluorene	UG/KG	98 J	370 U	360 U	380 U	360 U	360 U
Hexachlorobenzene	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
Hexachlorobutadiene	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
Hexachlorocyclopentadiene	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
Hexachloroethane	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
Indeno(1,2,3-cd)pyrene	UG/KG	1600	370 UJ	360 UJ	220 J	76 J	65 J
Isophorone	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
N-Nitrosodiphenylamine	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
N-Nitrosodipropylamine	UG/KG	770 U	370 U	360 UJ	380 UJ	360 UJ	360 UJ
Naphthalene	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
Nitrobenzene	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
Pentachlorophenol	UG/KG	1900 U	920 U	890 U	940 U	900 U	910 U
Phenanthrene	UG/KG	1400	370 U	52 J	290 J	95 J	130 J

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification		SS121I-3	SS121I-30	SS121I-31	SS121I-32	SS121I-33	SS121I-34
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		EB149	121I-1026	121I-1027	121I-1028	121I-1029	121I-1032
Sample Depth Top		0	0	0	0	0	0
Sample Depth Bottom		0.2	0.2	0.2	0.2	0.2	0.2
Sample Date		3/10/1998	10/22/2002	10/22/2002	10/22/2002	10/22/2002	10/22/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Phenol	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
Pyrene	UG/KG	3000	370 UJ	110 J	640 J	300 J	260 J
Pesticides and PCBs							
4,4'-DDD	UG/KG		1.9 UJ	1.8 UJ	2 UJ	1.8 UJ	1.9 UJ
4,4'-DDE	UG/KG		1.9 U	1.8 U	2 U	1.8 U	1.9 U
4,4'-DDT	UG/KG		1.9 U	1.8 U	2 U	1.8 UJ	1.9 UJ
Aldrin	UG/KG		1.9 UJ	1.8 UJ	2 UJ	1.8 U	1.9 U
Alpha-BHC	UG/KG		1.9 UJ	1.8 UJ	2 UJ	1.8 UJ	1.9 UJ
Alpha-Chlordane	UG/KG		1.9 UJ	1.8 UJ	2 UJ	1.8 UJ	1.9 UJ
Beta-BHC	UG/KG		1.9 U	1.8 U	2 U	1.8 U	1.9 U
Chlordane	UG/KG		19 U	18 U	20 U	18 U	19 U
Delta-BHC	UG/KG		1.9 UJ	1.8 UJ	2 UJ	1.8 UJ	1.9 UJ
Dieldrin	UG/KG		1.9 UJ	1.8 UJ	2 U	1.8 UJ	1.9 UJ
Endosulfan I	UG/KG		1.9 U	1.8 U	15	7.2 J	4.9 J
Endosulfan II	UG/KG		1.9 U	1.8 U	2 U	1.8 U	1.9 U
Endosulfan sulfate	UG/KG		1.9 U	1.8 U	2 U	1.8 U	1.9 U
Endrin	UG/KG		1.9 U	1.8 U	2 U	1.8 U	1.9 U
Endrin aldehyde	UG/KG		1.9 U	1.8 U	2 U	1.8 U	1.9 U
Endrin ketone	UG/KG		1.9 U	1.8 U	2 U	1.8 U	1.9 U
Gamma-BHC/Lindane	UG/KG		1.9 UJ	1.8 UJ	2 UJ	1.8 U	1.9 U
Gamma-Chlordane	UG/KG		1.9 U	1.8 U	2 U	1.8 U	1.9 U
Heptachlor	UG/KG		1.9 U	1.8 U	2 U	1.8 U	1.9 U
Heptachlor epoxide	UG/KG		1.9 U	1.8 U	8	1.8 U	1.9 U
Methoxychlor	UG/KG		1.9 U	1.8 U	2 U	1.8 UJ	1.9 UJ
Toxaphene	UG/KG		19 U	18 U	20 U	18 U	19 U

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I	
Sample Location Identification		SS121I-3		SS121I-30		SS121I-31		SS121I-32		SS121I-33		SS121I-34	
Matrix		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Sample Identification		EB149		121I-1026		121I-1027		121I-1028		121I-1029		121I-1032	
Sample Depth Top		0		0		0		0		0		0	
Sample Depth Bottom		0.2		0.2		0.2		0.2		0.2		0.2	
Sample Date		3/10/1998		10/22/2002		10/22/2002		10/22/2002		10/22/2002		10/22/2002	
SAmple or **DU**plicate		SA		SA		SA		SA		SA		SA	
See Notes at Bottom of Table		EBS		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Aroclor-1016	UG/KG			19	U	18	U	19	U	18	UJ	19	UJ
Aroclor-1221	UG/KG			19	U	18	U	19	U	18	UJ	19	UJ
Aroclor-1232	UG/KG			19	U	18	U	19	U	18	UJ	19	UJ
Aroclor-1242	UG/KG			19	U	18	U	19	U	18	UJ	19	UJ
Aroclor-1248	UG/KG			19	U	18	U	19	U	18	UJ	19	UJ
Aroclor-1254	UG/KG			19	UJ	18	UJ	19	UJ	18	UJ	19	UJ
Aroclor-1260	UG/KG			19	UJ	18	UJ	19	UJ	18	UJ	19	UJ
Metals													
Aluminum	MG/KG			7610		4750		7030		2410		5670	
Antimony	MG/KG			6.5	U	4.5		6.7	U	3.2		4.1	
Arsenic	MG/KG			5.1		6.4		5.8		7.5	R	5.7	R
Barium	MG/KG			48.3		38.2		48.9		188		97.2	J
Beryllium	MG/KG			0.42		0.27		0.43		0.22		0.38	
Cadmium	MG/KG			0.54	U	0.53	U	0.56	U	0.45		0.17	
Calcium	MG/KG			50600		52400		40900		253000	J	160000	J
Chromium	MG/KG			14.6		10.5		15.2		10.8		14.2	
Cobalt	MG/KG			9.6		9.5		8.9		7.2		8.3	
Copper	MG/KG			20.7	J	14.2	J	21.3	J	23.9		21	
Cyanide, Amenable	MG/KG			0.56	UJ	0.54	UJ	0.58	UJ	0.55	U	0.55	U
Cyanide, Total	MG/KG			0.557	UJ	0.545	UJ	0.577	UJ	0.546	U	0.551	U
Iron	MG/KG			18100		14500		16900		10300		14600	
Lead	MG/KG			13.5		21		31.2		40	J	25.9	J
Magnesium	MG/KG			12800		4770		5330		18800	J	11800	J
Manganese	MG/KG			412		377		428		847		634	
Mercury	MG/KG			0.02		0.02		0.03		0.02		0.03	

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I	
Sample Location Identification		SS121I-3		SS121I-30		SS121I-31		SS121I-32		SS121I-33		SS121I-34	
Matrix		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Sample Identification		EB149		121I-1026		121I-1027		121I-1028		121I-1029		121I-1032	
Sample Depth Top		0		0		0		0		0		0	
Sample Depth Bottom		0.2		0.2		0.2		0.2		0.2		0.2	
Sample Date		3/10/1998		10/22/2002		10/22/2002		10/22/2002		10/22/2002		10/22/2002	
SAmple or **DU**plicate		SA		SA		SA		SA		SA		SA	
See Notes at Bottom of Table		EBS		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Nickel	MG/KG			25.4		22.3		27.2		342	J	30.8	J
Potassium	MG/KG			1300		653		835		1000	J	867	
Selenium	MG/KG			0.54	U	0.53	U	0.56	U	0.62	J	0.76	J
Silver	MG/KG			1.1	U	1.1	U	1.1	U	0.29	R	0.29	R
Sodium	MG/KG			129		138		117		326		218	
Thallium	MG/KG			1.1	U	1.1	U	1.1	U	0.33	UJ	0.34	UJ
Vanadium	MG/KG			13.6		8.9		13.6		7.7		11.3	J
Zinc	MG/KG			70.9	J	71.1	J	92.6	J	329		78.8	J
Other Analyses													
Total Organic Carbon	MG/KG			6600		4300		6600		3600		4900	
Total Petroleum Hydrocarbons	MG/KG			45	UJ	44	UJ	140	J	44	U	44	U

NOTES:
1) List includes all sample and sample dup
(Q)ualifier Code Definitions
U = compound was not detected
J = the reported value is an estimated con
UJ = the compound was not detected; the
R = the data was rejected in the data valid

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification	SS121I-4	SS121I-5	SS121I-6	SS121I-7	SS121I-8	SS121I-9
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	EB148	121I-1000	121I-1001	121I-1002	121I-1004	121I-1005
Sample Depth Top	0	0	0	0	0	0
Sample Depth Bottom	0.2	0.2	0.2	0.2	0.2	0.2
Sample Date	3/10/1998	10/22/2002	10/22/2002	10/22/2002	10/22/2002	10/22/2002
SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table	EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organics							
1,1,1-Trichloroethane	UG/KG		3 UJ	2.8 U	2.8 U	3.3 U	2.9 U
1,1,2,2-Tetrachloroethane	UG/KG		3 UJ	2.8 U	2.8 U	3.3 U	2.9 U
1,1,2-Trichloroethane	UG/KG		3 UJ	2.8 U	2.8 U	3.3 U	2.9 U
1,1-Dichloroethane	UG/KG		3 UJ	2.8 U	2.8 U	3.3 U	2.9 U
1,1-Dichloroethene	UG/KG		3 UJ	2.8 U	2.8 U	3.3 U	2.9 U
1,2-Dichloroethane	UG/KG		3 UJ	2.8 UJ	2.8 UJ	3.3 UJ	2.9 UJ
1,2-Dichloropropane	UG/KG		3 UJ	2.8 U	2.8 U	3.3 U	2.9 U
Acetone	UG/KG		3 UJ	7.7	51	11 J	20 J
Benzene	UG/KG		3 UJ	2.8 U	16	3.3 U	4.8
Bromodichloromethane	UG/KG		3 UJ	2.8 U	2.8 U	3.3 U	2.9 U
Bromoform	UG/KG		3 UJ	2.8 U	2.8 U	3.3 U	2.9 U
Carbon disulfide	UG/KG		3 UJ	2.8 U	2.8 U	3.3 U	2.9 U
Carbon tetrachloride	UG/KG		3 UJ	2.8 UJ	2.8 UJ	3.3 UJ	2.9 UJ
Chlorobenzene	UG/KG		3 UJ	2.8 U	2.8 U	3.3 U	2.9 U
Chlorodibromomethane	UG/KG		3 UJ	2.8 U	2.8 U	3.3 U	2.9 U
Chloroethane	UG/KG		3 UJ	2.8 U	2.8 U	3.3 U	2.9 U
Chloroform	UG/KG		3 UJ	2.8 U	2.8 U	3.3 U	2.9 U
Cis-1,2-Dichloroethene	UG/KG		3 UJ	2.8 U	2.8 U	3.3 U	2.9 U
Cis-1,3-Dichloropropene	UG/KG		3 UJ	2.8 U	2.8 U	3.3 U	2.9 U
Ethyl benzene	UG/KG		3 UJ	2.8 U	2.3 J	3.3 U	2.1 J
Meta/Para Xylene	UG/KG		3 UJ	2.8 U	2.3 J	3.3 U	2.1 J
Methyl bromide	UG/KG		3 UJ	2.8 UJ	2.8 UJ	3.3 UJ	2.9 UJ
Methyl butyl ketone	UG/KG		3 UJ	2.8 UJ	2.8 UJ	3.3 UJ	2.9 UJ
Methyl chloride	UG/KG		3 UJ	2.8 U	2.8 U	3.3 U	2.9 U

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification		SS121I-4	SS121I-5	SS121I-6	SS121I-7	SS121I-8	SS121I-9
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		EB148	121I-1000	121I-1001	121I-1002	121I-1004	121I-1005
Sample Depth Top		0	0	0	0	0	0
Sample Depth Bottom		0.2	0.2	0.2	0.2	0.2	0.2
Sample Date		3/10/1998	10/22/2002	10/22/2002	10/22/2002	10/22/2002	10/22/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Methyl ethyl ketone	UG/KG		3 UJ	2.8 U	31	3.3 U	9.8
Methyl isobutyl ketone	UG/KG		3 UJ	2.8 U	2.8 U	3.3 U	2.9 U
Methylene chloride	UG/KG		3 UJ	2.8 U	2.8 U	3.3 U	2.9 U
Ortho Xylene	UG/KG		3 UJ	2.8 U	1.4 J	3.3 U	1.3 J
Styrene	UG/KG		3 UJ	2.8 U	2.8 U	3.3 U	2.9 U
Tetrachloroethene	UG/KG		3 UJ	2.8 U	2.8 U	3.3 U	2.9 U
Toluene	UG/KG		3 UJ	2.8 U	12	3.3 U	6.1
Trans-1,2-Dichloroethene	UG/KG		3 UJ	2.8 U	2.8 U	3.3 U	2.9 U
Trans-1,3-Dichloropropene	UG/KG		3 UJ	2.8 U	2.8 U	3.3 U	2.9 U
Trichloroethene	UG/KG		3 UJ	2.8 U	2.8 U	3.3 U	2.9 U
Vinyl chloride	UG/KG		3 UJ	2.8 U	2.8 U	3.3 U	2.9 U
Semivolatile Organics							
1,2,4-Trichlorobenzene	UG/KG	550 U	400 U	370 U	390 U	390 U	380 U
1,2-Dichlorobenzene	UG/KG	550 U	400 U	370 U	390 U	390 U	380 U
1,3-Dichlorobenzene	UG/KG	550 U	400 U	370 U	390 U	390 U	380 U
1,4-Dichlorobenzene	UG/KG	550 U	400 U	370 U	390 U	390 U	380 U
2,4,5-Trichlorophenol	UG/KG	1300 U	1000 U	920 U	980 U	980 U	970 U
2,4,6-Trichlorophenol	UG/KG	550 U	400 U	370 U	390 U	390 U	380 U
2,4-Dichlorophenol	UG/KG	550 U	400 U	370 U	390 U	390 U	380 U
2,4-Dimethylphenol	UG/KG	550 U	400 U	370 U	390 U	390 U	380 U
2,4-Dinitrophenol	UG/KG	1300 UJ	1000 UJ	920 U	980 U	980 UJ	970 U
2,4-Dinitrotoluene	UG/KG	550 U	400 U	370 U	390 U	390 U	380 U
2,6-Dinitrotoluene	UG/KG	550 U	400 U	370 U	390 U	390 U	380 U
2-Chloronaphthalene	UG/KG	550 U	400 U	370 U	390 U	390 U	380 U
2-Chlorophenol	UG/KG	550 U	400 U	370 U	390 U	390 U	380 U

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification	SS121I-4	SS121I-5	SS121I-6	SS121I-7	SS121I-8	SS121I-9
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	EB148	121I-1000	121I-1001	121I-1002	121I-1004	121I-1005
Sample Depth Top	0	0	0	0	0	0
Sample Depth Bottom	0.2	0.2	0.2	0.2	0.2	0.2
Sample Date	3/10/1998	10/22/2002	10/22/2002	10/22/2002	10/22/2002	10/22/2002
SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table	EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
2-Methylnaphthalene	UG/KG	550 U	400 U	370 U	390 U	390 U	380 U
2-Methylphenol	UG/KG	550 U	400 U	370 U	390 U	390 U	380 U
2-Nitroaniline	UG/KG	1300 U	1000 UJ	920 U	980 UJ	980 U	970 UJ
2-Nitrophenol	UG/KG	550 U	400 U	370 U	390 U	390 U	380 U
3 or 4-Methylphenol	UG/KG		400 U	370 U	390 U	390 U	380 U
3,3'-Dichlorobenzidine	UG/KG	550 U	400 U	370 U	390 UJ	390 U	380 R
3-Nitroaniline	UG/KG	1300 U	1000 U	920 U	980 U	980 U	970 U
4,6-Dinitro-2-methylphenol	UG/KG	1300 U	1000 UJ	920 U	980 U	980 UJ	970 U
4-Bromophenyl phenyl ether	UG/KG	550 U	400 U	370 U	390 U	390 U	380 U
4-Chloro-3-methylphenol	UG/KG	550 U	400 U	370 U	390 U	390 U	380 U
4-Chloroaniline	UG/KG	550 U	400 U	370 U	390 U	390 U	380 U
4-Chlorophenyl phenyl ether	UG/KG	550 U	400 U	370 U	390 U	390 U	380 U
4-Methylphenol	UG/KG	550 U					
4-Nitroaniline	UG/KG	1300 UJ	1000 U	920 U	980 U	980 U	970 U
4-Nitrophenol	UG/KG	1300 U	1000 U	920 U	980 U	980 U	970 U
Acenaphthene	UG/KG	320 J	400 U	370 U	65 J	390 U	84 J
Acenaphthylene	UG/KG	550 U	400 U	370 U	390 U	390 U	380 U
Anthracene	UG/KG	230 J	400 U	370 U	94 J	390 U	130 J
Benzo(a)anthracene	UG/KG	1700	69 J	370 U	360 J	52 J	620 J
Benzo(a)pyrene	UG/KG	1600	95 J	75 J	370 J	71 J	610 J
Benzo(b)fluoranthene	UG/KG	1700	82 J	61 J	360 J	55 J	690 J
Benzo(ghi)perylene	UG/KG	940	85 J	370 U	270 J	78 J	510 J
Benzo(k)fluoranthene	UG/KG	1800	400 U	370 U	470 J	390 U	530 J
Bis(2-Chloroethoxy)methane	UG/KG	550 U	400 U	370 U	390 U	390 U	380 U
Bis(2-Chloroethyl)ether	UG/KG	550 U	400 U	370 U	390 U	390 U	380 U

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I	
Sample Location Identification		SS121I-4		SS121I-5		SS121I-6		SS121I-7		SS121I-8		SS121I-9	
Matrix		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Sample Identification		EB148		121I-1000		121I-1001		121I-1002		121I-1004		121I-1005	
Sample Depth Top		0		0		0		0		0		0	
Sample Depth Bottom		0.2		0.2		0.2		0.2		0.2		0.2	
Sample Date		3/10/1998		10/22/2002		10/22/2002		10/22/2002		10/22/2002		10/22/2002	
SAmple or **DU**plicate		SA		SA		SA		SA		SA		SA	
See Notes at Bottom of Table		EBS		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Bis(2-Chloroisopropyl)ether	UG/KG	550	U	400	U	370	U	390	U	390	U	380	U
Bis(2-Ethylhexyl)phthalate	UG/KG	47	J	400	U	370	U	390	UJ	390	U	63	J
Butylbenzylphthalate	UG/KG	550	U	400	U	370	U	390	UJ	390	U	380	R
Carbazole	UG/KG	380	J	400	U	370	U	110	J	390	U	130	J
Chrysene	UG/KG	1900		94	J	370	U	480	J	66	J	890	J
Di-n-butylphthalate	UG/KG	550	U	400	U	370	U	390	U	390	U	380	U
Di-n-octylphthalate	UG/KG	550	UJ	400	U	370	U	390	UJ	390	U	380	R
Dibenz(a,h)anthracene	UG/KG	420	J	400	UJ	370	U	390	R	390	U	380	R
Dibenzofuran	UG/KG	63	J	400	U	370	U	390	U	390	U	380	U
Diethyl phthalate	UG/KG	550	U	400	U	370	U	390	U	390	U	380	U
Dimethylphthalate	UG/KG	550	U	400	U	370	U	390	U	390	U	380	U
Fluoranthene	UG/KG	4100		150	J	120	J	910		140	J	1400	
Fluorene	UG/KG	160	J	400	U	370	U	43	J	390	U	54	J
Hexachlorobenzene	UG/KG	550	U	400	U	370	U	390	U	390	U	380	U
Hexachlorobutadiene	UG/KG	550	U	400	U	370	U	390	U	390	U	380	U
Hexachlorocyclopentadiene	UG/KG	550	U	400	U	370	U	390	U	390	U	380	U
Hexachloroethane	UG/KG	550	U	400	U	370	U	390	U	390	U	380	U
Indeno(1,2,3-cd)pyrene	UG/KG	950		72	J	370	U	180	J	100	J	480	R
Isophorone	UG/KG	550	U	400	U	370	U	390	U	390	U	380	U
N-Nitrosodiphenylamine	UG/KG	550	U	400	U	370	U	390	U	390	U	380	U
N-Nitrosodipropylamine	UG/KG	550	U	400	UJ	370	U	390	UJ	390	U	380	UJ
Naphthalene	UG/KG	51	J	400	U	370	U	390	U	390	U	380	U
Nitrobenzene	UG/KG	550	U	400	U	370	U	390	U	390	U	380	U
Pentachlorophenol	UG/KG	1300	U	1000	U	920	U	980	U	980	U	970	U
Phenanthrene	UG/KG	1800		66	J	76	J	650		73	J	930	

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification	SS121I-4	SS121I-5	SS121I-6	SS121I-7	SS121I-8	SS121I-9
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification	EB148	121I-1000	121I-1001	121I-1002	121I-1004	121I-1005
Sample Depth Top	0	0	0	0	0	0
Sample Depth Bottom	0.2	0.2	0.2	0.2	0.2	0.2
Sample Date	3/10/1998	10/22/2002	10/22/2002	10/22/2002	10/22/2002	10/22/2002
SAmple or **DU**plicate	SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table	EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI

Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Phenol	UG/KG	550 U	400 U	370 U	390 U	390 U	380 U
Pyrene	UG/KG	3200	140 J	120 J	1100 J	97 J	3000 J
Pesticides and PCBs							
4,4'-DDD	UG/KG		2.1 UJ	1.9 UJ	2 UJ	2 UJ	2 UJ
4,4'-DDE	UG/KG		2.1 U	1.9 U	2 U	2 U	2 U
4,4'-DDT	UG/KG		2.1 U	1.9 UJ	2 U	2 UJ	2 UJ
Aldrin	UG/KG		2.1 UJ	1.9 U	2 UJ	2 U	3.2 J
Alpha-BHC	UG/KG		2.1 UJ	1.9 UJ	2 UJ	2 UJ	2 UJ
Alpha-Chlordane	UG/KG		2.1 UJ	1.9 UJ	2 UJ	2 UJ	2 UJ
Beta-BHC	UG/KG		2.1 U	1.9 U	2 U	2 U	2 U
Chlordane	UG/KG		21 U	19 U	20 U	20 U	20 U
Delta-BHC	UG/KG		2.1 UJ	1.9 UJ	2 UJ	2 UJ	2 UJ
Dieldrin	UG/KG		2.1 UJ	1.9 UJ	2 UJ	2 UJ	2 UJ
Endosulfan I	UG/KG		4.2	2.6	8.7	4	36 J
Endosulfan II	UG/KG		2.1 U	1.9 U	2 U	2 U	2 U
Endosulfan sulfate	UG/KG		2.1 U	1.9 U	2 U	2 U	2 U
Endrin	UG/KG		2.1 U	1.9 UJ	2 U	2 UJ	2 UJ
Endrin aldehyde	UG/KG		2.1 U	1.9 U	2 U	2 U	2 U
Endrin ketone	UG/KG		2.1 U	1.9 U	2 U	2 U	2 U
Gamma-BHC/Lindane	UG/KG		2.1 UJ	1.9 UJ	2 UJ	2 UJ	2 UJ
Gamma-Chlordane	UG/KG		2.1 U	1.9 U	2 U	2 U	2 U
Heptachlor	UG/KG		2.1 U	1.9 U	2 U	2 U	2 U
Heptachlor epoxide	UG/KG		2.1 U	1.9 U	6.4	2 U	25
Methoxychlor	UG/KG		2.1 U	1.9 U	2 U	2 U	2 U
Toxaphene	UG/KG		21 U	19 U	20 U	20 U	20 U

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification		SS121I-4	SS121I-5	SS121I-6	SS121I-7	SS121I-8	SS121I-9
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		EB148	121I-1000	121I-1001	121I-1002	121I-1004	121I-1005
Sample Depth Top		0	0	0	0	0	0
Sample Depth Bottom		0.2	0.2	0.2	0.2	0.2	0.2
Sample Date		3/10/1998	10/22/2002	10/22/2002	10/22/2002	10/22/2002	10/22/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Aroclor-1016	UG/KG		21 U	19 UJ	20 U	20 UJ	20 U
Aroclor-1221	UG/KG		21 U	19 U	20 U	20 U	20 U
Aroclor-1232	UG/KG		21 U	19 UJ	20 U	20 UJ	20 U
Aroclor-1242	UG/KG		21 U	19 UJ	20 U	20 UJ	20 U
Aroclor-1248	UG/KG		21 U	19 U	20 U	20 U	20 U
Aroclor-1254	UG/KG		21 UJ	19 U	20 UJ	20 U	20 UJ
Aroclor-1260	UG/KG		21 UJ	19 U	20 UJ	20 U	20 UJ
Metals							
Aluminum	MG/KG		6960	10600	7880	7750	7210
Antimony	MG/KG		7.3 U	6.7 U	7.1 U	3.6	6.9 U
Arsenic	MG/KG		3.7	7.2	30	4.1	14
Barium	MG/KG		41.4	61.9	79.2	83.5	87.5
Beryllium	MG/KG		0.39 J	0.53 J	0.41 J	0.38 J	0.45
Cadmium	MG/KG		0.61 U	0.56 U	0.6 U	0.57 U	0.15
Calcium	MG/KG		37300	36000	30600	62600	39800
Chromium	MG/KG		14.7	19.8	77.1	11.8	35
Cobalt	MG/KG		11	11.7	26.5	8.1	15
Copper	MG/KG		24.1 J	23.1 J	41.8 J	31 J	37 J
Cyanide, Amenable	MG/KG		0.61 UJ	0.56 UJ	0.6 UJ	0.59 UJ	0.58 UJ
Cyanide, Total	MG/KG		0.61 UJ	0.559 J	0.595 UJ	0.588 UJ	0.581 UJ
Iron	MG/KG		15900	24500	25200	15100	22900
Lead	MG/KG		21.4	16	35.6	15.2	51
Magnesium	MG/KG		6310	11500	9420	14200	7110
Manganese	MG/KG		404	880	28100	567	9500
Mercury	MG/KG		0.04	0.03	0.04	0.03	0.03

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Sample Location Identification		SS121I-4	SS121I-5	SS121I-6	SS121I-7	SS121I-8	SS121I-9
Matrix		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Identification		EB148	121I-1000	121I-1001	121I-1002	121I-1004	121I-1005
Sample Depth Top		0	0	0	0	0	0
Sample Depth Bottom		0.2	0.2	0.2	0.2	0.2	0.2
Sample Date		3/10/1998	10/22/2002	10/22/2002	10/22/2002	10/22/2002	10/22/2002
SAmple or **DU**plicate		SA	SA	SA	SA	SA	SA
See Notes at Bottom of Table		EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Nickel	MG/KG		30.9	30.3	74.8	25.9	34.3
Potassium	MG/KG		1140	1140	969	889	723
Selenium	MG/KG		0.61 U	1.3	5.5	0.57 U	1.3
Silver	MG/KG		1.2 U	1.1 U	1.8	1.1 U	0.51 J
Sodium	MG/KG		132	132	595 U	134	123
Thallium	MG/KG		1.2 U	0.38	6.7	1.1 U	0.5 J
Vanadium	MG/KG		11.9	17.3	34.5	13.8	18.7
Zinc	MG/KG		59.7 J	82.6 J	123 J	56.8 J	132 J
Other Analyses							
Total Organic Carbon	MG/KG		4200	8900	6100	4900	5000
Total Petroleum Hydrocarbons	MG/KG		410 J	45 UJ	48 UJ	47 UJ	47 UJ

NOTES:
1) List includes all sample and sample dup
(Q)ualifier Code Definitions
U = compound was not detected
J = the reported value is an estimated con
UJ = the compound was not detected; the
R = the data was rejected in the data valid

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I	
Sample Location Identification		SD121I-4		SD121I-7		SD121I-7		SD121I-9		SD121I-10		SD121I-8	
Matrix		SEDIMENT		SEDIMENT		SEDIMENT		SEDIMENT		SEDIMENT		SEDIMENT	
Sample Identification		121I-4003		121I-4005		121I-4007		121I-4009		121I-4010		121I-4008	
Sample Depth Top		0		0		0		0		0		0	
Sample Depth Bottom		2		2		2		2		2		2	
Sample Date		11/6/2002		10/26/2002		10/26/2002		11/6/2002		11/6/2002		11/6/2002	
SAmple or **DU**plicate		SA		SA		SA		SA		SA		SA	
See Notes at Bottom of Table		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI	
		1		1		1		1		1		1	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Volatile Organics													
1,1,1-Trichloroethane	UG/KG	2.7	U	3.1	UJ	3.2	UJ	3.7	UJ	3.2	UJ	2.9	U
1,1,2,2-Tetrachloroethane	UG/KG	2.7	UJ	3.1	UJ	3.2	UJ	3.7	UJ	3.2	UJ	2.9	UJ
1,1,2-Trichloroethane	UG/KG	2.7	U	3.1	UJ	3.2	UJ	3.7	UJ	3.2	UJ	2.9	U
1,1-Dichloroethane	UG/KG	2.7	U	3.1	UJ	3.2	UJ	3.7	UJ	3.2	UJ	2.9	U
1,1-Dichloroethene	UG/KG	2.7	U	3.1	UJ	3.2	UJ	3.7	UJ	3.2	UJ	2.9	U
1,2-Dichloroethane	UG/KG	2.7	U	3.1	UJ	3.2	UJ	3.7	UJ	3.2	UJ	2.9	U
1,2-Dichloropropane	UG/KG	2.7	U	3.1	UJ	3.2	UJ	3.7	UJ	3.2	UJ	2.9	U
Acetone	UG/KG	28		25	J	10	J	22	J	13	J	150	
Benzene	UG/KG	2.3	J	3.1	UJ	3.2	UJ	3.7	UJ	3.2	UJ	39	
Bromodichloromethane	UG/KG	2.7	U	3.1	UJ	3.2	UJ	3.7	UJ	3.2	UJ	2.9	U
Bromoform	UG/KG	2.7	U	3.1	UJ	3.2	UJ	3.7	UJ	3.2	UJ	2.9	U
Carbon disulfide	UG/KG	2.7	UJ	3.1	UJ	3.2	UJ	3.7	UJ	3.2	UJ	2.9	UJ
Carbon tetrachloride	UG/KG	2.7	U	3.1	UJ	3.2	UJ	3.7	UJ	3.2	UJ	2.9	U
Chlorobenzene	UG/KG	2.7	U	3.1	UJ	3.2	UJ	3.7	UJ	3.2	UJ	2.9	U
Chlorodibromomethane	UG/KG	2.7	U	3.1	UJ	3.2	UJ	3.7	UJ	3.2	UJ	2.9	U
Chloroethane	UG/KG	2.7	UJ	3.1	UJ	3.2	UJ	3.7	UJ	3.2	UJ	2.9	UJ
Chloroform	UG/KG	2.7	U	3.1	UJ	3.2	UJ	3.7	UJ	3.2	UJ	2.9	U
Cis-1,2-Dichloroethene	UG/KG	2.7	UJ	3.1	UJ	3.2	UJ	3.7	UJ	3.2	UJ	2.9	UJ
Cis-1,3-Dichloropropene	UG/KG	2.7	U	3.1	UJ	3.2	UJ	3.7	UJ	3.2	UJ	2.9	U
Ethyl benzene	UG/KG	2.7	U	3.1	UJ	3.2	UJ	3.7	UJ	3.2	UJ	5.2	
Meta/Para Xylene	UG/KG	2.7	U	3.1	UJ	3.2	UJ	3.7	UJ	3.2	UJ	4.8	
Methyl bromide	UG/KG	2.7	U	3.1	UJ	3.2	UJ	3.7	UJ	3.2	UJ	2.9	U
Methyl butyl ketone	UG/KG	2.7	UJ	3.1	UJ	3.2	UJ	3.7	UJ	3.2	UJ	2.9	UJ
Methyl chloride	UG/KG	2.7	U	3.1	UJ	3.2	UJ	3.7	UJ	3.2	UJ	2.9	U

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I	
Sample Location Identification		SD121I-4		SD121I-7		SD121I-7		SD121I-9		SD121I-10		SD121I-8	
Matrix		SEDIMENT		SEDIMENT		SEDIMENT		SEDIMENT		SEDIMENT		SEDIMENT	
Sample Identification		121I-4003		121I-4005		121I-4007		121I-4009		121I-4010		121I-4008	
Sample Depth Top		0		0		0		0		0		0	
Sample Depth Bottom		2		2		2		2		2		2	
Sample Date		11/6/2002		10/26/2002		10/26/2002		11/6/2002		11/6/2002		11/6/2002	
SAmple or **DU**plicate		SA		SA		SA		SA		SA		SA	
See Notes at Bottom of Table		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI	
		1		1		1		1		1		1	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Methyl ethyl ketone	UG/KG	7.2		3.1	UJ	3.2	UJ	3.7	UJ	3.2	UJ	78	
Methyl isobutyl ketone	UG/KG	2.7	UJ	3.1	UJ	3.2	UJ	3.7	UJ	3.2	UJ	2.9	UJ
Methylene chloride	UG/KG	2.7	UJ	2.5	U	1.9	U	3.7	UJ	3.2	UJ	2.9	UJ
Ortho Xylene	UG/KG	2.7	U	3.1	UJ	3.2	UJ	3.7	UJ	3.2	UJ	3	
Styrene	UG/KG	2.7	U	3.1	UJ	3.2	UJ	3.7	UJ	3.2	UJ	2.9	U
Tetrachloroethene	UG/KG	2.7	U	3.1	UJ	3.2	UJ	3.7	UJ	3.2	UJ	2.9	U
Toluene	UG/KG	1.7	J	3.1	UJ	3.2	UJ	3.7	UJ	3.2	UJ	26	
Trans-1,2-Dichloroethene	UG/KG	2.7	UJ	3.1	UJ	3.2	UJ	3.7	UJ	3.2	UJ	2.9	UJ
Trans-1,3-Dichloropropene	UG/KG	2.7	U	3.1	UJ	3.2	UJ	3.7	UJ	3.2	UJ	2.9	U
Trichloroethene	UG/KG	2.7	U	3.1	UJ	3.2	UJ	3.7	UJ	3.2	UJ	2.9	U
Vinyl chloride	UG/KG	2.7	U	3.1	UJ	3.2	UJ	3.7	UJ	3.2	UJ	2.9	U
Semivolatile Organics													
1,2,4-Trichlorobenzene	UG/KG	390	U	420	U	420	U	450	U	480	U	440	U
1,2-Dichlorobenzene	UG/KG	390	U	420	U	420	U	450	U	480	U	440	U
1,3-Dichlorobenzene	UG/KG	390	U	420	U	420	U	450	U	480	U	440	U
1,4-Dichlorobenzene	UG/KG	390	U	420	U	420	U	450	U	480	U	440	U
2,4,5-Trichlorophenol	UG/KG	970	U	1100	U	1100	U	1100	U	1200	U	1100	U
2,4,6-Trichlorophenol	UG/KG	390	U	420	U	420	U	450	U	480	U	440	U
2,4-Dichlorophenol	UG/KG	390	U	420	U	420	U	450	U	480	U	440	U
2,4-Dimethylphenol	UG/KG	390	U	420	U	420	U	450	U	480	U	440	U
2,4-Dinitrophenol	UG/KG	970	U	1100	U	1100	U	1100	U	1200	U	1100	U
2,4-Dinitrotoluene	UG/KG	390	U	420	U	420	U	450	U	480	U	440	U
2,6-Dinitrotoluene	UG/KG	390	U	420	U	420	U	450	U	480	U	440	U
2-Chloronaphthalene	UG/KG	390	U	420	U	420	U	450	U	480	U	440	U
2-Chlorophenol	UG/KG	390	U	420	U	420	U	450	U	480	U	440	U

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I	
Sample Location Identification		SD121I-4		SD121I-7		SD121I-7		SD121I-9		SD121I-10		SD121I-8	
Matrix		SEDIMENT		SEDIMENT		SEDIMENT		SEDIMENT		SEDIMENT		SEDIMENT	
Sample Identification		121I-4003		121I-4005		121I-4007		121I-4009		121I-4010		121I-4008	
Sample Depth Top		0		0		0		0		0		0	
Sample Depth Bottom		2		2		2		2		2		2	
Sample Date		11/6/2002		10/26/2002		10/26/2002		11/6/2002		11/6/2002		11/6/2002	
SAmple or **DU**plicate		SA		SA		SA		SA		SA		SA	
See Notes at Bottom of Table		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI	
		1		1		1		1		1		1	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
2-Methylnaphthalene	UG/KG	390	U	420	U	130	J	450	U	480	U	440	U
2-Methylphenol	UG/KG	390	U	420	U	420	U	450	U	480	U	440	U
2-Nitroaniline	UG/KG	970	U	1100	U	1100	U	1100	U	1200	U	1100	U
2-Nitrophenol	UG/KG	390	U	420	U	420	U	450	U	480	U	440	U
3 or 4-Methylphenol	UG/KG	390	U	420	U	420	U	450	U	480	U	440	U
3,3'-Dichlorobenzidine	UG/KG	390	U	420	UJ	420	J	450	UJ	480	U	440	U
3-Nitroaniline	UG/KG	970	U	1100	U	1100	U	1100	U	1200	U	1100	U
4,6-Dinitro-2-methylphenol	UG/KG	970	U	1100	U	1100	U	1100	U	1200	U	1100	U
4-Bromophenyl phenyl ether	UG/KG	390	U	420	U	420	U	450	U	480	U	440	U
4-Chloro-3-methylphenol	UG/KG	390	U	420	U	420	U	450	U	480	U	440	U
4-Chloroaniline	UG/KG	390	U	420	U	420	U	450	U	480	U	440	U
4-Chlorophenyl phenyl ether	UG/KG	390	U	420	U	420	U	450	U	480	U	440	UJ
4-Methylphenol	UG/KG												
4-Nitroaniline	UG/KG	970	U	1100	U	1100	U	1100	U	1200	U	1100	U
4-Nitrophenol	UG/KG	970	U	1100	U	1100	U	1100	U	1200	U	1100	U
Acenaphthene	UG/KG	300	J	280	J	1200		640		130	J	66	J
Acenaphthylene	UG/KG	83	J	70	J	420	U	76	J	480	U	440	U
Anthracene	UG/KG	650		420	J	1900		980		210	J	120	J
Benzo(a)anthracene	UG/KG	2900		2200	J			5800	J	510		450	
Benzo(a)pyrene	UG/KG	2800	J	2800	J	5900	J	5500	J	390	J	420	J
Benzo(b)fluoranthene	UG/KG	3600	J	3600	J	8100	J	8500	J	550		610	J
Benzo(ghi)perylene	UG/KG	810	J	1400	J	3200	J	2100	J	150	J	140	J
Benzo(k)fluoranthene	UG/KG	2400	J	2500	J	4900	J	3300	J	250	J	260	J
Bis(2-Chloroethoxy)methane	UG/KG	390	U	420	U	420	U	450	U	480	U	440	U
Bis(2-Chloroethyl)ether	UG/KG	390	U	420	UJ	420	U	450	U	480	U	440	U

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I	
Sample Location Identification		SD121I-4		SD121I-7		SD121I-7		SD121I-9		SD121I-10		SD121I-8	
Matrix		SEDIMENT		SEDIMENT		SEDIMENT		SEDIMENT		SEDIMENT		SEDIMENT	
Sample Identification		121I-4003		121I-4005		121I-4007		121I-4009		121I-4010		121I-4008	
Sample Depth Top		0		0		0		0		0		0	
Sample Depth Bottom		2		2		2		2		2		2	
Sample Date		11/6/2002		10/26/2002		10/26/2002		11/6/2002		11/6/2002		11/6/2002	
SAmple or **DU**plicate		SA		SA		SA		SA		SA		SA	
See Notes at Bottom of Table		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI	
		1		1		1		1		1		1	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Bis(2-Chloroisopropyl)ether	UG/KG	390	U	420	U	420	U	450	U	480	U	440	U
Bis(2-Ethylhexyl)phthalate	UG/KG	390	U	75	J	110	J	78	J	480	U	440	U
Butylbenzylphthalate	UG/KG	390	U	420	J	420	J	450	UJ	480	U	440	U
Carbazole	UG/KG	510		440		1700		920		200	J	100	J
Chrysene	UG/KG	3400	J	2400	J	5400	J	5800	J	540		500	
Di-n-butylphthalate	UG/KG	390	U	420	U	420	U	450	U	480	U	440	U
Di-n-octylphthalate	UG/KG	390	U	420	J	420	J	450	UJ	480	U	440	U
Dibenz(a,h)anthracene	UG/KG	86	J	130	J	350	J	160	J	480	U	440	UJ
Dibenzofuran	UG/KG	160	J	71	J	640		130	J	94	J	440	UJ
Diethyl phthalate	UG/KG	390	U	420	U	420	U	450	U	480	U	440	U
Dimethylphthalate	UG/KG	390	U	420	U	420	U	450	U	480	U	440	U
Fluoranthene	UG/KG	5800		4400		13000		9400		1300		1100	
Fluorene	UG/KG	270	J	190	J	1100		390	J	140	J	53	J
Hexachlorobenzene	UG/KG	390	U	420	U	420	U	450	U	480	U	440	U
Hexachlorobutadiene	UG/KG	390	U	420	U	420	U	450	U	480	U	440	U
Hexachlorocyclopentadiene	UG/KG	390	U	420	U	420	U	450	U	480	U	440	UJ
Hexachloroethane	UG/KG	390	U	420	U	420	U	450	U	480	U	440	U
Indeno(1,2,3-cd)pyrene	UG/KG	350	J	400	J	1300	J	750	J	150	J	110	J
Isophorone	UG/KG	390	U	420	J	420	U	450	U	480	U	440	U
N-Nitrosodiphenylamine	UG/KG	390	U	420	U	420	U	450	U	480	U	440	U
N-Nitrosodipropylamine	UG/KG	390	U	420	U	420	U	450	U	480	U	440	UJ
Naphthalene	UG/KG	390	U	420	U	490		450	U	65	J	440	U
Nitrobenzene	UG/KG	390	U	420	J	420	U	450	U	480	U	440	U
Pentachlorophenol	UG/KG	970	U	1100	U	1100	U	1100	U	1200	U	1100	U
Phenanthrene	UG/KG	4200		2500		8000	E	4900		1200		650	

