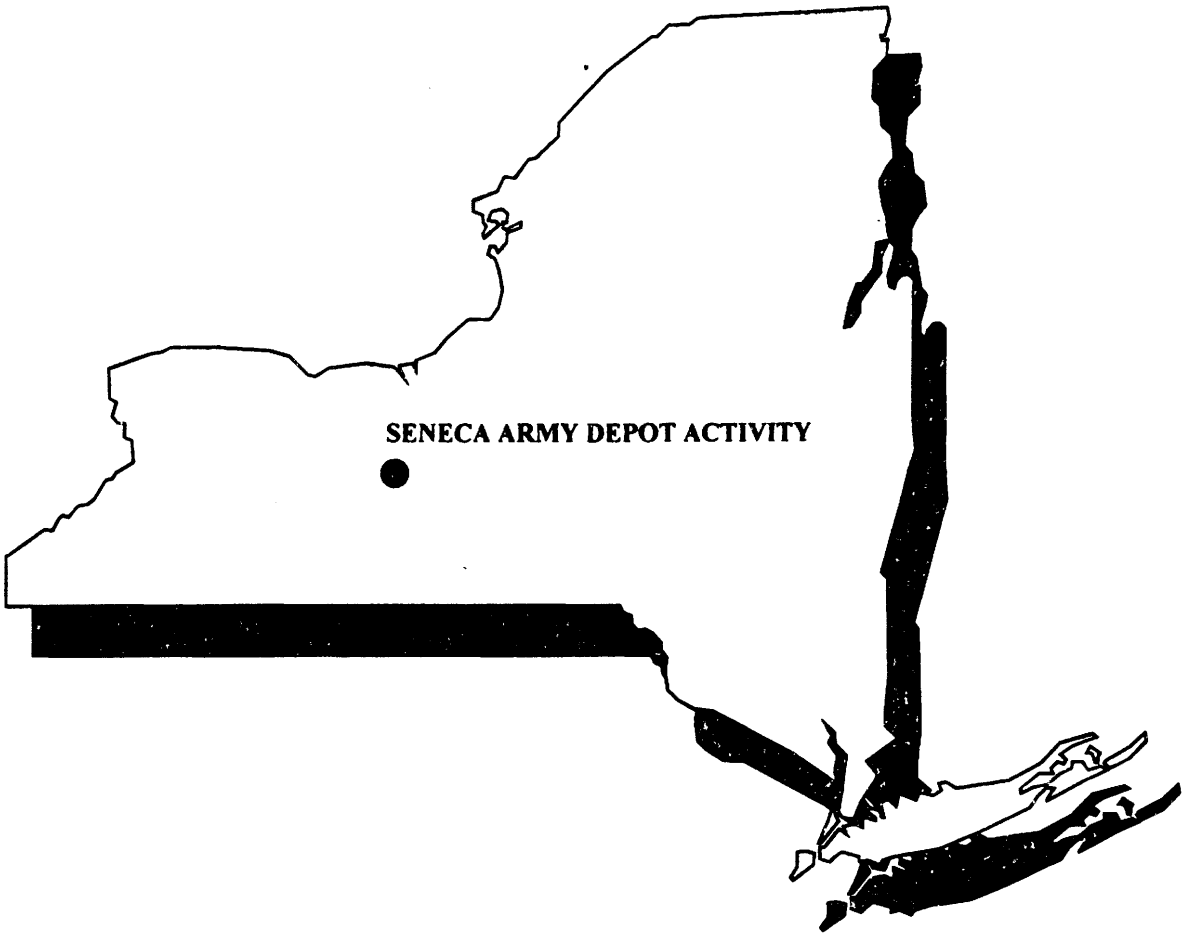
U.S. ARMY ENGINEER DIVISION
HUNTSVILLE, ALABAMA



FINAL

DECISION DOCUMENT
TWENTY-TWO NO FURTHER ACTION SITES
SEAD 1, 2, 7, 10, 18, 19, 20, 21, 22, 29, 30, 31, 32, 35, 36, 37, 42, 49, 55, 60, 61, and 65

CONTRACT NO. DACA87-95-D-0031
DELIVERY ORDER NO. 0021

MARCH 2002

FINAL DECISION DOCUMENT
TWENTY-TWO NO FURTHER ACTION SITES
SEAD 1, 2, 7, 10, 18, 19, 20, 21, 22, 29, 30, 31, 32, 35, 36, 37, 42, 49, 55, 60, 61, and 65

SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK 14541

and

US ARMY CORPS OF ENGINEERS
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EXECUTIVE SUMMARY

Beginning with its inception in 1941 and continuing until its mission was terminated in 1995, the mission of the Seneca Army Depot Activity (SEDA) was the management and storage of various military items, including munitions. Management of these items required areas and facilities where storage, quality assurance testing, range testing, munitions washout, deactivation and other support actions such as ordnance detonation could be performed. In addition, administrative and plant operational facilities were also established in support of the Depot's mission. Waste management was integrated with the SEDA management mission.

Management of waste materials produced from these operations has been completed in accordance with the requirements of the Resource Conservation Recovery Act (RCRA). As part of the requirements of RCRA, the Depot identified and listed 72 sites where solid wastes were managed. These 72 sites were designated as Solid Waste Management Units (SWMUs) under RCRA.