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I	
Sample Location Identification		SD121I-4		SD121I-7		SD121I-7		SD121I-9		SD121I-10		SD121I-8	
Matrix		SEDIMENT		SEDIMENT		SEDIMENT		SEDIMENT		SEDIMENT		SEDIMENT	
Sample Identification		121I-4003		121I-4005		121I-4007		121I-4009		121I-4010		121I-4008	
Sample Depth Top		0		0		0		0		0		0	
Sample Depth Bottom		2		2		2		2		2		2	
Sample Date		11/6/2002		10/26/2002		10/26/2002		11/6/2002		11/6/2002		11/6/2002	
SAmple or **DU**plicate		SA		SA		SA		SA		SA		SA	
See Notes at Bottom of Table		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI	
		1		1		1		1		1		1	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Phenol	UG/KG	390	U	420	J	420	U	450	U	480	U	440	U
Pyrene	UG/KG	8800	J	6500	J	17000	J	17000	J	940		840	
Pesticides and PCBs													
4,4'-DDD	UG/KG	0.24	U	2.2	U	2.2	U	0.27	U	0.29	U	0.27	U
4,4'-DDE	UG/KG	0.24	U	14	J	2.2	UJ	0.27	U	0.29	U	0.27	U
4,4'-DDT	UG/KG	0.24	UJ	2.2	UJ	2.2	UJ	0.27	UJ	0.29	UJ	0.27	UJ
Aldrin	UG/KG	0.12	U	2.2	U	2.2	U	0.14	U	0.14	U	0.14	U
Alpha-BHC	UG/KG	1.4	UJ	2.2	U	2.2	U	1.6	UJ	1.7	UJ	1.6	UJ
Alpha-Chlordane	UG/KG	0.35	R	2.2	U	2.2	U	0.41	R	0.43	UJ	0.41	R
Beta-BHC	UG/KG	0.12	U	2.2	U	2.2	U	0.14	U	0.14	U	0.14	U
Chlordane	UG/KG	2.2	U	22	U	22	U	2.6	U	2.8	U	2.6	U
Delta-BHC	UG/KG	0.24	UJ	2.2	UJ	2.2	UJ	0.27	UJ	0.29	UJ	0.27	UJ
Dieldrin	UG/KG	0.12	UJ	2.2	UJ	2.2	UJ	0.14	UJ	0.14	UJ	0.14	UJ
Endosulfan I	UG/KG	0.59	R	2.2	U	56	R	0.68	R	0.72	UJ	0.68	R
Endosulfan II	UG/KG	0.35	U	2.2	U	2.2	U	0.41	U	0.43	U	0.41	U
Endosulfan sulfate	UG/KG	0.71	U	2.2	U	2.2	U	0.82	U	0.87	U	0.81	U
Endrin	UG/KG	0.94	U	2.2	UJ	2.2	UJ	1.1	U	1.2	U	1.1	U
Endrin aldehyde	UG/KG	0.94	UJ	2.2	UJ	2.2	UJ	1.1	UJ	1.2	UJ	1.1	UJ
Endrin ketone	UG/KG	0.12	U	2.2	U	2.2	U	0.14	U	0.14	U	0.14	U
Gamma-BHC/Lindane	UG/KG	0.12	UJ	2.2	U	2.2	U	0.14	UJ	0.14	UJ	0.14	UJ
Gamma-Chlordane	UG/KG	0.35	UJ	2.2	U	2.2	U	0.41	UJ	0.43	UJ	0.41	UJ
Heptachlor	UG/KG	1.2	U	2.2	U	2.2	U	1.4	U	1.4	U	1.4	U
Heptachlor epoxide	UG/KG	0.35	R	2.2	U	2.2	U	0.41	R	0.43	U	0.41	R
Methoxychlor	UG/KG	0.12	U	2.2	UJ	2.2	UJ	0.14	U	0.14	U	0.14	U
Toxaphene	UG/KG	3.8	U	22	U	22	U	4.4	U	4.6	U	4.3	U

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I	
Sample Location Identification		SD121I-4		SD121I-7		SD121I-7		SD121I-9		SD121I-10		SD121I-8	
Matrix		SEDIMENT		SEDIMENT		SEDIMENT		SEDIMENT		SEDIMENT		SEDIMENT	
Sample Identification		121I-4003		121I-4005		121I-4007		121I-4009		121I-4010		121I-4008	
Sample Depth Top		0		0		0		0		0		0	
Sample Depth Bottom		2		2		2		2		2		2	
Sample Date		11/6/2002		10/26/2002		10/26/2002		11/6/2002		11/6/2002		11/6/2002	
SAmple or **DU**plicate		SA		SA		SA		SA		SA		SA	
See Notes at Bottom of Table		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI	
		1		1		1		1		1		1	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Aroclor-1016	UG/KG	6	U	22	U	22	U	7.1	UJ	7.5	UJ	6.9	U
Aroclor-1221	UG/KG	1.5	U	22	U	22	U	1.8	U	1.9	U	1.7	U
Aroclor-1232	UG/KG	9.2	U	22	U	22	U	11	UJ	12	UJ	11	U
Aroclor-1242	UG/KG	2.5	U	22	U	22	U	3	UJ	3.2	UJ	2.9	U
Aroclor-1248	UG/KG	6.3	U	22	U	22	U	7.5	U	8	U	7.3	U
Aroclor-1254	UG/KG	12	U	22	U	22	U	14	U	15	U	14	U
Aroclor-1260	UG/KG	2.3	U	22	U	17	NJ	2.7	UJ	2.9	UJ	2.6	U
Metals													
Aluminum	MG/KG	6270		6950		6170		6140		5330		5040	
Antimony	MG/KG	1.1	UJ	1.1	U	0.99	U	1.2	UJ	1.3	UJ	1.2	UJ
Arsenic	MG/KG	27.4		7.8		6.9		6.6		3.8		104	
Barium	MG/KG	80.5	J	72.2		58.9		75.6	J	74.4	J	91.1	J
Beryllium	MG/KG	0.37		0.48	J	0.43	J	0.5		0.43		0.3	
Cadmium	MG/KG	0.14	U	0.83		0.77		0.16	U	0.17	U	0.16	U
Calcium	MG/KG	30100		145000		110000		65800		54300		8990	
Chromium	MG/KG	9.9		14.5		13.5		12.2		10.1		83.9	
Cobalt	MG/KG	25.1		11		10.5		8.8		7.4		91.9	
Copper	MG/KG	130		33.8	J	34.7	J	33.2		20.4		117	
Cyanide, Amenable	MG/KG	0.59	U	0.64	U	0.65	U	0.68	U	0.72	U	0.67	U
Cyanide, Total	MG/KG	0.59	U	0.644	U	0.648	U	0.68	U	0.72	U	0.67	U
Iron	MG/KG	21200		15200	J	13900	J	13900		12500		30400	
Lead	MG/KG	82.4		71.2	J	77.4	J	86.9		39.6		67.2	
Magnesium	MG/KG	5240		11700	J	9890	J	7380		7450		2150	
Manganese	MG/KG	12300		588	J	541	J	767		477		14900	
Mercury	MG/KG	0.03		0.12	UJ	0.11	UJ	0.1		0.05		0.05	

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I	
Sample Location Identification		SD121I-4		SD121I-7		SD121I-7		SD121I-9		SD121I-10	
Matrix		SEDIMENT		SEDIMENT		SEDIMENT		SEDIMENT		SEDIMENT	
Sample Identification		121I-4003		121I-4005		121I-4007		121I-4009		121I-4010	
Sample Depth Top		0		0		0		0		0	
Sample Depth Bottom		2		2		2		2		2	
Sample Date		11/6/2002		10/26/2002		10/26/2002		11/6/2002		11/6/2002	
SAmple or **DU**plicate		SA		SA		SA		SA		SA	
See Notes at Bottom of Table		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI	
		1		1		1		1		1	
Parameter	**Units**	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Nickel	MG/KG	29.8		27.9	J	26.9	J	20.4		17	
Potassium	MG/KG	671		1340	J	1230	J	958		837	
Selenium	MG/KG	0.49	U	0.53	U	0.46	U	0.56	U	0.6	U
Silver	MG/KG	2.5		0.34	U	0.3	U	0.36	U	0.39	U
Sodium	MG/KG	118	U	288		211		162		266	
Thallium	MG/KG	0.36	U	0.71	J	0.34	U	0.41	U	0.44	U
Vanadium	MG/KG	25.8		20.2	J	18.4	J	17		11.6	
Zinc	MG/KG	78.6	J	124	J	125	J	129	J	89.2	J
Other Analyses											
Total Organic Carbon	MG/KG	3500		5300		4500		7000		6200	
Total Petroleum Hydrocarbons	MG/KG	350		1000	J	630	J	910		58	U

AOC Location		SEAD-121I									
Sample Location Identification		SD121I-8									
Matrix		SEDIMENT									
Sample Identification		121I-4008									
Sample Depth Top		0									
Sample Depth Bottom		2									
Sample Date		11/6/2002									
SAmple or **DU**plicate		SA									
See Notes at Bottom of Table		PID-RI									
		1									
Parameter	**Units**	Value	(Q)								
Nickel	MG/KG	153									
Potassium	MG/KG	874									
Selenium	MG/KG	18									
Silver	MG/KG	10.5									
Sodium	MG/KG	132	U								
Thallium	MG/KG	21.5									
Vanadium	MG/KG	69.4									
Zinc	MG/KG	121	J								
Other Analyses											
Total Organic Carbon	MG/KG	5400									
Total Petroleum Hydrocarbons	MG/KG	54	U								

NOTES:
1) List includes all sample and sample dup
(Q)ualifier Code Definitions
U = compound was not detected
J = the reported value is an estimated con
UJ = the compound was not detected; the
R = the data was rejected in the data valid

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I		SEAD-121I	
Sample Location Identification		SD121I-6		SD121I-5	
Matrix		SEDIMENT		SEDIMENT	
Sample Identification		121I-4006		121I-4004	
Sample Depth Top		0		0	
Sample Depth Bottom		2		2	
Sample Date		11/6/2002		11/6/2002	
SAmple or **DU**plicate		SA		SA	
See Notes at Bottom of Table		PID-RI		PID-RI	
		1		1	
Parameter	**Units**	Value	(Q)	Value	(Q)
Volatile Organics					
1,1,1-Trichloroethane	UG/KG	4.4	U	3.1	U
1,1,2,2-Tetrachloroethane	UG/KG	4.4	UJ	3.1	UJ
1,1,2-Trichloroethane	UG/KG	4.4	U	3.1	U
1,1-Dichloroethane	UG/KG	4.4	U	3.1	U
1,1-Dichloroethene	UG/KG	4.4	U	3.1	U
1,2-Dichloroethane	UG/KG	4.4	U	3.1	U
1,2-Dichloropropane	UG/KG	4.4	U	3.1	U
Acetone	UG/KG	16		16	
Benzene	UG/KG	1.2	J	3.1	U
Bromodichloromethane	UG/KG	4.4	U	3.1	U
Bromoform	UG/KG	4.4	U	3.1	U
Carbon disulfide	UG/KG	4.4	UJ	3.1	UJ
Carbon tetrachloride	UG/KG	4.4	U	3.1	U
Chlorobenzene	UG/KG	4.4	U	3.1	U
Chlorodibromomethane	UG/KG	4.4	U	3.1	U
Chloroethane	UG/KG	4.4	UJ	3.1	UJ
Chloroform	UG/KG	4.4	U	3.1	U
Cis-1,2-Dichloroethene	UG/KG	4.4	UJ	3.1	UJ
Cis-1,3-Dichloropropene	UG/KG	4.4	U	3.1	U
Ethyl benzene	UG/KG	4.4	U	3.1	U
Meta/Para Xylene	UG/KG	4.4	U	3.1	U
Methyl bromide	UG/KG	4.4	U	3.1	U
Methyl butyl ketone	UG/KG	4.4	UJ	3.1	UJ
Methyl chloride	UG/KG	4.4	U	3.1	U

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I		SEAD-121I	
Sample Location Identification		SD121I-6		SD121I-5	
Matrix		SEDIMENT		SEDIMENT	
Sample Identification		121I-4006		121I-4004	
Sample Depth Top		0		0	
Sample Depth Bottom		2		2	
Sample Date		11/6/2002		11/6/2002	
SAmple or **DU**plicate		SA		SA	
See Notes at Bottom of Table		PID-RI		PID-RI	
		1		1	
Parameter	**Units**	Value	(Q)	Value	(Q)
Methyl ethyl ketone	UG/KG	4.4	U	3.1	U
Methyl isobutyl ketone	UG/KG	4.4	UJ	3.1	UJ
Methylene chloride	UG/KG	4.4	UJ	3.1	UJ
Ortho Xylene	UG/KG	4.4	U	3.1	U
Styrene	UG/KG	4.4	U	3.1	U
Tetrachloroethene	UG/KG	4.4	U	3.1	U
Toluene	UG/KG	4.4	U	3.1	U
Trans-1,2-Dichloroethene	UG/KG	4.4	UJ	3.1	UJ
Trans-1,3-Dichloropropene	UG/KG	4.4	U	3.1	U
Trichloroethene	UG/KG	4.4	U	3.1	U
Vinyl chloride	UG/KG	4.4	U	3.1	U
Semivolatile Organics					
1,2,4-Trichlorobenzene	UG/KG	530	U	410	U
1,2-Dichlorobenzene	UG/KG	530	U	410	U
1,3-Dichlorobenzene	UG/KG	530	U	410	U
1,4-Dichlorobenzene	UG/KG	530	U	410	U
2,4,5-Trichlorophenol	UG/KG	1300	U	1000	U
2,4,6-Trichlorophenol	UG/KG	530	U	410	U
2,4-Dichlorophenol	UG/KG	530	U	410	U
2,4-Dimethylphenol	UG/KG	530	U	410	U
2,4-Dinitrophenol	UG/KG	1300	U	1000	U
2,4-Dinitrotoluene	UG/KG	530	U	410	U
2,6-Dinitrotoluene	UG/KG	530	U	410	U
2-Chloronaphthalene	UG/KG	530	U	410	U
2-Chlorophenol	UG/KG	530	U	410	U

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I		SEAD-121I	
Sample Location Identification		SD121I-6		SD121I-5	
Matrix		SEDIMENT		SEDIMENT	
Sample Identification		121I-4006		121I-4004	
Sample Depth Top		0		0	
Sample Depth Bottom		2		2	
Sample Date		11/6/2002		11/6/2002	
SAmple or **DU**plicate		SA		SA	
See Notes at Bottom of Table		PID-RI		PID-RI	
		1		1	
Parameter	**Units**	Value	(Q)	Value	(Q)
2-Methylnaphthalene	UG/KG	530	U	410	U
2-Methylphenol	UG/KG	530	U	410	U
2-Nitroaniline	UG/KG	1300	U	1000	U
2-Nitrophenol	UG/KG	530	U	410	U
3 or 4-Methylphenol	UG/KG	530	U	410	U
3,3'-Dichlorobenzidine	UG/KG	530	U	410	U
3-Nitroaniline	UG/KG	1300	U	1000	U
4,6-Dinitro-2-methylphenol	UG/KG	1300	U	1000	U
4-Bromophenyl phenyl ether	UG/KG	530	U	410	U
4-Chloro-3-methylphenol	UG/KG	530	U	410	U
4-Chloroaniline	UG/KG	530	U	410	U
4-Chlorophenyl phenyl ether	UG/KG	530	U	410	UJ
4-Methylphenol	UG/KG				
4-Nitroaniline	UG/KG	1300	U	1000	U
4-Nitrophenol	UG/KG	1300	U	1000	U
Acenaphthene	UG/KG	80	J	140	J
Acenaphthylene	UG/KG	530	U	410	U
Anthracene	UG/KG	110	J	140	J
Benzo(a)anthracene	UG/KG	270	J	770	
Benzo(a)pyrene	UG/KG	290	J	750	J
Benzo(b)fluoranthene	UG/KG	380	J	1100	J
Benzo(ghi)perylene	UG/KG	110	J	250	J
Benzo(k)fluoranthene	UG/KG	140	J	710	J
Bis(2-Chloroethoxy)methane	UG/KG	530	U	410	U
Bis(2-Chloroethyl)ether	UG/KG	530	U	410	U

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I		SEAD-121I	
Sample Location Identification		SD121I-6		SD121I-5	
Matrix		SEDIMENT		SEDIMENT	
Sample Identification		121I-4006		121I-4004	
Sample Depth Top		0		0	
Sample Depth Bottom		2		2	
Sample Date		11/6/2002		11/6/2002	
SAmple or **DU**plicate		SA		SA	
See Notes at Bottom of Table		PID-RI		PID-RI	
		1		1	
Parameter	**Units**	Value	(Q)	Value	(Q)
Bis(2-Chloroisopropyl)ether	UG/KG	530	U	410	U
Bis(2-Ethylhexyl)phthalate	UG/KG	530	U	410	U
Butylbenzylphthalate	UG/KG	530	U	410	U
Carbazole	UG/KG	110	J	150	J
Chrysene	UG/KG	340	J	910	
Di-n-butylphthalate	UG/KG	530	U	410	U
Di-n-octylphthalate	UG/KG	530	U	410	U
Dibenz(a,h)anthracene	UG/KG	530	U	410	UJ
Dibenzofuran	UG/KG	530	U	410	UJ
Diethyl phthalate	UG/KG	530	U	410	U
Dimethylphthalate	UG/KG	530	U	410	U
Fluoranthene	UG/KG	680		1600	
Fluorene	UG/KG	70	J	72	J
Hexachlorobenzene	UG/KG	530	U	410	U
Hexachlorobutadiene	UG/KG	530	U	410	U
Hexachlorocyclopentadiene	UG/KG	530	U	410	UJ
Hexachloroethane	UG/KG	530	U	410	U
Indeno(1,2,3-cd)pyrene	UG/KG	98	J	140	J
Isophorone	UG/KG	530	U	410	U
N-Nitrosodiphenylamine	UG/KG	530	U	410	U
N-Nitrosodipropylamine	UG/KG	530	U	410	UJ
Naphthalene	UG/KG	530	U	410	U
Nitrobenzene	UG/KG	530	U	410	U
Pentachlorophenol	UG/KG	1300	U	1000	U
Phenanthrene	UG/KG	620		870	

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

AOC Location		SEAD-121I		SEAD-121I	
Sample Location Identification		SD121I-6		SD121I-5	
Matrix		SEDIMENT		SEDIMENT	
Sample Identification		121I-4006		121I-4004	
Sample Depth Top		0		0	
Sample Depth Bottom		2		2	
Sample Date		11/6/2002		11/6/2002	
SAmple or **DU**plicate		SA		SA	
See Notes at Bottom of Table		PID-RI		PID-RI	
		1		1	
Parameter	**Units**	Value	(Q)	Value	(Q)
Phenol	UG/KG	530	U	410	U
Pyrene	UG/KG	560		1500	
Pesticides and PCBs					
4,4'-DDD	UG/KG	0.33	U	0.25	U
4,4'-DDE	UG/KG	0.33	U	0.25	U
4,4'-DDT	UG/KG	0.33	UJ	0.25	UJ
Aldrin	UG/KG	0.16	U	0.12	U
Alpha-BHC	UG/KG	2	UJ	1.5	UJ
Alpha-Chlordane	UG/KG	0.49	UJ	0.38	UJ
Beta-BHC	UG/KG	0.16	U	0.12	U
Chlordane	UG/KG	3.1	U	2.4	U
Delta-BHC	UG/KG	0.33	UJ	0.25	UJ
Dieldrin	UG/KG	0.16	UJ	0.12	UJ
Endosulfan I	UG/KG	0.82	UJ	0.62	UJ
Endosulfan II	UG/KG	0.49	U	0.38	U
Endosulfan sulfate	UG/KG	0.98	U	0.75	U
Endrin	UG/KG	1.3	U	1	U
Endrin aldehyde	UG/KG	1.3	UJ	1	UJ
Endrin ketone	UG/KG	0.16	U	0.12	U
Gamma-BHC/Lindane	UG/KG	0.16	UJ	0.12	UJ
Gamma-Chlordane	UG/KG	0.49	UJ	0.38	UJ
Heptachlor	UG/KG	1.6	U	1.2	U
Heptachlor epoxide	UG/KG	0.49	U	0.38	U
Methoxychlor	UG/KG	0.16	U	0.12	U
Toxaphene	UG/KG	5.2	U	4	U

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

	AOC Location	SEAD-121I		SEAD-121I	
	Sample Location Identification	SD121I-6		SD121I-5	
	Matrix	SEDIMENT		SEDIMENT	
	Sample Identification	121I-4006		121I-4004	
	Sample Depth Top	0		0	
	Sample Depth Bottom	2		2	
	Sample Date	11/6/2002		11/6/2002	
	SAmple or **DU**plicate	SA		SA	
See Notes at Bottom of Table		PID-RI		PID-RI	
		1		1	
Parameter	**Units**	Value	(Q)	Value	(Q)
Aroclor-1016	UG/KG	8.5	U	6.3	U
Aroclor-1221	UG/KG	2.1	U	1.6	U
Aroclor-1232	UG/KG	13	U	9.7	U
Aroclor-1242	UG/KG	3.6	U	2.7	U
Aroclor-1248	UG/KG	9	U	6.7	U
Aroclor-1254	UG/KG	17	U	67	
Aroclor-1260	UG/KG	3.3	U	2.4	U
Metals					
Aluminum	MG/KG	10300		4740	
Antimony	MG/KG	1.5	UJ	1.1	UJ
Arsenic	MG/KG	8.8		4.6	
Barium	MG/KG	65	J	57.7	J
Beryllium	MG/KG	0.66		0.33	
Cadmium	MG/KG	0.19	U	0.15	U
Calcium	MG/KG	39000		72300	
Chromium	MG/KG	25.5		10.1	
Cobalt	MG/KG	12.3		6.8	
Copper	MG/KG	45.4		20	
Cyanide, Amenable	MG/KG	0.82	U	0.62	U
Cyanide, Total	MG/KG	0.82	U	0.62	U
Iron	MG/KG	23800		11300	
Lead	MG/KG	93.3		42.9	
Magnesium	MG/KG	8050		11300	
Manganese	MG/KG	1290		471	
Mercury	MG/KG	0.06		0.03	

Appendix D Table 4
SEAD-121I Sample Results - Soil, Ditch Soil and Sediment

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

	AOC Location	SEAD-121I		SEAD-121I	
	Sample Location Identification	SD121I-6		SD121I-5	
	Matrix	SEDIMENT		SEDIMENT	
	Sample Identification	121I-4006		121I-4004	
	Sample Depth Top	0		0	
	Sample Depth Bottom	2		2	
	Sample Date	11/6/2002		11/6/2002	
	SAmple or **DU**plicate	SA		SA	
See Notes at Bottom of Table		PID-RI		PID-RI	
		1		1	
Parameter	**Units**	Value	(Q)	Value	(Q)
Nickel	MG/KG	33.7		16.7	
Potassium	MG/KG	1450		886	
Selenium	MG/KG	0.68	U	0.52	U
Silver	MG/KG	0.44	U	0.34	U
Sodium	MG/KG	185		264	
Thallium	MG/KG	0.5	U	0.39	U
Vanadium	MG/KG	22.1		11.4	
Zinc	MG/KG	532		100	J
Other Analyses					
Total Organic Carbon	MG/KG	5400		6700	
Total Petroleum Hydrocarbons	MG/KG	66	U	760	

NOTES:
1) List includes all sample and sample dup
(Q)ualifier Code Definitions
U = compound was not detected
J = the reported value is an estimated con
UJ = the compound was not detected; the
R = the data was rejected in the data valid

Appendix D Table 5
SEAD-121I Sample Results - Surface Water

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

Facility		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Location ID		SW121I-1	SW121I-10	SW121I-2	SW121I-3	SW121I-5	SW121I-6
Matrix		SW	SW	SW	SW	SW	SW
Sample ID		121I-3000	121I-3010	121I-3001	121I-3002	121I-3004	121I-3006
Sample Depth to Top of Sample		0	0	0	0	0	0
mple Depth to Bottom of Sample		N/A	N/A	N/A	N/A	N/A	N/A
Sample Date		11/6/2002	11/6/2002	11/6/2002	11/6/2002	11/6/2002	11/6/2002
QC Code		SA	SA	SA	SA	SA	SA
Study ID		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organics							
1,1,1-Trichloroethane	UG/L	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U
1,1,2,2-Tetrachloroethane	UG/L	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
1,1,2-Trichloroethane	UG/L	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U
1,1-Dichloroethane	UG/L	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U
1,1-Dichloroethene	UG/L	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U
1,2-Dichloroethane	UG/L	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U
1,2-Dichloropropane	UG/L	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
Acetone	UG/L	3.5 UJ	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U
Benzene	UG/L	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U
Bromodichloromethane	UG/L	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
Bromoform	UG/L	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U
Carbon disulfide	UG/L	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U
Carbon tetrachloride	UG/L	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U
Chlorobenzene	UG/L	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U
Chlorodibromomethane	UG/L	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U
Chloroethane	UG/L	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U
Chloroform	UG/L	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U
Cis-1,2-Dichloroethene	UG/L	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U
Cis-1,3-Dichloropropene	UG/L	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U
Ethyl benzene	UG/L	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U
Meta/Para Xylene	UG/L	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
Methyl bromide	UG/L	0.38 UJ	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
Methyl butyl ketone	UG/L	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Methyl chloride	UG/L	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
Methyl ethyl ketone	UG/L	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U

Appendix D Table 5
SEAD-121I Sample Results - Surface Water

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

Facility		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Location ID		SW121I-1	SW121I-10	SW121I-2	SW121I-3	SW121I-5	SW121I-6
Matrix		SW	SW	SW	SW	SW	SW
Sample ID		121I-3000	121I-3010	121I-3001	121I-3002	121I-3004	121I-3006
Sample Depth to Top of Sample		0	0	0	0	0	0
mple Depth to Bottom of Sample		N/A	N/A	N/A	N/A	N/A	N/A
Sample Date		11/6/2002	11/6/2002	11/6/2002	11/6/2002	11/6/2002	11/6/2002
QC Code		SA	SA	SA	SA	SA	SA
Study ID		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organics							
Methyl isobutyl ketone	UG/L	0.81 UJ	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U
Methylene chloride	UG/L	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
Ortho Xylene	UG/L	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U
Styrene	UG/L	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U
Tetrachloroethene	UG/L	0.7 UJ	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
Toluene	UG/L	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U
Trans-1,2-Dichloroethene	UG/L	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U
Trans-1,3-Dichloropropene	UG/L	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U
Trichloroethene	UG/L	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U
Vinyl chloride	UG/L	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U
Semivolatile Organics							
1,2,4-Trichlorobenzene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	UG/L	10 U	10 U	10 R	10 R	10 R	10 U
2,4,6-Trichlorophenol	UG/L	10 U	10 U	10 R	10 R	10 R	10 U
2,4-Dichlorophenol	UG/L	10 U	10 U	10 R	10 R	10 R	10 U
2,4-Dimethylphenol	UG/L	10 U	10 U	10 R	10 R	10 R	10 U
2,4-Dinitrophenol	UG/L	10 UJ	10 UJ	10 R	10 R	10 R	10 UJ
2,4-Dinitrotoluene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
2-Chloronaphthalene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	UG/L	10 U	10 U	10 R	10 R	10 R	10 U
2-Methylnaphthalene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U

Appendix D Table 5
SEAD-121I Sample Results - Surface Water

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

Facility		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Location ID		SW121I-1	SW121I-10	SW121I-2	SW121I-3	SW121I-5	SW121I-6
Matrix		SW	SW	SW	SW	SW	SW
Sample ID		121I-3000	121I-3010	121I-3001	121I-3002	121I-3004	121I-3006
Sample Depth to Top of Sample		0	0	0	0	0	0
mple Depth to Bottom of Sample		N/A	N/A	N/A	N/A	N/A	N/A
Sample Date		11/6/2002	11/6/2002	11/6/2002	11/6/2002	11/6/2002	11/6/2002
QC Code		SA	SA	SA	SA	SA	SA
Study ID		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organics							
2-Methylphenol	UG/L	10 UJ	10 U	10 R	10 R	10 R	10 U
2-Nitroaniline	UG/L	10 U	10 UJ	10 U	10 U	10 UJ	10 UJ
2-Nitrophenol	UG/L	10 U	10 U	10 R	10 R	10 R	10 U
3 or 4-Methylphenol	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
3-Nitroaniline	UG/L	10 U	10 U	10 U	10 UJ	10 UJ	10 UJ
4,6-Dinitro-2-methylphenol	UG/L	10 UJ	10 UJ	10 R	10 R	10 R	10 UJ
4-Bromophenyl phenyl ether	UG/L	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
4-Chloro-3-methylphenol	UG/L	10 U	10 U	10 R	10 R	10 R	10 U
4-Chloroaniline	UG/L	10 U	10 UJ	10 U	10 U	10 UJ	10 UJ
4-Chlorophenyl phenyl ether	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitroaniline	UG/L	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
4-Nitrophenol	UG/L	10 UJ	10 UJ	10 R	10 R	10 R	10 UJ
Acenaphthene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Anthracene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)anthracene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(ghi)perylene	UG/L	10 U	10 U	10 U	10 U	10 UJ	10 UJ
Benzo(k)fluoranthene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-Chloroethoxy)methane	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-Chloroethyl)ether	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-Chloroisopropyl)ether	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-Ethylhexyl)phthalate	UG/L	10 U	10 U	10 U	10 U	10 U	10 U

Appendix D Table 5
SEAD-121I Sample Results - Surface Water

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

Facility		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Location ID		SW121I-1	SW121I-10	SW121I-2	SW121I-3	SW121I-5	SW121I-6
Matrix		SW	SW	SW	SW	SW	SW
Sample ID		121I-3000	121I-3010	121I-3001	121I-3002	121I-3004	121I-3006
Sample Depth to Top of Sample		0	0	0	0	0	0
mple Depth to Bottom of Sample		N/A	N/A	N/A	N/A	N/A	N/A
Sample Date		11/6/2002	11/6/2002	11/6/2002	11/6/2002	11/6/2002	11/6/2002
QC Code		SA	SA	SA	SA	SA	SA
Study ID		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organics							
Butylbenzylphthalate	UG/L	10 U	1.1 J	10 U	10 U	10 U	10 U
Carbazole	UG/L	10 U	10 UJ	10 U	10 U	10 UJ	10 UJ
Chrysene	UG/L	10 U	10 UJ	10 U	10 U	10 UJ	10 UJ
Di-n-butylphthalate	UG/L	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Di-n-octylphthalate	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	UG/L	10 U	10 UJ	10 U	10 U	10 UJ	10 UJ
Dibenzofuran	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Diethyl phthalate	UG/L	10 U	10 UJ	10 U	10 U	10 UJ	10 UJ
Dimethylphthalate	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	UG/L	10 U	10 U	10 U	10 U	10 U	1.1 J
Fluorene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	UG/L	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Hexachlorobutadiene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	UG/L	10 U	10 UJ	10 U	10 UJ	10 UJ	10 UJ
Hexachloroethane	UG/L	10 U	10 U	10 U	10 UJ	10 U	10 U
Indeno(1,2,3-cd)pyrene	UG/L	10 UJ	10 UJ	10 UJ	10 U	10 UJ	10 UJ
Isophorone	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
N-Nitrosodiphenylamine	UG/L	10 U	10 U	10 U	10 UJ	10 U	10 U
N-Nitrosodipropylamine	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Nitrobenzene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	UG/L	10 UJ	10 UJ	10 R	10 R	10 R	10 UJ
Phenanthrene	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
Phenol	UG/L	10 U	10 U	10 R	10 R	10 R	10 U
Pyrene	UG/L	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ

Appendix D Table 5
SEAD-121I Sample Results - Surface Water

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

Facility		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Location ID		SW121I-1	SW121I-10	SW121I-2	SW121I-3	SW121I-5	SW121I-6
Matrix		SW	SW	SW	SW	SW	SW
Sample ID		121I-3000	121I-3010	121I-3001	121I-3002	121I-3004	121I-3006
Sample Depth to Top of Sample		0	0	0	0	0	0
mple Depth to Bottom of Sample		N/A	N/A	N/A	N/A	N/A	N/A
Sample Date		11/6/2002	11/6/2002	11/6/2002	11/6/2002	11/6/2002	11/6/2002
QC Code		SA	SA	SA	SA	SA	SA
Study ID		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organics							
Pesticides and PCBs							
4,4'-DDD	UG/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
4,4'-DDE	UG/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
4,4'-DDT	UG/L	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
Aldrin	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Alpha-BHC	UG/L	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
Alpha-Chlordane	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Beta-BHC	UG/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Chlordane	UG/L	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
Delta-BHC	UG/L	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Dieldrin	UG/L	0.009 U	0.009 U	0.009 U	0.009 U	0.009 U	0.009 U
Endosulfan I	UG/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Endosulfan II	UG/L	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
Endosulfan sulfate	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin aldehyde	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin ketone	UG/L	0.009 U	0.009 U	0.009 U	0.009 U	0.009 U	0.009 U
Gamma-BHC/Lindane	UG/L	0.009 U	0.009 U	0.009 U	0.009 U	0.009 U	0.009 U
Gamma-Chlordane	UG/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Heptachlor	UG/L	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U
Heptachlor epoxide	UG/L	0.008 U	0.008 U	0.008 U	0.008 U	0.008 U	0.008 U
Methoxychlor	UG/L	0.008 U	0.008 U	0.008 U	0.008 U	0.008 U	0.008 U
Toxaphene	UG/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Aroclor-1016	UG/L	0.24 UJ	0.24 UJ	0.24 UJ	0.24 UJ	0.24 UJ	0.24 UJ
Aroclor-1221	UG/L	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U

Appendix D Table 5
SEAD-121I Sample Results - Surface Water

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

Facility		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Location ID		SW121I-1	SW121I-10	SW121I-2	SW121I-3	SW121I-5	SW121I-6
Matrix		SW	SW	SW	SW	SW	SW
Sample ID		121I-3000	121I-3010	121I-3001	121I-3002	121I-3004	121I-3006
Sample Depth to Top of Sample		0	0	0	0	0	0
mple Depth to Bottom of Sample		N/A	N/A	N/A	N/A	N/A	N/A
Sample Date		11/6/2002	11/6/2002	11/6/2002	11/6/2002	11/6/2002	11/6/2002
QC Code		SA	SA	SA	SA	SA	SA
Study ID		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organics							
Aroclor-1232	UG/L	0.09 UJ	0.09 UJ	0.09 UJ	0.09 UJ	0.09 UJ	0.09 UJ
Aroclor-1242	UG/L	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ
Aroclor-1248	UG/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Aroclor-1254	UG/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Aroclor-1260	UG/L	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
Metals							
Aluminum	UG/L	37.6	1490	23.9	43.5	119	2050
Antimony	UG/L	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
Arsenic	UG/L	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U
Barium	UG/L	49.2	48.9	33.8	33.2	29.3	22.5
Beryllium	UG/L	0.21	0.26	0.16	0.16	0.14	0.28
Cadmium	UG/L	0.4 U	0.54	0.4 U	0.4 U	0.4 U	0.4 U
Calcium	UG/L	74200	56600	60900	61100	33500	67200
Chromium	UG/L	1.9	4.3	1.1	0.6 U	1.5	6
Cobalt	UG/L	0.6 U	2.8	0.6 U	0.6 U	0.6 U	3
Copper	UG/L	1.4	7.2	1.2	2	5	11.2
Cyanide, Amenable	MG/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Cyanide, Total	MG/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Iron	UG/L	32.3 J	3080	17.3 U	17.3 U	90.1 J	3410
Lead	UG/L	2.1 U	21	4.3 J	2.1 U	6.6 J	26.3
Magnesium	UG/L	11100	7240	7790	9700	4130	7290
Manganese	UG/L	18	139	0.8	1.7	43	206
Mercury	UG/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	UG/L	1.8 U	3.5	1.8 U	1.8 U	1.8 U	3.6
Potassium	UG/L	2400 J	3200 J	1700 J	1290 J	3050 J	4640 J

Appendix D Table 5
SEAD-121I Sample Results - Surface Water

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

Facility		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Location ID		SW121I-1	SW121I-10	SW121I-2	SW121I-3	SW121I-5	SW121I-6
Matrix		SW	SW	SW	SW	SW	SW
Sample ID		121I-3000	121I-3010	121I-3001	121I-3002	121I-3004	121I-3006
Sample Depth to Top of Sample		0	0	0	0	0	0
mple Depth to Bottom of Sample		N/A	N/A	N/A	N/A	N/A	N/A
Sample Date		11/6/2002	11/6/2002	11/6/2002	11/6/2002	11/6/2002	11/6/2002
QC Code		SA	SA	SA	SA	SA	SA
Study ID		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organics							
Selenium	UG/L	3 U	3 U	3 U	3 U	3 U	3 U
Silver	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Sodium	UG/L	18700 J	38500 J	14900 J	30900 J	3400	4810
Thallium	UG/L	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U
Vanadium	UG/L	2.1	3.3	0.7 U	0.7 U	0.7 U	3.9
Zinc	UG/L	15.9	54.1	12.5	16.4	32.9	190
Other Analyses							
Total Petroleum Hydrocarbons	MG/L	1 U	1 U	1 U	1 U	1 U	1 U

NOTES:
1) List includes all sample and sample duplicate pair members as discrete samples.
(Q)ualifier Code Definitions
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 data was rejected in the data validating process

Appendix D Table 5
SEAD-121I Sample Results - Surface Water

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

Facility		SEAD-121I	SEAD-121I
Location ID		SW121I-7	SW121I-7
Matrix		SW	SW
Sample ID		121I-3007	121I-3005
Sample Depth to Top of Sample		0	0
mple Depth to Bottom of Sample		N/A	N/A
Sample Date		10/26/2002	10/26/2002
QC Code		SA	SA
Study ID		PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)
Volatile Organics			
1,1,1-Trichloroethane	UG/L	5 U	5 U
1,1,2,2-Tetrachloroethane	UG/L	5 U	5 U
1,1,2-Trichloroethane	UG/L	5 U	5 U
1,1-Dichloroethane	UG/L	5 U	5 U
1,1-Dichloroethene	UG/L	5 U	5 U
1,2-Dichloroethane	UG/L	5 U	5 U
1,2-Dichloropropane	UG/L	5 U	5 U
Acetone	UG/L	5 UJ	5 UJ
Benzene	UG/L	5 U	5 U
Bromodichloromethane	UG/L	5 U	5 U
Bromoform	UG/L	5 U	5 U
Carbon disulfide	UG/L	5 U	5 U
Carbon tetrachloride	UG/L	5 U	5 U
Chlorobenzene	UG/L	5 U	5 U
Chlorodibromomethane	UG/L	5 UJ	5 UJ
Chloroethane	UG/L	5 UJ	5 UJ
Chloroform	UG/L	5 U	5 U
Cis-1,2-Dichloroethene	UG/L	5 U	5 U
Cis-1,3-Dichloropropene	UG/L	5 U	5 U
Ethyl benzene	UG/L	5 U	5 U
Meta/Para Xylene	UG/L	5 U	5 U
Methyl bromide	UG/L	5 U	5 U
Methyl butyl ketone	UG/L	5 U	5 U
Methyl chloride	UG/L	5 U	5 U
Methyl ethyl ketone	UG/L	5 UJ	5 UJ

Appendix D Table 5
SEAD-121I Sample Results - Surface Water

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

Facility		SEAD-121I	SEAD-121I
Location ID		SW121I-7	SW121I-7
Matrix		SW	SW
Sample ID		121I-3007	121I-3005
Sample Depth to Top of Sample		0	0
mple Depth to Bottom of Sample		N/A	N/A
Sample Date		10/26/2002	10/26/2002
QC Code		SA	SA
Study ID		PID-RI	PID-RI
Parameter	**Units**	Value (Q)	Value (Q)
Volatile Organics			
Methyl isobutyl ketone	UG/L	5 U	5 U
Methylene chloride	UG/L	5 U	5 U
Ortho Xylene	UG/L	5 U	5 U
Styrene	UG/L	5 U	5 U
Tetrachloroethene	UG/L	5 U	5 U
Toluene	UG/L	5 U	5 U
Trans-1,2-Dichloroethene	UG/L	5 U	5 U
Trans-1,3-Dichloropropene	UG/L	5 UJ	5 UJ
Trichloroethene	UG/L	5 U	5 U
Vinyl chloride	UG/L	5 UJ	5 UJ
Semivolatile Organics			
1,2,4-Trichlorobenzene	UG/L	10 U	10 UJ
1,2-Dichlorobenzene	UG/L	10 U	10 U
1,3-Dichlorobenzene	UG/L	10 U	10 U
1,4-Dichlorobenzene	UG/L	10 U	10 U
2,4,5-Trichlorophenol	UG/L	10 U	10 R
2,4,6-Trichlorophenol	UG/L	10 U	10 R
2,4-Dichlorophenol	UG/L	10 U	10 R
2,4-Dimethylphenol	UG/L	10 U	10 R
2,4-Dinitrophenol	UG/L	10 UJ	10 R
2,4-Dinitrotoluene	UG/L	10 U	10 U
2,6-Dinitrotoluene	UG/L	10 U	10 U
2-Chloronaphthalene	UG/L	10 U	10 U
2-Chlorophenol	UG/L	10 U	10 R
2-Methylnaphthalene	UG/L	10 U	10 U

Appendix D Table 5
SEAD-121I Sample Results - Surface Water

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

Facility		SEAD-121I		SEAD-121I	
Location ID		SW121I-7		SW121I-7	
Matrix		SW		SW	
Sample ID		121I-3007		121I-3005	
Sample Depth to Top of Sample		0		0	
mple Depth to Bottom of Sample		N/A		N/A	
Sample Date		10/26/2002		10/26/2002	
QC Code		SA		SA	
Study ID		PID-RI		PID-RI	
Parameter	**Units**	Value	(Q)	Value	(Q)
Volatile Organics					
2-Methylphenol	UG/L	10	U	10	U
2-Nitroaniline	UG/L	10	UJ	10	U
2-Nitrophenol	UG/L	10	U	10	R
3 or 4-Methylphenol	UG/L	10	U	10	UJ
3,3'-Dichlorobenzidine	UG/L	10	U	10	R
3-Nitroaniline	UG/L	10	U	10	U
4,6-Dinitro-2-methylphenol	UG/L	10	U	10	R
4-Bromophenyl phenyl ether	UG/L	10	U	10	U
4-Chloro-3-methylphenol	UG/L	10	U	10	R
4-Chloroaniline	UG/L	10	U	10	U
4-Chlorophenyl phenyl ether	UG/L	10	U	10	U
4-Nitroaniline	UG/L	10	U	10	U
4-Nitrophenol	UG/L	10	U	10	R
Acenaphthene	UG/L	10	U	10	U
Acenaphthylene	UG/L	10	U	10	U
Anthracene	UG/L	10	U	10	U
Benzo(a)anthracene	UG/L	10	U	10	U
Benzo(a)pyrene	UG/L	10	U	10	U
Benzo(b)fluoranthene	UG/L	10	U	10	U
Benzo(ghi)perylene	UG/L	10	U	10	U
Benzo(k)fluoranthene	UG/L	10	U	10	U
Bis(2-Chloroethoxy)methane	UG/L	10	U	10	U
Bis(2-Chloroethyl)ether	UG/L	10	UJ	10	UJ
Bis(2-Chloroisopropyl)ether	UG/L	10	U	10	U
Bis(2-Ethylhexyl)phthalate	UG/L	10	U	10	U

Appendix D Table 5
SEAD-121I Sample Results - Surface Water

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

Facility		SEAD-121I		SEAD-121I	
Location ID		SW121I-7		SW121I-7	
Matrix		SW		SW	
Sample ID		121I-3007		121I-3005	
Sample Depth to Top of Sample		0		0	
mple Depth to Bottom of Sample		N/A		N/A	
Sample Date		10/26/2002		10/26/2002	
QC Code		SA		SA	
Study ID		PID-RI		PID-RI	
Parameter	**Units**	Value	(Q)	Value	(Q)
Volatile Organics					
Butylbenzylphthalate	UG/L	10	U	10	U
Carbazole	UG/L	10	U	10	U
Chrysene	UG/L	10	U	10	U
Di-n-butylphthalate	UG/L	10	U	10	U
Di-n-octylphthalate	UG/L	10	U	10	U
Dibenz(a,h)anthracene	UG/L	10	U	10	U
Dibenzofuran	UG/L	10	U	10	U
Diethyl phthalate	UG/L	10	U	10	U
Dimethylphthalate	UG/L	10	U	10	U
Fluoranthene	UG/L	10	U	10	U
Fluorene	UG/L	10	U	10	U
Hexachlorobenzene	UG/L	10	U	10	U
Hexachlorobutadiene	UG/L	10	UJ	10	UJ
Hexachlorocyclopentadiene	UG/L	10	UJ	10	UJ
Hexachloroethane	UG/L	10	U	10	U
Indeno(1,2,3-cd)pyrene	UG/L	10	U	10	UJ
Isophorone	UG/L	10	UJ	10	U
N-Nitrosodiphenylamine	UG/L	10	UJ	10	UJ
N-Nitrosodipropylamine	UG/L	10	U	10	U
Naphthalene	UG/L	10	U	10	U
Nitrobenzene	UG/L	10	U	10	U
Pentachlorophenol	UG/L	10	U	10	R
Phenanthrene	UG/L	10	U	10	U
Phenol	UG/L	10	U	10	R
Pyrene	UG/L	10	U	10	U

Appendix D Table 5
SEAD-121I Sample Results - Surface Water

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

Facility		SEAD-121I		SEAD-121I	
Location ID		SW121I-7		SW121I-7	
Matrix		SW		SW	
Sample ID		121I-3007		121I-3005	
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mple Depth to Bottom of Sample		N/A		N/A	
Sample Date		10/26/2002		10/26/2002	
QC Code		SA		SA	
Study ID		PID-RI		PID-RI	
Parameter	**Units**	Value	(Q)	Value	(Q)
Volatile Organics					
Pesticides and PCBs					
4,4'-DDD	UG/L	0.01	UJ	0.01	UJ
4,4'-DDE	UG/L	0.005	UJ	0.005	UJ
4,4'-DDT	UG/L	0.01	UJ	0.01	UJ
Aldrin	UG/L	0.02	UJ	0.02	UJ
Alpha-BHC	UG/L	0.01	UJ	0.01	UJ
Alpha-Chlordane	UG/L	0.02	UJ	0.02	UJ
Beta-BHC	UG/L	0.01	UJ	0.01	UJ
Chlordane	UG/L	0.13	U	0.13	U
Delta-BHC	UG/L	0.004	UJ	0.004	UJ
Dieldrin	UG/L	0.009	UJ	0.009	UJ
Endosulfan I	UG/L	0.01	UJ	0.01	UJ
Endosulfan II	UG/L	0.01	U	0.01	U
Endosulfan sulfate	UG/L	0.02	U	0.02	U
Endrin	UG/L	0.02	UJ	0.02	UJ
Endrin aldehyde	UG/L	0.02	U	0.02	U
Endrin ketone	UG/L	0.009	U	0.009	U
Gamma-BHC/Lindane	UG/L	0.009	UJ	0.009	UJ
Gamma-Chlordane	UG/L	0.01	UJ	0.01	UJ
Heptachlor	UG/L	0.007	UJ	0.007	UJ
Heptachlor epoxide	UG/L	0.008	UJ	0.008	UJ
Methoxychlor	UG/L	0.008	U	0.008	U
Toxaphene	UG/L	0.12	U	0.12	U
Aroclor-1016	UG/L	0.5	UJ	0.5	UJ
Aroclor-1221	UG/L	0.5	U	0.5	U

Appendix D Table 5
SEAD-121I Sample Results - Surface Water

SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

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Location ID		SW121I-7		SW121I-7	
Matrix		SW		SW	
Sample ID		121I-3007		121I-3005	
Sample Depth to Top of Sample		0		0	
mple Depth to Bottom of Sample		N/A		N/A	
Sample Date		10/26/2002		10/26/2002	
QC Code		SA		SA	
Study ID		PID-RI		PID-RI	
Parameter	**Units**	Value	(Q)	Value	(Q)
Volatile Organics					
Aroclor-1232	UG/L	0.5	UJ	0.5	UJ
Aroclor-1242	UG/L	0.5	U	0.5	U
Aroclor-1248	UG/L	0.5	U	0.5	U
Aroclor-1254	UG/L	0.5	U	0.5	U
Aroclor-1260	UG/L	0.5	UJ	0.5	UJ
Metals					
Aluminum	UG/L	45.8		46.3	
Antimony	UG/L	3.8	U	3.8	U
Arsenic	UG/L	4.5	U	4.5	U
Barium	UG/L	9.9	U	9.9	U
Beryllium	UG/L	0.1	U	0.1	U
Cadmium	UG/L	0.8	U	0.8	U
Calcium	UG/L	18300		17700	
Chromium	UG/L	1.4	U	1.4	U
Cobalt	UG/L	0.7	U	0.7	U
Copper	UG/L	3.6	U	3.6	U
Cyanide, Amenable	MG/L	0.01	U	0.01	U
Cyanide, Total	MG/L	0.01	U	0.01	U
Iron	UG/L	41.8	J	41.8	J
Lead	UG/L	3	U	3	U
Magnesium	UG/L	3660		3610	
Manganese	UG/L	5.3		3	
Mercury	UG/L	0.2	U	0.2	U
Nickel	UG/L	2	U	2	U
Potassium	UG/L	630		660	

Appendix D Table 5
SEAD-121I Sample Results - Surface Water

SEAD-121C and SEAD-121I Record of Decision
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Matrix		SW		SW	
Sample ID		121I-3007		121I-3005	
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mple Depth to Bottom of Sample		N/A		N/A	
Sample Date		10/26/2002		10/26/2002	
QC Code		SA		SA	
Study ID		PID-RI		PID-RI	
Parameter	**Units**	Value	(Q)	Value	(Q)
Volatile Organics					
Selenium	UG/L	3.1	J	1.8	J
Silver	UG/L	3.7	U	3.7	U
Sodium	UG/L	2180		2300	
Thallium	UG/L	5.3	U	5.3	U
Vanadium	UG/L	1.4	UJ	1.4	UJ
Zinc	UG/L	14.7	J	13.8	J
Other Analyses					
Total Petroleum Hydrocarbons	MG/L	0.412	UJ	0.408	UJ

NOTES:
1) List includes all sample and sample d
(Q)ualifier Code Definitions
U = compound was not detected
J = the reported value is an estimated cc
UJ = the compound was not detected; th
R = the data was rejected in the data val

APPENDIX E

REVISED HUMAN HEALTH RISK ASSESSMENT – SEAD 121I

PARSONS

M E M O R A N D U M

TO: John Hill AFCEE
Steve Absolom, SEDA
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Contract Data Library, AFCEE

DATE: May 08, 2008

FROM: Todd Heino, Parsons

SUBJECT: SEAD 121I Post-Mission Termination Cleanup Action Risk Assessment

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1. Purpose and Organization of Memorandum

Parsons has completed a risk assessment to evaluate potential risks associated with site conditions following the post-mission termination cleanup action at SEAD 121I at the Seneca Army Depot Activity (SEDA or Depot). 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 121I 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 121I, the Rumored Cosmoline Oil Disposal Area, encompasses four rectangular-shaped, open grass and dirt covered areas that are bounded by 3rd and 7th Streets (north and south ends, respectively) and Avenues C and D (west and east sides, respectively). SEAD 121I measures approximately 2,600 feet (ft.) in length (north-south) by 250 ft. in width (east – west), with a total surface area of approximately 16.8 acres. The AOC is divided into four separate blocks that are separated by paved roads (4th, 5th and 6th Streets). The AOC is located between two opposing rows of warehouses that align Avenues C and D within the Depot's Planned Industrial / Office Development and Warehousing (PID) Area. .

A railroad spur line enters SEAD 121I from the south and extends to the northern end of the AOC where it terminates near the intersection of 3rd St. and Avenue C. Two sidings branch off the main spur line; one terminates in the first (north to south) block and the other terminates in the third (north to south) block of the AOC. There are concrete loading docks located in the first and third blocks next to the railroad lines.

The Army indicated that the rail spur and sidings were used for delivery of equipment and machinery that was frequently packed in Cosmoline (oil). Cosmoline oil is a common commercial substance that is used to prevent corrosion on metal parts and components. During delivery and unpacking of the equipment and machinery, Cosmoline oil from the packing may have been deposited on the ground.

Beginning in the early 1950s, the U.S. Government staged strategic stockpiles of ferromanganese ore in two portions of SEAD 121I, namely along the western sides of the second and fourth blocks (north to south). Approximately 1.2 acres of SEAD 121I were previously used for this purpose, and when the ore piles were present, they were stored on top of asphalt storage pads that overlaid the overburden soil and shallow bedrock that is present in this portion of the Depot. The Government recently sold and removed the stockpiles, and the historic staging areas have had ore residuals and the underlying storage pads and overburden soils removed.

Previous investigations and activities performed at SEAD 121I include an Environmental Baseline Survey (EBS) in 1998 and 1999, a Remedial Investigation between 2002 and 2006, and a post-stockpile mission termination cleanup action in 2007. The results of previous investigative work are extensively reported in the *Investigation of Environmental Baseline Survey Non-Evaluated Sites Report* (Parsons, 1999), the *Remedial Investigation Report, Two EBS Sites in the Planned Industrial Development Area, SEAD-121C and SEAD-121I* (Parsons, 2006), and the *Cleanup Action Construction Completion Letter Report* (Parsons, 2008).

Based on the previous investigations, the contaminants of potential concern (COPCs) identified at SEAD 121I include carcinogenic polycyclic aromatic hydrocarbons (cPAHs), selected pesticides, and metals in soil. In addition, metals were identified as COPCs in surface water. Groundwater was not encountered in the shallow overburden horizon that overlies the bedrock in the area of SEAD 121I; therefore there were no COPCs identified for SEAD 121I groundwater.

The post-stockpile cleanup action was performed between July 2007 and August 2007. The cleanup action was taken as a best management practice, housekeeping activity to remove ore residuals, ore contaminated soil, asphalt, and other debris that was associated with the historic stockpiling mission at the AOC. The principal chemicals used as benchmarks for this cleanup action were manganese and iron, the two principal components of the historic ore stockpiles.

A Construction Completion Letter Report was prepared by Parsons to provide record documentation of the cleanup action construction activities and to provide documentation that all ore residuals and ore contaminated soils. The Completion Report also concludes that no further action is required at SEAD 121I.

This risk assessment memorandum presents the SEAD 121I human health risk assessment results, which are intended to provide documentation to support the NFA determination made for conditions remaining at SEAD 121I. Since the area of concern (AOC) is located in a portion of the Depot where the defined future use is commercial and industrial, 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 2007 cleanup action and soil results from the RI that are representative of soil remaining at SEAD 121I were used as the basis of this risk assessment. The soil data used for the risk assessment are presented in **Appendix A** of this technical memo. 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.

Groundwater was not encountered in the shallow overburden underlying SEAD 121I. Therefore, this exposure pathway is incomplete and has not been assessed in the human health risk assessment.

The surface water data collected during the SEAD 121I remedial investigation in 2002 was used as the basis of risk assessment. Surface water data used for the risk assessment are also presented in **Appendix A** of this technical memo.

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 $1x10^{-6}$ 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 surface water 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 1 and **2** present and summarize the COPC identification process for SEAD 121I soil and surface water, 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 4.00.00). The EPC calculation is consistent with the USEPA guidance (2002b). Half reporting limits were used to represent concentrations for non-detects.

Lead was the only chemical of potential concern (COPC) identified in SEAD 121I surface water based on the initial screening. Risks associated with the dermal exposure to lead were not quantitatively assessed in this risk assessment. Therefore, a quantitative evaluation was not conducted for surface water exposure.

EPCs for COPCs in ambient air were estimated based on the soil EPCs and the concentrations of particulate matter less than 10µm aerodynamic diameter (PM_{10}) in ambient air. Ambient PM_{10} concentration for a construction worker was estimated using an emission and dispersion model (**Appendix B**). PM_{10} concentration for industrial workers and adolescent trespassers.(i.e., 17 $\mu g/m^3$) were based on existing SEDA air measurements.

Tables 3 through **6** summarize EPCs for SEAD-121I soil, surface water, and ambient air (Table 5 for the industrial and adolescent trespasser; Table 6 for construction worker) for three selected future industrial / commercial receptors.

5.2. Receptors, Exposure Pathways, and Exposure Profile

SEAD 121I is currently vacant property. The AOC is located in the Planned Industrial / Office Development and Warehousing (PID) Area at the former Depot. Based on the current and foreseeable future land use of SEAD-121I, 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).

Exposure pathways evaluated for soil exposure included inhalation of ambient dusts caused by soil resuspension, ingestion of soil, and dermal contact with soil. Exposure to groundwater was not considered since groundwater was not detected in the shallow overburden that overlies bedrock at the AOC. Therefore, this exposure pathway is incomplete for all receptors. As is indicated above in Section 5.1, lead was the only COPC identified in surface water, and it was not quantitatively assessed or evaluated during the risk assessment.

The exposure assumptions are summarized in **Tables 7A** and **7B** for the industrial worker, **Table 8A**, **8B**, and **8C** for the construction worker, and **Tables 9A**, **9B**, and **9C** for the adolescent trespasser, 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 ($(mg/kg\text{-}day)^{-1}$). The conversion was made by assuming an inhalation rate of 20 m^3/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 10A** through **10D**.

7. Risk Characterization

The non-cancer hazard indices and cancer risks calculated for the receptors are summarized in **Table 11**. The detailed risk calculation is presented in **Tables 12** through **13** for exposure through inhalation of dust in ambient air, soil ingestion, and soil dermal exposure, respectively.

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 ($1x10^{-6}$ vs. $1x10^{-4}$). The non-cancer hazard index for the construction worker is 1.5E+00, slightly above the USEPA limit. Dust inhalation, soil ingestion, and dermal contact contribute approximately 56%, 42%, and 2%, respectively, to the total non-cancer hazard index. Almost all the non-cancer hazard via inhalation of ambient air dust was caused by manganese. Arsenic, chromium, iron, manganese, thallium and vanadium contribute to the majority of the non-cancer hazard via soil ingestion. Summary descriptive statistics are presented in **Table 15** showing the relative contributions of the primary contaminants contributing to the non-cancer hazard at SEAD 121I. As may be noted from the review of this summary, the non-cancer hazard associated with the inhalation of manganese in dust represents the largest individual component of the overall hazard level determined for the construction worker.

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-121I, and is highly unlikely to underestimate actual risks related to SEAD-121I.

The primary site-specific uncertainties associated with the risk assessment for SEAD-121I include evaluation of manganese toxicity value. With specific reference to the inhalation pathway, the inhalation of manganese contaminated dust accounts for nearly 100 percent of the estimated inhalation HI (i.e.,

8.3E-01). The HI calculated for manganese is based on a reference concentration for chronic inhalation exposure (RfC) derived in study that deals with the inhalation of manganese dioxide dust, and to which the EPA assigns an uncertainty factor of 1000, reflecting a low degree of confidence in it value.

The exact composition of the manganese identified in the confirmatory samples collected in SEAD 121I is unknown, but it is unlikely that all of the identified manganese in the soil exists as manganese dioxide. The known source of manganese at SEAD 121I was the HC (high carbon) ferromanganese ore that was previously stockpiled at the AOC that is associated with steel production. As such, the ore was a complex mixture of various naturally occurring minerals, including various oxides, salts, carbonates, and silicates forms. Thus, while manganese dioxide is a component of manganese ore, it is not the only constituent, and the use of an RfC based solely on manganese dioxide is not fully accurate. However, since the exact composition of the manganese ore is unknown, no quantitative adjustments to the HI can be made. Further, it is important to note that the inhalation reference dose used in the risk assessment is 4000 times lower than the ACGIH's threshold limit value[1] for manganese exposure in industrial situations, further emphasizing the very conservative nature of the RfC used in the calculation of risk at this site.

Additionally, observations made in the field indicated that a large portion of the residuals left after the removal of the ore piles were present as small ore fragments ranging in size from grains of sand to pea and pebble sized debris. In these forms, the high density characteristic (i.e., between 4 and 6) of the native ore would limit the amount of material that became airborne as fugitive dusts. Furthermore, much of the debris and soil sampled during the post-excavation confirmatory process was trapped in the abundant crevices and valleys that are evident in the exposed shale bedrock surface underlying the former staging pads. The presence of this mixture in the crevices and valley further works against it becoming airborne, as the bedrock ridges that are present protects the finer particles that may be intermixed with the varying sized debris. Additionally, the irregular and jagged nature of the exposed bedrock surface makes a poor road surface, and it is likely that vehicle tires will be damaged if they are exposed to repeated trips over the rough and jagged surface.

Additional factors that add further conservatism to this HI value is the fact that the construction worker's hazard index was also based on a 250-day exposure period (i.e., one calendar year, exclusive of weekend days and two weeks of vacation), which represents EPA's default value. At present there are no known plans for the development of this location, so the exact duration of the exposure period is also unknown, and could be either shorter or longer that also affects the level of uncertainty that is associated with this number. Further, the dust loading factor used in the calculation of the HI assumes dry conditions, which is again very conservative as it ignores rainy periods and times when the ground at the Depot is frozen, snow-covered, or muddy due to snowmelt or storm water.

Given these considerations, it is likely that the 8.3E-01 hazard index computed for inhalation is an overestimate of the real conditions that exist at SEAD 121I now that the ore piles have been removed, and the areas cleaned up.

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

9. Conclusions

Although the risk calculation indicates that the manganese concentrations detected in soils and dust may pose potential non-cancer hazard to the construction worker, there is uncertainty associated with the toxicity value and if alternative toxicity values were used, the non-cancer hazard would likely be within the USEPA limit.

Based on the above facts, it is the Army's position that NFA is needed at SEAD-121I.

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TABLES

Table 1
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN IN SEAD-121I SOIL
SEAD-121I
SEAD-121C AND SEAD-121I RECORD OF DECISION
Seneca Army Depot Activity

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Soil
Exposure Point:	SEAD-121I

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)	Screening Value 4 (mg/kg)	Potential ARAR / TBC Value 5 (mg/kg)	COPC Flag	Rationale for Contaminant Deletion or Selection
Volatile Organic Compounds																	
67-64-1	Acetone	0.0022	J	0.15		SD121I-8	36	/	45	0.003	-	0.0715	0.15	14000	0.2	NO	BSL
71-43-2	Benzene	0.0012	J	0.0405	J	SS121I-29 (dup)	9	/	45	0.0023	-	0.0037	0.0405	0.64	0.06	NO	BSL
100-41-4	Ethyl benzene	0.0021	J	0.0078		SS121I-15	6	/	45	0.0023	-	0.0044	0.0078	400	5.5	NO	BSL
SA0078	Meta/Para Xylene	0.0021	J	0.0063	J	SS121I-29 (dup)	6	/	45	0.0023	-	0.0044	0.0063	270		NO	BSL
78-93-3	Methyl ethyl ketone	0.0036		0.078		SD121I-8	11	/	45	0.0023	-	0.0044	0.078	22000	0.3	NO	BSL
75-09-2	Methylene chloride	0.0016	J	0.0028	J	SB121I-4	9	/	35	0.0023	-	0.0034	0.0028	9.1	0.1	NO	BSL
95-47-6	Ortho Xylene	0.0013	J	0.0036	J	SS121I-29 (dup)	6	/	45	0.0023	-	0.0044	0.0036	270		NO	BSL
108-88-3	Toluene	0.0017	J	0.0305	J	SS121I-29 (dup)	8	/	45	0.0023	-	0.0044	0.0305	520	1.5	NO	BSL
Semivolatile Organic Compounds						0											
91-57-6	2-Methylnaphthalene	0.033	J	0.17	J	SD121I-7 (dup)	5	/	51	0.35	-	7.4	0.26	310	36.4	NO	BSL
91-94-1	3,3'-Dichlorobenzidine	0.315	J	0.315	J	SD121I-7 (dup)	1	/	51	0.38	-	4.4	0.315	1.1		NO	BSL
83-32-9	Acenaphthene	0.053	J	6.1		SS121I-20	26	/	51	0.36	-	2.2	6.1	3700	50	NO	BSL
208-96-8	Acenaphthylene	0.064	J	0.56	J	SS121I-21	6	/	51	0.34	-	7.4	0.56		41	NO	NSV
120-12-7	Anthracene	0.069	J	12		SS121I-20	29	/	50	0.36	-	1.8	12	22000	50	NO	BSL
56-55-3	Benzo(a)anthracene	0.043	J	28	J	SS121I-20	46	/	51	0.37	-	0.46	28	0.62	0.224	YES	ASL
50-32-8	Benzo(a)pyrene	0.061	J	23		SS121I-20	45	/	51	0.37	-	0.46	23	0.062	0.061	YES	ASL
205-99-2	Benzo(b)fluoranthene	0.044	J	29		SS121I-20	48	/	51	0.37	-	0.46	29	0.62	1.1	YES	ASL
191-24-2	Benzo(ghi)perylene	0.05	J	29	J	SS121I-20	42	/	51	0.36	-	0.46	29		50	NO	NSV
207-08-9	Benzo(k)fluoranthene	0.095	J	23		SD121I-2EBS	37	/	50	0.36	-	0.46	23	6.2	1.1	YES	ASL
117-81-7	Bis(2-Ethylhexyl)phthalate	0.025	J	1.6		SS121I-31	17	/	51	0.13	-	8.8	1.6	35	50	NO	BSL
85-68-7	Butylbenzylphthalate	0.055	J	0.42	J	SD121I-7 (dup)	3	/	48	0.35	-	8.8	0.42	12000	50	NO	BSL
86-74-8	Carbazole	0.06	J	6.8		SS121I-20	29	/	51	0.36	-	1.8	6.8	24		NO	BSL
218-01-9	Chrysene	0.0625	J	32	J	SS121I-20	44	/	51	0.37	-	0.46	32	62	0.4	YES	CSG
53-70-3	Dibenz(a,h)anthracene	0.072	J	5	J	SD121I-2EBS	15	/	44	0.36	-	2.1	5	0.062	0.014	YES	ASL
132-64-9	Dibenzofuran	0.029	J	2		SS121I-20	14	/	51	0.35	-	4.4	2	150	6.2	NO	BSL
84-66-2	Diethylphthalate	0.64	J	0.64	J	SS121I-29 (dup)	1	/	51	0.34	-	7.4	0.64	49000	7.1	NO	BSL
84-74-2	Di-n-butylphthalate	0.045	J	0.045	J	SS121I-1	1	/	50	0.34	-	7.4	0.045	6100	8.1	NO	BSL
117-84-0	Di-n-octylphthalate	0.42	J	0.42	J	SD121I-7 (dup)	1	/	50	0.38	-	4.4	0.42	2400		0	BSL
206-44-0	Fluoranthene	0.08	J	62		SS121I-20	48	/	51	0.37	-	0.46	62	2300	50	NO	BSL
86-73-7	Fluorene	0.043	J	4.2		SS121I-20	22	/	51	0.35	-	2.2	4.2	2700	50	NO	BSL
193-39-5	Indeno(1,2,3-cd)pyrene	0.061	J	12	J	SD121I-2EBS	35	/	49	0.36	-	2.1	12	0.62	3.2	YES	ASL
78-59-1	Isophorone	0.315	J	0.315	J	SD121I-7 (dup)	1	/	12	0.38	-	4.4	0.315	510		0	BSL
91-20-3	Naphthalene	0.051	J	0.63	J	SS121I-21	7	/	51	0.35	-	7.4	0.63	56	13	NO	BSL
98-95-3	Nitrobenzene	0.315	J	0.315	J	SD121I-7 (dup)	1	/	12	0.38	-	4.4	0.315	20	0.2	NO	BSL
85-01-8	Phenanthrene	0.05	J	52		SS121I-20	48	/	51	0.37	-	0.46	52		50	NO	NSV
108-95-2	Phenol	0.315	J	0.315	J	SD121I-7 (dup)	1	/	12	0.39	-	4.4	0.315	18000	0.03	NO	BSL
129-00-0	Pyrene	0.072	J	64	J	SS121I-23	48	/	51	0.37	-	0.46	64	2300	50	NO	BSL

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SEAD-121I
SEAD-121C AND SEAD-121I RECORD OF DECISION
Seneca Army Depot Activity

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Soil
Exposure Point:	SEAD-121I

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)	Screening Value 4 (mg/kg)	Potential ARAR / TBC Value 5 (mg/kg)	COPC Flag	Rationale for Contaminant Deletion or Selection
PCBs						0											
11097-69-1	Aroclor-1254	0.03	J	0.067		SD121I-5	2	/	45	0.012	-	0.022	0.067	0.22	10	NO	BSL
11096-82-5	Aroclor-1260	0.0083	J	0.046	J	SS121I-14	3	/	45	0.0023	-	0.022	0.046	0.22	10	NO	BSL
Pesticides						0											
72-55-9	4,4'-DDE	0.00755	J	0.034	NJ	SS121I-23	5	/	45	0.00024	-	0.0023	0.034	1.7	2.1	NO	BSL
50-29-3	4,4'-DDT	0.024	NJ	0.039	J	SS121I-21	2	/	44	0.0018	-	0.0023	0.039	1.7	2.1	NO	BSL
309-00-2	Aldrin	0.0032	J	0.012		SS121I-20	4	/	45	0.0018	-	0.0045	0.012	0.029	0.041	NO	BSL
60-57-1	Dieldrin	0.016	J	0.034	J	SS121I-21	2	/	45	0.0018	-	0.0023	0.034	0.03	0.044	YES	ASL
959-98-8	Endosulfan I	0.0026		0.095	J	SS121I-20	24	/	45	0.0018	-	0.002	0.095	370	0.9	NO	BSL
72-20-8	Endrin	0.0065	J	0.03	J	SS121I-21	2	/	45	0.0018	-	0.0023	0.03	18	0.1	NO	BSL
1024-57-3	Heptachlor epoxide	0.0061		0.055	J	SS121I-21	8	/	43	0.0018	-	0.0023	0.055	0.053	0.02	YES	ASL
Inorganics						0											
7429-90-5	Aluminum	1510		13200		SB121I-5	45	/	45		-		13200	76000	19300	NO	BSL
7440-36-0	Antimony	0.99		7.5		SS121I-28	14	/	45	0.00096	-	0.0073	7.5	31	5.9	NO	BSL
7440-38-2	Arsenic	2.6		11.5		SD121I-8	34	/	34		-		104	0.39	8.2	YES	ASL
7440-39-3	Barium	38.2		207		SS121I-26	45	/	45		-		207	5400	300	NO	BSL
7440-41-7	Beryllium	0.16		0.68		SB121I-5	44	/	45	0.00017	-	0.00017	0.68	150	1.1	NO	BSL
7440-43-9	Cadmium	0.15		6.6		SB121I-3	14	/	45	0.00013	-	0.00061	6.6	37	2.3	NO	BSL
7440-70-2	Calcium	5370	J	298000	J	SS121I-26	45	/	45		-		298000	2500000	121000	NO	NUT
7440-47-3	Chromium	3.9		39.7		SS121I-29 (dup)	45	/	45		-		439	210	29.6	YES	ASL
7440-48-4	Cobalt	4.6		205.5	J	SS121I-29 (dup)	45	/	45		-		205.5	900	30	NO	BSL
7440-50-8	Copper	10.4	J	209		SS121I-29 (dup)	40	/	40		-		209	3100	33	NO	BSL
	Cyanide, Total	0.559	J	1.995		SS121I-29 (dup)	3	/	45	0.000526	-	0.00061	1.995	1200		NO	BSL
7439-89-6	Iron	5720		31300		SS121I-29 (dup)	45	/	45		-		58400	23000	36500	YES	ASL
7439-92-1	Lead	8.6	J	122		SS121I-25	45	/	45		-		122	400	24.8	NO	BSL
7439-95-4	Magnesium	2150		22300	J	SS121I-27	45	/	45		-		22300	400000	21500	NO	NUT
7439-96-5	Manganese	303		11100		SS121I-29 (dup)	45	/	45		-		310500	1800	1060	YES	ASL
7439-97-6	Mercury	0.01		0.18		SD121I-3	44	/	45	0.000115	-	0.00012	0.18	23	0.1	NO	BSL
7440-02-0	Nickel	11.1		342	J	121I-29 (dup), SS121I	45	/	45		-		342	1600	49	NO	BSL
7440-09-7	Potassium	541		1450		SD121I-6	45	/	45		-		1450	5000000	2380	NO	NUT
7782-49-2	Selenium	0.48	J	145.5	J	SS121I-29 (dup)	21	/	45	0.00043	-	0.00068	145.5	390	2	NO	BSL
7440-22-4	Silver	0.29		10.5		SD121I-8	6	/	34	0.0003	-	0.0012	10.5	390	0.75	NO	BSL
7440-23-5	Sodium	117		372		SB121I-1	37	/	45	0.106	-	0.595	372	1125000	172	NO	NUT
7440-28-0	Thallium	0.38		0.71	J	SS121I-29 (dup)	9	/	45	0.00032	-	0.0012	162.5	5.2	0.7	YES	ASL
7440-62-2	Vanadium	5.9		22.1	J	SS121I-29 (dup)	45	/	45		-		182	78	150	YES	ASL
7440-66-6	Zinc	42.75	J	532		SD121I-6	45	/	45		-		532	23000	110	NO	BSL
Other Analytes						0											
	Total Organic Carbon	2800		8900		SS121I-6	45	/	45		-		7200			NO	NSV
	Total Petroleum Hydrocarbons	100	J	2200		SS121I-27	15	/	45	0.043	-	0.066				NO	ICE

Table 1
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN IN SEAD-121I SOIL
SEAD-121I
SEAD-121C AND SEAD-121I RECORD OF DECISION
Seneca Army Depot Activity

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Soil
Exposure Point:	SEAD-121I

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)	Screening Value 4 (mg/kg)	Potential ARAR / TBC Value 5 (mg/kg)	COPC Flag	Rationale for Contaminant Deletion or Selection
0													

Notes:

1. Field duplicates were averaged and regarded as one entry. Half the reporting limits were assumed for non-detects for the average calculation. Lab duplicates were not included in the assessment. (dup) indicates that the maximum concentration was detected in a duplicate pair. The maximum concentration reported is the average value of the sample and its duplicate. Range of reporting limits were presented for nondetects only.
2. The maximum detected concentration was used for screening.
3. Background value is the maximum detected concentration of the Seneca background dataset.
4. 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 December 2004.
   Target Cancer Risk = 1E-6; Target Hazard Quotient =1. Direct contact exposure (ingestion, dermal contact, and inhalation) is evaluated to derive the PRGs.
   PRG for xylenes was used as screening value for meta/para xylenes and ortho xylene.
   EPA Region III Risk Based Concentration (RBC) for residential soil was used as screening value for 2-methylnaphthalene as no Region 9 PRG is available. EPA Region III RBC, available on-line at http://www.epa.gov/reg3hwmd/risk/human/rbc/rbc1004.XLS, was calculated based on soil ingestion exposure and a target cancer risk of 1E-6 and a target hazard quotient of 1.
   PRG for Aroclor 1254 was used as screening value for Aroclor 1260.
   PRG for gamma-chlordane was used as screening value for alpha-chlordane.
   PRG for alpha-BHC was used as screening value for delta-BHC.
   PRG for endosulfan was used as screening value for endosulfan I.
   PRG for endrin was used as screening value for endrin aldehyde and endrin ketone.
   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.
   PRG for cyanide hydrogen was used for total cyanide.
5. Potential TBC values are from NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046. No ARARs were identified. (on-line resources available at http://www.dec.state.ny.us/website/der/tagms/prtg4046.html)
6. Rationale codes

Definitions:
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
Q = Qualifier
J = Estimated Value

Table 2

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN IN SEAD-121I SURFACE WATER

SEAD-121I

SEAD-121C AND SEAD-121I RECORD OF DECISION

Seneca Army Depot Activity

Scenario Timeframe:	Current/Future
Medium:	Surface Water
Exposure Medium:	Surface Water
Exposure Point:	SEAD-121I

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)	Maximum Background Value [3] (ug/L)	Screening Value [4] (ug/L)	Potential ARAR /TBC Value [5] (ug/L)	COPC Flag	Rationale for Contaminant Deletion or Selection [6]
Semivolatile Organic Compounds														
85-68-7	Butylbenzylphthalate	1.1	J	1.1	J	SW121I-10	1 / 7	10 - 10	1.1		7,300		NO	BSL
206-44-0	Fluoranthene	1.1	J	1.1	J	SW121I-6	1 / 7	10 - 10	1.1		1,500		NO	BSL
Inorganics														
7429-90-5	Aluminum	23.9		2,050		SW121I-6	7 / 7		2,050		36,000	100	NO	BSL
7440-39-3	Barium	22.5		49.2		SW121I-1	6 / 7	9.9 - 9.9	49.2		2,600		NO	BSL
7440-41-7	Beryllium	0.14		0.28		SW121I-6	6 / 7	0.1 - 0.1	0.28		73	1,100	NO	BSL
7440-43-9	Cadmium	0.54		0.54		SW121I-10	1 / 7	0.4 - 0.8	0.54		18	3.84	NO	BSL
7440-70-2	Calcium	18,000		74,200		SW121I-1	7 / 7		74,200		250,000		NO	NUT
7440-47-3	Chromium	1.1		6		SW121I-6	5 / 7	0.6 - 1.4	6		110	139.45	NO	BSL
7440-48-4	Cobalt	2.8		3		SW121I-6	2 / 7	0.6 - 0.7	3		730	5	NO	BSL
7440-50-8	Copper	1.2		11.2		SW121I-6	6 / 7	3.6 - 3.6	11.2		1,500	17.32	NO	BSL
7439-89-6	Iron	32.3	J	3,410		SW121I-6	5 / 7	17.3 - 17.3	3,410		11,000	300	NO	BSL
7439-92-1	Lead	4.3	J	26.3		SW121I-6	4 / 7	2.1 - 3	26.3		15	1.46	YES	ASL
7439-95-4	Magnesium	3,635		11,100		SW121I-1	7 / 7		11,100		40,000		NO	NUT
7439-96-5	Manganese	0.8		206		SW121I-6	7 / 7		206		880		NO	BSL
7440-02-0	Nickel	3.5		3.6		SW121I-6	2 / 7	1.8 - 2	3.6		730	99.92	NO	BSL
7440-09-7	Potassium	645		4,640	J	SW121I-6	7 / 7		4,640		700,000		NO	NUT
7782-49-2	Selenium	2.5	J	2.5	J	SW121I-7 (dup)	1 / 7	3 - 3	2.5		180	4.6	NO	BSL
7440-23-5	Sodium	2,240		38,500	J	SW121I-10	7 / 7		38,500		1,200,000		NO	NUT
7440-62-2	Vanadium	2.1		3.9		SW121I-6	3 / 7	0.7 - 1.4	3.9		36	14	NO	BSL
7440-66-6	Zinc	12.5		190		SW121I-6	7 / 7		190		11,000	159.25	NO	BSL

Notes:

1. Field duplicates were averaged and regarded as one entry. Half the reporting limits were assumed for non-detects for the average calculation. Lab duplicates were not included in the assessment. Range of reporting limits were presented for nondetects only.
2. The maximum detected concentration was used for screening.
3. No background values available for surface water.
4. 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 December 2004.
   Target Cancer Risk = 1E-6; Target Hazard Quotient =1. Ingestion from drinking and inhalation of volatiles during showering are evaluated to derive the PRGs.
   Maximum Contaminant Level (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.
5. Potential ARAR values are from the New York State Ambient Water Quality Standards, Class C for Surface Water.
6. 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
Q = Qualifier
J = Estimated Value

TABLE 3
SOIL EXPOSURE POINT CONCENTRATION SUMMARY - TOTAL SOIL AT SEAD-121I
SEAD-121I
SEAD-121C AND SEAD-121I RECORD OF DECISION
Seneca Army Depot Activity

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Soil
Exposure Point:	SEAD-121I

Chemical of Potential Concern	Arithmetic Mean Units	Arithmetic Mean (1)	95% UCL of Normal Data	Maximum Detected Concentration (1)	Q	EPC Units	Surface Soil Reasonable Maximum Exposure (2)		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
Semivolatile Organic Compounds									
Benzo(a)anthracene	mg/kg	1.9	3.3	28	J	mg/kg	10	99% Chebyshev	Non-parametric, MH
Benzo(a)pyrene	mg/kg	1.7	2.9	23		mg/kg	8.5	99% Chebyshev	Non-parametric, MH
Benzo(b)fluoranthene	mg/kg	1.9	3.3	29		mg/kg	10	99% Chebyshev	Non-parametric, MH
Benzo(k)fluoranthene	mg/kg	1.9	3.0	21	J	mg/kg	8.7	99% Chebyshev	Non-parametric, MH
Chrysene	mg/kg	2.4	4.0	32	J	mg/kg	12	99% Chebyshev	Non-parametric, MH
Dibenz(a,h)anthracene	mg/kg	0.50	0.75	4.6	J	mg/kg	1.2	95% Chebyshev	Non-parametric, MO
Indeno(1,2,3-cd)pyrene	mg/kg	0.88	1.4	8.1	J	mg/kg	3.9	99% Chebyshev	Non-parametric, MH
Pesticides									
Dieldrin	mg/kg	0.0023	0.0041	0.034	J	mg/kg	0.0068	95% Chebyshev	Non-parametric, MO
Heptachlor epoxide	mg/kg	0.0050	0.0081	0.055	J	mg/kg	0.023	99% Chebyshev	Non-parametric, MH
Metals									
Arsenic	mg/kg	5.93	6.6	11.5	J	mg/kg	6.6	95% Approx Gamma	Non-parametric, M
Chromium	mg/kg	13.6	15.8	39.7		mg/kg	15.6	95% Modified-t UCL	Normal
Iron	mg/kg	16,493	17,938	31,300		mg/kg	18,021	95% Student's-t UCL	Normal
Manganese	mg/kg	1,356	1,899	11,100		mg/kg	2,438	95% Chebyshev	Non-parametric, MO
Thallium	mg/kg	0.53	1.0	0.71	J	mg/kg	0.5	99% KM (t)	Non-parametric, M
Vanadium	mg/kg	12.8	14.1	22.1	J	mg/kg	14.1	95% Student's-t UCL	Normal

Notes:
1. Field duplicates were averaged and regarded as one sample entry. Lab duplicates were not included in the assessment.
Non-detects were assumed to be half the reporting limit.
2.The EPCs were calculated using the ProUCL (Version 3.00.02) and the EPCs were selected in accordance with the ProUCL Version 3.0 User Guide (USEPA, 2004) and the Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites (USEPA, 2002).