In 1990, the Depot was included in the federal section of the National Priority List (NPL). As a federal NPL facility, provisions of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA - 42 USC § 9620e) required that the US Army investigate and conduct remedial actions, as required by the findings of the investigations, at all sites required at the facility. In accordance with this stipulation, the US Army, the US Environmental Protection Agency (EPA), and the New York State Department of Environmental Conservation (NYSDEC) negotiated and finalized a Federal Facility Agreement (FFA) that outlined the administrative process and the procedures that would be followed to comply with CERCLA at the Depot.

As part of its response to provisions of the FFA and CERCLA, the US Army provided the USEPA and NYSDEC with the list of 72 SWMUs at the Depot, and identified them as sites that might require investigation and possible remedial actions. Following this initial identification of sites, the US Army ranked each of the SWMUs based upon that site's projected risk and need for investigation. The goal of the initial categorization of SWMUs was to prioritize the pending investigations and remedial actions. The assigned rankings divided the 72 SWMUs into five groups (i.e., No Further Action, High Priority, Moderate Priority, Moderately Low Priority, and Low Priority SWMUs). Subsequent to the US Army's proposal of the priority rankings, all parties met to review and discuss the available information for the identified SWMUs, and to finalize priority-ranking assignments. As part of this process, 24 of the 72 listed SWMUs were classified as No Further Action SWMUs based upon historical and available information.

In 1995, the SEDA was designated for closure under the Department of Defense's Base Realignment and Closure (BRAC) process. With SEDA's inclusion on the BRAC list, the US Army's emphasis expanded from expediting necessary investigations and remedial actions at sites believed to pose

potential risk to the environment and human health, to include the release and reuse of non-affected portions of the Depot to the surrounding community for non-military (i.e., industrial, municipal and residential) purposes. Thus, BRAC required that the US Army finalize decisions and actions for SWMUs, regardless of ranking, so that these sites may be released for non-military use.

Section 10.3 of the FFA describes the process to be followed for those SWMUs that are No Further Action SWMUs. The FFA states, "*No Action SWMUs shall be those SWMUs from which no release of hazardous substances, pollutants, or contaminants has occurred or from which a release of hazardous waste or substances, pollutants, or contaminants has occurred that does not pose a threat to the public health, welfare, or the environment. SWMUs classified as No Action will be identified in the 6 NYCRR Part 373/HSWA permit as No Action SWMUs*".

The Depot has withdrawn its RCRA permit, due to base's closure; therefore, there is no document in which to list SWMUs as No Action SWMUs. As an alternative to the RCRA permit, this Decision Document is intended to serve as a substitute for the RCRA permit and will document the decisions that have been made pertaining to a finding of No Further Action for SWMUs at the Depot.

This document summarizes available information and data for 20 of the 24 original No Action SWMUs that are located at the SEDA, and presents a justification and rationale explaining why these sites are not considered to pose a threat to human health and the environment. Data for four of the original No Action SWMUs (SEAD-47, SEAD-51, SEAD-53, and SEAD-72) will be presented in a separate report. In addition, information is also provided for two additional SWMUs (SEAD-32 and SEAD-60) that were initially classified as Low Priority sites, but where additional investigations or actions have been completed, and where available data now indicate that No Further Action is warranted. Information and data presented serve as the basis of the US Army's determination that the 22 SWMUs identified warrant "No Further Action" under CERCLA and therefore, can be eliminated from ongoing and future environmental studies and solid/hazardous waste investigations required at the depot.

1 INTRODUCTION

1.1 BACKGROUND

Beginning with its inception in 1941 and continuing until its mission was terminated in 1995, the mission of the Seneca Army Depot Activity (SEDA) was the management and storage of various military items, including munitions. Management of these items required areas and facilities where storage, quality assurance testing, range testing, munitions washout, deactivation and other support actions such as ordnance detonation could be performed. In addition, administrative and plant operational facilities were also established in support of the Depot's mission. Waste management was integrated with the SEDA management mission.

Management of waste materials produced from these operations has been completed in accordance with the requirements of the Resource Conservation Recovery Act (RCRA). As part of the requirements of RCRA, the Depot identified a total of 72 Solid Waste Management Units (SWMUs). In 1990, the Depot was included in the federal section of the National Priority List (NPL). As a federal facility listed on the NPL, provisions of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA - 42 USC § 9620e) required that the US Army investigate sites known to exist at the Depot and complete all remedial investigations and remedial actions required at the facility. In accordance with this stipulation, the US Army, the US Environmental Protection Agency (EPA), and the New York State Department of Environmental Conservation (NYSDEC) negotiated and finalized a Federal Facility Agreement (FFA) that outlines the administrative process and the procedures that will be followed to comply with CERCLA.

The US Army initially provided the USEPA and NYSDEC with a list that identified all of the SWMUs at the Depot as sites that may potentially need to be investigated. Following this initial identification of sites, the Army ranked each site based upon that site's projected risk and need for investigation. The goal of the initial categorization of SWMUs was to prioritize the pending investigations and remedial actions so that those sites with the greatest risk would be addressed first. The assigned rankings divided the 72 identified SWMUs into five groups (i.e., No Further Action, High Priority, Moderate Priority, Moderately Low Priority, and Low Priority SWMUs). Subsequent to the US Army's proposal of the priority rankings, all parties met to review and discuss the available information for the identified SWMUs, and to finalize priority-ranking assignments. The consensus of all parties was to mount necessary investigations and possible actions at those SWMUs of concern and identify the SWMUs for which no investigations would be required. A total of 24 SWMUs were initially classified as No Further Action SWMUs based upon historical and available information.