HE - highly skewed to extremely highly skewed (standard deviation of log-transformed data in the interval (2.0, 3.0] data set.
MH - moderately to highly skewed (standard deviation of log-transformed data in the interval (1.0, 2.0] data set.
MO - moderately skewed (standard deviation of log-transformed data in the interval (0.5,1] data set.
M - mildly skewed (standard deviation of log-transformed data less than or equal to 0.5) data set.

Q - Qualifier
J = Estimated Value

TABLE 4
SURFACE WATER EXPOSURE POINT CONCENTRATION SUMMARY - SURFACE WATER AT SEAD-121I
SEAD-121I
SEAD-121C AND SEAD-121I RECORD OF DECISION
Seneca Army Depot Activity

Lead is the only COPC identified based on the screening. Risks associated with dermal exposure to lead were not quantitatively assessed in this risk assessment. Therefore, a quantitative evaluation was not conducted for surface water exposure.

TABLE 5
AMBIENT AIR EXPOSURE POINT CONCENTRATIONS FOR INDUSTRIAL WORKER AND ADOLESCENT TRESPASSER - SOIL AT SEAD-121I
SEAD-121C AND SEAD-121I RECORD OF DECISION
Seneca Army Depot Activity

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Air
Exposure Point:	SEAD-121I

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

Chemical of Potential Concern	Reasonable Maximum Exposure	
	EPC Data for Surface Soil (mg/kg)	Calculated Air EPC Surface Soil (mg/m^3)
Semivolatile Organic Compounds		
Benzo(a)anthracene	10	1.7E-07
Benzo(a)pyrene	8.5	1.4E-07
Benzo(b)fluoranthene	10	1.7E-07
Benzo(k)fluoranthene	8.7	1.5E-07
Chrysene	12	2.0E-07
Dibenz(a,h)anthracene	1.2	2.0E-08
Indeno(1,2,3-cd)pyrene	3.9	6.6E-08
Pesticides		
Dieldrin	0.0068	1.2E-10
Heptachlor epoxide	0.023	4.0E-10
Metals		
Arsenic	6.6	1.1E-07
Chromium	16	2.6E-07
Iron	18021.0	3.1E-04
Manganese	2,438	4.1E-05
Thallium	0.5	7.7E-09
Vanadium	14.1	2.4E-07

TABLE 6
AMBIENT AIR EXPOSURE POINT CONCENTRATIONS FOR CONSTRUCTION WORKER - SOIL AT SEAD-121I
SEAD-121C AND SEAD-121I RECORD OF DECISION
Seneca Army Depot Activity

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Air
Exposure Point:	SEAD-121I

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 = 78 ug/m^3
CF = Conversion Factor = 1E-9 kg/ug

Chemical of Potential Concern	Reasonable Maximum Exposure	
	EPC Data for Surface Soil (mg/kg)	Calculated Air EPC Surface Soil (mg/m^3)
Semivolatile Organic Compounds		
Benzo(a)anthracene	10	7.4E-07
Benzo(a)pyrene	8.5	6.4E-07
Benzo(b)fluoranthene	10	7.5E-07
Benzo(k)fluoranthene	8.7	6.5E-07
Chrysene	12	9.0E-07
Dibenz(a,h)anthracene	1.2	8.6E-08
Indeno(1,2,3-cd)pyrene	3.9	2.9E-07
Pesticides		
Dieldrin	0.0068	5.1E-10
Heptachlor epoxide	0.023	1.8E-09
Metals		
Arsenic	6.6	4.9E-07
Chromium	16	1.2E-06
Iron	18021.0	1.3E-03
Manganese	2,438	1.8E-04
Thallium	0.5	3.4E-08
Vanadium	14.1	1.1E-06

PM10 generated by construction vehicle traffic on temporary unpaved roads

Q/Csr=	15.94212855			
PEF	13405472.23	m3/kg		
VKT=	320.0243828	km		
	7.45964E-08	kg/m3		
	74.59640237	ug/m3		
Construction peri	52	wks		
Vehicle Travel pe	12	wks		
Area, SEAD-121	281250	ft2	6.45661157	acres
Road Length	1250	ft		
Ar	3483.8625	m2		

Compositions of vehicles

Weight	#
2 ton	8
20	6

W= 9.714285714

TABLE 7A
EXPOSURE FACTOR ASSUMPTIONS FOR SEAD-121C AND SEAD-121I
SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Air
Exposure Point:	SEAD-121C and SEAD-121I
Receptor Population:	Industrial Worker
Receptor Age:	Adult

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE	CT VALUE	CT RATIONALE	CT REFERENCE
Inhalation of Dust in Ambient Air	EPC	Air EPC	mg/m3		Surface soils.	See Table 5		Surface soils.	See Table 6-4B/C & 6-5A/B
	BW	Body Weight	kg	70	Default value for industrial worker.	USEPA, 2002.	70	Default value for industrial worker.	USEPA, 2002.
	IR	Inhalation Rate	m3/day	20	Default value for industrial worker.	USEPA, 2002.	10.4	Assumes average inhalation rate of 1.3 m3/hr for outdoor worker for 8 hrs/day.	USEPA, 1997 & BPJ. USEPA, 2004.
	EF	Exposure Frequency	days/yr	250	Default value for industrial worker.	USEPA, 2002, 2004.	219	Default value for industrial worker.	USEPA, 2004.
	ED	Exposure Duration	year	25	Default value for industrial worker.	USEPA, 2002, 2004.	9	Default value for industrial worker.	
	AT(Nc)	Averaging Time - Nc	days	9,125	25 years.		3,285	9 years.	USEPA, 2002.
	AT(Car)	Averaging Time - Car	days	25,550	70 years, default value for industrial worker.	USEPA, 2002.	25,550	70 years, default value for industrial worker.	

Notes:
RME = Reasonable Maximum Exposure
CT = Central Tendency Exposure

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.

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

TABLE 7B
EXPOSURE FACTOR ASSUMPTIONS FOR SEAD-121C AND SEAD-121I
SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Soil
Exposure Point:	SEAD-121C and SEAD-121I
Receptor Population:	Industrial Worker
Receptor Age:	Adult

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE	CT VALUE	CT RATIONALE	CT REFERENCE
Ingestion of Soil	EPC	Soil EPC	mg/kg		Surface soils.	See Table 5		Surface soils.	See Table 6-4B & 6-5A
	BW	Body Weight	kg	70	Default value for industrial worker.	USEPA, 2002.	70	Default value for industrial worker.	USEPA, 2002.
	IR	Ingestion Rate	mg/day	100	Default value for outdoor worker.	USEPA, 2002.	50	Mean adult soil ingestion rate.	USEPA, 1997.
	FI	Fraction Ingested	unitless	1	Assumng 100% ingestion from site.	BPJ.	1	Assuming 100% ingestion from site.	BPJ.
	EF	Exposure Frequency	days/yr	250	Default value for industrial worker.	USEPA, 2002, 2004.	219	Default value for industrial worker.	USEPA, 2004.
	ED	Exposure Duration	year	25	Default value for industrial worker.	USEPA, 2002, 2004.	9	Default value for industrial worker.	USEPA, 2004.
	CF	Conversion Factor	kg/mg	1E-6			1E-6		
	AT(Nc)	Averaging Time - Nc	days	9,125	25 years.		3,285	9 years.	
	AT(Car)	Averaging Time - Car	days	25,550	70 years, default value for industrial worker.	USEPA, 2002.	25,550	70 years, default value for industrial worker.	USEPA, 2002.
Dermal Contact of Soil	EPC	Soil EPC	mg/kg		Surface soils.	See Table 5		Surface soils.	See Table 6-4B & 6-5A
	BW	Body Weight	kg	70	Default value for industrial worker.	USEPA, 2002.	70	Default value for industrial worker.	USEPA, 2002.
	SA	Skin Contact Surface Area	cm2	3,300	Default value for industrial worker.	USEPA, 2002, 2004.	3,300	Default value for industrial worker.	USEPA, 2002, 2004.
	AF	Soil/Skin Adherence Factor	mg/cm2-event	0.2	Default value for adherence factor.	USEPA, 2002, 2004.	0.02	Default value for adherence factor.	USEPA, 2004.
	ABS	Dermal Absorption Fraction	unitless		Chemical-specific	USEPA, 2004.		Chemical-specific	USEPA, 2004.
	EV	Event Frequency	events/day	1	Default value for industrial worker.	USEPA, 2004.	1	Default value for industrial worker.	USEPA, 2002, 2004.
	EF	Exposure Frequency	days/yr	250	Default value for industrial worker.	BPJ.	219	Default value for industrial worker.	USEPA, 2004.
	ED	Exposure Duration	year	25	Default value for industrial worker.	USEPA, 2002, 2004.	9	Default value for industrial worker.	USEPA, 2004.
	CF	Conversion Factor	kg/mg	1E-6			1E-6		
	AT(Nc)	Averaging Time - Nc	days	9,125	25 year.		3,285	9 years.	
	AT(Car)	Averaging Time - Car	days	25,550	70 years, default value for industrial worker.	USEPA, 2002.	25,550	70 years, default value for industrial worker.	USEPA, 2002.

Notes:
RME = Reasonable Maximum Exposure
CT = Central Tendency Exposure

Source References:
· BPJ: Best Professional Judgment.
· USEPA, 1997: Exposure Factors Handbook
· USEPA, 2002: Supplemental Guidance For Developing Soil Screening Levels For Superfund Sites. December.
· USEPA, 2004: Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment) Final.

Intake Equations
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 8A
EXPOSURE FACTOR ASSUMPTIONS FOR SEAD-121C AND SEAD-121I
SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Air
Exposure Point:	SEAD-121C and SEAD-121I
Receptor Population:	Construction Worker
Receptor Age:	Adult

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE	CT VALUE	CT RATIONALE	CT REFERENCE
Inhalation of Dust in Ambient Air	EPC	Air EPC	mg/m^3		Surface and subsurface soils.	See Table 6 USEPA, 2002.		Surface and subsurface soils.	See Table 6 .
	BW	Body Weight	kg	70	Default value for construction worker.	USEPA, 2002.	70	Default value for construction worker.	USEPA, 2002.
	IR	Inhalation Rate	m^3/day	20	Default value for construction worker.	USEPA, 2002.	20	Default value for construction worker.	USEPA, 2002.
	ET	Exposure Time	unitless	8/24	Work Shift	USEPA, 2002.	0.33	Default value for construction worker	.
	EF	Exposure Frequency	days/yr	250	Default value for construction worker.		219	Default value for industrial worker.	USEPA, 2004.
	ED	Exposure Duration	year	1	Default value for construction worker.	USEPA, 2002.	1	Default value for construction worker.	USEPA, 2002.
	AT(Nc)	Averaging Time - Nc	days	365	1 year.		365	1 year.	
	AT(Car)	Averaging Time - Car	days	25,550	70 years, default value for construction worker.		25,550	70 years, default value for construction worker.	USEPA, 2002.

Notes:
RME = Reasonable Maximum Exposure
CT = Central Tendency Exposure

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.

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

TABLE 8B
EXPOSURE FACTOR ASSUMPTIONS FOR SEAD-121C AND SEAD-121I
SEAD-121C and SEAD-121I Recrd of Decision
Seneca Army Depot Activity

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Soil
Exposure Point:	SEAD-121C and SEAD-121I
Receptor Population:	Construction Worker
Receptor Age:	Adult

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE	CT VALUE	CT RATIONALE	CT REFERENCE
Ingestion of Soil	EPC	Soil EPC	mg/kg		Surface and subsurface soils.	See Table 1		Surface and subsurface soils.	See Table 6-4A/B/C & 6-5A/B
	BW	Body Weight	kg	70	Default value for construction worker.	USEPA, 2002.	70	Default value for construction worker.	USEPA, 2002.
	IR	Ingestion Rate	mg/day	330	Default value for construction worker.	USEPA, 2002.	100	Default value for outdoor worker.	USEPA, 2002.
	FI	Fraction Ingested	unitless	1	Assuming 100% ingestion from site.	BPJ.	1	Assuming 100% ingestion from site.	BPJ.
	EF	Exposure Frequency	days/yr	250	Default value for construction worker.	USEPA, 2002.	219	Default value for industrial worker.	USEPA, 2004.
	ED	Exposure Duration	year	1	Default value for construction worker.	USEPA, 2002.	1	Default value for construction worker.	USEPA, 2002.
	CF	Conversion Factor	kg/mg	1.E-06			1.E-06		
	AT(Nc)	Averaging Time - Nc	days	365	1 year.		365	1 year.	
	AT(Car)	Averaging Time - Car	days	25,550	70 years, default value for construction worker.	USEPA, 2002.	25,550	70 years, default value for construction worker.	USEPA, 2002.
Dermal Contact of Soil	EPC	Soil EPC	mg/kg		Surface and subsurface soils.	See Table 1		Surface and subsurface soils.	See Table 6-4A/B/C & 6-5A/B
	BW	Body Weight	kg	70	Default value for construction worker.	USEPA, 2002.	70	Default value for construction worker.	USEPA, 2002.
	SA	Skin Contact Surface Area	cm^2	3,300	Default value for construction worker.	USEPA, 2002.	3,300	Default value for construction worker.	USEPA, 2002.
	AF	Soil/Skin Adherence Factor	mg/cm^2-event	0.3	Default value for construction worker.	USEPA, 2002.	0.3	Default value for construction worker.	USEPA, 2002.
	ABS	Dermal Absorption Fraction	unitless		Chemical-specific.	USEPA, 2004.		Chemical-specific.	USEPA, 2004.
	EV	Event Frequency	events/day	1	Default value for construction worker.	USEPA, 2002.	1	Default value for construction worker.	USEPA, 2002.
	EF	Exposure Frequency	days/yr	250	Default value for construction worker.	USEPA, 2002.	219	Default value for industrial worker.	USEPA, 2004.
	ED	Exposure Duration	year	1	Default value for construction worker.	USEPA, 2002.	1	Default value for construction worker.	USEPA, 2002.
	CF	Conversion Factor	kg/mg	1.E-06			1.E-06		
	AT(Nc)	Averaging Time - Nc	days	365	1 year.		365	1 year.	
	AT(Car)	Averaging Time - Car	days	25,550	70 years, default value for construction worker.	USEPA, 2002.	25,550	70 years, default value for construction worker.	USEPA, 2002.

Notes:
RME = Reasonable Maximum Exposure
CT = Central Tendency Exposure

Source References:
· BPJ: Best Professional Judgment.
· 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 8C
EXPOSURE FACTOR ASSUMPTIONS FOR SEAD-121C AND SEAD-121I
SEAD-121C and SEAD-121I Record of Decision
Seneca Army Depot Activity

Scenario Timeframe:	Current/Future
Medium:	Surface Water
Exposure Medium:	Surface Water
Exposure Point:	SEAD-121C and SEAD-121I
Receptor Population:	Construction Worker
Receptor Age:	Adult

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE	CT VALUE	CT RATIONALE	CT REFERENCE
Dermal Contact of Surface Water	EPC	Surface Water EPC	mg/L		See Table 2	See Table 6-4E & 6-5C		See Table 6-4E & 6-5C	See Table 6-4E & 6-5C
	BW	Body Weight	kg	70	Default value for construction worker.	USEPA, 2002.	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	1980	Average surface area for adult male (including hands and forearms).	USEPA, 1997.
	ED	Exposure Duration	years	1	Default value for construction worker.	USEPA, 2002, 2004.	1	Default value for industrial worker.	USEPA, 2004.
	EF	Exposure Frequency	days/yr	100	Assumes contact with surface water 2 workdays each week for 50 weeks.	BPJ.	100	Assumes contact with surface water 2 workdays each week for 50 weeks.	USEPA, 2004.
	EV	Event Frequency	events/day	1	Assumption.	BPJ.	1	Assumption.	BPJ.
	t_{event}	Event Duration (hr/event)	hr/event	0.5	Assumes half hour to assemble or disassemble a pumping system.	BPJ.	0.5	Assumes half hour to assemble or disassemble a pumping system.	BPJ.
	AT(Nc)	Averaging Time - Nc	days	365	1 year		365	1 year	
	AT(Car)	Averaging Time - Car	days	25,550	70 years, default value for construction worker.	USEPA, 2002.	25,550	70 years, default value for construction worker.	USEPA, 2002.

Notes:
RME = Reasonable Maximum Exposure
CT = Central Tendency Exposure

Source References:
· BPJ: Best Professional Judgment.
· USEPA, 1997: Exposure Factors Handbook
· USEPA, 2002: Supplemental Guidance For Developing Soil Screening Levels For Superfund Sites. December.
· USEPA, 2004: Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment) Final.

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

Where: DA_{event} = Absorbed dose per event (mg/cm^2-event)

For organic compounds: If $t_{event} <= t^*$, then: $DA_{event} = 2\ FA \times K_p \times EPC\ (\ (6\ \tau_{event} \times t_{event}) / \pi\ )^{1/2}$

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

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

For inorganic compounds: DAevent = Kp x EPC x tevent

TABLE 9A
EXPOSURE FACTOR ASSUMPTIONS FOR SEAD-121C AND SEAD-121I
SEAD-121C AND SEAD-121I RECORD OF DECISION
Seneca Army Depot Activity

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Air
Exposure Point:	SEAD-121C and SEAD-121I
Receptor Population:	Adolescent Trespasser (11-16yr)
Receptor Age:	Adolescent (11-16yr)

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE	CT VALUE	CT RATIONALE	CT REFERENCE
Inhalation of	EPC	Air EPC	mg/m^3		Surface soils.	See Table 6-4B/C & 6-5A/B		Surface soils.	See Table 6-4B/C & 6-5A/B
Dust in Ambient Air	BW	Body Weight	kg	50	Average weight for adolescent ages 11-16 (Table 7-3)	USEPA, 2002.	50	Average weight for adolescent ages 11-16 (Table 7-3)	USEPA, 2002.
	IR	Inhalation Rate	m^3/day	1.6	Average inhalation rate for moderate activity is 1.6 m^3/hr. Assuming 1 hr/day exposure.	USEPA, 1997 & BPJ.	1.6	Average inhalation rate for moderate activity is 1.6 m^3/hr. Assuming 1 hr/day exposure.	USEPA, 1997 & BPJ.
	EF	Exposure Frequency	days/yr	14	Assumption.	BPJ.	14	Assumption.	BPJ.
	ED	Exposure Duration	year	5	Assumption.	BPJ.	5	Assumption.	BPJ.
	AT(Nc)	Averaging Time - Nc	days	1,825	6 years.		1,825	5 years.	
	AT(Car)	Averaging Time - Car	days	25,550	70 years, default value for human life span.	USEPA, 2002.	25,550	70 years, default value for human life span.	USEPA, 2002.

Notes:
RME = Reasonable Maximum Exposure
CT = Central Tendency Exposure

Source References:
· BPJ: Best Professional Judgment.
· USEPA, 1997: Exposure Factors Handbook
· USEPA, 2002: Supplemental Guidance For Developing Soil Screening Levels For Superfund Sites. December.
· USEPA, 2004: Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment) Final.

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

TABLE 9B
EXPOSURE FACTOR ASSUMPTIONS FOR SEAD-121C AND SEAD-121I
SEAD-121C AND SEAD-121I RECORD OF DECISION
Seneca Army Depot Activity

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Soil
Exposure Point:	SEAD-121C and SEAD-121I
Receptor Population:	Adolescent Trespasser (11-16yr)
Receptor Age:	Adolescent (11-16yr)

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE	CT VALUE	CT RATIONALE	CT REFERENCE
Ingestion of Soil	EPC	Soil EPC	mg/kg		Surface soils.	See Table 6-4B/C & 6-5A/B		Surface soils.	See Table 6-4B/C & 6-5A/B
	BW	Body Weight	kg	50	Average weight for adolescent ages 11-16 (Table 7-3).	USEPA, 2002.	50	Average weight for adolescent ages 11-16 (Table 7-3).	USEPA, 2002.
	IR	Ingestion Rate	mg/day	100	Default soil ingestion rate for adult	USEPA, 2002.	50	Mean soil ingestion rate for adult	USEPA, 1997.
	FI	Fraction Ingested	unitless	1	Assuming 100% ingestion from site	BPJ.	1	Assuming 100% ingestion from site	BPJ.
	EF	Exposure Frequency	days/yr	14	Assumption.	BPJ.	14	Assumption.	BPJ.
	ED	Exposure Duration	year	5	Assumption.	BPJ.	5	Assumption.	BPJ.
	CF	Conversion Factor	kg/mg	1.E-06			1.E-06		
	AT(Nc)	Averaging Time - Nc	days	1,825	5 years.		1,825	5 years.	
	AT(Car)	Averaging Time - Car	days	25,550	70 years, default value for human life span	USEPA, 2002.	25,550	70 years, default value for human life span	USEPA, 2002.
Dermal Contact of Soil	EPC	Soil EPC	mg/kg		Surface soils.	See Table 6-4B/C & 6-5A/B		Surface soils.	See Table 6-4B/C & 6-5A/B
	BW	Body Weight	kg	50	Average weight for adolescent ages 11-16 (Table 7-3).	USEPA, 2002.	50	Average weight for adolescent ages 11-16 (Table 7-3).	USEPA, 2002.
	SA	Skin Contact Surface Area	cm^2	5,867	Average surface area for adolescent child (11-16) including head, hands, forearms, lower legs, and feet.	USEPA, 1997.	5,867	Average surface area for adolescent child (11-16) including head, hands, forearms, lower legs, and feet.	USEPA, 1997.
	AF	Soil/Skin Adherence Factor	mg/cm^2-event	0.07	Default value for adult.	USEPA, 2004.	0.01	Default value for adult.	USEPA, 2004.
	ABS	Dermal Absorption Fraction	unitless		Chemical-specific	USEPA, 2004.		Chemical-specific	USEPA, 2004.
	EV	Event Frequency	events/day	1	Default value for residential child.	USEPA, 2004.	1	Default value for residential child.	USEPA, 2004.
	EF	Exposure Frequency	days/yr	14	Assumption.	BPJ.	14	Assumption.	BPJ.
	ED	Exposure Duration	year	5	Assumption.	BPJ.	5	Assumption.	BPJ.
	CF	Conversion Factor	kg/mg	1E-06			1E-06		
	AT(Nc)	Averaging Time - Nc	days	1,825	5 years.		1,825	5 years.	
	AT(Car)	Averaging Time - Car	days	25,550	70 years, default value for human life span.	USEPA, 2002.	25,550	70 years, default value for human life span.	USEPA, 2002.

Notes:
RME = Reasonable Maximum Exposure
CT = Central Tendency Exposure

Source References:
· BPJ: Best Professional Judgment.
· USEPA, 1997: Exposure Factors Handbook
· USEPA, 2002: Supplemental Guidance For Developing Soil Screening Levels For Superfund Sites. December.
· USEPA, 2004: Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment) Final.

Intake Equations:
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 9C
EXPOSURE FACTOR ASSUMPTIONS FOR SEAD-121C AND SEAD-121I
SEAD-121C AND SEAD-121I RECORD OF DECISION
Seneca Army Depot Activity

Scenario Timeframe:	Current/Future
Medium:	Surface Water
Exposure Medium:	Surface Water
Exposure Point:	SEAD-121C and SEAD-121I
Receptor Population:	Adolescent Trespasser (11-16yr)
Receptor Age:	Adolescent (11-16yr)

EXPOSURE ROUTE	PARAMETER CODE	PARAMETER DEFINITION	UNITS	RME VALUE	RME RATIONALE	RME REFERENCE	CT VALUE	CT RATIONALE	CT REFERENCE
Dermal Contact of Surface Water	EPC	Surface Water EPC	mg/L		See Table 6-4E	See Table 6-4E		See Table 6-4E	See Table 6-4E
	BW	Body Weight	kg	50	Average weight for adolescent ages 11-16 (T	USEPA, 2002.	50	Average weight for adolescent ages 11-16 (T	USEPA, 2002.
	SA	Skin Surface Area	cm^2	5,867	Average surface area for adolescent child (11-16) including head, hands, forearms, lower legs, and feet.	USEPA, 1997.	5,867	Average surface area for adolescent child (11-16) including head, hands, forearms, lower legs, and feet.	USEPA, 1997.
	ED	Exposure Duration	years	5	Assumption.	BPJ.	5	Assumption.	BPJ.
	EF	Exposure Frequency	days/yr	14	Assumption.	BPJ.	14	Assumption.	BPJ.
	EV	Event Frequency	events/day	1	Default RME for water contact.	USEPA, 2004.	1	Default CT for water contact.	USEPA, 2004.
	t_{event}	Event Duration (hr/event)	hr/event	0.5	Assumption.	BPJ.	0.33	Default CT for showering/bathing.	USEPA, 2004.
	AT(Nc)	Averaging Time - Nc	days	1,825	5 years.		1,825	5 years.	
	AT(Car)	Averaging Time - Car	days	25,550	70 years, default value for human life span	USEPA, 2002.	25,550	70 years, default value for human life span	USEPA, 2002.

Notes:
RME = Reasonable Maximum Exposure
CT = Central Tendency Exposure

Source References:
· BPJ: Best Professional Judgment.
· USEPA, 1997: Exposure Factors Handbook
· USEPA, 2002: Supplemental Guidance For Developing Soil Screening Levels For Superfund Sites. December.
· USEPA, 2004: Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment) Final.

Intake Equations:

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

DI (mg/kg-day) = EPC x SA x AF x ABS x EV x EF x ED x CF/(BW x AT)

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

Where: DA_{event} = Absorbed dose per event (mg/cm^2-event)

For organic compounds: If $t_{event} <= t^*$, then: $DA_{event} = 2\ FA \times K_p \times EPC \left((6\ \tau_{event} \times t_{event}) / \pi \right)^{1/2}$

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

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)

$B = Kp\ (MW)^{1/2} / 2.6$

If $B <= 0.6$, then $t^* = 2.4\tau_{event}$

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

$\tau_{event} = 0.105 \times 10^{(0.0056MW)}$

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

For inorganic compounds: $DA_{event} = K_p \times EPC \times t_{event}$

Table 10A
NON-CANCER TOXICITY DATA -- ORAL/DERMAL
SEAD-121C and SEAD-121I
SEAD-121C AND SEAD-121I RECORD OF DECISION
Seneca Army Depot Activity

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)
1,1,2,2-Tetrachloroethane	Chronic	6.0E-02	mg/kg-day	1	6.0E-02	mg/kg-day	N/A	N/A	PPRTV	4/7/2005
1,2-Dichloropropane	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A
1,4-Dichlorobenzene	Chronic	3.0E-02	N/A	1	3.0E-02	mg/kg-day	N/A	N/A	NCEA	4/7/2005
Benzene	Chronic	4.0E-03	mg/kg-day	1	4.0E-03	mg/kg-day	Blood	300	IRIS	3/24/2005
Vinyl chloride	Chronic	3.0E-03	mg/kg-day	1	3.0E-03	mg/kg-day	Liver	30	IRIS	3/10/2005
2-Methylnaphthalene	Chronic	4.0E-03	mg/kg-day	1	4.0E-03	mg/kg-day	Lungs	1000	IRIS	3/10/2005
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
Naphthalene	Chronic	2.0E-02	mg/kg-day	1	2.0E-02	mg/kg-day	Body Weight	3000	IRIS	3/15/2005
Phenanthrene	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A
Aroclor-1242	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A
Aroclor-1254	Chronic	2.0E-05	mg/Kg-day	1	2.0E-05	mg/kg-day	Eye, Immune System	300	IRIS	3/24/2005
Aroclor-1260	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A
4,4'-DDD	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A
4,4'-DDE	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A
4,4'-DDT	Chronic	5.0E-04	mg/kg-day	1	5.0E-04	mg/kg-day	Liver	100	IRIS	12/03/2004
Alpha-BHC	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A
Beta-BHC	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A
Delta-BHC	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A
Dieldrin	Chronic	5.0E-05	mg/kg-day	1	5.0E-05	mg/kg-day	Liver	100	IRIS	3/15/2005
Gamma-Chlordane (4)	Chronic	5.0E-04	mg/kg-day	1	5.0E-04	mg/kg-day	Liver	300	IRIS	3/15/2005
Heptachlor	Chronic	1.3E-05	mg/kg-day	1	1.3E-05	mg/kg-day	Liver	1000	IRIS	12/03/2004
Heptachlor epoxide	Chronic	5.0E-04	mg/kg-day	1	5.0E-04	mg/kg-day	Liver	300	IRIS	3/15/2005
Antimony	Chronic	4.0E-04	mg/kg-day	0.15	6.0E-05	mg/kg-day	Whole Body Blood	1000	IRIS	12/03/2004

Table 10A
NON-CANCER TOXICITY DATA -- ORAL/DERMAL
SEAD-121C and SEAD-121I
SEAD-121C AND SEAD-121I RECORD OF DECISION
Seneca Army Depot Activity

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)
Arsenic	Chronic	3.0E-04	mg/kg-day	1	3.0E-04	mg/kg-day	Skin	3	IRIS	12/03/2004
Cadmium (5)	Chronic	5.0E-04	mg/kg-day	0.05	2.5E-05	mg/kg-day	Kidney	10	IRIS	3/24/2005
Chromium (6)	Chronic	3.0E-03	mg/kg-day	0.025	7.5E-05	mg/kg-day	N/A	900	IRIS	3/24/2005
Copper	Chronic	4.0E-02	mg/kg-day	1	4.0E-02	mg/kg-day	Gastrointestinal		HEAST	3/24/2005
Cyanide, Total (7)	Subchronic	2.0E-02	mg/kg-day	1	2.0E-02	mg/kg-day	Whole Body, Thyroid	500	IRIS	3/15/2005
Iron	Chronic	3.0E-01	mg/kg-day	1	3.0E-01	mg/kg-day	N/A	1	NCEA	4E+04
Manganese (8)	Chronic	2.3E-02	mg/kg-day	0.04	9.3E-04	mg/kg-day	Central Nervous System	3	IRIS	12/23/2004
Mercury (9)	Chronic	3.0E-04	mg/kg-day	0.07	2.1E-05	mg/kg-day	Immune System	1000	IRIS	3/16/2005
Nickel	Chronic	2.0E-02	mg/kg-day	0.04	8.0E-04	mg/kg-day	Whole Body, Organs	300	IRIS	3/15/2005
Silver	Chronic	5.0E-03	mg/kg-day	0.04	2.0E-04	mg/kg-day	Skin	3	IRIS	3/15/2005
Thallium (10)	Chronic	6.5E-04	mg/kg-day	1	6.5E-04	mg/kg-day	Liver, Blood, Hair	3000	IRIS	12/23/2004
Vanadium	Chronic	7.0E-03	mg/kg-day	0.026	1.8E-04	mg/kg-day	N/A	100	HEAST	3/15/2005

N/A = Not Applicable
IRIS = Integrated Risk Information System
HEAST= Health Effects Assessment Summary Table
NCEA = National Center for Environmental Assessmen
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 gamma-chlordane was based on the chronic RfD of chlordane.

(5) The chronic oral RfD for cadmium was based on water, since cadmium is only a COC for surface water

(6) The chronic oral RfD for chromium was based on the chronic RfD of chromium (VI).

(7) The chronic oral RfD for cyanide was based on the chronic RfD of hydrogen cyanide.

(8) 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.

(9) The chronic oral RfD for mercury was based on the chronic RfD of mercuric chloride.

(10) The chronic oral RfD for thallium was based on the chronic oral RfD of thallium sulfate adjusted for molecular weight differences.

Table 10B
NON-CANCER TOXICITY DATA -- INHALATION
SEAD-121C and SEAD-121I
SEAD-121C AND SEAD-121I RECORD OF DECISION
Seneca Army Depot Activity

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)	Notes
1,1,2,2-Tetrachloroethane	Chronic	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
1,2-Dichloropropane	Chronic	4.0E-03	mg/m^3	1.1E-03	mg/kg-day	respiratory system	300	IRIS	3/10/2005	
1,4-Dichlorobenzene	Chronic	8.0E-01	mg/m^3	2.3E-01	mg/kg-day	liver	100	IRIS	3/10/2005	
Benzene	Chronic	3.0E-02	mg/m^3	8.6E-03	mg/kg-day	Blood	300	IRIS	3/24/2005	
Vinyl chloride	Chronic	1.0E-01	mg/m^3	2.9E-02	mg/kg-day	liver	30	IRIS	3/10/2005	
2-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
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(ghi)perylene	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	
Napthalene	Chronic	3.0E-03	mg/m^3	8.6E-04	mg/kg-day	respiratory system	3000	IRIS	3/15/2005	
Phenanthrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Aroclor-1242	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Aroclor-1254	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Aroclor-1260	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
4,4'-DDD	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
4,4'-DDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
4,4'-DDT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Alpha-BHC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Beta-BHC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Delta-BHC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Dieldrin	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

Table 10B
NON-CANCER TOXICITY DATA -- INHALATION
SEAD-121C and SEAD-121I
SEAD-121C AND SEAD-121I RECORD OF DECISION
Seneca Army Depot Activity

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)	Notes
Gamma-Chlordane	Chronic	7.0E-04	mg/m^3	2.0E-04	mg/kg-day	Liver	1000	IRIS	3/14/2005	
Heptachlor	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Heptachlor epoxide	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
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	
Cadmium	Chronic	2.0E-04	mg/m^3	5.7E-05	mg/kg-day	N/A	N/A	NCEA	4/7/2005	
Chromium	Chronic	1.0E-04	mg/m^3	2.9E-05	mg/kg-day	respiratory system	300	IRIS	3/24/2005	(3)
Copper	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Cyanide, Total	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	
Lead	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Manganese	Chronic	5.0E-05	mg/m^3	1.4E-05	mg/kg-day	Central Nervous System	1000	IRIS	12/23/04	
Mercury	Chronic	3.0E-04	mg/m3	8.6E-05	mg/kg-day	Body, Brain	30	IRIS	3/14/05	(4)
Nickel	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Silver	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
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:
N/A = Not Applicable
IRIS = Integrated Risk Information System
PPRTV = EPA's Provisional Peer Reviewed Toxicity Values

(1) Inhalation RfD was adjusted based on the assumption of 70 kg body weight and 20 m^3/day inhalation rate.
(2) For IRIS values, the date was the last time IRIS was checked.
For PPRTV or NCEA values, the date was the date of the Region III RBC table, where the PPRTV was cited from.
(3) The chronic oral RfD for chromium was based on the chronic RfD of chromium (VI).
(4) The chronic data for mercury was based on the chronic data of elemental mercury.

Table 10C
CANCER TOXICITY DATA -- ORAL/DERMAL
SEAD-121C and SEAD-121I
SEAD-121C AND SEAD-121I RECORD OF DECISION
Seneca Army Depot Activity

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)
1,1,2,2-Tetrachloroethane	2.0E-01	IRIS	1	2.0E-01	(mg/kg-day)-1	C	IRIS	3/14/2005
1,2-Dichloropropane	6.8E-02	HEAST, 1997	1	6.8E-02	(mg/kg-day)-1	B2	HEAST, 1997	3/14/2005
1,4-Dichlorobenzene	2.4E-02	HEAST, 1997	1	2.4E-02	(mg/kg-day)-1	C	HEAST, 1997	3/14/2005
Benzene	5.5E-02	IRIS	1	5.5E-02	(mg/kg-day)-1	A	IRIS	3/24/2005
Vinyl chloride	1.4E+00	IRIS	1	1.4E+00	(mg/kg-day)-1	A	IRIS	3/14/2005
2-Methylnaphthalene	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A
Acenaphthylene	N/A	N/A	1	N/A	N/A	D	IRIS	12/03/2004
Benzo(a)anthracene	7.3E-01	NCEA	1	7.3E-01	$(mg/kg-day)^{-1}$	B2	IRIS	12/03/2004
Benzo(a)pyrene	7.3E+00	IRIS	1	7.3E+00	$(mg/kg-day)^{-1}$	B2	IRIS	12/03/2004
Benzo(b)fluoranthene	7.3E-01	NCEA	1	7.3E-01	$(mg/kg-day)^{-1}$	B2	IRIS	12/03/2004
Benzo(ghi)perylene	N/A	N/A	1	N/A	N/A	D	IRIS	12/03/2004
Benzo(k)fluoranthene	7.3E-02	NCEA	1	7.3E-02	$(mg/kg-day)^{-1}$	B2	IRIS	12/03/2004
Carbazole	2.0E-02	HEAST, 1997	1	2.0E-02	$(mg/kg-day)^{-1}$	N/A	N/A	N/A
Chrysene	7.3E-03	NCEA	1	7.3E-03	$(mg/kg-day)^{-1}$	B2	IRIS	12/03/2004
Dibenz(a,h)anthracene	7.3E+00	NCEA	1	7.3E+00	$(mg/kg-day)^{-1}$	B2	IRIS	12/03/2004
Indeno(1,2,3-cd)pyrene	7.3E-01	NCEA	1	7.3E-01	$(mg/kg-day)^{-1}$	B2	IRIS	12/03/2004
Naphthalene	N/A	N/A	1	N/A	N/A	C	IRIS	3/15/2005
Phenanthrene	N/A	N/A	1	N/A	N/A	D	IRIS	12/03/2004
Aroclor-1242	2.0E+00	IRIS	1	2.0E+00	(mg/kg-day)-1	B2	IRIS	3/24/2005
Aroclor-1254	2.0E+00	IRIS	1	2.0E+00	(mg/kg-day)-1	B2	IRIS	3/24/2005
Aroclor-1260	2.0E+00	IRIS	1	2.0E+00	(mg/kg-day)-1	B2	IRIS	3/24/2005
4,4'-DDD	2.4E-01	IRIS	1	2.4E-01	(mg/kg-day)-1	B2	IRIS	3/15/2005
4,4'-DDE	3.4E-01	IRIS	1	3.4E-01	$(mg/kg-day)^{-1}$	B2	IRIS	12/03/2004
4,4'-DDT	3.4E-01	IRIS	1	3.4E-01	$(mg/kg-day)^{-1}$	B2	IRIS	12/03/2004
Alpha-BHC	6.3E+00	IRIS	1	6.3E+00	$(mg/kg-day)^{-1}$	B2	IRIS	3/15/2005
Beta-BHC	1.8E+00	IRIS	1	1.8E+00	$(mg/kg-day)^{-1}$	C	IRIS	3/15/2005

Table 10C
CANCER TOXICITY DATA -- ORAL/DERMAL
SEAD-121C and SEAD-121I
SEAD-121C AND SEAD-121I RECORD OF DECISION
Seneca Army Depot Activity

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)
Delta-BHC	N/A	N/A	1	N/A	N/A	D	IRIS	3/15/2005
Dieldrin	1.6E+01	IRIS	1	1.6E+01	(mg/kg-day)-1	B2	IRIS	3/15/2005
Gamma-Chlordane	3.5E-01	IRIS	1	3.5E-01	(mg/kg-day)-1	B2	IRIS	3/15/2005
Heptachlor epoxide	9.1E+00	IRIS	1	9.1E+00	$(mg/kg-day)^{-1}$	B2	IRIS	12/03/2004
Heptachlor	4.5E+00	IRIS	1	4.5E+00	$(mg/kg-day)^{-1}$	B2	IRIS	3/15/2005
Antimony	N/A	N/A	0.15	N/A	N/A	N/A	N/A	N/A
Arsenic	1.5E+00	IRIS	1	1.5E+00	$(mg/kg-day)^{-1}$	A	IRIS	12/03/2004
Cadmium	N/A	N/A	1	N/A	N/A	B1	IRIS	3/24/2005
Chromium	N/A	N/A	1	N/A	N/A	D	IRIS	3/24/2005
Copper	N/A	N/A	1	N/A	N/A	D	IRIS	3/24/2005
Cyanide, Total	N/A	N/A	1	N/A	N/A	D	IRIS	3/15/2005
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
Mercury	N/A	N/A	0.07	N/A	N/A	D	IRIS	3/15/2005
Nickel	N/A	N/A	0.04	N/A	N/A	N/A	N/A	N/A
Silver	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	0.026	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 values, the date was the date of the Region III RBC table, where the PPRTV was cited from.

Table 10D
CANCER TOXICITY DATA -- INHALATION
SEAD-121C and SEAD-121I
SEAD-121C AND SEAD-121I RECORD OF DECISION
Seneca Army Depot Activity

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)
1,1,2,2-Tetrachloroethane	5.8E-05	$(ug/m^3)^{-1}$	IRIS	3500	2.0E-01	$(mg/kg\text{-}day)^{-1}$	C	IRIS	3/14/2005
1,2-Dichloropropane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,4-Dichlorobenzene	N/A	N/A	N/A	N/A	2.2E-02	$(mg/kg\text{-}day)^{-1}$	C	HEAST	3/14/2005
Benzene	7.8E-06	$(ug/m^3)^{-1}$	IRIS	3500	2.7E-02	(mg/kg-day)-1	A	IRIS	3/24/2005
Vinyl chloride	8.8E-06	$(ug/m^3)^{-1}$	IRIS	3500	3.1E-02	$(mg/kg\text{-}day)^{-1}$	A	IRIS	3/14/2005
2-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Acenaphthylene	N/A	N/A	N/A	N/A	N/A	N/A	D	IRIS	12/03/2004
Benzo(a)anthracene	N/A	N/A	N/A	N/A	N/A	N/A	B2	IRIS	12/03/2004
Benzo(a)pyrene	8.9E-04	$(ug/m^3)^{-1}$	NCEA	3500	3.1E+00	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	12/03/2004
Benzo(b)fluoranthene	N/A	N/A	N/A	N/A	N/A	N/A	B2	IRIS	12/03/2004
Benzo(ghi)perylene	N/A	N/A	N/A	N/A	N/A	N/A	D	IRIS	12/03/2004
Benzo(k)fluoranthene	N/A	N/A	N/A	N/A	N/A	N/A	B2	IRIS	12/03/2004
Carbazole	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	B2	IRIS	12/03/2004
Dibenz(a,h)anthracene	N/A	N/A	N/A	N/A	N/A	N/A	B2	IRIS	12/03/2004
Indeno(1,2,3-cd)pyrene	N/A	N/A	N/A	N/A	N/A	N/A	B2	IRIS	12/03/2004
Napthalene	N/A	N/A	N/A	N/A	N/A	N/A	C	IRIS	3/15/2005
Phenanthrene	N/A	N/A	N/A	N/A	N/A	N/A	D	IRIS	12/03/2004
Aroclor-1242	5.7E-04	N/A	N/A	3500	2.0E+00	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	3/24/2005
Aroclor-1254	5.7E-04	N/A	N/A	3500	2.0E+00	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	3/24/2005
Aroclor-1260	5.7E-04	N/A	N/A	3500	2.0E+00	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	3/24/2005
4,4'-DDD	N/A	N/A	N/A	N/A	N/A	N/A	B2	IRIS	3/15/2005
4,4'-DDE	N/A	N/A	N/A	N/A	N/A	N/A	B2	IRIS	12/03/2004
4,4'-DDT	9.7E-05	$(ug/m^3)^{-1}$	IRIS	3500	3.4E-01	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	12/03/2004
Alpha-BHC	1.8E-03	$(ug/m^3)^{-1}$	IRIS	3500	6.3E+00	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	3/15/2005
Beta-BHC	5.3E-04	$(ug/m^3)^{-1}$	IRIS	3500	1.9E+00	$(mg/kg\text{-}day)^{-1}$	C	IRIS	3/15/2005
Delta-BHC	N/A	N/A	N/A	N/A	N/A	N/A	D	IRIS	3/15/2005

Table 10D
CANCER TOXICITY DATA -- INHALATION
SEAD-121C and SEAD-121I
SEAD-121C AND SEAD-121I RECORD OF DECISION
Seneca Army Depot Activity

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)
Dieldrin	4.6E-03	$(ug/m^3)^{-1}$	IRIS	3500	1.6E+01	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	3/15/2005
Gamma-Chlordane	1.00E-04	$(ug/m^3)^{-1}$	IRIS	3500	3.5E-01	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	3/15/2005
Heptachlor epoxide	2.6E-03	$(ug/m^3)^{-1}$	IRIS	3500	9.1E+00	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	12/03/2004
Heptachlor	1.3E-03	$(ug/m^3)^{-1}$	IRIS	3500	4.6E+00	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	3/15/2005
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	$(mg/kg\text{-}day)^{-1}$	A	IRIS	12/03/2004
Cadmium	1.8E-03	$(ug/m^3)^{-1}$	IRIS	3500	6.3E+00	$(mg/kg\text{-}day)^{-1}$	B1	IRIS	3/24/2005
Chromium	1.2E-02	$(ug/m^3)^{-1}$	IRIS	3500	4.2E+01	$(mg/kg\text{-}day)^{-1}$	A	IRIS	3/24/2005
Copper	N/A	N/A	N/A	N/A	N/A	N/A	D	IRIS	3/24/2005
Cyanide, Total	N/A	N/A	N/A	N/A	N/A	N/A	D	IRIS	3/15/2005
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	12/23/2004
Mercury	N/A	N/A	N/A	N/A	N/A	N/A	D	IRIS	03/15/05
Nickel	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Silver	N/A	N/A	N/A	N/A	N/A	N/A	D	IRIS	03/15/05
Thallium	N/A	N/A	N/A	N/A	N/A	N/A	D	IRIS	12/23/2004
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 an assumption of 70 kg body weight and 20 m^3/day inhalation rate.
(2) The date was the last time IRIS was checked.

Table 11
CALCULATION OF TOTAL NONCARCINOGENIC AND CARCINOGENIC RISKS - SEAD-121I
REASONABLE MAXIMUM EXPOSURE (RME)
SEAD-121C AND SEAD-121I RECORD OF DECISION
Seneca Army Depot Activity

RECEPTOR	EXPOSURE ROUTE	REASONABLE MAXIMUM EXPOSURE (RME)			
		HAZARD INDEX		CANCER RISK	
		Hazard Index	Percent Contribution	Cancer Risk	Percent Contribution
INDUSTRIAL WORKER (Total Soil)	Inhalation of Dust in Ambient Air (Soil	2E-01	47%	1E-06	2%
	Ingestion of Soil	2E-01	47%	3E-05	55%
	Dermal Contact to Soil	2E-02	6%	3E-05	43%
	TOTAL RECEPTOR RISK (Nc & Car)	***4.1E-01***	**100%**	***6.3E-05***	**100%**
CONSTRUCTION WORKER (Total Soil)	Inhalation of Dust in Ambient Air (Soil	8E-01	56%	5E-08	1%
	Ingestion of Soil	6E-01	42%	5E-06	73%
	Dermal Contact to Soil	4E-02	2%	2E-06	26%
	TOTAL RECEPTOR RISK (Nc & Car)	***1.5E+00***	**100%**	***6.3E-06***	**100%**
ADOLESCENT TRESPASSER (Total Soil)	Inhalation of Dust in Ambient Air (Soil	4E-03	18%	6E-09	1%
	Ingestion of Soil	1E-02	76%	5E-07	67%
	Dermal Contact to Soil	1E-03	6%	3E-07	33%
	TOTAL RECEPTOR RISK (Nc & Car)	***2.0E-02***	**100%**	***8.2E-07***	**100%**

NQ= Not quantified due to lack of toxicity data.
Shading indicates that the HQ > 1, or the cancer risk is greater than 10-4.

TABLE 12
CALCULATION OF INTAKE AND RISK FROM INHALATION OF DUST IN AMBIENT AIR
REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-121I SOIL
SEAD-121C AND SEAD-121I RECORD OF DECISION
Seneca Army Depot Activity

Equation for Intake (mg/kg-day) = $\frac{EPC \times IR \times ET \times EF \times ED}{BW \times AT}$

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

EPC = EPC in Air, mg/m^3
IR = Inhalation Rate
ET = Exposure Time
EF = Exposure Frequency
ED = Exposure Duration
BW = Bodyweight
AT = Averaging Time

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

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

Analyte	Inhalation RfD	Carc. Slope Inhalation	Air EPC from Total Soil (1)	Air EPC from Total Soil Const. Worker (2)	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
	(mg/kg-day)	(mg/kg-day)-1	(mg/m^3)	(mg/m^3)	(Nc)	(Car)			(Nc)	(Car)			(Nc)	(Car)		
Semivolatile Organic Compounds																
Benzo(a)anthracene	N/A	N/A	1.7E-07	7.4E-07												
Benzo(a)pyrene	N/A	3.10E+00	1.4E-07	6.4E-07		3.38E-09		1E-08		5.93E-10		2E-09		1.27E-11		4E-11
Benzo(b)fluoranthene	N/A	N/A	1.7E-07	7.5E-07												
Benzo(k)fluoranthene	N/A	N/A	1.5E-07	6.5E-07												
Chrysene	N/A	N/A	2.0E-07	9.0E-07												
Dibenz(a,h)anthracene	N/A	N/A	2.0E-08	8.6E-08												
Indeno(1,2,3-cd)pyrene	N/A	N/A	6.6E-08	2.9E-07												
Pesticides																
Dieldrin	N/A	1.61E+01	1.2E-10	5.1E-10		2.69E-12		4E-11		4.73E-13		8E-12		1.01E-14		2E-13
Heptachlor epoxide	N/A	9.10E+00	4.0E-10	1.8E-09		9.30E-12		8E-11		1.63E-12		1E-11		3.50E-14		3E-13
Metals																
Arsenic	N/A	1.51E+01	2.5E-07	4.9E-07		5.91E-09		9E-08		4.56E-10		7E-09		2.22E-11		3E-10
Chromium	2.86E-05	4.20E+01	1.4E-06	1.2E-06	9.17E-08	3.28E-08	3E-03	1E-06	7.57E-08	1.08E-09	3E-03	5E-08	1.73E-09	1.23E-10	6E-05	5E-09
Iron	N/A	N/A	3.1E-04	1.3E-03												
Manganese	1.43E-05	N/A	4.1E-05	1.8E-04	2.70E-06		2E-01		1.19E-05		8E-01		5.09E-08		4E-03	
Thallium	N/A	N/A	9.1E-07	3.4E-08												
Vanadium	N/A	N/A	7.3E-07	1.1E-06												
Total Hazard Quotient and Cancer Risk:							**2E-01**	**1E-06**			**8E-01**	**5E-08**			**4E-03**	**6E-09**

Assumptions for Industrial Worker		Assumptions for Construction Worker		Assumptions for Adolescent Trespasser	
EPC =	EPC Surface Only	EPC =	EPC Surface Only for Construction Worker	EPC =	EPC Surface Only
BW =	70 kg	BW =	70 kg	BW =	50 kg
IR =	20 m^3/day	IR =	20 m^3/day	IR =	1.6 m^3/day
ET =	0.33 (8 hrs/24 hr day)	ET =	0.33 (8 hrs/24 hr day)	ET =	1 (24 hrs/24 hr 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.
(1) This EPC was used for the industrial worker and the adolescent trespasser.
(2) This EPC was used for the construction worker.

1E+00

TABLE 13
CALCULATION OF INTAKE AND RISK FROM THE INGESTION OF SOIL
REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-121I
SEAD-121C AND SEAD-121I RECORD OF DECISION
Seneca Army Depot Activity

Equation for Intake (mg/kg-day) = $\frac{EPC \times IR \times CF \times FI \times EF \times ED}{BW \times AT}$

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

EPC = Exposure Point Concentration in Soil, mg/kg
IR = Ingestion Rate
CF = Conversion Factor
FI = Fraction Ingested
EF = Exposure Frequency
ED = Exposure Duration
BW = Bodyweight
AT = Averaging Time

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

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

Analyte	Oral RfD	Carc. Slope Oral	EPC Total Soil	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
	(mg/kg-day)	(mg/kg-day)-1	(mg/kg)	(Nc)	(Car)			(Nc)	(Car)			(Nc)	(Car)		
Semivolatile Organic Compounds															
Benzo(a)anthracene	N/A	7.3E-01	1.0E+01		3.48E-06		3E-06		4.60E-07		3E-07		5.46E-08		4E-08
Benzo(a)pyrene	N/A	7.3E+00	8.5E+00		2.98E-06		2E-05		3.93E-07		3E-06		4.67E-08		3E-07
Benzo(b)fluoranthene	N/A	7.3E-01	1.0E+01		3.50E-06		3E-06		4.62E-07		3E-07		5.49E-08		4E-08
Benzo(k)fluoranthene	N/A	7.3E-02	8.7E+00		3.03E-06		2E-07		4.01E-07		3E-08		4.76E-08		3E-09
Chrysene	N/A	7.3E-03	1.2E+01		4.20E-06		3E-08		5.55E-07		4E-09		6.59E-08		5E-10
Dibenz(a,h)anthracene	N/A	7.3E+00	1.2E+00		4.04E-07		3E-06		5.33E-08		4E-07		6.33E-09		5E-08
Indeno(1,2,3-cd)pyrene	N/A	7.3E-01	3.9E+00		1.35E-06		1E-06		1.79E-07		1E-07		2.12E-08		2E-08
Pesticides															
Dieldrin	5.0E-05	1.6E+01	6.8E-03	6.66E-09	2.38E-09	1E-04	4E-08	2.20E-08	3.14E-10	4E-04	5E-09	5.22E-10	3.73E-11	1E-05	6E-10
Heptachlor epoxide	5.0E-04	9.1E+00	2.3E-02	2.30E-08	8.20E-09	5E-05	7E-08	7.58E-08	1.08E-09	2E-04	1E-08	1.80E-09	1.29E-10	4E-06	1E-09
Metals															
Arsenic	3.0E-04	1.5E+00	6.55E+00	6.41E-06	2.29E-06	2E-02	3E-06	2.12E-05	3.02E-07	7E-02	5E-07	5.03E-07	3.59E-08	2E-03	5E-08
Chromium	3.0E-03	N/A	1.56E+01	1.52E-05		5E-03		5.02E-05		2E-02		1.19E-06		4E-04	
Iron	3.0E-01	N/A	1.8021E+04	1.76E-02		6E-02		5.82E-02		2E-01		1.38E-03		5E-03	
Manganese	2.3E-02	N/A	2.44E+03	2.39E-03		1E-01		7.87E-03		3E-01		1.87E-04		8E-03	
Thallium	6.5E-04	N/A	4.51E-01	4.41E-07		7E-04		1.46E-06		2E-03		3.46E-08		5E-05	
Vanadium	7.0E-03	N/A	1.41E+01	1.38E-05		2E-03		4.55E-05		6E-03		1.08E-06		2E-04	
Total Hazard Quotient and Cancer Risk:						**2E-01**	**3E-05**			**6E-01**	**5E-06**			**1E-02**	**5E-07**

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 14
CALCULATION OF ABSORBED DOSE AND RISK FROM DERMAL CONTACT TO SOIL
REASONABLE MAXIMUM EXPOSURE (RME) - SEAD-121I
SEAD-121C AND SEAD-121I RECORD OF DECISION
Seneca Army Depot Activity

Equation for Intake (mg/kg-day) = $\frac{EPC \times CF \times SA \times AF \times ABS \times EV \times EF \times ED}{BW \times AT}$

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

EPC = Exposure Point Concentration in Soil, mg/kg
CF = Conversion Factor
SA = Surface Area Contact
AF = Adherence Factor
ABS = Absorption Factor
EV = Event Frequency
EF = Exposure Frequency
ED = Exposure Duration
BW = Bodyweight
AT = Averaging Time

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

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

Analyte	Dermal RfD	Carc. Slope Dermal	Absorption Factor*	EPC Total Soil	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
	(mg/kg-day)	(mg/kg-day)-1	(unitless)	(mg/kg)	(Nc)	(Car)			(Nc)	(Car)			(Nc)	(Car)		
Semivolatile Organic Compounds																
Benzo(a)anthracene	N/A	7.3E-01	1.3E-01	1.0E+01		2.99E-06		2E-06		1.79E-07		1E-07		2.92E-08		2E-08
Benzo(a)pyrene	N/A	7.3E+00	1.3E-01	8.5E+00		2.56E-06		2E-05		1.53E-07		1E-06		2.50E-08		2E-07
Benzo(b)fluoranthene	N/A	7.3E-01	1.3E-01	1.0E+01		3.00E-06		2E-06		1.80E-07		1E-07		2.93E-08		2E-08
Benzo(k)fluoranthene	N/A	7.3E-02	1.3E-01	8.7E+00		2.60E-06		2E-07		1.56E-07		1E-08		2.54E-08		2E-09
Chrysene	N/A	7.3E-03	1.3E-01	1.2E+01		3.60E-06		3E-08		2.16E-07		2E-09		3.52E-08		3E-10
Dibenz(a,h)anthracene	N/A	7.3E+00	1.3E-01	1.2E+00		3.46E-07		3E-06		2.08E-08		2E-07		3.38E-09		2E-08
Indeno(1,2,3-cd)pyrene	N/A	7.3E-01	1.3E-01	3.9E+00		1.16E-06		8E-07		6.97E-08		5E-08		1.13E-08		8E-09
Pesticides																
Dieldrin	5.0E-05	1.6E+01	1.0E-01	6.8E-03	4.39E-09	1.57E-09	9E-05	3E-08	6.59E-09	9.41E-11	1E-04	2E-09	2.14E-10	1.53E-11	4E-06	2E-10
Heptachlor epoxide	5.0E-04	9.1E+00	1.0E-01	2.3E-02	1.52E-08	5.42E-09	3E-05	5E-08	2.27E-08	3.25E-10	5E-05	3E-09	7.40E-10	5.28E-11	1E-06	5E-10
Metals																
Arsenic	3.0E-04	1.5E+00	3.0E-02	6.55E+00	1.27E-06	4.53E-07	4E-03	7E-07	1.90E-06	2.72E-08	6E-03	4E-08	6.19E-08	4.42E-09	2E-04	7E-09
Chromium	7.5E-05	N/A	1.0E-03	1.56E+01	1.00E-07		1E-03		1.51E-07		2E-03		4.90E-09		7E-05	
Iron	3.0E-01	N/A	1.0E-03	1.8021E+04	1.16E-04		4E-04		1.75E-04		6E-04		5.68E-06		2E-05	
Manganese	9.3E-04	N/A	1.0E-03	2.44E+03	1.57E-05		2E-02		2.36E-05		3E-02		7.68E-07		8E-04	
Thallium	6.5E-04	N/A	1.0E-03	4.51E-01	2.91E-09		5E-06		4.37E-09		7E-06		1.42E-10		2E-07	
Vanadium	1.8E-04	N/A	1.0E-03	1.41E+01	9.10E-08		5E-04		1.36E-07		7E-04		4.44E-09		2E-05	
Total Hazard Quotient and Cancer Risk:							**2E-02**	**3E-05**			**4E-02**	**2E-06**			**1E-03**	**3E-07**

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 Only	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.
N/A= 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 factors for chromium, iron, manganese, thallium, and vanadium were assumed to be 0.001 in accordance with the USEPA Region 4 (2000)
Supplemental Guidance to RAGS: Region 4 Bulletins, Human Health Risk Assessment Bulletins (http://www.epa.gov/region4/waste/ots/healtbul.htm).

Table 15
Contributing COPCs to Human Health Risk at SEAD-121I
SEAD-121C AND SEAD-121I Record of Decision
Seneca Army Depot Activity

Receptors	Exposure Route	Contributing COPC	Hazard Quotient	Percent Contribution
Construction Worker	Inhalation of Dust in Ambient Air Due to Soil	Manganese	8E-01	100%
		Chromium	3E-03	0%
		Total	**8.3E-01**	
	Ingestion of Soil	Manganese	3E-01	54%
		Dieldrin	4E-04	0%
		Heptachlor Epoxide	2E-04	0%
		Arsenic	7E-02	11%
		Chromium	2E-02	3%
		Iron	2E-01	31%
		Thallium	2E-03	0%
		Vanadium	6E-03	1%
		Total	**6.3E-01**	
	Dermal Contact to Soil	Manganese	3.E-02	72%
		Dieldrin	1.E-04	0%
		Heptachlor Epoxide	5.E-05	0%
		Arsenic	6.E-03	18%
		Chromium	2.E-03	6%
		Iron	6.E-04	2%
		Thallium	7.E-06	0%
		Vanadium	7.E-04	2%
		Total	**3.5E-02**	

Overall Manganese HI	1.19
Overall CW HI	1.50
Percent of Manganese	80%
Percentage inhalation	56%

APPENDICES

APPENDIX A

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I SB121I-1 SOIL 121I-1040 0 2 10/24/2002 SA PID-RI		SEAD-121I SB121I-2 SOIL 121I-1043 0 2 10/24/2002 SA PID-RI		SEAD-121I SB121I-2 SOIL 121I-1044 0 2 10/24/2002 SA PID-RI		SEAD-121I SB121I-3 SOIL 121I-1047 0 2 10/24/2002 SA PID-RI		SEAD-121I SB121I-4 SOIL 121I-1050 0 2 10/24/2002 SA PID-RI		SEAD-121I SB121I-5 SOIL 121I-1053 0 2 10/24/2002 SA PID-RI	
Parameter	Units	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Volatile Organic Compounds													
Acetone	UG/KG	11	UJ	110	U	33	UJ	7.3	UJ	7.6	UJ	17	UJ
Benzene	UG/KG	2.9	UJ	6.6	J	10	J	2.9	UJ	3.1	UJ	3.2	UJ
Ethyl benzene	UG/KG	2.9	UJ	2	J	3.5	J	2.9	UJ	3.1	UJ	3.2	UJ
Meta/Para Xylene	UG/KG	2.9	UJ	2.2	J	3.4	J	2.9	UJ	3.1	UJ	3.2	UJ
Methyl ethyl ketone	UG/KG	2.9	UJ	55		27	J	2.9	UJ	3.1	UJ	3.2	UJ
Methylene chloride	UG/KG	1.8	J	3.1	U	2.7	J	1.6	J	2.8	J	2.4	J
Ortho Xylene	UG/KG	2.9	UJ	1.1	J	2	J	2.9	UJ	3.1	UJ	3.2	UJ
Toluene	UG/KG	2.9	UJ	6.9		11	J	2.9	UJ	3.1	UJ	3.2	UJ
Semivolatile Organic Compounds													
2-Methylnaphthalene	UG/KG	390	U	390	U	390	U	360	U	380	U	390	U
3,3'-Dichlorobenzidine	UG/KG	390	U	390	UJ	390	U	360	U	380	U	390	U
Acenaphthene	UG/KG	390	U	390	U	390	U	360	U	380	U	390	U
Acenaphthylene	UG/KG	390	U	390	U	390	U	360	U	380	U	390	U
Anthracene	UG/KG	390	U	89	J	74	J	360	U	380	U	390	U
Benzo(a)anthracene	UG/KG	67	J	350	J	350	J	100	J	380	U	43	J
Benzo(a)pyrene	UG/KG	97	J	390	J	450	J	150	J	380	UJ	390	U
Benzo(b)fluoranthene	UG/KG	140	J	600	J	620	J	160	J	380	UJ	66	J
Benzo(ghi)perylene	UG/KG	390	U	220	J	140	J	73	J	380	UJ	390	U
Benzo(k)fluoranthene	UG/KG	390	UJ	300	J	360	J	100	J	380	UJ	390	UJ
Bis(2-Ethylhexyl)phthalate	UG/KG	58	J	78	J	390	U	38	J	380	U	390	U
Butylbenzylphthalate	UG/KG	130	J	390	UJ	390	U	360	U	380	U	390	U
Carbazole	UG/KG	390	U	56	J	67	J	360	U	380	U	390	U
Chrysene	UG/KG	89	J	380	J	400		100	J	380	U	390	U
Di-n-butylphthalate	UG/KG	390	U	390	U	390	U	360	U	380	U	390	U

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
		SB121I-1	SB121I-2	SB121I-2	SB121I-3	SB121I-4	SB121I-5
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		121I-1040	121I-1043	121I-1044	121I-1047	121I-1050	121I-1053
		0	0	0	0	0	0
		2	2	2	2	2	2
		10/24/2002	10/24/2002	10/24/2002	10/24/2002	10/24/2002	10/24/2002
		SA	SA	SA	SA	SA	SA
		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Di-n-octylphthalate	UG/KG	390 U	390 UJ	390 U	360 U	380 U	390 U
Dibenz(a,h)anthracene	UG/KG	390 U	390 UJ	390 U	360 U	380 UJ	390 U
Dibenzofuran	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
Diethyl phthalate	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
Fluoranthene	UG/KG	170 J	720	920	210 J	380 U	120 J
Fluorene	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
Indeno(1,2,3-cd)pyrene	UG/KG	390 UJ	63 J	79 J	360 UJ	380 U	390 UJ
Isophorone	UG/KG	390 UJ	390 UJ	390 UJ	360 UJ	380 UJ	390 UJ
Naphthalene	UG/KG	390 U	390 U	390 U	360 U	380 U	390 U
Nitrobenzene	UG/KG	390 UJ	390 UJ	390 UJ	360 UJ	380 UJ	390 UJ
Phenanthrene	UG/KG	69 J	450	440	110 J	380 U	53 J
Phenol	UG/KG	390 U	390 U	390 U	360 U	380 UJ	390 U
Pyrene	UG/KG	120 J	1200 J	660	160 J	380 U	72 J
Pesticides/PCBs							
4,4'-DDE	UG/KG	2 U	2 U	2 U	1.8 U	1.9 U	2 U
4,4'-DDT	UG/KG	2 U	2 U	2 U	1.8 U	1.9 U	2 U
Aldrin	UG/KG	2 U	2 U	2 U	1.8 U	1.9 U	2 U
Dieldrin	UG/KG	2 UJ	2 UJ	2 UJ	1.8 UJ	1.9 UJ	2 UJ
Endosulfan I	UG/KG	2 U	11 J	6.9 J	1.8 U	1.9 U	2 U
Endrin	UG/KG	2 U	2 U	2 U	1.8 U	1.9 U	2 U
Heptachlor epoxide	UG/KG	2 U	2 U	2 U	1.8 U	1.9 U	2 U
Aroclor-1254	UG/KG	20 UJ	20 UJ	20 UJ	18 UJ	19 UJ	20 UJ
Aroclor-1260	UG/KG	20 UJ	20 UJ	20 UJ	18 UJ	19 UJ	20 UJ
Inorganics Compounds							
Aluminum	MG/KG	4400	9700	9020	5510	13000	13200

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I SB121I-1 SOIL 121I-1040 0 2 10/24/2002 SA PID-RI		SEAD-121I SB121I-2 SOIL 121I-1043 0 2 10/24/2002 SA PID-RI		SEAD-121I SB121I-2 SOIL 121I-1044 0 2 10/24/2002 SA PID-RI		SEAD-121I SB121I-3 SOIL 121I-1047 0 2 10/24/2002 SA PID-RI		SEAD-121I SB121I-4 SOIL 121I-1050 0 2 10/24/2002 SA PID-RI		SEAD-121I SB121I-5 SOIL 121I-1053 0 2 10/24/2002 SA PID-RI	
Parameter	Units	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Antimony	MG/KG	3.8	J	1.8		8.6		1.7		1	U	1.1	U
Arsenic	MG/KG	4.5	J					5.4	J			11.5	J
Barium	MG/KG	105	J	74.3	J	83.6	J	67.3	J	102	J	91.3	J
Beryllium	MG/KG	0.27		0.49		0.46		0.31		0.67		0.68	
Cadmium	MG/KG	0.53		0.14	U	0.14	U	6.6		0.14	U	0.14	U
Calcium	MG/KG	171000		30900		27800		121000		10300		18800	
Chromium	MG/KG	11.2	J					14.1	J			22.6	J
Cobalt	MG/KG	6.9	J	23.9	J	40.6	J	12.4	J	18	J	13.7	J
Copper	MG/KG	21	R	37.5	R	66.1	R	20.6	R	24.4	R	27.6	R
Cyanide, Total	MG/KG	0.592	U	0.592	U	0.595	U	0.552	U	0.575	U	0.602	U
Iron	MG/KG	11500						15400				30200	
Lead	MG/KG	15.7		31.3		42.1		20.3		13.7		12.8	
Magnesium	MG/KG	18800		6110		4240		12000		5240		5980	
Manganese	MG/KG	474	J					534	J			1010	J
Mercury	MG/KG	0.07		0.04		0.05		0.03		0.05		0.05	
Nickel	MG/KG	53.6	J	38.9	J	46.3	J	26.7	J	37.4	J	33.3	J
Potassium	MG/KG	1080	J	859	J	929	J	950	J	1090	J	949	J
Selenium	MG/KG	0.65	J	5.1	J	17.9	J	0.46	UJ	1.4	J	1.4	J
Silver	MG/KG	0.31	UJ	1.9	J	4.2	J	0.29		0.3	UJ	0.32	UJ
Sodium	MG/KG	372		118	U	115	U	207		113	U	118	U
Thallium	MG/KG	0.36	U					0.34	U			0.5	J
Vanadium	MG/KG	8.3	J					11.4	J			21	J
Zinc	MG/KG	176	J	85.1	J	82	J	70.7	J	92.1	J	93.9	J
Others													
Total Organic Carbon	MG/KG	5400		5600		6800		6500		7100		6700	

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
		SB121I-1	SB121I-2	SB121I-2	SB121I-3	SB121I-4	SB121I-5
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		121I-1040	121I-1043	121I-1044	121I-1047	121I-1050	121I-1053
		0	0	0	0	0	0
		2	2	2	2	2	2
		10/24/2002	10/24/2002	10/24/2002	10/24/2002	10/24/2002	10/24/2002
		SA	SA	SA	SA	SA	SA
		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Total Petroleum Hydrocarbons	MG/KG	47 U	47 U	48 U	44 U	46 U	48 U

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
		SS121I-1	SS121I-10	SS121I-10	SS121I-11	SS121I-12	SS121I-13
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		EB147	121I-1006	121I-1031	121I-1007	121I-1008	121I-1009
		0	0	0	0	0	0
		0.2	0.2	0.2	0.2	0.2	0.2
		3/10/1998	10/22/2002	10/22/2002	10/22/2002	10/22/2002	10/22/2002
		SA	SA	SA	SA	SA	SA
		EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds							
Acetone	UG/KG		4.5 J	2.2 U	15 J	12 J	30 J
Benzene	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
Ethyl benzene	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
Meta/Para Xylene	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
Methyl ethyl ketone	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	5
Methylene chloride	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
Ortho Xylene	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
Toluene	UG/KG		2.5 U	2.2 U	3.1 U	2.8 U	2.6 U
Semivolatile Organic Compounds							
2-Methylnaphthalene	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
3,3'-Dichlorobenzidine	UG/KG	470 U	360 U	360 U	370 UJ	370 UJ	1800 U
Acenaphthene	UG/KG	170 J	360 U	360 U	370 U	370 U	1800 U
Acenaphthylene	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
Anthracene	UG/KG	170 J	360 U	360 U	370 U	370 U	1800 U
Benzo(a)anthracene	UG/KG	1400	48 J	47 J	63 J	120 J	660 J
Benzo(a)pyrene	UG/KG	1300	66 J	60 J	75 J	180 J	1100 J
Benzo(b)fluoranthene	UG/KG	1500	53 J	51 J	100 J	160 J	920 J
Benzo(ghi)perylene	UG/KG	820	67 J	63 J	70 J	160 J	840 J
Benzo(k)fluoranthene	UG/KG	1500	360 U	360 U	110 J	150 J	980 J
Bis(2-Ethylhexyl)phthalate	UG/KG	51 J	360 UJ	360 U	370 UJ	370 UJ	1800 U
Butylbenzylphthalate	UG/KG	470 U	360 U	360 U	370 UJ	370 UJ	1800 U
Carbazole	UG/KG	230 J	360 U	360 U	370 U	370 U	1800 U
Chrysene	UG/KG	1700	62 J	63 J	100 J	210 J	800 J
Di-n-butylphthalate	UG/KG	45 J	360 U	360 U	370 U	370 U	1800 U

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
		SS121I-1	SS121I-10	SS121I-10	SS121I-11	SS121I-12	SS121I-13
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		EB147	121I-1006	121I-1031	121I-1007	121I-1008	121I-1009
		0	0	0	0	0	0
		0.2	0.2	0.2	0.2	0.2	0.2
		3/10/1998	10/22/2002	10/22/2002	10/22/2002	10/22/2002	10/22/2002
		SA	SA	SA	SA	SA	SA
		EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Di-n-octylphthalate	UG/KG	470 UJ	360 U	360 U	370 UJ	370 UJ	1800 U
Dibenz(a,h)anthracene	UG/KG	350 J	360 U	360 UJ	370 R	370 UJ	1800 UJ
Dibenzofuran	UG/KG	29 J	360 U	360 U	370 U	370 U	1800 U
Diethyl phthalate	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
Fluoranthene	UG/KG	3200	100 J	78 J	130 J	220 J	1200 J
Fluorene	UG/KG	83 J	360 U	360 U	370 U	370 U	1800 U
Indeno(1,2,3-cd)pyrene	UG/KG	760	83 J	74 J	370 UJ	250 J	440 J
Isophorone	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
Naphthalene	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
Nitrobenzene	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
Phenanthrene	UG/KG	1200	60 J	56 J	70 J	170 J	760 J
Phenol	UG/KG	470 U	360 U	360 U	370 U	370 U	1800 U
Pyrene	UG/KG	2700	79 J	98 J	160 J	270 J	1500 J
Pesticides/PCBs							
4,4'-DDE	UG/KG		1.9 U	1.8 U	1.9 U	1.9 U	1.8 U
4,4'-DDT	UG/KG		1.9 UJ	1.8 UJ	1.9 UJ	1.9 UJ	1.8 UJ
Aldrin	UG/KG		1.9 U	1.8 U	1.9 U	1.9 U	1.8 U
Dieldrin	UG/KG		1.9 UJ	1.8 UJ	1.9 UJ	1.9 UJ	1.8 UJ
Endosulfan I	UG/KG		3.7 J	4.2 J	4.9	5.4	12
Endrin	UG/KG		1.9 UJ	1.8 UJ	1.9 UJ	1.9 UJ	1.8 UJ
Heptachlor epoxide	UG/KG		1.9 U	1.8 U	1.9 U	1.9 U	6.1
Aroclor-1254	UG/KG		19 U	19 U	19 UJ	19 U	18 U
Aroclor-1260	UG/KG		19 U	19 U	19 UJ	19 U	8.3 J
Inorganics Compounds							
Aluminum	MG/KG		6480	7510	4290	5050	3380

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
		SS121I-1	SS121I-10	SS121I-10	SS121I-11	SS121I-12	SS121I-13
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		EB147	121I-1006	121I-1031	121I-1007	121I-1008	121I-1009
		0	0	0	0	0	0
		0.2	0.2	0.2	0.2	0.2	0.2
		3/10/1998	10/22/2002	10/22/2002	10/22/2002	10/22/2002	10/22/2002
		SA	SA	SA	SA	SA	SA
		EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Antimony	MG/KG		3.4	2.5	1.3	1.8	6.5 U
Arsenic	MG/KG		5.2	5.2	5.9	5.6	6.4
Barium	MG/KG		116	119	142	81.8	167
Beryllium	MG/KG		0.38 J	0.43 J	0.36 J	0.32	0.27
Cadmium	MG/KG		5	4.1	0.55 U	0.17 J	0.54 U
Calcium	MG/KG		166000	143000	223000	205000	220000
Chromium	MG/KG		14.3	14.7	8.7	12.3	15.8
Cobalt	MG/KG		8.4	8.9	6.8	7.4	7.9
Copper	MG/KG		24.5 J	22.6 J	18.9 J	19.4 J	21.4 J
Cyanide, Total	MG/KG		0.556 UJ	0.551 UJ	0.56 UJ	0.559 UJ	0.546 UJ
Iron	MG/KG		17100	17600	12600	13900	12500
Lead	MG/KG		19	16.3	22.5	21.9	22.3
Magnesium	MG/KG		13500	9040	5410	16200	16300
Manganese	MG/KG		786	822	1120	709	2650 J
Mercury	MG/KG		0.03	0.03	0.02	0.02	0.02
Nickel	MG/KG		26.7	26.9	18.1	21.1	23
Potassium	MG/KG		786	1150	819	956	908
Selenium	MG/KG		0.87	0.8	0.55 U	1.1	0.54 U
Silver	MG/KG		1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Sodium	MG/KG		210	188	263	238	309
Thallium	MG/KG		1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Vanadium	MG/KG		11.6	13.2	10.7	9.9	10.8
Zinc	MG/KG		84 J	67.9 J	55.5 J	57.7 J	88.1 J
Others							
Total Organic Carbon	MG/KG		5600	4500	5400	4400	3700

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
		SS121I-1	SS121I-10	SS121I-10	SS121I-11	SS121I-12	SS121I-13
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		EB147	121I-1006	121I-1031	121I-1007	121I-1008	121I-1009
		0	0	0	0	0	0
		0.2	0.2	0.2	0.2	0.2	0.2
		3/10/1998	10/22/2002	10/22/2002	10/22/2002	10/22/2002	10/22/2002
		SA	SA	SA	SA	SA	SA
		EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Total Petroleum Hydrocarbons	MG/KG		44 UJ	44 UJ	45 UJ	45 UJ	1200 J

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
		SS121I-14	SS121I-15	SS121I-16	SS121I-17	SS121I-18	SS121I-19
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		121I-1010	121I-1011	121I-1012	121I-1013	121I-1014	121I-1015
		0	0	0	0	0	0
		0.2	0.2	0.2	0.2	0.2	0.2
		10/23/2002	10/23/2002	10/23/2002	10/23/2002	10/22/2002	10/22/2002
		SA	SA	SA	SA	SA	SA
		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds							
Acetone	UG/KG	37	110	18	9.2	3.7	7
Benzene	UG/KG	3 U	29	2.6 U	3 U	2.7 U	2.9 U
Ethyl benzene	UG/KG	3 U	7.8	2.6 U	3 U	2.7 U	2.9 U
Meta/Para Xylene	UG/KG	3 U	5.9	2.6 U	3 U	2.7 U	2.9 U
Methyl ethyl ketone	UG/KG	14	70	2.6 U	3.6	2.7 U	2.9 U
Methylene chloride	UG/KG	2.1 J	2.9 U	2.8	2.2 J	2.7 U	2.9 U
Ortho Xylene	UG/KG	3 U	3.4	2.6 U	3 U	2.7 U	2.9 U
Toluene	UG/KG	3 U	25	2.6 U	3 U	2.7 U	2.9 U
Semivolatile Organic Compounds							
2-Methylnaphthalene	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
3,3'-Dichlorobenzidine	UG/KG	390 UJ	390 UJ	360 U	380 U	360 UJ	370 UJ
Acenaphthene	UG/KG	53 J	57 J	360 U	380 U	54 J	90 J
Acenaphthylene	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
Anthracene	UG/KG	79 J	110 J	360 U	380 U	94 J	150 J
Benzo(a)anthracene	UG/KG	270 J	180 J	58 J	110 J	470 J	600 J
Benzo(a)pyrene	UG/KG	290 J	190 J	74 J	120 J	610 J	620 J
Benzo(b)fluoranthene	UG/KG	280 J	140 J	74 J	110 J	580 J	660 J
Benzo(ghi)perylene	UG/KG	290 J	160 J	360 UJ	56 J	300 J	490 J
Benzo(k)fluoranthene	UG/KG	280 J	220 J	360 U	140 J	760 J	540 J
Bis(2-Ethylhexyl)phthalate	UG/KG	390 UJ	390 UJ	360 UJ	380 UJ	360 UJ	370 UJ
Butylbenzylphthalate	UG/KG	390 UJ	390 UJ	360 UJ	380 UJ	360 UJ	370 UJ
Carbazole	UG/KG	65 J	78 J	360 UJ	380 UJ	120 J	140 J
Chrysene	UG/KG	300 J	190 J	83 J	120 J	740 J	740 J
Di-n-butylphthalate	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
		SS121I-14	SS121I-15	SS121I-16	SS121I-17	SS121I-18	SS121I-19
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		121I-1010	121I-1011	121I-1012	121I-1013	121I-1014	121I-1015
		0	0	0	0	0	0
		0.2	0.2	0.2	0.2	0.2	0.2
		10/23/2002	10/23/2002	10/23/2002	10/23/2002	10/22/2002	10/22/2002
		SA	SA	SA	SA	SA	SA
		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Di-n-octylphthalate	UG/KG	390 UJ	390 UJ	360 U	380 U	360 UJ	370 UJ
Dibenz(a,h)anthracene	UG/KG	390 U	390 UJ	360 U	380 U	360 R	370 UJ
Dibenzofuran	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
Diethyl phthalate	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
Fluoranthene	UG/KG	570	430	170 J	240 J	1100	1400
Fluorene	UG/KG	390 U	46 J	360 U	380 U	360 U	55 J
Indeno(1,2,3-cd)pyrene	UG/KG	290 J	91 J	360 UJ	61 J	170 J	390 J
Isophorone	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
Naphthalene	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
Nitrobenzene	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
Phenanthrene	UG/KG	400	430	140 J	170 J	650	900
Phenol	UG/KG	390 U	390 U	360 U	380 U	360 U	370 U
Pyrene	UG/KG	610 J	590 J	140 J	250 J	1600	2000 J
Pesticides/PCBs							
4,4'-DDE	UG/KG	2 U	2 U	1.8 U	1.9 U	1.9 U	1.9 U
4,4'-DDT	UG/KG	2 UJ	2 UJ	1.8 UJ	1.9 UJ	1.9 U	1.9 U
Aldrin	UG/KG	2 U	2 U	1.8 U	1.9 U	1.9 UJ	1.9 UJ
Dieldrin	UG/KG	16 J	2 UJ	1.8 UJ	1.9 UJ	1.9 UJ	1.9 UJ
Endosulfan I	UG/KG	7.4 J	2 U	1.8 U	1.9 U	18	13
Endrin	UG/KG	2 U	2 U	1.8 U	1.9 U	1.9 U	1.9 U
Heptachlor epoxide	UG/KG	4.1 R	2 U	1.8 U	1.9 U	13	6.5
Aroclor-1254	UG/KG	20 UJ	20 UJ	18 UJ	19 UJ	18 UJ	19 UJ
Aroclor-1260	UG/KG	46 J	20 UJ	18 UJ	19 UJ	18 UJ	19 UJ
Inorganics Compounds							
Aluminum	MG/KG	10700	10600	10900	10300	5810	7410