In 1995, the SEDA was designated for closure under the Department of Defense's Base Realignment and Closure (BRAC) process. With SEDA's inclusion on the BRAC list, the US Army's emphasis expanded from expediting necessary investigations and remedial actions at the High and Moderately High Priority sites to include the release and reuse of non-affected portions of the depot to the surrounding community for non-military (i.e., industrial, municipal and residential) purposes. Thus, BRAC has required that the US Army finalize decisions and actions for SWMUs, regardless of ranking, so that these sites may be released for non-military use.

Section 10.3 of the FFA describes the process to be followed for those SWMUs that are No Further Action SWMUs. The FFA states, "*No Action SWMUs shall be those SWMUs from which no release of hazardous substances, pollutants, or contaminants has occurred or from which a release of hazardous waste or substances, pollutants, or contaminants has occurred that does not pose a threat to the public health, welfare, or the environment. SWMUs classified as No Action will be identified in the 6 NYCRR Part 373/HSWA permit as No Action SWMUs*". The Depot has withdrawn the RCRA permit, due to base's closure; therefore, there is no document in which to list these SWMUs as No Action SWMUs. As an alternative to the RCRA permit, this Decision Document is intended to serve as a substitute for the RCRA permit and will document the decisions that had been made pertaining to a finding of No Further Action for these SWMUs.

1.2 OBJECTIVE OF THIS DOCUMENT

This document summarizes available information and data for 20 of the 24 original No Action SWMUs that are located at the Seneca Army Depot Activity (SEDA) near Romulus NY, and presents a justification and rationale explaining why these sites are not considered to pose a threat to human health and the environment. Information for four of the original No Action SWMUs (SEADs-47, 51, 53, and 72) will be presented in a separate report. In addition, information is also provided for two additional SWMUs (SEAD-32 and SEAD-60) that were classified as Low Priority sites in the SWMU Classification Report, but where additional investigations or actions have been completed, and where available data now indicate that No Action is warranted. Information and data presented serve as the basis of the US Army's determination that the 22 SWMUs identified warrant "No Further Action" under CERCLA and therefore, can be eliminated from ongoing and future environmental studies and solid/hazardous waste investigations required at the depot.

1.3 HISTORIC OVERVIEW

The Seneca Army Depot Activity (SEDA) lies between Cayuga and Seneca Lakes in New York's Finger Lake Region, near the communities of Romulus and Varick, NY. SEDA encompasses approximately 10,600 acres of land and contains more than 900 buildings that provide more than 4.4 million square feet of space, including approximately 1.3 million square feet of storage space.

SEDA was originally developed and opened in 1941, and continued its military mission until September of 2000. The mission of the facility throughout its history included receipt, storage, distribution, maintenance, and demilitarization of conventional ammunition, explosives and special weapons.

Activities previously conducted at SEDA used chemical materials, and generated wastes that contained hazardous materials. The generation, storage, treatment, shipment, and disposal of hazardous wastes were regulated under the Resource Conservation and Recovery Act – RCRA [42 USC §§ 6901 – 6991, as amended by the Hazardous and Solid Waste Amendments of 1984, Public Law 98-616]. Activities conducted at SEDA were approved for Part A, interim status in 1980. SEDA submitted a federal RCRA Part B permit application for activities and operations in 1986, and a NYSDEC Part 373 permit application for hazardous waste management facilities in 1991. The state permit application was subsequently withdrawn, once the base was listed for closure under BRAC in 1995.

Since 1978, the potential environmental impacts of operations and activities conducted at SEDA have been subject to review by the US Army, the New York State Department of Environmental Conservation (NYSDEC), and the US Environmental Protection Agency (US EPA). Initially, environmental investigations were conducted under the Department of Defense's (DoD's) Installation Restoration Program (IRP) but subsequently these investigations were performed under the Comprehensive Environmental Response, Compensation, and Liability Act – CERCLA [42 U.S.C. §§ 9601 – 9675, as amended by the Superfund Amendments and Reauthorization Act of 1986, Public Law 99 – 499] and RCRA. As a result of these investigations, evidence of hazardous chemical and radioactive constituents and compounds used, stored, and demilitarized at the depot was found in samples of groundwater, soil, sediment and surface water collected and characterized.

On July 14, 1989, the US EPA proposed SEDA for inclusion on the National Priority List (NPL) based on a hazard ranking score of 37.3. Supporting its recommendation for listing, the US EPA stated "the Army identified a number of potentially contaminated areas, including an unlined 13-acre landfill in the west-central portion of the depot, where solid waste and incinerator ash were disposed of intermittently for 30 years during 1941-79; two incinerator pits adjacent to the landfill, where refuse was burned at least once a week during 1941-74; a 90-acre open burning/detonation area in the northwest portion of the depot, where explosives and related wastes have been burned and detonated during the past 30 years; and the APE-1236 Deactivation Furnace in the east-central portion of the depot, where small arms are destroyed." The US EPA's recommendation was approved on August 30, 1990, and SEDA was listed in Group 14 on the Federal Section of the NPL.

1.4 FEDERAL FACILITY AGREEMENT

Subsequent to SEDA's placement on the NPL, representatives of the US Army, US EPA, and NYSDEC negotiated a Federal Facility Agreement (Docket Number: II-CERCLA-FFA-00202) to govern and coordinate necessary remedial investigations/feasibility studies (RI/FS) and necessary corrective actions. The general purposes of the Federal Facility Agreement (FFA) are 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 to protect the public health, welfare 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 on the Parties in such actions."

With specific reference to the procedural framework, terms of the FFA stated that all of the signatory parties intended "to integrate the Army's CERCLA response obligations and RCRA corrective action obligations which relate to the release(s) of hazardous substances, hazardous wastes, pollutants, or contaminants covered by" the Agreement. Therefore, requirements of RCRA were deemed to be an applicable or relevant and appropriate requirement (ARAR) under CERCLA, and actions selected, implemented and completed must be protective of human health and the environment such that remediation of releases shall obviate the need for further corrective action under RCRA. The FFA was finalized in January of 1993.

The FFA also describes a sequential process for the identification, investigation, evaluation, remediation and closure of all sites where hazardous waste are known, or suspected, to have been released. A schematic diagram of the defined process is shown in **Figure 1-1**.

The decision process involves implementing a series of baseline actions. Decisions are integrated into the baseline action process to justify the actions that are taken. Where necessary, supplemental actions, such as collecting additional data, are conducted to provide support for the baseline actions. The final action for each SWMU or AOC involves preparation of a Decision Document, a Record of Decision (ROD), or a closeout report. These reports provide documentation that site conditions have met the requirements of the decision process. A key aspect of the overall process is that any identified site or unit may exit the process, and require no further action, if site conditions are shown to meet specified decision criteria defined in one of six key steps within the process.

The overall decision process is divided into six (6) distinct phases. These include:

1. The Site Classification Phase;
2. The Site Investigation Phase;
3. The Interim Remedial Measures (IRM) Phase;
4. The Remedial Investigation Phase (RI) Phase;
5. The Feasibility Study (FS) Phase; and
6. The Remedial Design/Remedial Action (RD/RA) Phase.

Each phase is further subdivided into a series of actions and interim-decision points that result from prior decisions and determinations. As depicted in **Figure 1-1**, each decision is identified with a letter, whereas each action is identified with a number so that the status of each site can be identified. This provides an easy mechanism to understand what decisions have been made and what decisions need to be made. Each of the six phases of the process allows the site or unit to exit the process. The effort involved in exiting the process is dependent upon the phase involved and the information required to document that conditions meet or exceed required limits. In one case, this may involve the comparison of available data to an appropriate State and Federal Standard, Guideline and Criteria (SGC), while in a second case this may involve completion of an Interim Remedial Measure (IRM) or a remedial action.

The first phase of the overall process is the Site Classification Phase. Site classification begins with an initial identification of a site and ends with a determination of whether the site has impacted the environment or not. The key decision point in the site classification phase involves determining whether or not site conditions have impacted the environment. In many instances, this decision may be based on historical records or an understanding of the processes involved, without collecting additional field data. In other instances, this decision requires some limited sampling and analysis. If no impact is shown, no further action is required and unrestricted use of the site or unit is allowed.

The second phase is the Site Investigation Phase. This phase involves collection of data as part of an Expanded Site Inspection (ESI), as shown in Action Number (No.) 6 of **Figure 1-1**. The data resulting from the ESI are then evaluated to determine whether a threat exists at the site or unit. This determination is based upon direct comparison of the site data to background conditions or an appropriate State and/or Federal Standard, Guideline and Criteria (SGC). Results exceeding an appropriate standard, guideline, or criteria are used to indicate that a threat exists. A quantitative risk analysis is not performed to quantify the magnitude of the threat. Professional judgments are also used to evaluate the significance of the data exceeding SCGs and these judgments incorporated into the recommendations for no further action or additional evaluations, as shown in Decision No. E.

Each environmental medium has unique Standards, Guidelines and Criteria (SGC) that are used for comparison. For example, soil data are typically compared to background concentrations, or to NYSDEC Technical Administrative Guidance Memorandum (TAGM) values. If none of the resulting data exceeds the SGC criteria, then the recommendation for the site is No Further Action (NFA). However, if values exceeding TAGMs or other media specific SGC are noted then further evaluation of the data is required.

When data exceeding a SCG are noted, then a "mini-risk" assessment may be performed to assess whether an identified contaminant actually poses a risk. Performance of the mini-risk assessment provides a mechanism to quantitatively determine a risk value that can be used to support a recommendation for future action. One possible future action alternative may be "No Further Action." Alternatively, other possible results are that additional investigations are needed to more fully document the potential risk or that remedial action must be implemented to alleviate the risk.