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I SS121I-14 SOIL 121I-1010 0 0.2 10/23/2002 SA PID-RI		SEAD-121I SS121I-15 SOIL 121I-1011 0 0.2 10/23/2002 SA PID-RI		SEAD-121I SS121I-16 SOIL 121I-1012 0 0.2 10/23/2002 SA PID-RI		SEAD-121I SS121I-17 SOIL 121I-1013 0 0.2 10/23/2002 SA PID-RI		SEAD-121I SS121I-18 SOIL 121I-1014 0 0.2 10/22/2002 SA PID-RI		SEAD-121I SS121I-19 SOIL 121I-1015 0 0.2 10/22/2002 SA PID-RI	
Parameter	Units	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Antimony	MG/KG	1.1	U	1.1	U	0.96	U	1	U	6.5	U	6.7	U
Arsenic	MG/KG	8.4	R			6	R			4.5		5.9	
Barium	MG/KG	81.4	J	80	J	61.8	J	75	J	74.4		92	
Beryllium	MG/KG	0.61		0.51		0.55		0.54		0.35		0.46	J
Cadmium	MG/KG	0.2		0.14	U	0.13	U	0.14	U	0.54	U	0.56	U
Calcium	MG/KG	7700	J	24700	J	5370	J	15800	J	143000		132000	
Chromium	MG/KG	39.7				19.6				10.7		11.9	
Cobalt	MG/KG	12.5	J	66.1	J	11.2	J	14.1	J	6.1		9.9	
Copper	MG/KG	25		108		17.6		32.2		12.8	J	14.3	J
Cyanide, Total	MG/KG	0.595	U	0.585	U	0.543	U	0.578	U	1.1	J	0.565	UJ
Iron	MG/KG	26100				24400				14000		16900	
Lead	MG/KG	45.8	J	27.9	J	8.6	J	15.3	J	21.5		14.8	
Magnesium	MG/KG	4980	J	5100	J	4630	J	6270	J	7180		5810	
Manganese	MG/KG	2340				442				648		854	
Mercury	MG/KG	0.04		0.04		0.03		0.04		0.02		0.03	
Nickel	MG/KG	66.1	J	125	J	29.9	J	31.8	J	16.4		21	
Potassium	MG/KG	1040	J	995		807		965		882		960	
Selenium	MG/KG	1.4	J	37.6	J	1.3	J	1.5	J	0.54	U	0.56	U
Silver	MG/KG	0.32	R	6.4	R	0.29	R	0.38	R	1.1	U	1.1	U
Sodium	MG/KG	145		143		106	U	122		209		154	
Thallium	MG/KG	0.37	UJ			0.33	UJ			1.1	U	1.1	U
Vanadium	MG/KG	20.5	J			17.4	J			10.5		13.2	
Zinc	MG/KG	109	J	140		70.8	J	75.4	J	53.5	J	55.1	J
Others													
Total Organic Carbon	MG/KG	4800		5000		6000		8100		3300		5700	

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
		SS121I-14	SS121I-15	SS121I-16	SS121I-17	SS121I-18	SS121I-19
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		121I-1010	121I-1011	121I-1012	121I-1013	121I-1014	121I-1015
		0	0	0	0	0	0
		0.2	0.2	0.2	0.2	0.2	0.2
		10/23/2002	10/23/2002	10/23/2002	10/23/2002	10/22/2002	10/22/2002
		SA	SA	SA	SA	SA	SA
		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Total Petroleum Hydrocarbons	MG/KG	48 U	47 U	43 U	46 U	100 J	45 UJ

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
		SS121I-2	SS121I-20	SS121I-21	SS121I-22	SS121I-23	SS121I-24
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		EB150	121I-1016	121I-1017	121I-1018	121I-1019	121I-1020
		0	0	0	0	0	0
		0.2	0.2	0.2	0.2	0.2	0.2
		3/10/1998	10/22/2002	10/22/2002	10/23/2002	10/22/2002	10/22/2002
		SA	SA	SA	SA	SA	SA
		EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds							
Acetone	UG/KG		15 J	10	4.4	3.8 UJ	2.2 J
Benzene	UG/KG		3 UJ	2.7 U	2.7 U	2.5 UJ	2.3 U
Ethyl benzene	UG/KG		3 UJ	2.7 U	2.7 U	2.5 UJ	2.3 U
Meta/Para Xylene	UG/KG		3 UJ	2.7 U	2.7 U	2.5 UJ	2.3 U
Methyl ethyl ketone	UG/KG		3 UJ	2.7 U	2.7 U	2.5 UJ	2.3 U
Methylene chloride	UG/KG		3 UJ	2.7 U	2 J	2.5 UJ	2.3 U
Ortho Xylene	UG/KG		3 UJ	2.7 U	2.7 U	2.5 UJ	2.3 U
Toluene	UG/KG		3 UJ	2.7 U	2.7 U	2.5 UJ	2.3 U
Semivolatile Organic Compounds							
2-Methylnaphthalene	UG/KG	7400 UJ	260 J	1800 U	360 U	58 J	350 U
3,3'-Dichlorobenzidine	UG/KG	7400 U	1800 UJ	8800 U	360 R	340 R	350 UJ
Acenaphthene	UG/KG	1900 J	6100	1400 J	230 J	1300	84 J
Acenaphthylene	UG/KG	7400 U	1800 U	560 J	360 U	340 U	350 U
Anthracene	UG/KG	2600 J	12000	2200	400 J	2100 J	120 J
Benzo(a)anthracene	UG/KG	13000 J	28000 J	6100 J	1300 J	9000 J	910 J
Benzo(a)pyrene	UG/KG	13000 J	23000	5800 J	1400 J	5600 J	880 J
Benzo(b)fluoranthene	UG/KG	12000 J	29000	5700 J	1300 J	6300 J	970 J
Benzo(ghi)perylene	UG/KG	8100 J	29000 J	5000 J	1500 J	8300 J	900 J
Benzo(k)fluoranthene	UG/KG	15000 J	21000 J	7100 J	1600 J	6100 J	650 J
Bis(2-Ethylhexyl)phthalate	UG/KG	7400 UJ	1800 UJ	8800 U	130 UJ	63 J	39 J
Butylbenzylphthalate	UG/KG	7400 UJ	1800 UJ	8800 U	360 R	340 R	350 UJ
Carbazole	UG/KG	3100 J	6800	1900	310 J	830 J	89 J
Chrysene	UG/KG	16000 J	32000 J	8500 J	1700 J	14000 J	1200 J
Di-n-butylphthalate	UG/KG	7400 UJ	1800 U	1800 U	360 UJ	340 UJ	350 U

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
		SS121I-2	SS121I-20	SS121I-21	SS121I-22	SS121I-23	SS121I-24
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		EB150	121I-1016	121I-1017	121I-1018	121I-1019	121I-1020
		0	0	0	0	0	0
		0.2	0.2	0.2	0.2	0.2	0.2
		3/10/1998	10/22/2002	10/22/2002	10/23/2002	10/22/2002	10/22/2002
		SA	SA	SA	SA	SA	SA
		EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Di-n-octylphthalate	UG/KG	7400 UJ	1800 UJ	8800 U	360 R	340 R	350 UJ
Dibenz(a,h)anthracene	UG/KG	4600 J	2200 J	710 J	160 J	660 J	72 J
Dibenzofuran	UG/KG	440 J	2000	700 J	92 J	220 J	350 U
Diethyl phthalate	UG/KG	7400 UJ	1800 U	1800 U	360 U	340 U	350 U
Fluoranthene	UG/KG	35000 J	62000	13000	2600 J	27000 J	1500
Fluorene	UG/KG	1100 J	4200	1000 J	160 J	520	350 U
Indeno(1,2,3-cd)pyrene	UG/KG	8000 J	8100 J	2300 J	520 J	2200 J	890 J
Isophorone	UG/KG	7400 UJ	1800 U	1800 U	360 U	340 U	350 U
Naphthalene	UG/KG	7400 UJ	480 J	630 J	67 J	120 J	350 U
Nitrobenzene	UG/KG	7400 UJ	1800 U	1800 U	360 U	340 U	350 U
Phenanthrene	UG/KG	15000 J	52000	14000	2400 J	12000 J	520
Phenol	UG/KG	7400 UJ	1800 U	1800 U	360 U	340 U	350 U
Pyrene	UG/KG	23000	44000 J	13000	6300 J	64000 J	2500 J
Pesticides/PCBs							
4,4'-DDE	UG/KG		1.9 U	26 J	11 NJ	34 NJ	1.8 U
4,4'-DDT	UG/KG		1.9 UJ	39 J	6.3 R	24 NJ	1.8 UJ
Aldrin	UG/KG		12	1.8 U	4.5 UJ	10 J	1.8 U
Dieldrin	UG/KG		1.9 UJ	34 J	1.9 UJ	1.8 UJ	1.8 UJ
Endosulfan I	UG/KG		95 J	20 J	28	63 J	24
Endrin	UG/KG		1.9 UJ	30 J	1.9 U	1.8 U	1.8 UJ
Heptachlor epoxide	UG/KG		1.9 U	55 J	21	1.8 U	1.8 U
Aroclor-1254	UG/KG		19 UJ	18 U	30 J	18 UJ	18 U
Aroclor-1260	UG/KG		19 UJ	18 U	19 UJ	18 UJ	18 U
Inorganics Compounds							
Aluminum	MG/KG		7590	2870	4430	1530	1510

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
		SS121I-2	SS121I-20	SS121I-21	SS121I-22	SS121I-23	SS121I-24
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		EB150	121I-1016	121I-1017	121I-1018	121I-1019	121I-1020
		0	0	0	0	0	0
		0.2	0.2	0.2	0.2	0.2	0.2
		3/10/1998	10/22/2002	10/22/2002	10/23/2002	10/22/2002	10/22/2002
		SA	SA	SA	SA	SA	SA
		EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Antimony	MG/KG		6.6 U	0.99	0.98 U	1.7	1.3
Arsenic	MG/KG		8.9	7.3	7.7 R	4.4 R	5.7
Barium	MG/KG		111	168	71 J	73.5 J	88.7
Beryllium	MG/KG		0.56	0.28 J	0.32	0.2	0.19 J
Cadmium	MG/KG		0.55 U	1.4	0.27	0.33	0.19 J
Calcium	MG/KG		67500	202000	177000 J	269000 J	225000
Chromium	MG/KG		16.4	12.4	10.7	6.1	4.1
Cobalt	MG/KG		12.3	8	7.3	4.6	6.3
Copper	MG/KG		44.1 J	29.6 J	31.9	13	15 J
Cyanide, Total	MG/KG		0.558 UJ	0.536 UJ	0.557 U	0.526 U	0.534 UJ
Iron	MG/KG		19400	14100	11800	6130	6100
Lead	MG/KG		48.8	90.9	34 J	31 J	19.1
Magnesium	MG/KG		6470	10900	12500 J	12600 J	15100
Manganese	MG/KG		779	909	557	594	406
Mercury	MG/KG		0.03	0.04	0.01	0.02	0.02
Nickel	MG/KG		30.7	17.1	19 J	11.9 J	17.2
Potassium	MG/KG		830	767	941	871	1100
Selenium	MG/KG		0.7	0.48 J	0.66 J	0.43 UJ	0.53 U
Silver	MG/KG		1.1 U	1.1 U	0.29 R	0.28 R	1.1 U
Sodium	MG/KG		161	286	302	324	256
Thallium	MG/KG		1.1 U	1.1 U	0.34 UJ	0.32 UJ	1.1 U
Vanadium	MG/KG		17.1	14.6	11.1 J	5.9	7.2
Zinc	MG/KG		145 J	157 J	71.3 J	80.5 J	44.9 J
Others							
Total Organic Carbon	MG/KG		6200	3000	3600	5000	3900

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
		SS121I-2	SS121I-20	SS121I-21	SS121I-22	SS121I-23	SS121I-24
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		EB150	121I-1016	121I-1017	121I-1018	121I-1019	121I-1020
		0	0	0	0	0	0
		0.2	0.2	0.2	0.2	0.2	0.2
		3/10/1998	10/22/2002	10/22/2002	10/23/2002	10/22/2002	10/22/2002
		SA	SA	SA	SA	SA	SA
		EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Total Petroleum Hydrocarbons	MG/KG		810 J	850 J	370	470	43 UJ

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I SS121I-25 SOIL 121I-1021 0 0.2 10/22/2002 SA PID-RI		SEAD-121I SS121I-26 SOIL 121I-1022 0 0.2 10/23/2002 SA PID-RI		SEAD-121I SS121I-27 SOIL 121I-1023 0 0.2 10/23/2002 SA PID-RI		SEAD-121I SS121I-28 SOIL 121I-1024 0 0.2 10/22/2002 SA PID-RI		SEAD-121I SS121I-29 SOIL 121I-1025 0 0.2 10/23/2002 SA PID-RI		SEAD-121I SS121I-29 SOIL 121I-1030 0 0.2 10/23/2002 SA PID-RI	
Parameter	Units	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Volatile Organic Compounds													
Acetone	UG/KG	5.1	J	5.6	J	45	UJ	16	J	3.1	U	3.6	UJ
Benzene	UG/KG	2.6	U	2.7	UJ	4.6	J	2.7	U	24		57	J
Ethyl benzene	UG/KG	2.6	U	2.7	UJ	2.9	UJ	2.7	U	4.4		9.5	J
Meta/Para Xylene	UG/KG	2.6	U	2.7	UJ	2.9	UJ	2.7	U	3.9		8.7	J
Methyl ethyl ketone	UG/KG	2.6	U	2.7	UJ	28	J	2.7	U	3.1	U	67	J
Methylene chloride	UG/KG	2.6	U	2.7	UJ	2.9	UJ	2.7	U	3.1	U	3.6	UJ
Ortho Xylene	UG/KG	2.6	U	2.7	UJ	2.9	UJ	2.7	U	2.1	J	5.1	J
Toluene	UG/KG	2.6	U	2.7	UJ	2.8	J	2.7	U	18		43	J
Semivolatile Organic Compounds													
2-Methylnaphthalene	UG/KG	350	U	370	U	390	U	360	U	2100	U	2300	U
3,3'-Dichlorobenzidine	UG/KG	350	UJ	370	UJ	390	UJ	360	R	2100	UJ	2300	R
Acenaphthene	UG/KG	760		66	J	390	UJ	360	U	2100	U	2300	U
Acenaphthylene	UG/KG	350	U	370	U	390	UJ	360	U	2100	U	2300	U
Anthracene	UG/KG	900	J	110	J	390	R	360	U	330	J	2300	U
Benzo(a)anthracene	UG/KG	5500		660	J	120	J	56	J	700	J	260	J
Benzo(a)pyrene	UG/KG	5500		740	J	240	J	86	J	700	J	2300	R
Benzo(b)fluoranthene	UG/KG	7000		820	J	140	J	72	J	720	J	2300	R
Benzo(ghi)perylene	UG/KG	5000		470	J	65	J	70	J	430	J	2300	R
Benzo(k)fluoranthene	UG/KG	4500		820	J	260	J	360	R	720	J	2300	R
Bis(2-Ethylhexyl)phthalate	UG/KG	350	UJ	74	J	110	J	66	J	2100	U	260	J
Butylbenzylphthalate	UG/KG	350	UJ	370	UJ	390	UJ	55	J	2100	U	2300	R
Carbazole	UG/KG	1000		110	J	390	UJ	360	U	340	J	2300	UJ
Chrysene	UG/KG	6300		1100	J	220	J	100	J	790	J	2300	R
Di-n-butylphthalate	UG/KG	350	UJ	370	U	390	R	360	U	2100	U	2300	U

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
		SS121I-25	SS121I-26	SS121I-27	SS121I-28	SS121I-29	SS121I-29
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		121I-1021	121I-1022	121I-1023	121I-1024	121I-1025	121I-1030
		0	0	0	0	0	0
		0.2	0.2	0.2	0.2	0.2	0.2
		10/22/2002	10/23/2002	10/23/2002	10/22/2002	10/23/2002	10/23/2002
		SA	SA	SA	SA	SA	SA
		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Di-n-octylphthalate	UG/KG	350 UJ	370 UJ	390 UJ	360 R	2100 U	2300 R
Dibenz(a,h)anthracene	UG/KG	300 J	370 UJ	390 R	360 R	2100 UJ	2300 R
Dibenzofuran	UG/KG	120 J	370 U	390 UJ	360 U	2100 U	2300 U
Diethyl phthalate	UG/KG	350 U	370 U	390 UJ	360 U	2100 U	230 J
Fluoranthene	UG/KG	11000	1500	130 J	86 J	2500	490 J
Fluorene	UG/KG	310 J	370 U	390 UJ	360 U	2100 U	2300 U
Indeno(1,2,3-cd)pyrene	UG/KG	1400 J	470 J	390 UJ	360 R	2100 UJ	2300 R
Isophorone	UG/KG	350 U	370 U	390 U	360 U	2100 U	2300 U
Naphthalene	UG/KG	350 U	370 U	390 U	360 U	2100 U	2300 U
Nitrobenzene	UG/KG	350 U	370 U	390 U	360 UJ	2100 U	2300 U
Phenanthrene	UG/KG	5200	640	150 J	74 J	2200	530 J
Phenol	UG/KG	350 U	370 U	390 U	360 U	2100 U	2300 U
Pyrene	UG/KG	13000	2500 J	500 J	120 J	2300	1600 J
Pesticides/PCBs							
4,4'-DDE	UG/KG	1.8 U	24	2 U	1.8 U	2.2 U	2.3 U
4,4'-DDT	UG/KG	1.8 UJ	1.9 UJ	2 UJ	1.8 UJ	2.2 UJ	2.3 UJ
Aldrin	UG/KG	12 J	1.9 U	2 U	1.8 U	2.2 U	2.3 U
Dieldrin	UG/KG	1.8 UJ	1.9 UJ	2 UJ	1.8 UJ	2.2 UJ	2.3 UJ
Endosulfan I	UG/KG	47 J	20	2 U	1.8 U	23	2.3 U
Endrin	UG/KG	6.5 J	1.9 U	2 U	1.8 UJ	2.2 U	2.3 U
Heptachlor epoxide	UG/KG	1.8 U	11 R	2 U	1.8 U	17 R	2.3 U
Aroclor-1254	UG/KG	18 U	19 UJ	20 UJ	18 U	21 UJ	23 UJ
Aroclor-1260	UG/KG	18 U	19 UJ	20 UJ	18 U	21 UJ	23 UJ
Inorganics Compounds							
Aluminum	MG/KG	1560	1950	4110	2310	3730	2200

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
		SS121I-25	SS121I-26	SS121I-27	SS121I-28	SS121I-29	SS121I-29
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		121I-1021	121I-1022	121I-1023	121I-1024	121I-1025	121I-1030
		0	0	0	0	0	0
		0.2	0.2	0.2	0.2	0.2	0.2
		10/22/2002	10/23/2002	10/23/2002	10/22/2002	10/23/2002	10/23/2002
		SA	SA	SA	SA	SA	SA
		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Antimony	MG/KG	6.3 U	1 U	1.1 U	7.5	1.1 U	1.2 U
Arsenic	MG/KG	3.5	5.8 R		3.9		239 R
Barium	MG/KG	74.8	207	97.4 J	112	87.4 J	84.9 J
Beryllium	MG/KG	0.16	0.25	0.32	0.19 J	0.16 U	0.18 U
Cadmium	MG/KG	0.52 U	0.13 U	0.14 U	3.4	0.15 U	0.16 U
Calcium	MG/KG	232000	298000 J	180000 J	230000	29900 J	46500 J
Chromium	MG/KG	3.9	4.6		10.3		362
Cobalt	MG/KG	5	5.3	10.8 J	5.5	237 J	174 J
Copper	MG/KG	10.4 J	14.9	17.9	19.1 J	243	175
Cyanide, Total	MG/KG	0.538 UJ	0.569 U	0.588 U	0.546 UJ	1.26	2.73
Iron	MG/KG	5720	8350		8250		47400
Lead	MG/KG	122	16.3 J	11.1 J	32.8	47.8 J	45.9 J
Magnesium	MG/KG	16800	5470 J	22300 J	12900	2770 J	6090 J
Manganese	MG/KG	593	1230		699		272000
Mercury	MG/KG	0.02	0.01	0.04	0.02	0.02	0.02
Nickel	MG/KG	11.1	12.8 J	25.5 J	14.3	394 J	289 J
Potassium	MG/KG	846	747	903	861	656	612
Selenium	MG/KG	0.52 U	0.47 UJ	0.86 J	0.54 U	160 J	131 J
Silver	MG/KG	1 U	0.3 R	0.6 R	1.1 U	24.1 R	18.6 R
Sodium	MG/KG	232	365	240	284	126 U	135 U
Thallium	MG/KG	1 U	0.35 UJ		1.1 U		152 J
Vanadium	MG/KG	6.3	9.1		6.7		147 J
Zinc	MG/KG	47.2 J	49.9 J	116	162 J	47.7 J	37.8 J
Others							
Total Organic Carbon	MG/KG	3500	5600	4600	6900	7300	4900

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
		SS121I-25	SS121I-26	SS121I-27	SS121I-28	SS121I-29	SS121I-29
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		121I-1021	121I-1022	121I-1023	121I-1024	121I-1025	121I-1030
		0	0	0	0	0	0
		0.2	0.2	0.2	0.2	0.2	0.2
		10/22/2002	10/23/2002	10/23/2002	10/22/2002	10/23/2002	10/23/2002
		SA	SA	SA	SA	SA	SA
		PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Total Petroleum Hydrocarbons	MG/KG	43 UJ	46 U	2200	44 UJ	240	1600

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
		SS121I-3	SS121I-30	SS121I-31	SS121I-32	SS121I-33	SS121I-34
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		EB149	121I-1026	121I-1027	121I-1028	121I-1029	121I-1032
		0	0	0	0	0	0
		0.2	0.2	0.2	0.2	0.2	0.2
		3/10/1998	10/22/2002	10/22/2002	10/22/2002	10/22/2002	10/22/2002
		SA	SA	SA	SA	SA	SA
		EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds							
Acetone	UG/KG		9.8	11	5.1	7.6 J	9.8 J
Benzene	UG/KG		2.8 U	3.4 U	2.7 U	2.7 UJ	3 UJ
Ethyl benzene	UG/KG		2.8 U	3.4 U	2.7 U	2.7 UJ	3 UJ
Meta/Para Xylene	UG/KG		2.8 U	3.4 U	2.7 U	2.7 UJ	3 UJ
Methyl ethyl ketone	UG/KG		2.8 U	3.4 U	2.7 U	2.7 UJ	3 UJ
Methylene chloride	UG/KG		2.8 U	3.4 U	2.7 U	2.7 UJ	3 UJ
Ortho Xylene	UG/KG		2.8 U	3.4 U	2.7 U	2.7 UJ	3 UJ
Toluene	UG/KG		2.8 U	3.4 U	2.7 U	2.7 UJ	3 UJ
Semivolatile Organic Compounds							
2-Methylnaphthalene	UG/KG	54 J	370 U	360 U	380 U	360 U	360 U
3,3'-Dichlorobenzidine	UG/KG	770 U	370 UJ	360 UJ	380 UJ	360 UJ	360 UJ
Acenaphthene	UG/KG	140 J	370 U	360 U	380 U	360 U	360 U
Acenaphthylene	UG/KG	770 U	370 U	360 U	64 J	360 U	360 U
Anthracene	UG/KG	220 J	370 U	360 U	69 J	360 U	360 U
Benzo(a)anthracene	UG/KG	1600	370 UJ	43 J	190 J	80 J	99 J
Benzo(a)pyrene	UG/KG	1800	370 U	61 J	290 J	110 J	130 J
Benzo(b)fluoranthene	UG/KG	2100	370 U	67 J	360 J	110 J	130 J
Benzo(ghi)perylene	UG/KG	1600	370 UJ	50 J	320 J	110 J	90 J
Benzo(k)fluoranthene	UG/KG	2500	370 U	360 UJ	340 J	95 J	120 J
Bis(2-Ethylhexyl)phthalate	UG/KG	230 J	370 UJ	1600	380 UJ	360 UJ	360 UJ
Butylbenzylphthalate	UG/KG	770 U	370 UJ	360 UJ	380 UJ	360 UJ	360 UJ
Carbazole	UG/KG	320 J	370 U	360 U	60 J	360 UJ	360 U
Chrysene	UG/KG	2000	370 UJ	68 J	350 J	130 J	170 J
Di-n-butylphthalate	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
		SS121I-3	SS121I-30	SS121I-31	SS121I-32	SS121I-33	SS121I-34
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		EB149	121I-1026	121I-1027	121I-1028	121I-1029	121I-1032
		0	0	0	0	0	0
		0.2	0.2	0.2	0.2	0.2	0.2
		3/10/1998	10/22/2002	10/22/2002	10/22/2002	10/22/2002	10/22/2002
		SA	SA	SA	SA	SA	SA
		EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Di-n-octylphthalate	UG/KG	770 U	370 UJ	360 UJ	380 UJ	360 UJ	360 UJ
Dibenz(a,h)anthracene	UG/KG	720 J	370 U	360 UJ	380 UJ	360 UJ	360 R
Dibenzofuran	UG/KG	42 J	370 U	360 U	380 U	360 U	360 U
Diethyl phthalate	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
Fluoranthene	UG/KG	4000	370 U	80 J	500	120 J	180 J
Fluorene	UG/KG	98 J	370 U	360 U	380 U	360 U	360 U
Indeno(1,2,3-cd)pyrene	UG/KG	1600	370 UJ	360 UJ	220 J	76 J	65 J
Isophorone	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
Naphthalene	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
Nitrobenzene	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
Phenanthrene	UG/KG	1400	370 U	52 J	290 J	95 J	130 J
Phenol	UG/KG	770 U	370 U	360 U	380 U	360 U	360 U
Pyrene	UG/KG	3000	370 UJ	110 J	640 J	300 J	260 J
Pesticides/PCBs							
4,4'-DDE	UG/KG		1.9 U	1.8 U	2 U	1.8 U	1.9 U
4,4'-DDT	UG/KG		1.9 U	1.8 U	2 U	1.8 UJ	1.9 UJ
Aldrin	UG/KG		1.9 UJ	1.8 UJ	2 UJ	1.8 U	1.9 U
Dieldrin	UG/KG		1.9 UJ	1.8 UJ	2 U	1.8 UJ	1.9 UJ
Endosulfan I	UG/KG		1.9 U	1.8 U	15	7.2 J	4.9 J
Endrin	UG/KG		1.9 U	1.8 U	2 U	1.8 U	1.9 U
Heptachlor epoxide	UG/KG		1.9 U	1.8 U	8	1.8 U	1.9 U
Aroclor-1254	UG/KG		19 UJ	18 UJ	19 UJ	18 UJ	19 UJ
Aroclor-1260	UG/KG		19 UJ	18 UJ	19 UJ	18 UJ	19 UJ
Inorganics Compounds							
Aluminum	MG/KG		7610	4750	7030	2410	5670

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
		SS121I-3	SS121I-30	SS121I-31	SS121I-32	SS121I-33	SS121I-34
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		EB149	121I-1026	121I-1027	121I-1028	121I-1029	121I-1032
		0	0	0	0	0	0
		0.2	0.2	0.2	0.2	0.2	0.2
		3/10/1998	10/22/2002	10/22/2002	10/22/2002	10/22/2002	10/22/2002
		SA	SA	SA	SA	SA	SA
		EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Antimony	MG/KG		6.5 U	4.5	6.7 U	3.2	4.1
Arsenic	MG/KG		5.1	6.4	5.8	7.5 R	5.7 R
Barium	MG/KG		48.3	38.2	48.9	188	97.2 J
Beryllium	MG/KG		0.42	0.27	0.43	0.22	0.38
Cadmium	MG/KG		0.54 U	0.53 U	0.56 U	0.45	0.17
Calcium	MG/KG		50600	52400	40900	253000 J	160000 J
Chromium	MG/KG		14.6	10.5	15.2	10.8	14.2
Cobalt	MG/KG		9.6	9.5	8.9	7.2	8.3
Copper	MG/KG		20.7 J	14.2 J	21.3 J	23.9	21
Cyanide, Total	MG/KG		0.557 UJ	0.545 UJ	0.577 UJ	0.546 U	0.551 U
Iron	MG/KG		18100	14500	16900	10300	14600
Lead	MG/KG		13.5	21	31.2	40 J	25.9 J
Magnesium	MG/KG		12800	4770	5330	18800 J	11800 J
Manganese	MG/KG		412	377	428	847	634
Mercury	MG/KG		0.02	0.02	0.03	0.02	0.03
Nickel	MG/KG		25.4	22.3	27.2	342 J	30.8 J
Potassium	MG/KG		1300	653	835	1000 J	867
Selenium	MG/KG		0.54 U	0.53 U	0.56 U	0.62 J	0.76 J
Silver	MG/KG		1.1 U	1.1 U	1.1 U	0.29 R	0.29 R
Sodium	MG/KG		129	138	117	326	218
Thallium	MG/KG		1.1 U	1.1 U	1.1 U	0.33 UJ	0.34 UJ
Vanadium	MG/KG		13.6	8.9	13.6	7.7	11.3 J
Zinc	MG/KG		70.9 J	71.1 J	92.6 J	329	78.8 J
Others							
Total Organic Carbon	MG/KG		6600	4300	6600	3600	4900

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
		SS121I-3	SS121I-30	SS121I-31	SS121I-32	SS121I-33	SS121I-34
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		EB149	121I-1026	121I-1027	121I-1028	121I-1029	121I-1032
		0	0	0	0	0	0
		0.2	0.2	0.2	0.2	0.2	0.2
		3/10/1998	10/22/2002	10/22/2002	10/22/2002	10/22/2002	10/22/2002
		SA	SA	SA	SA	SA	SA
		EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Total Petroleum Hydrocarbons	MG/KG		45 UJ	44 UJ	140 J	44 U	44 U

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	
		SS121I-4	SS121I-5	SS121I-6	SS121I-7	SS121I-8	SS121I-9	S
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
		EB148	121I-1000	121I-1001	121I-1002	121I-1004	121I-1005	
		0	0	0	0	0	0	
		0.2	0.2	0.2	0.2	0.2	0.2	
		3/10/1998	10/22/2002	10/22/2002	10/22/2002	10/22/2002	10/22/2002	
		SA	SA	SA	SA	SA	SA	
		EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	
Volatile Organic Compounds								
Acetone	UG/KG		3 UJ	7.7	51	11 J	20 J	
Benzene	UG/KG		3 UJ	2.8 U	16	3.3 U	4.8	
Ethyl benzene	UG/KG		3 UJ	2.8 U	2.3 J	3.3 U	2.1 J	
Meta/Para Xylene	UG/KG		3 UJ	2.8 U	2.3 J	3.3 U	2.1 J	
Methyl ethyl ketone	UG/KG		3 UJ	2.8 U	31	3.3 U	9.8	
Methylene chloride	UG/KG		3 UJ	2.8 U	2.8 U	3.3 U	2.9 U	
Ortho Xylene	UG/KG		3 UJ	2.8 U	1.4 J	3.3 U	1.3 J	
Toluene	UG/KG		3 UJ	2.8 U	12	3.3 U	6.1	
Semivolatile Organic Compounds								
2-Methylnaphthalene	UG/KG	550 U	400 U	370 U	390 U	390 U	380 U	
3,3'-Dichlorobenzidine	UG/KG	550 U	400 U	370 U	390 UJ	390 U	380 R	
Acenaphthene	UG/KG	320 J	400 U	370 U	65 J	390 U	84 J	
Acenaphthylene	UG/KG	550 U	400 U	370 U	390 U	390 U	380 U	
Anthracene	UG/KG	230 J	400 U	370 U	94 J	390 U	130 J	
Benzo(a)anthracene	UG/KG	1700	69 J	370 U	360 J	52 J	620 J	
Benzo(a)pyrene	UG/KG	1600	95 J	75 J	370 J	71 J	610 J	
Benzo(b)fluoranthene	UG/KG	1700	82 J	61 J	360 J	55 J	690 J	
Benzo(ghi)perylene	UG/KG	940	85 J	370 U	270 J	78 J	510 J	
Benzo(k)fluoranthene	UG/KG	1800	400 U	370 U	470 J	390 U	530 J	
Bis(2-Ethylhexyl)phthalate	UG/KG	47 J	400 U	370 U	390 UJ	390 U	63 J	
Butylbenzylphthalate	UG/KG	550 U	400 U	370 U	390 UJ	390 U	380 R	
Carbazole	UG/KG	380 J	400 U	370 U	110 J	390 U	130 J	
Chrysene	UG/KG	1900	94 J	370 U	480 J	66 J	890 J	
Di-n-butylphthalate	UG/KG	550 U	400 U	370 U	390 U	390 U	380 U	

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		S
		SS121I-4		SS121I-5		SS121I-6		SS121I-7		SS121I-8		SS121I-9		
		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		
		EB148		121I-1000		121I-1001		121I-1002		121I-1004		121I-1005		
		0		0		0		0		0		0		
		0.2		0.2		0.2		0.2		0.2		0.2		
		3/10/1998		10/22/2002		10/22/2002		10/22/2002		10/22/2002		10/22/2002		
		SA		SA		SA		SA		SA		SA		
		EBS		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI		
Parameter	Units	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	
Di-n-octylphthalate	UG/KG	550	UJ	400	U	370	U	390	UJ	390	U	380	R	
Dibenz(a,h)anthracene	UG/KG	420	J	400	UJ	370	U	390	R	390	U	380	R	
Dibenzofuran	UG/KG	63	J	400	U	370	U	390	U	390	U	380	U	
Diethyl phthalate	UG/KG	550	U	400	U	370	U	390	U	390	U	380	U	
Fluoranthene	UG/KG	4100		150	J	120	J	910		140	J	1400		
Fluorene	UG/KG	160	J	400	U	370	U	43	J	390	U	54	J	
Indeno(1,2,3-cd)pyrene	UG/KG	950		72	J	370	U	180	J	100	J	480	R	
Isophorone	UG/KG	550	U	400	U	370	U	390	U	390	U	380	U	
Naphthalene	UG/KG	51	J	400	U	370	U	390	U	390	U	380	U	
Nitrobenzene	UG/KG	550	U	400	U	370	U	390	U	390	U	380	U	
Phenanthrene	UG/KG	1800		66	J	76	J	650		73	J	930		
Phenol	UG/KG	550	U	400	U	370	U	390	U	390	U	380	U	
Pyrene	UG/KG	3200		140	J	120	J	1100	J	97	J	3000	J	
Pesticides/PCBs														
4,4'-DDE	UG/KG			2.1	U	1.9	U	2	U	2	U	2	U	
4,4'-DDT	UG/KG			2.1	U	1.9	UJ	2	U	2	UJ	2	UJ	
Aldrin	UG/KG			2.1	UJ	1.9	U	2	UJ	2	U	3.2	J	
Dieldrin	UG/KG			2.1	UJ	1.9	UJ	2	UJ	2	UJ	2	UJ	
Endosulfan I	UG/KG			4.2		2.6		8.7		4		36	J	
Endrin	UG/KG			2.1	U	1.9	UJ	2	U	2	UJ	2	UJ	
Heptachlor epoxide	UG/KG			2.1	U	1.9	U	6.4		2	U	25		
Aroclor-1254	UG/KG			21	UJ	19	U	20	UJ	20	U	20	UJ	
Aroclor-1260	UG/KG			21	UJ	19	U	20	UJ	20	U	20	UJ	
Inorganics Compounds														
Aluminum	MG/KG			6960		10600		7880		7750		7210		

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	
		SS121I-4	SS121I-5	SS121I-6	SS121I-7	SS121I-8	SS121I-9	S
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
		EB148	121I-1000	121I-1001	121I-1002	121I-1004	121I-1005	
		0	0	0	0	0	0	
		0.2	0.2	0.2	0.2	0.2	0.2	
		3/10/1998	10/22/2002	10/22/2002	10/22/2002	10/22/2002	10/22/2002	
		SA	SA	SA	SA	SA	SA	
		EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI	
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	
Antimony	MG/KG		7.3 U	6.7 U	7.1 U	3.6	6.9 U	
Arsenic	MG/KG		3.7	7.2		4.1		
Barium	MG/KG		41.4	61.9	79.2	83.5	87.5	
Beryllium	MG/KG		0.39 J	0.53 J	0.41 J	0.38 J	0.45	
Cadmium	MG/KG		0.61 U	0.56 U	0.6 U	0.57 U	0.15	
Calcium	MG/KG		37300	36000	30600	62600	39800	
Chromium	MG/KG		14.7	19.8		11.8		
Cobalt	MG/KG		11	11.7	26.5	8.1	15	
Copper	MG/KG		24.1 J	23.1 J	41.8 J	31 J	37 J	
Cyanide, Total	MG/KG		0.61 UJ	0.559 J	0.595 UJ	0.588 UJ	0.581 UJ	
Iron	MG/KG		15900	24500		15100		
Lead	MG/KG		21.4	16	35.6	15.2	51	
Magnesium	MG/KG		6310	11500	9420	14200	7110	
Manganese	MG/KG		404	880		567		
Mercury	MG/KG		0.04	0.03	0.04	0.03	0.03	
Nickel	MG/KG		30.9	30.3	74.8	25.9	34.3	
Potassium	MG/KG		1140	1140	969	889	723	
Selenium	MG/KG		0.61 U	1.3	5.5	0.57 U	1.3	
Silver	MG/KG		1.2 U	1.1 U	1.8	1.1 U	0.51 J	
Sodium	MG/KG		132	132	595 U	134	123	
Thallium	MG/KG		1.2 U	0.38		1.1 U		
Vanadium	MG/KG		11.9	17.3		13.8		
Zinc	MG/KG		59.7 J	82.6 J	123 J	56.8 J	132 J	
Others								
Total Organic Carbon	MG/KG		4200	8900	6100	4900	5000	

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
		SS121I-4	SS121I-5	SS121I-6	SS121I-7	SS121I-8	SS121I-9
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		EB148	121I-1000	121I-1001	121I-1002	121I-1004	121I-1005
		0	0	0	0	0	0
		0.2	0.2	0.2	0.2	0.2	0.2
		3/10/1998	10/22/2002	10/22/2002	10/22/2002	10/22/2002	10/22/2002
		SA	SA	SA	SA	SA	SA
		EBS	PID-RI	PID-RI	PID-RI	PID-RI	PID-RI
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Total Petroleum Hydrocarbons	MG/KG		410 J	45 UJ	48 UJ	47 UJ	47 UJ