The mini-risk assessment uses procedures that are generally identical to those used for a Baseline Risk Assessment (BRA), but substitutes the maximum detected concentration for each chemical as the Exposure Point Concentration (EPC) in place of the Upper 95th Confidence Limit of the mean value that is generally used in the BRA. This replacement is made due to the uncertainties associated with evaluating a site with the smaller ESI database. If the results of the mini-risk assessment indicate an acceptable risk, i.e., carcinogenic risks are less than 1E-04 or the Hazard Index (HI) is less than 1, then the site conditions meet the requirements for no further action. When appropriate, the basis of the no further action decision is documented in a Decision Document. Otherwise, the site conditions are not acceptable and the site enters the Interim Remedial Measure (IRM) phase, Decision No. E in **Figure 1-1.**

The IRM phase involves evaluating whether the site can attain a no further action designation via implementation of an IRM. An IRM is most likely to be a non-time critical removal action and is generally considered appropriate if:

- The problems can be attributed to discrete soil or sediment "hot spots";
- The extent of soil or sediment to be excavated is less than 1000 cubic yards (yd^3);
- The technologies are limited to "low tech" technologies such as off-site disposal or capping;
- The pollutants involved are amenable to technologies such as off-site disposal or capping; and
- Groundwater or surface water conditions are acceptable.

If deemed appropriate, an IRM can be used to eliminate a site from further consideration by preparing an Engineering Evaluation/Cost Analysis (EE/CA). The EE/CA is the decision document that presents the goals and rationale for implementing the IRM and discusses the evaluations conducted in support of the IRM. After the removal action is performed, confirmatory sampling is

required to document the effectiveness of the IRM in attaining the IRM goals. This information is then documented in the project completion report and the ROD.

If the conditions of the site are such that the problems are not readily solvable via an IRM then the site moves into the RI phase. This phase is identical to the process described by CERCLA and involves a multi-media sampling effort and performance of a Baseline Risk Assessment (BRA). The results of the BRA may support a no further action if the risk conditions are shown to be below the EPA target limits for risk. Otherwise, the site enters the Feasibility Study (FS) phase.

The FS phase involves an initial evaluation of presumptive remedies. Presumptive remedies include a variety of technologies for both groundwater and soil such as bioventing, off-site disposal, capping or deed restriction for soils and alternative water supply, air sparging, zero-valence iron treatment or natural attenuation with monitoring for groundwater. If presumptive remedies are not appropriate, then an FS is prepared.

The final phase of the overall decision process is the preparation of a remedial design and implementation of the remedial action. Both the FS and the RD/RA will follow guidance provided by the US EPA and the NYSDEC.

A Decision Document is similar to a Record of Decision (ROD). Each is required to document the decisions made to support final site closure. RODs are required following completion of an RI/FS. Decision Documents are prepared, prior to an RI/FS, when the site conditions are determined not to pose a continual threat to human health and the environment due to either a removal action or following an initial site investigation.

1.5 BASE REALIGNMENT AND CLOSURE (BRAC)

The major portion of SEDA was approved for the 1995 Base Realignment and Closure (BRAC) list in October of 1995. The mission closure date for the facility was September 30, 1999, with an installation closure date of September 30, 2000. A small enclave at SEDA will remain open after 2000, and be used to store hazardous materials and ores.

Woodward-Clyde Federal Services was retained to prepare an Environmental Baseline Survey for SEDA. Under this process, Woodward-Clyde was charged with the initial classification of discrete areas of the depot into one of seven standard environmental condition definitions of property area types consistent with the Community Environmental Response Facilitation Act (CERFA – Public Law 102-426), which amends Section 120 of CERCLA. The results of Woodward-Clyde's effort were documented in the U.S. Army Base Realignment and Closure 95 Program Report that was issued on

October 30, 1996. This report served as part of the basis for subsequent decisions made regarding land use.

In accordance with the requirements of the BRAC process, the Seneca County Board of Supervisors established, in October 1995, the Seneca Army Depot Local Redevelopment Authority (LRA). The primary responsibility assigned to the LRA is to plan and oversee the redevelopment of the Depot. The Reuse Plan and Implementation Strategy for Seneca Army Depot was adopted by the LRA and approved by the Seneca County Board of Supervisors on October 22, 1996. Under this plan and subsequent amendment, areas within the Depot were classified according to their most likely future use. These areas currently include:

- housing;
- institutional;
- industrial;
- warehousing;
- conservation/recreational land;
- an area designated for a future prison;
- an area for an airfield, special events, institutional, and training; and
- an area to be transferred from one federal entity to another (i.e., an area for the existing navigational LORAN transmitter).

A map summarizing the currently recommended future land use for areas at SEDA is presented as **Figure 1-2**.

1.6 ENVIRONMENTAL SETTING

1.6.1 Geology

SEDA is located within one distinct unit of glacial till that covers the entire area between the western shore of Cayuga Lake and the eastern shore of Seneca Lake. The till is consistent across the entire depot although it ranges in thickness from less than 2 feet to as much as 15 feet with the average being only a few feet thick. This till is generally characterized by brown to gray-brown silt, clay and fine sand with few fine to coarse gravel-sized inclusions of weathered shale. Larger diameter weathered shale clasts (as large as 6-inches in diameter) are more prevalent in basal portions of the till and are probably rip-up clasts removed by the active glacier during the late Pleistocene era. The general Unified Soil Classification System (USCS) description of the till on-site is as follows: Clay-silt, brown; slightly plastic, small percentage of fine to medium sand, small percentage of fine to coarse gravel-sized gray shale clasts, dense and mostly dry in place, till, (ML). Grain size analyses performed by **Metcalf & Eddy (1989)** on glacial till samples collected during the installation of monitoring wells at

SEDA show a wide distribution of grain sizes. The glacial tills in this area have a high percentage of silt and clay with trace amounts of fine gravel. A zone of gray weathered shale of variable thickness is present below the till in almost all locations at SEDA. This zone is characterized by fissile shale with a large amount of brown interstitial silt and clay.