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
		SD121I-1EBS	SD121I-2EBS	SD121I-4	SD121I-5	SD121I-7	SD121I-6
		SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
		EB151	EB152	121I-4003	121I-4004	121I-4005	121I-4006
		0	0	0	0	0	0
		0.2	0.2	2	2	2	2
		3/10/1998	3/10/1998	11/6/2002	11/6/2002	10/26/2002	11/6/2002
		SA	SA	SA	SA	SA	SA
		EBS	EBS	PID-RI	PID-RI	PID-RI	PID-RI
				1	1	1	1
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds							
Acetone	UG/KG			28	16	25 J	16
Benzene	UG/KG			2.3 J	3.1 U	3.1 UJ	1.2 J
Ethyl benzene	UG/KG			2.7 U	3.1 U	3.1 UJ	4.4 U
Meta/Para Xylene	UG/KG			2.7 U	3.1 U	3.1 UJ	4.4 U
Methyl ethyl ketone	UG/KG			7.2	3.1 U	3.1 UJ	4.4 U
Methylene chloride	UG/KG			2.7 UJ	3.1 UJ	2.5 U	4.4 UJ
Ortho Xylene	UG/KG			2.7 U	3.1 U	3.1 UJ	4.4 U
Toluene	UG/KG			1.7 J	3.1 U	3.1 UJ	4.4 U
Semivolatile Organic Compounds							
2-Methylnaphthalene	UG/KG	33 J	4400 U	390 U	410 U	420 U	530 U
3,3'-Dichlorobenzidine	UG/KG	480 U	4400 U	390 U	410 U	420 UJ	530 U
Acenaphthene	UG/KG	140 J	390 J	300 J	140 J	280 J	80 J
Acenaphthylene	UG/KG	480 U	420 J	83 J	410 U	70 J	530 U
Anthracene	UG/KG	260 J	1800 J	650	140 J	420 J	110 J
Benzo(a)anthracene	UG/KG	1300	14000	2900	770	2200 J	270 J
Benzo(a)pyrene	UG/KG	1300	16000	2800 J	750 J	2800 J	290 J
Benzo(b)fluoranthene	UG/KG	2100	22000	3600 J	1100 J	3600 J	380 J
Benzo(ghi)perylene	UG/KG	840	12000	810 J	250 J	1400 J	110 J
Benzo(k)fluoranthene	UG/KG	1600	23000	2400 J	710 J	2500 J	140 J
Bis(2-Ethylhexyl)phthalate	UG/KG	25 J	4400 U	390 U	410 U	75 J	530 U
Butylbenzylphthalate	UG/KG	480 U	4400 U	390 U	410 U	420 J	530 U
Carbazole	UG/KG	410 J	1600 J	510	150 J	440	110 J
Chrysene	UG/KG	1700	25000	3400 J	910	2400 J	340 J
Di-n-butylphthalate	UG/KG	480 U	4400 U	390 U	410 U	420 U	530 U

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
		SD121I-1EBS	SD121I-2EBS	SD121I-4	SD121I-5	SD121I-7	SD121I-6
		SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
		EB151	EB152	121I-4003	121I-4004	121I-4005	121I-4006
		0	0	0	0	0	0
		0.2	0.2	2	2	2	2
		3/10/1998	3/10/1998	11/6/2002	11/6/2002	10/26/2002	11/6/2002
		SA	SA	SA	SA	SA	SA
		EBS	EBS	PID-RI	PID-RI	PID-RI	PID-RI
				1	1	1	1
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Di-n-octylphthalate	UG/KG	480 U	4400 U	390 U	410 U	420 J	530 U
Dibenz(a,h)anthracene	UG/KG	400 J	5000 J	86 J	410 UJ	130 J	530 U
Dibenzofuran	UG/KG	58 J	4400 U	160 J	410 UJ	71 J	530 U
Diethyl phthalate	UG/KG	480 U	4400 U	390 U	410 U	420 U	530 U
Fluoranthene	UG/KG	3400	24000	5800	1600	4400	680
Fluorene	UG/KG	130 J	360 J	270 J	72 J	190 J	70 J
Indeno(1,2,3-cd)pyrene	UG/KG	850 J	12000 J	350 J	140 J	400 J	98 J
Isophorone	UG/KG	480 U	4400 U	390 U	410 U	420 J	530 U
Naphthalene	UG/KG	480 U	4400 U	390 U	410 U	420 U	530 U
Nitrobenzene	UG/KG	480 U	4400 U	390 U	410 U	420 J	530 U
Phenanthrene	UG/KG	1600	4400 J	4200	870	2500	620
Phenol	UG/KG	480 U	4400 U	390 U	410 U	420 J	530 U
Pyrene	UG/KG	2700	17000	8800 J	1500	6500 J	560
Pesticides/PCBs							
4,4'-DDE	UG/KG			0.24 U	0.25 U	14 J	0.33 U
4,4'-DDT	UG/KG			0.24 UJ	0.25 UJ	2.2 UJ	0.33 UJ
Aldrin	UG/KG			0.12 U	0.12 U	2.2 U	0.16 U
Dieldrin	UG/KG			0.12 UJ	0.12 UJ	2.2 UJ	0.16 UJ
Endosulfan I	UG/KG			0.59 R	0.62 UJ	2.2 U	0.82 UJ
Endrin	UG/KG			0.94 U	1 U	2.2 UJ	1.3 U
Heptachlor epoxide	UG/KG			0.35 R	0.38 U	2.2 U	0.49 U
Aroclor-1254	UG/KG			12 U	67	22 U	17 U
Aroclor-1260	UG/KG			2.3 U	2.4 U	22 U	3.3 U
Inorganics Compounds							
Aluminum	MG/KG			6270	4740	6950	10300

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
		SD121I-1EBS	SD121I-2EBS	SD121I-4	SD121I-5	SD121I-7	SD121I-6
		SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
		EB151	EB152	121I-4003	121I-4004	121I-4005	121I-4006
		0	0	0	0	0	0
		0.2	0.2	2	2	2	2
		3/10/1998	3/10/1998	11/6/2002	11/6/2002	10/26/2002	11/6/2002
		SA	SA	SA	SA	SA	SA
		EBS	EBS	PID-RI	PID-RI	PID-RI	PID-RI
				1	1	1	1
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Antimony	MG/KG			1.1 UJ	1.1 UJ	1.1 U	1.5 UJ
Arsenic	MG/KG				4.6	7.8	8.8
Barium	MG/KG			80.5 J	57.7 J	72.2	65 J
Beryllium	MG/KG			0.37	0.33	0.48 J	0.66
Cadmium	MG/KG			0.14 U	0.15 U	0.83	0.19 U
Calcium	MG/KG			30100	72300	145000	39000
Chromium	MG/KG				10.1	14.5	25.5
Cobalt	MG/KG			25.1	6.8	11	12.3
Copper	MG/KG			130	20	33.8 J	45.4
Cyanide, Total	MG/KG			0.59 U	0.62 U	0.644 U	0.82 U
Iron	MG/KG				11300	15200 J	23800
Lead	MG/KG			82.4	42.9	71.2 J	93.3
Magnesium	MG/KG			5240	11300	11700 J	8050
Manganese	MG/KG				471	588 J	1290
Mercury	MG/KG			0.03	0.03	0.12 UJ	0.06
Nickel	MG/KG			29.8	16.7	27.9 J	33.7
Potassium	MG/KG			671	886	1340 J	1450
Selenium	MG/KG			0.49 U	0.52 U	0.53 U	0.68 U
Silver	MG/KG			2.5	0.34 U	0.34 U	0.44 U
Sodium	MG/KG			118 U	264	288	185
Thallium	MG/KG				0.39 U	0.71 J	0.5 U
Vanadium	MG/KG				11.4	20.2 J	22.1
Zinc	MG/KG			78.6 J	100 J	124 J	532
Others							
Total Organic Carbon	MG/KG			3500	6700	5300	5400

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
		SD121I-1EBS	SD121I-2EBS	SD121I-4	SD121I-5	SD121I-7	SD121I-6
		SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
		EB151	EB152	121I-4003	121I-4004	121I-4005	121I-4006
		0	0	0	0	0	0
		0.2	0.2	2	2	2	2
		3/10/1998	3/10/1998	11/6/2002	11/6/2002	10/26/2002	11/6/2002
		SA	SA	SA	SA	SA	SA
		EBS	EBS	PID-RI	PID-RI	PID-RI	PID-RI
				1	1	1	1
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Total Petroleum Hydrocarbons	MG/KG			350	760	1000 J	66 U

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I SD121I-7 SEDIMENT 121I-4007 0 2 10/26/2002 SA PID-RI 1		SEAD-121I SD121I-8 SEDIMENT 121I-4008 0 2 11/6/2002 SA PID-RI 1		SEAD-121I SD121I-9 SEDIMENT 121I-4009 0 2 11/6/2002 SA PID-RI 1		SEAD-121I SD121I-10 SEDIMENT 121I-4010 0 2 11/6/2002 SA PID-RI 1		SEAD-121I SD121I-1 SEDIMENT 121I-4000 0 2 11/6/2002 SA PID-RI 1		SEAD-121I SD121I-2 SEDIMENT 121I-4001 0 2 11/6/2002 SA PID-RI	
Parameter	Units	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Volatile Organic Compounds													
Acetone	UG/KG	10	J	150		22	J	13	J	30		8	
Benzene	UG/KG	3.2	UJ	39		3.7	UJ	3.2	UJ	3.8	U	3.2	U
Ethyl benzene	UG/KG	3.2	UJ	5.2		3.7	UJ	3.2	UJ	3.8	U	3.2	UJ
Meta/Para Xylene	UG/KG	3.2	UJ	4.8		3.7	UJ	3.2	UJ	3.8	U	3.2	U
Methyl ethyl ketone	UG/KG	3.2	UJ	78		3.7	UJ	3.2	UJ	3.8	U	3.2	U
Methylene chloride	UG/KG	1.9	U	2.9	UJ	3.7	UJ	3.2	UJ	3.8	UJ	3.2	UJ
Ortho Xylene	UG/KG	3.2	UJ	3		3.7	UJ	3.2	UJ	3.8	U	3.2	U
Toluene	UG/KG	3.2	UJ	26		3.7	UJ	3.2	UJ	3.8	U	3.2	UJ
Semivolatile Organic Compounds													
2-Methylnaphthalene	UG/KG	130	J	440	U	450	U	480	U	460	U	380	U
3,3'-Dichlorobenzidine	UG/KG	420	J	440	U	450	UJ	480	U	460	U	380	U
Acenaphthene	UG/KG	1200		66	J	640		130	J	460	U	380	U
Acenaphthylene	UG/KG	420	U	440	U	76	J	480	U	460	U	380	U
Anthracene	UG/KG	1900		120	J	980		210	J	460	U	380	U
Benzo(a)anthracene	UG/KG	5000	J	450		5800	J	510		460	U	380	U
Benzo(a)pyrene	UG/KG	5900	J	420	J	5500	J	390	J	460	U	380	U
Benzo(b)fluoranthene	UG/KG	8100	J	610	J	8500	J	550		460	U	45	J
Benzo(ghi)perylene	UG/KG	3200	J	140	J	2100	J	150	J	460	U	380	U
Benzo(k)fluoranthene	UG/KG	4900	J	260	J	3300	J	250	J	460	UJ	380	U
Bis(2-Ethylhexyl)phthalate	UG/KG	110	J	440	U	78	J	480	U	460	U	380	U
Butylbenzylphthalate	UG/KG	420	J	440	U	450	UJ	480	U	460	U	380	U
Carbazole	UG/KG	1700		100	J	920		200	J	460	U	380	U
Chrysene	UG/KG	5400	J	500		5800	J	540		460	U	380	U
Di-n-butylphthalate	UG/KG	420	U	440	U	450	U	480	U	460	U	380	U

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I	
		SD121I-7		SD121I-8		SD121I-9		SD121I-10		SD121I-1		SD121I-2	
		SEDIMENT		SEDIMENT		SEDIMENT		SEDIMENT		SEDIMENT		SEDIMENT	
		121I-4007		121I-4008		121I-4009		121I-4010		121I-4000		121I-4001	
		0		0		0		0		0		0	
		2		2		2		2		2		2	
		10/26/2002		11/6/2002		11/6/2002		11/6/2002		11/6/2002		11/6/2002	
		SA		SA		SA		SA		SA		SA	
		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI	
		1		1		1		1		1			
Parameter	Units	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Di-n-octylphthalate	UG/KG	420	J	440	U	450	UJ	480	U	460	U	380	U
Dibenz(a,h)anthracene	UG/KG	350	J	440	UJ	160	J	480	U	460	U	380	U
Dibenzofuran	UG/KG	640		440	UJ	130	J	94	J	460	UJ	380	U
Diethyl phthalate	UG/KG	420	U	440	U	450	U	480	U	460	U	380	U
Fluoranthene	UG/KG	13000		1100		9400		1300		460	U	99	J
Fluorene	UG/KG	1100		53	J	390	J	140	J	460	U	380	U
Indeno(1,2,3-cd)pyrene	UG/KG	1300	J	110	J	750	J	150	J	460	U	380	U
Isophorone	UG/KG	420	U	440	U	450	U	480	U	460	U	380	U
Naphthalene	UG/KG	490		440	U	450	U	65	J	460	U	380	U
Nitrobenzene	UG/KG	420	U	440	U	450	U	480	U	460	U	380	U
Phenanthrene	UG/KG	10000		650		4900		1200		460	U	50	J
Phenol	UG/KG	420	U	440	U	450	U	480	U	460	U	380	U
Pyrene	UG/KG	17000	J	840		17000	J	940		460	U	78	J
Pesticides/PCBs													
4,4'-DDE	UG/KG	2.2	UJ	0.27	U	0.27	U	0.29	U	0.28	U	0.24	U
4,4'-DDT	UG/KG	2.2	UJ	0.27	UJ	0.27	UJ	0.29	UJ	0.28	UJ	0.24	UJ
Aldrin	UG/KG	2.2	U	0.14	U	0.14	U	0.14	U	0.14	UJ	0.12	U
Dieldrin	UG/KG	2.2	UJ	0.14	UJ	0.14	UJ	0.14	UJ	0.14	UJ	0.12	UJ
Endosulfan I	UG/KG	56	R	0.68	R	0.68	R	0.72	UJ	0.69	UJ	0.59	R
Endrin	UG/KG	2.2	UJ	1.1	U	1.1	U	1.2	U	1.1	UJ	0.94	U
Heptachlor epoxide	UG/KG	2.2	U	0.41	R	0.41	R	0.43	U	0.42	U	0.35	R
Aroclor-1254	UG/KG	22	U	14	U	14	U	15	U	15	U	12	U
Aroclor-1260	UG/KG	17	NJ	2.6	U	2.7	UJ	2.9	UJ	2.8	U	2.3	U
Inorganics Compounds													
Aluminum	MG/KG	6170		5040		6140		5330		8790		4180	

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I SD121I-7 SEDIMENT 121I-4007 0 2 10/26/2002 SA PID-RI 1		SEAD-121I SD121I-8 SEDIMENT 121I-4008 0 2 11/6/2002 SA PID-RI 1		SEAD-121I SD121I-9 SEDIMENT 121I-4009 0 2 11/6/2002 SA PID-RI 1		SEAD-121I SD121I-10 SEDIMENT 121I-4010 0 2 11/6/2002 SA PID-RI 1		SEAD-121I SD121I-1 SEDIMENT 121I-4000 0 2 11/6/2002 SA PID-RI 1		SEAD-121I SD121I-2 SEDIMENT 121I-4001 0 2 11/6/2002 SA PID-RI	
Parameter	Units	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Antimony	MG/KG	0.99	U	1.2	UJ	1.2	UJ	1.3	UJ	1.2	UJ	1	UJ
Arsenic	MG/KG	6.9				6.6		3.8		7.7		2.6	
Barium	MG/KG	58.9		91.1	J	75.6	J	74.4	J	47.8	J	44.1	J
Beryllium	MG/KG	0.43	J	0.3		0.5		0.43		0.52		0.31	
Cadmium	MG/KG	0.77		0.16	U	0.16	U	0.17	U	0.16	U	0.14	U
Calcium	MG/KG	110000		8990		65800		54300		17000		36500	
Chromium	MG/KG	13.5				12.2		10.1		15.6		8.6	
Cobalt	MG/KG	10.5		91.9		8.8		7.4		10.3		5.9	
Copper	MG/KG	34.7	J	117		33.2		20.4		17.1	J	23.1	
Cyanide, Total	MG/KG	0.648	U	0.67	U	0.68	U	0.72	U	0.69	UJ	0.59	U
Iron	MG/KG	13900	J			13900		12500		19800	J	10100	
Lead	MG/KG	77.4	J	67.2		86.9		39.6		11.2	J	22.4	
Magnesium	MG/KG	9890	J	2150		7380		7450		4480	J	3530	
Manganese	MG/KG	541	J			767		477		478	J	303	
Mercury	MG/KG	0.11	UJ	0.05		0.1		0.05		0.04	J	0.02	
Nickel	MG/KG	26.9	J	153		20.4		17		24.3	J	16.4	
Potassium	MG/KG	1230	J	874		958		837		723	J	541	
Selenium	MG/KG	0.46	U	18		0.56	U	0.6	U	0.57	UJ	0.48	U
Silver	MG/KG	0.3	U	10.5		0.36	U	0.39	U	0.37	UJ	0.31	U
Sodium	MG/KG	211		132	U	162		266		184	J	186	
Thallium	MG/KG	0.34	U			0.41	U	0.44	U	0.42	UJ	0.36	U
Vanadium	MG/KG	18.4	J			17		11.6		13.4	J	8.1	
Zinc	MG/KG	125	J	121	J	129	J	89.2	J	57.3	J	59.3	J
Others													
Total Organic Carbon	MG/KG	4500		5400		7000		6200		7200	J	4400	

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I		SEAD-121I	
		SD121I-7		SD121I-8		SD121I-9		SD121I-10		SD121I-1		SD121I-2	
		SEDIMENT		SEDIMENT		SEDIMENT		SEDIMENT		SEDIMENT		SEDIMENT	
		121I-4007		121I-4008		121I-4009		121I-4010		121I-4000		121I-4001	
		0		0		0		0		0		0	
		2		2		2		2		2		2	
		10/26/2002		11/6/2002		11/6/2002		11/6/2002		11/6/2002		11/6/2002	
		SA		SA		SA		SA		SA		SA	
		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI		PID-RI	
		1		1		1		1		1			
Parameter	Units	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)	Value	(Q)
Total Petroleum Hydrocarbons	MG/KG	630	J	54	U	910		58	U	55	UJ	150	

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
		SD121I-3	121IEXFL-01	121IEXFL-02	121IEXFL-04	121IEXFL-05	121IEXFL-06
		SEDIMENT	SOIL	SOIL	SOIL	SOIL	SOIL
		121I-4002	121IEXFL-01	121IEXFL-02	121IEXFL-04	121IEXFL-05	121IEXFL-06
		0	0	0	0	0	0
		2	0.2	0.2	0.2	0.2	0.2
		11/6/2002	8/3/2007	8/3/2007	8/3/2007	8/3/2007	8/3/2007
		SA	SA	SA	SA	SA	SA
		PID-RI	RA	RA	RA	RA	RA
		1	1	1	1	1	2
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds							
Acetone	UG/KG	9.9					
Benzene	UG/KG	3.3 U					
Ethyl benzene	UG/KG	3.3 U					
Meta/Para Xylene	UG/KG	3.3 U					
Methyl ethyl ketone	UG/KG	3.3 U					
Methylene chloride	UG/KG	3.3 UJ					
Ortho Xylene	UG/KG	3.3 U					
Toluene	UG/KG	3.3 U					
Semivolatile Organic Compounds							
2-Methylnaphthalene	UG/KG	430 U					
3,3'-Dichlorobenzidine	UG/KG	430 U					
Acenaphthene	UG/KG	430 U					
Acenaphthylene	UG/KG	430 U					
Anthracene	UG/KG	430 U					
Benzo(a)anthracene	UG/KG	49 J					
Benzo(a)pyrene	UG/KG	430 U					
Benzo(b)fluoranthene	UG/KG	44 J					
Benzo(ghi)perylene	UG/KG	430 U					
Benzo(k)fluoranthene	UG/KG	430 U					
Bis(2-Ethylhexyl)phthalate	UG/KG	430 U					
Butylbenzylphthalate	UG/KG	430 U					
Carbazole	UG/KG	430 U					
Chrysene	UG/KG	430 U					
Di-n-butylphthalate	UG/KG	430 U					

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
		SD121I-3	121IEXFL-01	121IEXFL-02	121IEXFL-04	121IEXFL-05	121IEXFL-06
		SEDIMENT	SOIL	SOIL	SOIL	SOIL	SOIL
		121I-4002	121IEXFL-01	121IEXFL-02	121IEXFL-04	121IEXFL-05	121IEXFL-06
		0	0	0	0	0	0
		2	0.2	0.2	0.2	0.2	0.2
		11/6/2002	8/3/2007	8/3/2007	8/3/2007	8/3/2007	8/3/2007
		SA	SA	SA	SA	SA	SA
		PID-RI	RA	RA	RA	RA	RA
		1	1	1	1	1	2
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Di-n-octylphthalate	UG/KG	430 U					
Dibenz(a,h)anthracene	UG/KG	430 U					
Dibenzofuran	UG/KG	430 U					
Diethyl phthalate	UG/KG	430 U					
Fluoranthene	UG/KG	130 J					
Fluorene	UG/KG	430 U					
Indeno(1,2,3-cd)pyrene	UG/KG	430 U					
Isophorone	UG/KG	430 U					
Naphthalene	UG/KG	430 U					
Nitrobenzene	UG/KG	430 U					
Phenanthrene	UG/KG	93 J					
Phenol	UG/KG	430 U					
Pyrene	UG/KG	93 J					
Pesticides/PCBs							
4,4'-DDE	UG/KG	0.26 U					
4,4'-DDT	UG/KG	0.26 UJ					
Aldrin	UG/KG	0.13 U					
Dieldrin	UG/KG	0.13 UJ					
Endosulfan I	UG/KG	0.66 UJ					
Endrin	UG/KG	1.1 U					
Heptachlor epoxide	UG/KG	0.39 U					
Aroclor-1254	UG/KG	14 U					
Aroclor-1260	UG/KG	2.6 U					
Inorganics Compounds							
Aluminum	MG/KG	6930					

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
		SD121I-3	121IEXFL-01	121IEXFL-02	121IEXFL-04	121IEXFL-05	121IEXFL-06
		SEDIMENT	SOIL	SOIL	SOIL	SOIL	SOIL
		121I-4002	121IEXFL-01	121IEXFL-02	121IEXFL-04	121IEXFL-05	121IEXFL-06
		0	0	0	0	0	0
		2	0.2	0.2	0.2	0.2	0.2
		11/6/2002	8/3/2007	8/3/2007	8/3/2007	8/3/2007	8/3/2007
		SA	SA	SA	SA	SA	SA
		PID-RI	RA	RA	RA	RA	RA
		1	1	1	1	1	2
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Antimony	MG/KG	1.2 UJ					
Arsenic	MG/KG	4					
Barium	MG/KG	53.7 J					
Beryllium	MG/KG	0.42					
Cadmium	MG/KG	0.16 U					
Calcium	MG/KG	33200					
Chromium	MG/KG	11.7					
Cobalt	MG/KG	9.3					
Copper	MG/KG	22.9					
Cyanide, Total	MG/KG	0.66 U					
Iron	MG/KG	16600	23800 J	19200 J	20700 J	25100 J	13200 J
Lead	MG/KG	17.8					
Magnesium	MG/KG	7540					
Manganese	MG/KG	399	3360 J	1690 J	1550 J	1330 J	11100 J
Mercury	MG/KG	0.18					
Nickel	MG/KG	24.4					
Potassium	MG/KG	818					
Selenium	MG/KG	0.55 U					
Silver	MG/KG	0.36 U					
Sodium	MG/KG	209					
Thallium	MG/KG	0.41 U					
Vanadium	MG/KG	12.4					
Zinc	MG/KG	132 J					
Others							
Total Organic Carbon	MG/KG	2800					

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
		SD121I-3	121IEXFL-01	121IEXFL-02	121IEXFL-04	121IEXFL-05	121IEXFL-06
		SEDIMENT	SOIL	SOIL	SOIL	SOIL	SOIL
		121I-4002	121IEXFL-01	121IEXFL-02	121IEXFL-04	121IEXFL-05	121IEXFL-06
		0	0	0	0	0	0
		2	0.2	0.2	0.2	0.2	0.2
		11/6/2002	8/3/2007	8/3/2007	8/3/2007	8/3/2007	8/3/2007
		SA	SA	SA	SA	SA	SA
		PID-RI	RA	RA	RA	RA	RA
		1	1	1	1	1	2
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Total Petroleum Hydrocarbons	MG/KG	52 U					

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	
		121IEXFL-07	121IEXFL-08	121IEXFL-09	121IEXFL-10	121IEXFL-10	121IEXFL-12	1
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
		121IEXFL-07	121IEXFL-08	121IEXFL-09	121IEXFL-11	121IEXFL-10	121IEXFL-12	1
		0	0	0	0	0	0	
		0.2	0.2	0.2	0.2	0.2	0.2	
		8/3/2007	8/3/2007	8/3/2007	8/3/2007	8/3/2007	8/14/2007	
		SA	SA	SA	DU	SA	SA	
		RA	RA	RA	RA	RA	RA	
		2	2	2	2	2	1	
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	
Volatile Organic Compounds								
Acetone	UG/KG							
Benzene	UG/KG							
Ethyl benzene	UG/KG							
Meta/Para Xylene	UG/KG							
Methyl ethyl ketone	UG/KG							
Methylene chloride	UG/KG							
Ortho Xylene	UG/KG							
Toluene	UG/KG							
Semivolatile Organic Compounds								
2-Methylnaphthalene	UG/KG							
3,3'-Dichlorobenzidine	UG/KG							
Acenaphthene	UG/KG							
Acenaphthylene	UG/KG							
Anthracene	UG/KG							
Benzo(a)anthracene	UG/KG							
Benzo(a)pyrene	UG/KG							
Benzo(b)fluoranthene	UG/KG							
Benzo(ghi)perylene	UG/KG							
Benzo(k)fluoranthene	UG/KG							
Bis(2-Ethylhexyl)phthalate	UG/KG							
Butylbenzylphthalate	UG/KG							
Carbazole	UG/KG							
Chrysene	UG/KG							
Di-n-butylphthalate	UG/KG							

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	
		121IEXFL-07	121IEXFL-08	121IEXFL-09	121IEXFL-10	121IEXFL-10	121IEXFL-12	1
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
		121IEXFL-07	121IEXFL-08	121IEXFL-09	121IEXFL-11	121IEXFL-10	121IEXFL-12	1
		0	0	0	0	0	0	
		0.2	0.2	0.2	0.2	0.2	0.2	
		8/3/2007	8/3/2007	8/3/2007	8/3/2007	8/3/2007	8/14/2007	
		SA	SA	SA	DU	SA	SA	
		RA	RA	RA	RA	RA	RA	
		2	2	2	2	2	1	
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	
Di-n-octylphthalate	UG/KG							
Dibenz(a,h)anthracene	UG/KG							
Dibenzofuran	UG/KG							
Diethyl phthalate	UG/KG							
Fluoranthene	UG/KG							
Fluorene	UG/KG							
Indeno(1,2,3-cd)pyrene	UG/KG							
Isophorone	UG/KG							
Naphthalene	UG/KG							
Nitrobenzene	UG/KG							
Phenanthrene	UG/KG							
Phenol	UG/KG							
Pyrene	UG/KG							
Pesticides/PCBs								
4,4'-DDE	UG/KG							
4,4'-DDT	UG/KG							
Aldrin	UG/KG							
Dieldrin	UG/KG							
Endosulfan I	UG/KG							
Endrin	UG/KG							
Heptachlor epoxide	UG/KG							
Aroclor-1254	UG/KG							
Aroclor-1260	UG/KG							
Inorganics Compounds								
Aluminum	MG/KG							

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	
		121IEXFL-07	121IEXFL-08	121IEXFL-09	121IEXFL-10	121IEXFL-10	121IEXFL-12	1
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
		121IEXFL-07	121IEXFL-08	121IEXFL-09	121IEXFL-11	121IEXFL-10	121IEXFL-12	1
		0	0	0	0	0	0	
		0.2	0.2	0.2	0.2	0.2	0.2	
		8/3/2007	8/3/2007	8/3/2007	8/3/2007	8/3/2007	8/14/2007	
		SA	SA	SA	DU	SA	SA	
		RA	RA	RA	RA	RA	RA	
		2	2	2	2	2	1	
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	
Antimony	MG/KG							
Arsenic	MG/KG							
Barium	MG/KG							
Beryllium	MG/KG							
Cadmium	MG/KG							
Calcium	MG/KG							
Chromium	MG/KG							
Cobalt	MG/KG							
Copper	MG/KG							
Cyanide, Total	MG/KG							
Iron	MG/KG	15000 J	16400 J	10700 J	10400 J	10500 J	16100 J	
Lead	MG/KG							
Magnesium	MG/KG							
Manganese	MG/KG	4240 J	944 J	1120 J	1540 J	1700 J	1030 J	
Mercury	MG/KG							
Nickel	MG/KG							
Potassium	MG/KG							
Selenium	MG/KG							
Silver	MG/KG							
Sodium	MG/KG							
Thallium	MG/KG							
Vanadium	MG/KG							
Zinc	MG/KG							
Others								
Total Organic Carbon	MG/KG							

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	
		121IEXFL-07	121IEXFL-08	121IEXFL-09	121IEXFL-10	121IEXFL-10	121IEXFL-12	1
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
		121IEXFL-07	121IEXFL-08	121IEXFL-09	121IEXFL-11	121IEXFL-10	121IEXFL-12	1
		0	0	0	0	0	0	
		0.2	0.2	0.2	0.2	0.2	0.2	
		8/3/2007	8/3/2007	8/3/2007	8/3/2007	8/3/2007	8/14/2007	
		SA	SA	SA	DU	SA	SA	
		RA	RA	RA	RA	RA	RA	
		2	2	2	2	2	1	
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	
Total Petroleum Hydrocarbons	MG/KG							

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	
		I21IEXPR-02	121IEXPR-03	121IEXPR-08	121IEXPR-14	121IEXPR-15	121IEXPR-15	1
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
		I21IEXPR-02	121IEXPR-03	121IEXPR-08	121IEXPR-14	121IEXPR-16	121IEXPR-15	1
		0	0	0	0	0	0	
		0.2	0.2	0.2	0.2	0.2	0.2	
		8/3/2007	8/3/2007	8/3/2007	8/14/2007	8/14/2007	8/14/2007	
		SA	SA	SA	SA	DU	SA	
		RA	RA	RA	RA	RA	RA	
		1	1	2	2	2	2	
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	
Volatile Organic Compounds								
Acetone	UG/KG							
Benzene	UG/KG							
Ethyl benzene	UG/KG							
Meta/Para Xylene	UG/KG							
Methyl ethyl ketone	UG/KG							
Methylene chloride	UG/KG							
Ortho Xylene	UG/KG							
Toluene	UG/KG							
Semivolatile Organic Compounds								
2-Methylnaphthalene	UG/KG							
3,3'-Dichlorobenzidine	UG/KG							
Acenaphthene	UG/KG							
Acenaphthylene	UG/KG							
Anthracene	UG/KG							
Benzo(a)anthracene	UG/KG							
Benzo(a)pyrene	UG/KG							
Benzo(b)fluoranthene	UG/KG							
Benzo(ghi)perylene	UG/KG							
Benzo(k)fluoranthene	UG/KG							
Bis(2-Ethylhexyl)phthalate	UG/KG							
Butylbenzylphthalate	UG/KG							
Carbazole	UG/KG							
Chrysene	UG/KG							
Di-n-butylphthalate	UG/KG							

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	
		I21IEXPR-02	121IEXPR-03	121IEXPR-08	121IEXPR-14	121IEXPR-15	121IEXPR-15	1
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
		I21IEXPR-02	121IEXPR-03	121IEXPR-08	121IEXPR-14	121IEXPR-16	121IEXPR-15	1
		0	0	0	0	0	0	
		0.2	0.2	0.2	0.2	0.2	0.2	
		8/3/2007	8/3/2007	8/3/2007	8/14/2007	8/14/2007	8/14/2007	
		SA	SA	SA	SA	DU	SA	
		RA	RA	RA	RA	RA	RA	
		1	1	2	2	2	2	
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	
Di-n-octylphthalate	UG/KG							
Dibenz(a,h)anthracene	UG/KG							
Dibenzofuran	UG/KG							
Diethyl phthalate	UG/KG							
Fluoranthene	UG/KG							
Fluorene	UG/KG							
Indeno(1,2,3-cd)pyrene	UG/KG							
Isophorone	UG/KG							
Naphthalene	UG/KG							
Nitrobenzene	UG/KG							
Phenanthrene	UG/KG							
Phenol	UG/KG							
Pyrene	UG/KG							
Pesticides/PCBs								
4,4'-DDE	UG/KG							
4,4'-DDT	UG/KG							
Aldrin	UG/KG							
Dieldrin	UG/KG							
Endosulfan I	UG/KG							
Endrin	UG/KG							
Heptachlor epoxide	UG/KG							
Aroclor-1254	UG/KG							
Aroclor-1260	UG/KG							
Inorganics Compounds								
Aluminum	MG/KG							

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	
		I21IEXPR-02	121IEXPR-03	121IEXPR-08	121IEXPR-14	121IEXPR-15	121IEXPR-15	1
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
		I21IEXPR-02	121IEXPR-03	121IEXPR-08	121IEXPR-14	121IEXPR-16	121IEXPR-15	1
		0	0	0	0	0	0	
		0.2	0.2	0.2	0.2	0.2	0.2	
		8/3/2007	8/3/2007	8/3/2007	8/14/2007	8/14/2007	8/14/2007	
		SA	SA	SA	SA	DU	SA	
		RA	RA	RA	RA	RA	RA	
		1	1	2	2	2	2	
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	
Antimony	MG/KG							
Arsenic	MG/KG							
Barium	MG/KG							
Beryllium	MG/KG							
Cadmium	MG/KG							
Calcium	MG/KG							
Chromium	MG/KG							
Cobalt	MG/KG							
Copper	MG/KG							
Cyanide, Total	MG/KG							
Iron	MG/KG	16400 J	22700 J	23000 J	31300 J	28800 J	26700 J	
Lead	MG/KG							
Magnesium	MG/KG							
Manganese	MG/KG	1900 J	1690 J	2960 J	2140 J	776 J	2010 J	
Mercury	MG/KG							
Nickel	MG/KG							
Potassium	MG/KG							
Selenium	MG/KG							
Silver	MG/KG							
Sodium	MG/KG							
Thallium	MG/KG							
Vanadium	MG/KG							
Zinc	MG/KG							
Others								
Total Organic Carbon	MG/KG							

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I	
		I21IEXPR-02	121IEXPR-03	121IEXPR-08	121IEXPR-14	121IEXPR-15	121IEXPR-15	1
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
		I21IEXPR-02	121IEXPR-03	121IEXPR-08	121IEXPR-14	121IEXPR-16	121IEXPR-15	1
		0	0	0	0	0	0	
		0.2	0.2	0.2	0.2	0.2	0.2	
		8/3/2007	8/3/2007	8/3/2007	8/14/2007	8/14/2007	8/14/2007	
		SA	SA	SA	SA	DU	SA	
		RA	RA	RA	RA	RA	RA	
		1	1	2	2	2	2	
Parameter	Units	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	
Total Petroleum Hydrocarbons	MG/KG							

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	
		I21IEXPR-17	
		SOIL	
		I21IEXPR-17	
		0	
		0.2	
		8/14/2007	
		SA	
		RA	
		2	
Parameter	Units	Value	(Q)
Volatile Organic Compounds			
Acetone	UG/KG		
Benzene	UG/KG		
Ethyl benzene	UG/KG		
Meta/Para Xylene	UG/KG		
Methyl ethyl ketone	UG/KG		
Methylene chloride	UG/KG		
Ortho Xylene	UG/KG		
Toluene	UG/KG		
Semivolatile Organic Compounds			
2-Methylnaphthalene	UG/KG		
3,3'-Dichlorobenzidine	UG/KG		
Acenaphthene	UG/KG		
Acenaphthylene	UG/KG		
Anthracene	UG/KG		
Benzo(a)anthracene	UG/KG		
Benzo(a)pyrene	UG/KG		
Benzo(b)fluoranthene	UG/KG		
Benzo(ghi)perylene	UG/KG		
Benzo(k)fluoranthene	UG/KG		
Bis(2-Ethylhexyl)phthalate	UG/KG		
Butylbenzylphthalate	UG/KG		
Carbazole	UG/KG		
Chrysene	UG/KG		
Di-n-butylphthalate	UG/KG		

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	
		I21IEXPR-17	
		SOIL	
		I21IEXPR-17	
		0	
		0.2	
		8/14/2007	
		SA	
		RA	
		2	
Parameter	Units	Value	(Q)
Di-n-octylphthalate	UG/KG		
Dibenz(a,h)anthracene	UG/KG		
Dibenzofuran	UG/KG		
Diethyl phthalate	UG/KG		
Fluoranthene	UG/KG		
Fluorene	UG/KG		
Indeno(1,2,3-cd)pyrene	UG/KG		
Isophorone	UG/KG		
Naphthalene	UG/KG		
Nitrobenzene	UG/KG		
Phenanthrene	UG/KG		
Phenol	UG/KG		
Pyrene	UG/KG		
Pesticides/PCBs			
4,4'-DDE	UG/KG		
4,4'-DDT	UG/KG		
Aldrin	UG/KG		
Dieldrin	UG/KG		
Endosulfan I	UG/KG		
Endrin	UG/KG		
Heptachlor epoxide	UG/KG		
Aroclor-1254	UG/KG		
Aroclor-1260	UG/KG		
Inorganics Compounds			
Aluminum	MG/KG		

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	
		I21IEXPR-17	
		SOIL	
		I21IEXPR-17	
		0	
		0.2	
		8/14/2007	
		SA	
		RA	
		2	
Parameter	Units	Value	(Q)
Antimony	MG/KG		
Arsenic	MG/KG		
Barium	MG/KG		
Beryllium	MG/KG		
Cadmium	MG/KG		
Calcium	MG/KG		
Chromium	MG/KG		
Cobalt	MG/KG		
Copper	MG/KG		
Cyanide, Total	MG/KG		
Iron	MG/KG	20300	J
Lead	MG/KG		
Magnesium	MG/KG		
Manganese	MG/KG	2900	J
Mercury	MG/KG		
Nickel	MG/KG		
Potassium	MG/KG		
Selenium	MG/KG		
Silver	MG/KG		
Sodium	MG/KG		
Thallium	MG/KG		
Vanadium	MG/KG		
Zinc	MG/KG		
Others			
Total Organic Carbon	MG/KG		

Appendix A
SEAD-121I Soil Sample Results
SEAD 121C AND SEAD 121i Record of Decision

		SEAD-121I	
		I21IEXPR-17	
		SOIL	
		I21IEXPR-17	
		0	
		0.2	
		8/14/2007	
		SA	
		RA	
		2	
Parameter	Units	Value	(Q)
Total Petroleum Hydrocarbons	MG/KG		

Appendix A
SURFACE WATER SAMPLE RESULTS
SEAD 121C and SEAD 121I Record of Decision
Seneca Army Depot Activity