This underlying bedrock below weathered shale is a member of the Ludlowville Formation of the Devonian age Hamilton Group. The Hamilton Group, 600 to 1,500 feet thick, is divided into four formations. They are, from oldest to youngest, the Marcellus, Skaneateles, Ludlowville, and Moscow formations. The western portion of SEDA is generally located in the Ludlowville Formation while the eastern portion is located in the younger Moscow Formation. Gray, calcareous shales, mudstones and thin limestones with numerous zones of abundant invertebrate fossils characterize the Ludlowville and Moscow formations. The Ludlowville Formation is known to contain brachiopods, bivalves, trilobites, corals and bryozoans (Gray, 1991). In contrast, the lower two formations (Skaneateles and Marcellus) consist largely of black and dark gray sparsely fossiliferous shales (Brett et al., 1991). Locally, the shale is soft, gray, and fissile. **Figure 1-3** displays the stratigraphic section of Paleozoic rocks of Central New York. Three known predominant joint directions, N60°E, N30°W, and N20°E are present within this unit (**Mozola, 1952**).

1.6.2 Hydrogeology

Available geologic information reviewed indicates that the upper portions of the shale formation would be expected to yield small, yet adequate, supplies of water, for domestic use. Regionally, four distinct hydrologic water-bearing units have been identified (**Mozola A.J., 1951**). These include two distinct shale formations, a series of limestone units, and unconsolidated beds of Pleistocene glacial drift.

For mid-Devonian shales such as those of the Hamilton Group, the average yields [which are less than 15 gallons per minute (gpm)] are consistent with what would be expected for shales (**LaSala, 1968**). The deeper portions of the bedrock, (at depths greater than 235 feet) have provided yields of up to 150 gpm. At these depths, the high well yields may be attributed to the effect of solution on the Onondaga limestone that is at the base of the Hamilton Group. Based on well yield data, the degree of solution is affected by the type and thickness of overlying material (**Mozola, 1951**). Geologic cross-sections from Seneca Lake and Cayuga Lake have been constructed by the State of New York, **(Mozola, 1951, and Crain, 1974).** This information suggests that a groundwater divide trending north south exists approximately half way between the two Finger Lakes. SEDA is located on the western slope of this divide and therefore regional groundwater flow is expected to be primarily westward toward Seneca Lake.

Surface drainage from SEDA flows to four creeks. In the southern portion of the depot, the surface drainage flows through ditches and streams into Indian and Silver Creeks. These creeks then flow into

Seneca Lake just south of the SEDA airfield. The central part and administration area of SEDA drain into Kendaia Creek. Kendaia Creek discharges into Seneca Lake near the Lake Housing Area. The majority of the northwestern and north-central portion of SEDA drains into Reeder Creek. The northeastern portion of the depot, which includes a marshy area called the Duck Ponds, drains into Kendaia Creek and then flows north into the Cayuga-Seneca Canal and to Cayuga Lake.

Data from site quarterly groundwater monitoring program indicate that the saturated thickness of the till/weathered shale overburden aquifer is variable, ranging between 1 and 8.5 feet. However, the aquifer's thickness appears to be influenced by the hydrologic cycle and some monitoring wells dry up completely during portions of the year. Based upon a review of two years of data, the variations of the water table elevations are likely a seasonal phenomenon. The overburden aquifer is thickest during the spring recharge months and thinnest during the summer and early fall. During late fall and early winter, the saturated thickness increases. Although rainfall is fairly consistent at SEDA, averaging approximately 3 inches per month, evapotranspiration is a likely reason for the large fluctuations observed in the saturated thickness of the over-burden aquifer.

Regional precipitation is derived principally from cyclonic storms that pass from the interior of the country through the St. Lawrence Valley. With local influence derived from Seneca, Cayuga, and Ontario Lakes providing some lake effect snows, leading to a significant amount of the winter precipitation and a moderate local climate. Wind velocities are moderate, but during the winter months, there are numerous days with sufficient winds to cause blowing and drifting snow. The most frequently occurring wind directions are southerly (summer) and north-northwesterly (winter) (**Figure 1-4**).

1.7 SOLID WASTE MANAGEMENT UNIT CLASSIFICATION

As mandated by the EPA Region II and by NYSDEC, the U.S. Army Corps of Engineers commissioned the "Solid Waste Management Unit Classification Report" at SEDA (ERCE 1991). Parsons finalized this report on June 10, 1994. The goals of this work were to evaluate the effects of past solid waste management practices at identified SWMUs and to classify each SWMU as an area where "No Action is Required" or as an "Area of Concern" (AOC) where additional investigations and studies were required. Areas of Concern include both (a) SWMUs where releases of hazardous substances may have occurred and (b) locations where there has been a threat of a release into the environment of a hazardous substance or constituent (including radionuclides). AOCs included former spill areas, landfills, surface impoundments, waste piles, land treatment units, transfer stations, wastewater treatment units, incinerators, container storage areas, scrap yards, cesspools and tanks with associated piping that are known to have caused a release into the environment or whose integrity has not been verified.

A total of 69 SWMUs and AOCs were originally identified in the ERCE SWMU Classification Report. Following the completion of the ERCE report, three additional SWMUs were added by the Army, bringing the total number of SWMUs listed at SEDA to 72.

A recommended classification for all SWMUs was presented in the final SWMU Classification Report (Parsons, 1994). At this time, the Army identified 24 of the original SWMUs as sites that required "no further action" based on existing information. Furthermore, 13 other SWMUs were designated as High Priority sites; 3 were designated as Moderate Priority sites; 11 were designated as Moderately Low Priority sites; and 21 were designated as Low Priority sites.

In response to the BRAC closure process, the Army has refocused its efforts and is investigating and evaluating sites that are located within parcels that have the greatest reuse potential under the BRAC future land use designation. This effort encourages the reuse of the facility through land transfer or lease prior to the end of the military mission at the Depot. The Army will continue to close sites after the military mission is complete.

The goal of this document with respect to 22 of these SWMUs is to:

1 assemble and summarize all of the currently known information about the SWMU;
2 compare the available data and information with applicable guidance levels and standards and assess if there is an indication of potential threats to human health and the environment at the site;
3 provide a recommendation, and a justification and rationale to substantiate the proposed classification of the SWMU to the "No Action" status.

The list of the affected SWMUs is provided in **Table 1-1**. If the Army's designation of "No Further Action" is accepted, these sites may be released for future land-use.

Additional information clarifying and substantiating recommendations pertinent to individual SWMUs is provided in the following sections of this Report.