Facility						SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Location ID						SW121I-1	SW121I-10	SW121I-2	SW121I-3
Matrix						SW	SW	SW	SW
Sample ID						121I-3000	121I-3010	121I-3001	121I-3002
Sample Depth to Top of Sample						0	0	0	0
mple Depth to Bottom of Sample						N/A	N/A	N/A	N/A
Sample Date						11/6/2002	11/6/2002	11/6/2002	11/6/2002
QC Code						SA	SA	SA	SA
Study ID						PID-RI	PID-RI	PID-RI	PID-RI
Parameter	Units	Maximum Detect	Frequency of Detection	Number of Detects	Number of Analyses	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organics									
1,1,1-Trichloroethane	UG/L	0	0%	0	8	0.75 U	0.75 U	0.75 U	0.75 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	0	8	0.7 U	0.7 U	0.7 U	0.7 U
1,1,2-Trichloroethane	UG/L	0	0%	0	8	0.62 U	0.62 U	0.62 U	0.62 U
1,1-Dichloroethane	UG/L	0	0%	0	8	0.66 U	0.66 U	0.66 U	0.66 U
1,1-Dichloroethene	UG/L	0	0%	0	8	0.69 U	0.69 U	0.69 U	0.69 U
1,2-Dichloroethane	UG/L	0	0%	0	8	0.56 U	0.56 U	0.56 U	0.56 U
1,2-Dichloropropane	UG/L	0	0%	0	8	0.73 U	0.73 U	0.73 U	0.73 U
Acetone	UG/L	0	0%	0	8	3.5 UJ	3.5 U	3.5 U	3.5 U
Benzene	UG/L	0	0%	0	8	0.71 U	0.71 U	0.71 U	0.71 U
Bromodichloromethane	UG/L	0	0%	0	8	0.73 U	0.73 U	0.73 U	0.73 U
Bromoform	UG/L	0	0%	0	8	0.49 U	0.49 U	0.49 U	0.49 U
Carbon disulfide	UG/L	0	0%	0	8	0.72 U	0.72 U	0.72 U	0.72 U
Carbon tetrachloride	UG/L	0	0%	0	8	0.47 U	0.47 U	0.47 U	0.47 U
Chlorobenzene	UG/L	0	0%	0	8	0.78 U	0.78 U	0.78 U	0.78 U
Chlorodibromomethane	UG/L	0	0%	0	8	0.66 U	0.66 U	0.66 U	0.66 U
Chloroethane	UG/L	0	0%	0	8	2.4 U	2.4 U	2.4 U	2.4 U
Chloroform	UG/L	0	0%	0	8	0.61 U	0.61 U	0.61 U	0.61 U
Cis-1,2-Dichloroethene	UG/L	0	0%	0	8	0.62 U	0.62 U	0.62 U	0.62 U
Cis-1,3-Dichloropropene	UG/L	0	0%	0	8	0.66 U	0.66 U	0.66 U	0.66 U
Ethyl benzene	UG/L	0	0%	0	8	0.76 U	0.76 U	0.76 U	0.76 U
Meta/Para Xylene	UG/L	0	0%	0	8	1.5 U	1.5 U	1.5 U	1.5 U
Methyl bromide	UG/L	0	0%	0	8	0.38 UJ	0.38 U	0.38 U	0.38 U
Methyl butyl ketone	UG/L	0	0%	0	8	0.6 U	0.6 U	0.6 U	0.6 U
Methyl chloride	UG/L	0	0%	0	8	0.51 U	0.51 U	0.51 U	0.51 U
Methyl ethyl ketone	UG/L	0	0%	0	8	2.3 U	2.3 U	2.3 U	2.3 U
Methyl isobutyl ketone	UG/L	0	0%	0	8	0.81 UJ	0.81 U	0.81 U	0.81 U
Methylene chloride	UG/L	0	0%	0	8	1.8 U	1.8 U	1.8 U	1.8 U
Ortho Xylene	UG/L	0	0%	0	8	0.72 U	0.72 U	0.72 U	0.72 U
Styrene	UG/L	0	0%	0	8	0.92 U	0.92 U	0.92 U	0.92 U

Appendix A
SURFACE WATER SAMPLE RESULTS
SEAD 121C and SEAD 121I Record of Decision
Seneca Army Depot Activity

Facility						SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Location ID						SW121I-1	SW121I-10	SW121I-2	SW121I-3
Matrix						SW	SW	SW	SW
Sample ID						121I-3000	121I-3010	121I-3001	121I-3002
Sample Depth to Top of Sample						0	0	0	0
mple Depth to Bottom of Sample						N/A	N/A	N/A	N/A
Sample Date						11/6/2002	11/6/2002	11/6/2002	11/6/2002
QC Code						SA	SA	SA	SA
Study ID						PID-RI	PID-RI	PID-RI	PID-RI
Parameter	Units	Maximum Detect	Frequency of Detection	Number of Detects	Number of Analyses	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Tetrachloroethene	UG/L	0	0%	0	8	0.7 UJ	0.7 U	0.7 U	0.7 U
Toluene	UG/L	0	0%	0	8	0.71 U	0.71 U	0.71 U	0.71 U
Trans-1,2-Dichloroethene	UG/L	0	0%	0	8	0.81 U	0.81 U	0.81 U	0.81 U
Trans-1,3-Dichloropropene	UG/L	0	0%	0	8	0.66 U	0.66 U	0.66 U	0.66 U
Trichloroethene	UG/L	0	0%	0	8	0.72 U	0.72 U	0.72 U	0.72 U
Vinyl chloride	UG/L	0	0%	0	8	0.79 U	0.79 U	0.79 U	0.79 U
Semivolatile Organic Compounds									
1,2,4-Trichlorobenzene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	UG/L	0	0%	0	8	10 U	10 U	10 R	10 R
2,4,6-Trichlorophenol	UG/L	0	0%	0	8	10 U	10 U	10 R	10 R
2,4-Dichlorophenol	UG/L	0	0%	0	8	10 U	10 U	10 R	10 R
2,4-Dimethylphenol	UG/L	0	0%	0	8	10 U	10 U	10 R	10 R
2,4-Dinitrophenol	UG/L	0	0%	0	8	10 UJ	10 UJ	10 R	10 R
2,4-Dinitrotoluene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
2-Chloronaphthalene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
2-Chlorophenol	UG/L	0	0%	0	8	10 U	10 U	10 R	10 R
2-Methylnaphthalene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
2-Methylphenol	UG/L	0	0%	0	8	10 UJ	10 U	10 R	10 R
2-Nitroaniline	UG/L	0	0%	0	8	10 U	10 UJ	10 U	10 U
2-Nitrophenol	UG/L	0	0%	0	8	10 U	10 U	10 R	10 R
3 or 4-Methylphenol	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
3-Nitroaniline	UG/L	0	0%	0	8	10 U	10 U	10 U	10 UJ
4,6-Dinitro-2-methylphenol	UG/L	0	0%	0	8	10 UJ	10 UJ	10 R	10 R
4-Bromophenyl phenyl ether	UG/L	0	0%	0	8	10 UJ	10 UJ	10 UJ	10 UJ
4-Chloro-3-methylphenol	UG/L	0	0%	0	8	10 U	10 U	10 R	10 R

Appendix A
SURFACE WATER SAMPLE RESULTS
SEAD 121C and SEAD 121I Record of Decision
Seneca Army Depot Activity

Facility						SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Location ID						SW121I-1	SW121I-10	SW121I-2	SW121I-3
Matrix						SW	SW	SW	SW
Sample ID						121I-3000	121I-3010	121I-3001	121I-3002
Sample Depth to Top of Sample						0	0	0	0
mple Depth to Bottom of Sample						N/A	N/A	N/A	N/A
Sample Date						11/6/2002	11/6/2002	11/6/2002	11/6/2002
QC Code						SA	SA	SA	SA
Study ID						PID-RI	PID-RI	PID-RI	PID-RI
Parameter	Units	Maximum Detect	Frequency of Detection	Number of Detects	Number of Analyses	Value (Q)	Value (Q)	Value (Q)	Value (Q)
4-Chloroaniline	UG/L	0	0%	0	8	10 U	10 UJ	10 U	10 U
4-Chlorophenyl phenyl ether	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
4-Nitroaniline	UG/L	0	0%	0	8	10 UJ	10 UJ	10 UJ	10 UJ
4-Nitrophenol	UG/L	0	0%	0	8	10 UJ	10 UJ	10 R	10 R
Acenaphthene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Acenaphthylene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Anthracene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Benzo(a)anthracene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Benzo(a)pyrene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Benzo(ghi)perylene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Bis(2-Chloroethoxy)methane	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Bis(2-Chloroethyl)ether	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Bis(2-Chloroisopropyl)ether	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Bis(2-Ethylhexyl)phthalate	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Butylbenzylphthalate	UG/L	1.1	13%	1	8	10 U	1.1 J	10 U	10 U
Carbazole	UG/L	0	0%	0	8	10 U	10 UJ	10 U	10 U
Chrysene	UG/L	0	0%	0	8	10 U	10 UJ	10 U	10 U
Di-n-butylphthalate	UG/L	0	0%	0	8	10 UJ	10 UJ	10 UJ	10 UJ
Di-n-octylphthalate	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	UG/L	0	0%	0	8	10 U	10 UJ	10 U	10 U
Dibenzofuran	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Diethyl phthalate	UG/L	0	0%	0	8	10 U	10 UJ	10 U	10 U
Dimethylphthalate	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Fluoranthene	UG/L	1.1	13%	1	8	10 U	10 U	10 U	10 U
Fluorene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Hexachlorobenzene	UG/L	0	0%	0	8	10 UJ	10 UJ	10 UJ	10 UJ
Hexachlorobutadiene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	UG/L	0	0%	0	8	10 U	10 UJ	10 U	10 UJ

Appendix A
SURFACE WATER SAMPLE RESULTS
SEAD 121C and SEAD 121I Record of Decision
Seneca Army Depot Activity

Facility						SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Location ID						SW121I-1	SW121I-10	SW121I-2	SW121I-3
Matrix						SW	SW	SW	SW
Sample ID						121I-3000	121I-3010	121I-3001	121I-3002
Sample Depth to Top of Sample						0	0	0	0
mple Depth to Bottom of Sample						N/A	N/A	N/A	N/A
Sample Date						11/6/2002	11/6/2002	11/6/2002	11/6/2002
QC Code						SA	SA	SA	SA
Study ID						PID-RI	PID-RI	PID-RI	PID-RI
Parameter	Units	Maximum Detect	Frequency of Detection	Number of Detects	Number of Analyses	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Hexachloroethane	UG/L	0	0%	0	8	10 U	10 U	10 U	10 UJ
Indeno(1,2,3-cd)pyrene	UG/L	0	0%	0	8	10 UJ	10 UJ	10 UJ	10 U
Isophorone	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
N-Nitrosodiphenylamine	UG/L	0	0%	0	8	10 U	10 U	10 U	10 UJ
N-Nitrosodipropylamine	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Naphthalene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Nitrobenzene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Pentachlorophenol	UG/L	0	0%	0	8	10 UJ	10 UJ	10 R	10 R
Phenanthrene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Phenol	UG/L	0	0%	0	8	10 U	10 U	10 R	10 R
Pyrene	UG/L	0	0%	0	8	10 UJ	10 UJ	10 UJ	10 UJ
Pesticides/PCBs									
4,4'-DDD	UG/L	0	0%	0	8	0.01 U	0.01 U	0.01 U	0.01 U
4,4'-DDE	UG/L	0	0%	0	8	0.005 U	0.005 U	0.005 U	0.005 U
4,4'-DDT	UG/L	0	0%	0	8	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
Aldrin	UG/L	0	0%	0	8	0.02 U	0.02 U	0.02 U	0.02 U
Alpha-BHC	UG/L	0	0%	0	8	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
Alpha-Chlordane	UG/L	0	0%	0	8	0.02 U	0.02 U	0.02 U	0.02 U
Beta-BHC	UG/L	0	0%	0	8	0.01 U	0.01 U	0.01 U	0.01 U
Chlordane	UG/L	0	0%	0	8	0.13 U	0.13 U	0.13 U	0.13 U
Delta-BHC	UG/L	0	0%	0	8	0.004 U	0.004 U	0.004 U	0.004 U
Dieldrin	UG/L	0	0%	0	8	0.009 U	0.009 U	0.009 U	0.009 U
Endosulfan I	UG/L	0	0%	0	8	0.01 U	0.01 U	0.01 U	0.01 U
Endosulfan II	UG/L	0	0%	0	8	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
Endosulfan sulfate	UG/L	0	0%	0	8	0.02 U	0.02 U	0.02 U	0.02 U
Endrin	UG/L	0	0%	0	8	0.02 U	0.02 U	0.02 U	0.02 U
Endrin aldehyde	UG/L	0	0%	0	8	0.02 U	0.02 U	0.02 U	0.02 U
Endrin ketone	UG/L	0	0%	0	8	0.009 U	0.009 U	0.009 U	0.009 U
Gamma-BHC/Lindane	UG/L	0	0%	0	8	0.009 U	0.009 U	0.009 U	0.009 U
Gamma-Chlordane	UG/L	0	0%	0	8	0.01 U	0.01 U	0.01 U	0.01 U

Appendix A
SURFACE WATER SAMPLE RESULTS
SEAD 121C and SEAD 121I Record of Decision
Seneca Army Depot Activity

Facility						SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Location ID						SW121I-1	SW121I-10	SW121I-2	SW121I-3
Matrix						SW	SW	SW	SW
Sample ID						121I-3000	121I-3010	121I-3001	121I-3002
Sample Depth to Top of Sample						0	0	0	0
mple Depth to Bottom of Sample						N/A	N/A	N/A	N/A
Sample Date						11/6/2002	11/6/2002	11/6/2002	11/6/2002
QC Code						SA	SA	SA	SA
Study ID						PID-RI	PID-RI	PID-RI	PID-RI
Parameter	Units	Maximum Detect	Frequency of Detection	Number of Detects	Number of Analyses	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Heptachlor	UG/L	0	0%	0	8	0.007 U	0.007 U	0.007 U	0.007 U
Heptachlor epoxide	UG/L	0	0%	0	8	0.008 U	0.008 U	0.008 U	0.008 U
Methoxychlor	UG/L	0	0%	0	8	0.008 U	0.008 U	0.008 U	0.008 U
Toxaphene	UG/L	0	0%	0	8	0.12 U	0.12 U	0.12 U	0.12 U
Aroclor-1016	UG/L	0	0%	0	8	0.24 UJ	0.24 UJ	0.24 UJ	0.24 UJ
Aroclor-1221	UG/L	0	0%	0	8	0.08 U	0.08 U	0.08 U	0.08 U
Aroclor-1232	UG/L	0	0%	0	8	0.09 UJ	0.09 UJ	0.09 UJ	0.09 UJ
Aroclor-1242	UG/L	0	0%	0	8	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ
Aroclor-1248	UG/L	0	0%	0	8	0.12 U	0.12 U	0.12 U	0.12 U
Aroclor-1254	UG/L	0	0%	0	8	0.05 U	0.05 U	0.05 U	0.05 U
Aroclor-1260	UG/L	0	0%	0	8	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
Metals									
Aluminum	UG/L	2050	100%	8	8	37.6	1490	23.9	43.5
Antimony	UG/L	0	0%	0	8	4.7 U	4.7 U	4.7 U	4.7 U
Arsenic	UG/L	0	0%	0	8	2.8 U	2.8 U	2.8 U	2.8 U
Barium	UG/L	49.2	75%	6	8	49.2	48.9	33.8	33.2
Beryllium	UG/L	0.28	75%	6	8	0.21	0.26	0.16	0.16
Cadmium	UG/L	0.54	13%	1	8	0.4 U	0.54	0.4 U	0.4 U
Calcium	UG/L	74200	100%	8	8	74200	56600	60900	61100
Chromium	UG/L	6	63%	5	8	1.9	4.3	1.1	0.6 U
Cobalt	UG/L	3	25%	2	8	0.6 U	2.8	0.6 U	0.6 U
Copper	UG/L	11.2	75%	6	8	1.4	7.2	1.2	2
Cyanide, Amenable	MG/L	0	0%	0	8	0.01 U	0.01 U	0.01 U	0.01 U
Cyanide, Total	MG/L	0	0%	0	8	0.01 U	0.01 U	0.01 U	0.01 U
Iron	UG/L	3410	75%	6	8	32.3 J	3080	17.3 U	17.3 U
Lead	UG/L	26.3	50%	4	8	2.1 U	21	4.3 J	2.1 U
Magnesium	UG/L	11100	100%	8	8	11100	7240	7790	9700
Manganese	UG/L	206	100%	8	8	18	139	0.8	1.7
Mercury	UG/L	0	0%	0	8	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	UG/L	3.6	25%	2	8	1.8 U	3.5	1.8 U	1.8 U

Appendix A
SURFACE WATER SAMPLE RESULTS
SEAD 121C and SEAD 121I Record of Decision
Seneca Army Depot Activity

Facility						SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Location ID						SW121I-1	SW121I-10	SW121I-2	SW121I-3
Matrix						SW	SW	SW	SW
Sample ID						121I-3000	121I-3010	121I-3001	121I-3002
Sample Depth to Top of Sample						0	0	0	0
mple Depth to Bottom of Sample						N/A	N/A	N/A	N/A
Sample Date						11/6/2002	11/6/2002	11/6/2002	11/6/2002
QC Code						SA	SA	SA	SA
Study ID						PID-RI	PID-RI	PID-RI	PID-RI
Parameter	Units	Maximum Detect	Frequency of Detection	Number of Detects	Number of Analyses	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Potassium	UG/L	4640	100%	8	8	2400 J	3200 J	1700 J	1290 J
Selenium	UG/L	3.1	25%	2	8	3 U	3 U	3 U	3 U
Silver	UG/L	0	0%	0	8	1 U	1 U	1 U	1 U
Sodium	UG/L	38500	100%	8	8	18700 J	38500 J	14900 J	30900 J
Thallium	UG/L	0	0%	0	8	5.4 U	5.4 U	5.4 U	5.4 U
Vanadium	UG/L	3.9	38%	3	8	2.1	3.3	0.7 U	0.7 U
Zinc	UG/L	190	100%	8	8	15.9	54.1	12.5	16.4
Others									
Total Petroleum Hydrocarbons	MG/L	0	0%	0	8	1 U	1 U	1 U	1 U

Note(s):
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 data was rejected in the data validating process
NJ = compound was "tentatively identified" and the associated numerical value is approximate

Shading indicates concentration is above action level.

1. Action levels are from the New York State Ambient Water Quality Standards, Class C for Surface Water.

Appendix A
SURFACE WATER SAMPLE RESULTS
SEAD 121C and SEAD 121I Record of Decision
Seneca Army Depot Activity

Facility						SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Location ID						SW121I-5	SW121I-6	SW121I-7	SW121I-7
Matrix						SW	SW	SW	SW
Sample ID						121I-3004	121I-3006	121I-3007	121I-3005
Sample Depth to Top of Sample						0	0	0	0
mple Depth to Bottom of Sample						N/A	N/A	N/A	N/A
Sample Date						11/6/2002	11/6/2002	10/26/2002	10/26/2002
QC Code						SA	SA	SA	SA
Study ID						PID-RI	PID-RI	PID-RI	PID-RI
Parameter	Units	Maximum Detect	Frequency of Detection	Number of Detects	Number of Analyses	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organics									
1,1,1-Trichloroethane	UG/L	0	0%	0	8	0.75 U	0.75 U	5 U	5 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	0	8	0.7 U	0.7 U	5 U	5 U
1,1,2-Trichloroethane	UG/L	0	0%	0	8	0.62 U	0.62 U	5 U	5 U
1,1-Dichloroethane	UG/L	0	0%	0	8	0.66 U	0.66 U	5 U	5 U
1,1-Dichloroethene	UG/L	0	0%	0	8	0.69 U	0.69 U	5 U	5 U
1,2-Dichloroethane	UG/L	0	0%	0	8	0.56 U	0.56 U	5 U	5 U
1,2-Dichloropropane	UG/L	0	0%	0	8	0.73 U	0.73 U	5 U	5 U
Acetone	UG/L	0	0%	0	8	3.5 U	3.5 U	5 UJ	5 UJ
Benzene	UG/L	0	0%	0	8	0.71 U	0.71 U	5 U	5 U
Bromodichloromethane	UG/L	0	0%	0	8	0.73 U	0.73 U	5 U	5 U
Bromoform	UG/L	0	0%	0	8	0.49 U	0.49 U	5 U	5 U
Carbon disulfide	UG/L	0	0%	0	8	0.72 U	0.72 U	5 U	5 U
Carbon tetrachloride	UG/L	0	0%	0	8	0.47 U	0.47 U	5 U	5 U
Chlorobenzene	UG/L	0	0%	0	8	0.78 U	0.78 U	5 U	5 U
Chlorodibromomethane	UG/L	0	0%	0	8	0.66 U	0.66 U	5 UJ	5 UJ
Chloroethane	UG/L	0	0%	0	8	2.4 U	2.4 U	5 UJ	5 UJ
Chloroform	UG/L	0	0%	0	8	0.61 U	0.61 U	5 U	5 U
Cis-1,2-Dichloroethene	UG/L	0	0%	0	8	0.62 U	0.62 U	5 U	5 U
Cis-1,3-Dichloropropene	UG/L	0	0%	0	8	0.66 U	0.66 U	5 U	5 U
Ethyl benzene	UG/L	0	0%	0	8	0.76 U	0.76 U	5 U	5 U
Meta/Para Xylene	UG/L	0	0%	0	8	1.5 U	1.5 U	5 U	5 U
Methyl bromide	UG/L	0	0%	0	8	0.38 U	0.38 U	5 U	5 U
Methyl butyl ketone	UG/L	0	0%	0	8	0.6 U	0.6 U	5 U	5 U
Methyl chloride	UG/L	0	0%	0	8	0.51 U	0.51 U	5 U	5 U
Methyl ethyl ketone	UG/L	0	0%	0	8	2.3 U	2.3 U	5 UJ	5 UJ
Methyl isobutyl ketone	UG/L	0	0%	0	8	0.81 U	0.81 U	5 U	5 U
Methylene chloride	UG/L	0	0%	0	8	1.8 U	1.8 U	5 U	5 U
Ortho Xylene	UG/L	0	0%	0	8	0.72 U	0.72 U	5 U	5 U
Styrene	UG/L	0	0%	0	8	0.92 U	0.92 U	5 U	5 U

Appendix A
SURFACE WATER SAMPLE RESULTS
SEAD 121C and SEAD 121I Record of Decision
Seneca Army Depot Activity

Facility						SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Location ID						SW121I-5	SW121I-6	SW121I-7	SW121I-7
Matrix						SW	SW	SW	SW
Sample ID						121I-3004	121I-3006	121I-3007	121I-3005
Sample Depth to Top of Sample						0	0	0	0
mple Depth to Bottom of Sample						N/A	N/A	N/A	N/A
Sample Date						11/6/2002	11/6/2002	10/26/2002	10/26/2002
QC Code						SA	SA	SA	SA
Study ID						PID-RI	PID-RI	PID-RI	PID-RI
Parameter	Units	Maximum Detect	Frequency of Detection	Number of Detects	Number of Analyses	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Tetrachloroethene	UG/L	0	0%	0	8	0.7 U	0.7 U	5 U	5 U
Toluene	UG/L	0	0%	0	8	0.71 U	0.71 U	5 U	5 U
Trans-1,2-Dichloroethene	UG/L	0	0%	0	8	0.81 U	0.81 U	5 U	5 U
Trans-1,3-Dichloropropene	UG/L	0	0%	0	8	0.66 U	0.66 U	5 UJ	5 UJ
Trichloroethene	UG/L	0	0%	0	8	0.72 U	0.72 U	5 U	5 U
Vinyl chloride	UG/L	0	0%	0	8	0.79 U	0.79 U	5 UJ	5 UJ
Semivolatile Organic Compounds									
1,2,4-Trichlorobenzene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 UJ
1,2-Dichlorobenzene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	UG/L	0	0%	0	8	10 R	10 U	10 U	10 R
2,4,6-Trichlorophenol	UG/L	0	0%	0	8	10 R	10 U	10 U	10 R
2,4-Dichlorophenol	UG/L	0	0%	0	8	10 R	10 U	10 U	10 R
2,4-Dimethylphenol	UG/L	0	0%	0	8	10 R	10 U	10 U	10 R
2,4-Dinitrophenol	UG/L	0	0%	0	8	10 R	10 UJ	10 UJ	10 R
2,4-Dinitrotoluene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
2-Chloronaphthalene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
2-Chlorophenol	UG/L	0	0%	0	8	10 R	10 U	10 U	10 R
2-Methylnaphthalene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
2-Methylphenol	UG/L	0	0%	0	8	10 R	10 U	10 U	10 U
2-Nitroaniline	UG/L	0	0%	0	8	10 UJ	10 UJ	10 UJ	10 U
2-Nitrophenol	UG/L	0	0%	0	8	10 R	10 U	10 U	10 R
3 or 4-Methylphenol	UG/L	0	0%	0	8	10 U	10 U	10 U	10 UJ
3,3'-Dichlorobenzidine	UG/L	0	0%	0	8	10 U	10 U	10 U	10 R
3-Nitroaniline	UG/L	0	0%	0	8	10 UJ	10 UJ	10 U	10 U
4,6-Dinitro-2-methylphenol	UG/L	0	0%	0	8	10 R	10 UJ	10 U	10 R
4-Bromophenyl phenyl ether	UG/L	0	0%	0	8	10 UJ	10 UJ	10 U	10 U
4-Chloro-3-methylphenol	UG/L	0	0%	0	8	10 R	10 U	10 U	10 R

Appendix A
SURFACE WATER SAMPLE RESULTS
SEAD 121C and SEAD 121I Record of Decision
Seneca Army Depot Activity

Facility						SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Location ID						SW121I-5	SW121I-6	SW121I-7	SW121I-7
Matrix						SW	SW	SW	SW
Sample ID						121I-3004	121I-3006	121I-3007	121I-3005
Sample Depth to Top of Sample						0	0	0	0
mple Depth to Bottom of Sample						N/A	N/A	N/A	N/A
Sample Date						11/6/2002	11/6/2002	10/26/2002	10/26/2002
QC Code						SA	SA	SA	SA
Study ID						PID-RI	PID-RI	PID-RI	PID-RI
Parameter	Units	Maximum Detect	Frequency of Detection	Number of Detects	Number of Analyses	Value (Q)	Value (Q)	Value (Q)	Value (Q)
4-Chloroaniline	UG/L	0	0%	0	8	10 UJ	10 UJ	10 U	10 U
4-Chlorophenyl phenyl ether	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
4-Nitroaniline	UG/L	0	0%	0	8	10 UJ	10 UJ	10 U	10 U
4-Nitrophenol	UG/L	0	0%	0	8	10 R	10 UJ	10 U	10 R
Acenaphthene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Acenaphthylene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Anthracene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Benzo(a)anthracene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Benzo(a)pyrene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Benzo(ghi)perylene	UG/L	0	0%	0	8	10 UJ	10 UJ	10 U	10 U
Benzo(k)fluoranthene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Bis(2-Chloroethoxy)methane	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Bis(2-Chloroethyl)ether	UG/L	0	0%	0	8	10 U	10 U	10 UJ	10 UJ
Bis(2-Chloroisopropyl)ether	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Bis(2-Ethylhexyl)phthalate	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Butylbenzylphthalate	UG/L	1.1	13%	1	8	10 U	10 U	10 U	10 U
Carbazole	UG/L	0	0%	0	8	10 UJ	10 UJ	10 U	10 U
Chrysene	UG/L	0	0%	0	8	10 UJ	10 UJ	10 U	10 U
Di-n-butylphthalate	UG/L	0	0%	0	8	10 UJ	10 UJ	10 U	10 U
Di-n-octylphthalate	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	UG/L	0	0%	0	8	10 UJ	10 UJ	10 U	10 U
Dibenzofuran	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Diethyl phthalate	UG/L	0	0%	0	8	10 UJ	10 UJ	10 U	10 U
Dimethylphthalate	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Fluoranthene	UG/L	1.1	13%	1	8	10 U	1.1 J	10 U	10 U
Fluorene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Hexachlorobenzene	UG/L	0	0%	0	8	10 UJ	10 UJ	10 U	10 U
Hexachlorobutadiene	UG/L	0	0%	0	8	10 U	10 U	10 UJ	10 UJ
Hexachlorocyclopentadiene	UG/L	0	0%	0	8	10 UJ	10 UJ	10 UJ	10 UJ

Appendix A
SURFACE WATER SAMPLE RESULTS
SEAD 121C and SEAD 121I Record of Decision
Seneca Army Depot Activity

Facility						SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Location ID						SW121I-5	SW121I-6	SW121I-7	SW121I-7
Matrix						SW	SW	SW	SW
Sample ID						121I-3004	121I-3006	121I-3007	121I-3005
Sample Depth to Top of Sample						0	0	0	0
mple Depth to Bottom of Sample						N/A	N/A	N/A	N/A
Sample Date						11/6/2002	11/6/2002	10/26/2002	10/26/2002
QC Code						SA	SA	SA	SA
Study ID						PID-RI	PID-RI	PID-RI	PID-RI
Parameter	Units	Maximum Detect	Frequency of Detection	Number of Detects	Number of Analyses	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Hexachloroethane	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	UG/L	0	0%	0	8	10 UJ	10 UJ	10 U	10 UJ
Isophorone	UG/L	0	0%	0	8	10 U	10 U	10 UJ	10 U
N-Nitrosodiphenylamine	UG/L	0	0%	0	8	10 U	10 U	10 UJ	10 UJ
N-Nitrosodipropylamine	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Naphthalene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Nitrobenzene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Pentachlorophenol	UG/L	0	0%	0	8	10 R	10 UJ	10 U	10 R
Phenanthrene	UG/L	0	0%	0	8	10 U	10 U	10 U	10 U
Phenol	UG/L	0	0%	0	8	10 R	10 U	10 U	10 R
Pyrene	UG/L	0	0%	0	8	10 UJ	10 UJ	10 U	10 U
Pesticides/PCBs									
4,4'-DDD	UG/L	0	0%	0	8	0.01 U	0.01 U	0.01 UJ	0.01 UJ
4,4'-DDE	UG/L	0	0%	0	8	0.005 U	0.005 U	0.005 UJ	0.005 UJ
4,4'-DDT	UG/L	0	0%	0	8	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
Aldrin	UG/L	0	0%	0	8	0.02 U	0.02 U	0.02 UJ	0.02 UJ
Alpha-BHC	UG/L	0	0%	0	8	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
Alpha-Chlordane	UG/L	0	0%	0	8	0.02 U	0.02 U	0.02 UJ	0.02 UJ
Beta-BHC	UG/L	0	0%	0	8	0.01 U	0.01 U	0.01 UJ	0.01 UJ
Chlordane	UG/L	0	0%	0	8	0.13 U	0.13 U	0.13 U	0.13 U
Delta-BHC	UG/L	0	0%	0	8	0.004 U	0.004 U	0.004 UJ	0.004 UJ
Dieldrin	UG/L	0	0%	0	8	0.009 U	0.009 U	0.009 UJ	0.009 UJ
Endosulfan I	UG/L	0	0%	0	8	0.01 U	0.01 U	0.01 UJ	0.01 UJ
Endosulfan II	UG/L	0	0%	0	8	0.01 UJ	0.01 UJ	0.01 U	0.01 U
Endosulfan sulfate	UG/L	0	0%	0	8	0.02 U	0.02 U	0.02 U	0.02 U
Endrin	UG/L	0	0%	0	8	0.02 U	0.02 U	0.02 UJ	0.02 UJ
Endrin aldehyde	UG/L	0	0%	0	8	0.02 U	0.02 U	0.02 U	0.02 U
Endrin ketone	UG/L	0	0%	0	8	0.009 U	0.009 U	0.009 U	0.009 U
Gamma-BHC/Lindane	UG/L	0	0%	0	8	0.009 U	0.009 U	0.009 UJ	0.009 UJ
Gamma-Chlordane	UG/L	0	0%	0	8	0.01 U	0.01 U	0.01 UJ	0.01 UJ

Appendix A
SURFACE WATER SAMPLE RESULTS
SEAD 121C and SEAD 121I Record of Decision
Seneca Army Depot Activity

Facility						SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Location ID						SW121I-5	SW121I-6	SW121I-7	SW121I-7
Matrix						SW	SW	SW	SW
Sample ID						121I-3004	121I-3006	121I-3007	121I-3005
Sample Depth to Top of Sample						0	0	0	0
mple Depth to Bottom of Sample						N/A	N/A	N/A	N/A
Sample Date						11/6/2002	11/6/2002	10/26/2002	10/26/2002
QC Code						SA	SA	SA	SA
Study ID						PID-RI	PID-RI	PID-RI	PID-RI
Parameter	Units	Maximum Detect	Frequency of Detection	Number of Detects	Number of Analyses	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Heptachlor	UG/L	0	0%	0	8	0.007 U	0.007 U	0.007 UJ	0.007 UJ
Heptachlor epoxide	UG/L	0	0%	0	8	0.008 U	0.008 U	0.008 UJ	0.008 UJ
Methoxychlor	UG/L	0	0%	0	8	0.008 U	0.008 U	0.008 U	0.008 U
Toxaphene	UG/L	0	0%	0	8	0.12 U	0.12 U	0.12 U	0.12 U
Aroclor-1016	UG/L	0	0%	0	8	0.24 UJ	0.24 UJ	0.5 UJ	0.5 UJ
Aroclor-1221	UG/L	0	0%	0	8	0.08 U	0.08 U	0.5 U	0.5 U
Aroclor-1232	UG/L	0	0%	0	8	0.09 UJ	0.09 UJ	0.5 UJ	0.5 UJ
Aroclor-1242	UG/L	0	0%	0	8	0.08 UJ	0.08 UJ	0.5 U	0.5 U
Aroclor-1248	UG/L	0	0%	0	8	0.12 U	0.12 U	0.5 U	0.5 U
Aroclor-1254	UG/L	0	0%	0	8	0.05 U	0.05 U	0.5 U	0.5 U
Aroclor-1260	UG/L	0	0%	0	8	0.01 UJ	0.01 UJ	0.5 UJ	0.5 UJ
Metals									
Aluminum	UG/L	2050	100%	8	8	119	2050	45.8	46.3
Antimony	UG/L	0	0%	0	8	4.7 U	4.7 U	3.8 U	3.8 U
Arsenic	UG/L	0	0%	0	8	2.8 U	2.8 U	4.5 U	4.5 U
Barium	UG/L	49.2	75%	6	8	29.3	22.5	9.9 U	9.9 U
Beryllium	UG/L	0.28	75%	6	8	0.14	0.28	0.1 U	0.1 U
Cadmium	UG/L	0.54	13%	1	8	0.4 U	0.4 U	0.8 U	0.8 U
Calcium	UG/L	74200	100%	8	8	33500	67200	18300	17700
Chromium	UG/L	6	63%	5	8	1.5	6	1.4 U	1.4 U
Cobalt	UG/L	3	25%	2	8	0.6 U	3	0.7 U	0.7 U
Copper	UG/L	11.2	75%	6	8	5	11.2	3.6 U	3.6 U
Cyanide, Amenable	MG/L	0	0%	0	8	0.01 U	0.01 U	0.01 U	0.01 U
Cyanide, Total	MG/L	0	0%	0	8	0.01 U	0.01 U	0.01 U	0.01 U
Iron	UG/L	3410	75%	6	8	90.1 J	3410	41.8 J	41.8 J
Lead	UG/L	26.3	50%	4	8	6.6 J	26.3	3 U	3 U
Magnesium	UG/L	11100	100%	8	8	4130	7290	3660	3610
Manganese	UG/L	206	100%	8	8	43	206	5.3	3
Mercury	UG/L	0	0%	0	8	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	UG/L	3.6	25%	2	8	1.8 U	3.6	2 U	2 U

Appendix A
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SEAD 121C and SEAD 121I Record of Decision
Seneca Army Depot Activity

Facility						SEAD-121I	SEAD-121I	SEAD-121I	SEAD-121I
Location ID						SW121I-5	SW121I-6	SW121I-7	SW121I-7
Matrix						SW	SW	SW	SW
Sample ID						121I-3004	121I-3006	121I-3007	121I-3005
Sample Depth to Top of Sample						0	0	0	0
mple Depth to Bottom of Sample						N/A	N/A	N/A	N/A
Sample Date						11/6/2002	11/6/2002	10/26/2002	10/26/2002
QC Code						SA	SA	SA	SA
Study ID						PID-RI	PID-RI	PID-RI	PID-RI
Parameter	Units	Maximum Detect	Frequency of Detection	Number of Detects	Number of Analyses	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Potassium	UG/L	4640	100%	8	8	3050 J	4640 J	630	660
Selenium	UG/L	3.1	25%	2	8	3 U	3 U	3.1 J	1.8 J
Silver	UG/L	0	0%	0	8	1 U	1 U	3.7 U	3.7 U
Sodium	UG/L	38500	100%	8	8	3400	4810	2180	2300
Thallium	UG/L	0	0%	0	8	5.4 U	5.4 U	5.3 U	5.3 U
Vanadium	UG/L	3.9	38%	3	8	0.7 U	3.9	1.4 UJ	1.4 UJ
Zinc	UG/L	190	100%	8	8	32.9	190	14.7 J	13.8 J
Others									
Total Petroleum Hydrocarbons	MG/L	0	0%	0	8	1 U	1 U	0.412 UJ	0.408 UJ

Note(s):
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 data was rejected in the data validating process
NJ = compound was "tentatively identified" and the associated numerical value is approximate

Shading indicates concentration is above action level.

1. Action levels are from the New York State Ambient Water Quality Standards, Class C for Surface

APPENDIX B

Appendix B - Derivation of EPC in Air for Construction Worker

The EPC in air was calculated based on the soil EPC and PM_{10} concentration. PM_{10} represents smaller particles which can be inhaled (particles larger than 10µm diameter typically cannot enter the narrow airways in the lung). Ambient PM_{10} concentrations for a construction worker were estimated using an emission and dispersion model.

During construction activities, fugitive dusts may be generated from soil by wind erosion, construction vehicle traffic on temporary unpaved roads, excavation, and other construction activities. The dusts would contain the chemicals present in the soil. Construction workers in the construction area would breathe this PM in the ambient air and therefore may be exposed to chemicals in site soils via inhalation. A model presented in the USEPA (2002a) Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites, which evaluates the fugitive dust emission by truck traffic on unpaved roads during construction was used to estimate the EPC in ambient air during the construction. This model was selected as truck traffic on unpaved road is a common activity and occurs frequently at a construction site and therefore is considered a significant mechanism to cause dust. According to USEPA (2002a), "*emissions from truck traffic on unpaved roads, which typically contribute the majority of dust emissions during construction...". "In the case of particulate matter, traffic on contaminated unpaved roads typically accounts for the majority of emissions, with wind erosion, excavation soil dumping, dozing, grading, and tilling operations contributing lesser emissions."* Based on the above discussion, the emissions from truck traffic on unpaved roads were modeled to represent PM_{10} 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/m^3);

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

PEF_{sc} = Subchronic road particulate emission factor (m^3/kg).

$$PEF_{sc} = Q/C_{sr} \times \frac{1}{F_D} \times \left[\frac{T \times A_R}{556 \times (W/3)^{0.4} \times \frac{365d/yr - p}{365d/yr} \times \sum VKT} \right]$$

Where:

Q/C_{sr} = Inverse of the ratio of the 1-h geometric mean air concentration to the emission flux along a straight road segment bisecting a square site (g/m^2-s per kg/m^3)

F_D = Dispersion correction factor (unitless), 0.185

T = Total time over which construction occurs (s)

A_R = Surface area of contaminated road segment (m^2)

$$A_R = L_R x W_R x 0.092903 m^2/ft^2$$

L_R = Length of road segment (ft), assumed 1250 ft for SEAD-121I

W_R = Width of road segment (ft), assumed 30 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)

$$Q / C_{sr} = A \times \exp[\frac{(\ln A_s - B)^2}{C}]$$

Where:

A = Constant (unitless), 12.9351

A_s = Area extent of site surface soil contamination (acres), for SEAD-121I, A_S was assumed to be 6.45 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-121, assuming that the daily unpaved road traffic consists of 8 two-ton cars and 6 twenty-ton trucks, the mean vehicle weight would be:

$$W = [(8 cars \times 2 tons / car) + (6 trucks \times 20 tons / truck)] / 14 vehicles = 9.7 ons$$

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 m^2), 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 m^2, 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:

$$\sum VKT = 14 vehicles \times 0.381 km / day \times 12 wks / yr \times 5 days / wk = 320 km$$

The PM_{10} concentration estimated for the construction scenario is 75 ug/m^3 based on the above assumptions. The ambient air exposure point concentrations for construction workers are presented in **Table 6** for SEAD-121I**.**

APPENDIX F

LIST OF ARARs

APPENDIX F

LIST OF ARARS

Chemical-Specific ARARs and TBCs

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.

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. Groundwater was not encountered in the overburden soils at SEAD 121I, so no groundwater quality assessment (risk assessment or comparison to standards) can be made. Groundwater was sampled at SEAD 121C and the available analytical data indicates that there are some contaminants present in the samples that are found at concentrations above State GA standards.

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. Exceedance of the MCLs were observed in groundwater samples collected from SEAD 121C; no groundwater was encountered at SEAD 121I. The shallow aquifer that underlies the PID Area and the a majority of the overall Depot is subject to large seasonal elevation variations and is poor yielding due to the low permeability glacial till formation that defines the shallow overburden. The PID Area of SEDA is serviced by a municipal water supply that derives its raw water from a non-groundwater source, which makes the future use of the poor yielding, shallow groundwater aquifer that underlies portions of the PID Area unnecessary. Finally, the general poor quality of the PID Area-wide groundwater has already been identified and acknowledged, and access to and use of the groundwater in the greater PID Area, exclusive of Army retained properties, has been restricted in a separate ROD that was finalized in 2004 [*Final ROD for Sites Requiring Institutional Controls in the Planned Industrial/Office Development or Warehousing Areas* (Parsons, 2004).

Surface water at SEAD 121C is found occasionally in man-made drainage ditches that abut the AOC along two sides, and in localized puddles that evaporate into the air or infiltrate into the soil. Surface water at SEAD 121I exists either as puddles or as ephemeral run off streams that flow to an underground, storm water collection system that subsequently discharges to a man-made drainage ditch roughly 1000 feet west of the AOC. Storm-event water falls on both of the AOCs and then runs off towards the abutting drainage ditches. 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 form the headwaters for Kendaia Creek, the lower portion of which is 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 of 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 criteria or guidance to be considered (TBC)

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 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 (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).