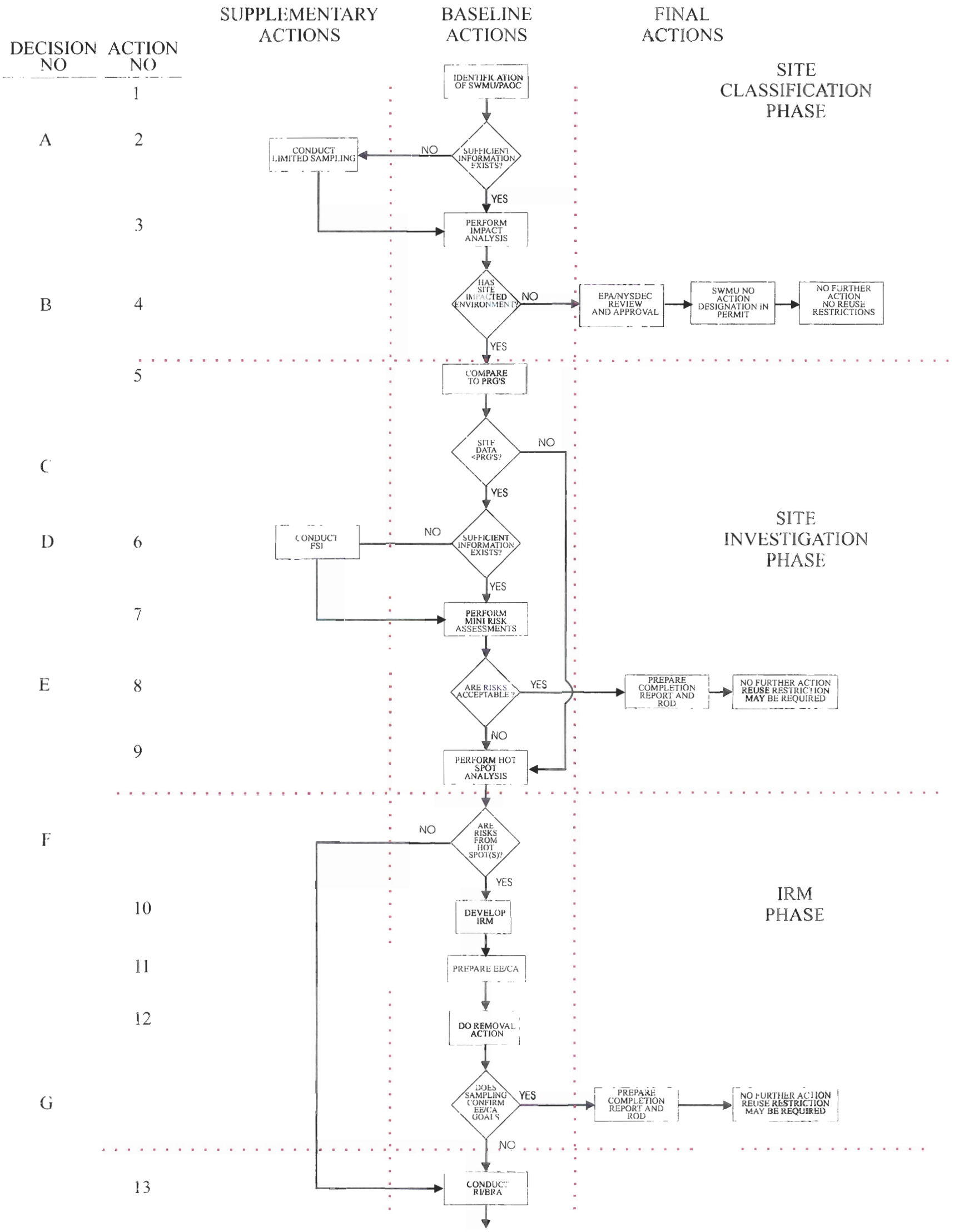
TABLE 1-1
NO FURTHER ACTION SWMUs

SWMU NUMBER	1994 PRIORITY RANKING	CURRENT PRIORITY / BASIS	SWMU DESCRIPTION
SEAD-1	No Action	No Action / No Change	Building 307 – Hazardous Waste Container Storage Facility
SEAD-2	No Action	No Action / No Change	Building 301 – PCB Transformer Storage Facility
SEAD-7	No Action	No Action / No Change	Shale Pit
SEAD-10	No Action	No Action / No Change	Present Scrap Wood Site
SEAD-18	No Action	No Action / No Change	Building 709 – Classified Document Incinerator
SEAD-19	No Action	No Action / No Change	Building 801 – Classified Document Incinerator
SEAD-20	No Action	No Action / No Change	Sewage Treatment Plant No. 4
SEAD-21	No Action	No Action / No Change	Sewage Treatment Plant No. 715
SEAD-22	No Action	No Action / No Change	Sewage Treatment Plant No. 314
SEAD-29	No Action	No Action / No Change	Building 732 – Underground Waste Oil Tank
SEAD-30	No Action	No Action / No Change	Building 118 – Underground Waste Oil Tank
SEAD-31	No Action	No Action / No Change	Building 117 – Underground Waste Oil Tank
SEAD-32	Low	No Action / Limited Investigation	Building 718 – Underground Waste Oil Tanks
SEAD-35	No Action	No Action / No Change	Building 718 – Waste Oil-Burning Boilers (3 units)

TABLE 1-1
NO FURTHER ACTION SWMUs
(continued)

SWMU NUMBER	1995 PRIORITY RANKING	CURRENT PRIORITY / BASIS	SWMU DESCRIPTION
SEAD-36	No Action	No Action / No Change	Building 121 – Waste Oil-Burning Boilers (2 units)
SEAD-37	No Action	No Action / No Change	Building 319 – Waste Oil-Burning Boilers (2 units)
SEAD-42	No Action	No Action / No Change	Building 106 – Preventive Medicine Laboratory
SEAD-49	No Action	No Action / No Change	Building 356 – Columbite Ore Storage
SEAD-55	No Action	No Action / No Change	Building 357 – Tannin Storage
SEAD-60	Low	No Action / "Removal Action Complete"	Oil Discharge Adjacent to Building 609
SEAD-61	No Action	No Action / No Change	Building 718 – Underground Waste Oil Tank
SEAD-65	No Action	No Action / No Change	Acid Storage Areas

SENECA ARMY DEPOT ACTIVITY
Decision Criteria Flowchart



PARSONS

PARSONS ENGINEERING SCIENCE, INC.

CLIENT/PROJECT TITLE

SENECA ARMY DEPOT ACTIVITY
DECISION DOCUMENT
MINI RISK ASSESSMENT

DEPT: ENVIRONMENTAL ENGINEERING | DWG NO:

FIGURE 1-1

DECISION CRITERIA
REMEDIATION FLOWCHART

Page 1 of 2

SCALE: N/A | DATE: AUGUST 2001

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SENECA ARMY DEPOT ACTIVITY
Decision Criteria Flowchart

DECISION NO	ACTION NO	SUPPLEMENTARY ACTIONS	BASELINE ACTIONS	FINAL ACTIONS
			From Previous Page	
	13		CONDUCT RI/BRA	
H*			ARE RISKS ACCEPTABLE? * See Below — YES → PREPARE COMPLETION REPORT AND ROD → NO FURTHER ACTION REUSE RESTRICTION MAY BE REQUIRED	
	14		NO → PERFORM PRESUMPTIVE REMEDIAL ANALYSIS	
I			DOES PRESUMPTIVE REMEDY EXIST? — NO	RI/FS/RD/RA PHASE
	15		YES → PREPARE EE/CA	
	16		DO REMOVAL ACTION	
J			DOES SAMPLING CONFIRM EE/CA GOALS — YES → PREPARE COMPLETION REPORT AND ROD → NO FURTHER ACTION REUSE RESTRICTION MAY BE REQUIRED	
	17		NO → PREPARE FS	
K			SELECT REMEDY	
	18		PREPARE PRAP/ROD	
	19		PERFORM RD/RA → PREPARE CLOSEOUT REPORT → NO FURTHER ACTION	

*** Detail of Decision H**

	13	From CONDUCT RI/BRA
H-1		ARE SITE SPECIFIC GUIDELINE VALUES EXCEEDED? — YES
H-2		ARE RISKS ACCEPTABLE? — NO → To PERFORM PRESUMPTIVE REMEDIAL ANALYSIS; YES → To PREPARE COMPLETION REPORT AND ROD
	14	

R:\PROJECT GRAPHICS\SENECA\flowd-12.cdr

PARSONS

PARSONS ENGINEERING SCIENCE, INC.

CLIENT/PROJECT TITLE

SENECA ARMY DEPOT ACTIVITY
DECISION DOCUMENT
MINI RISK ASSESSMENT

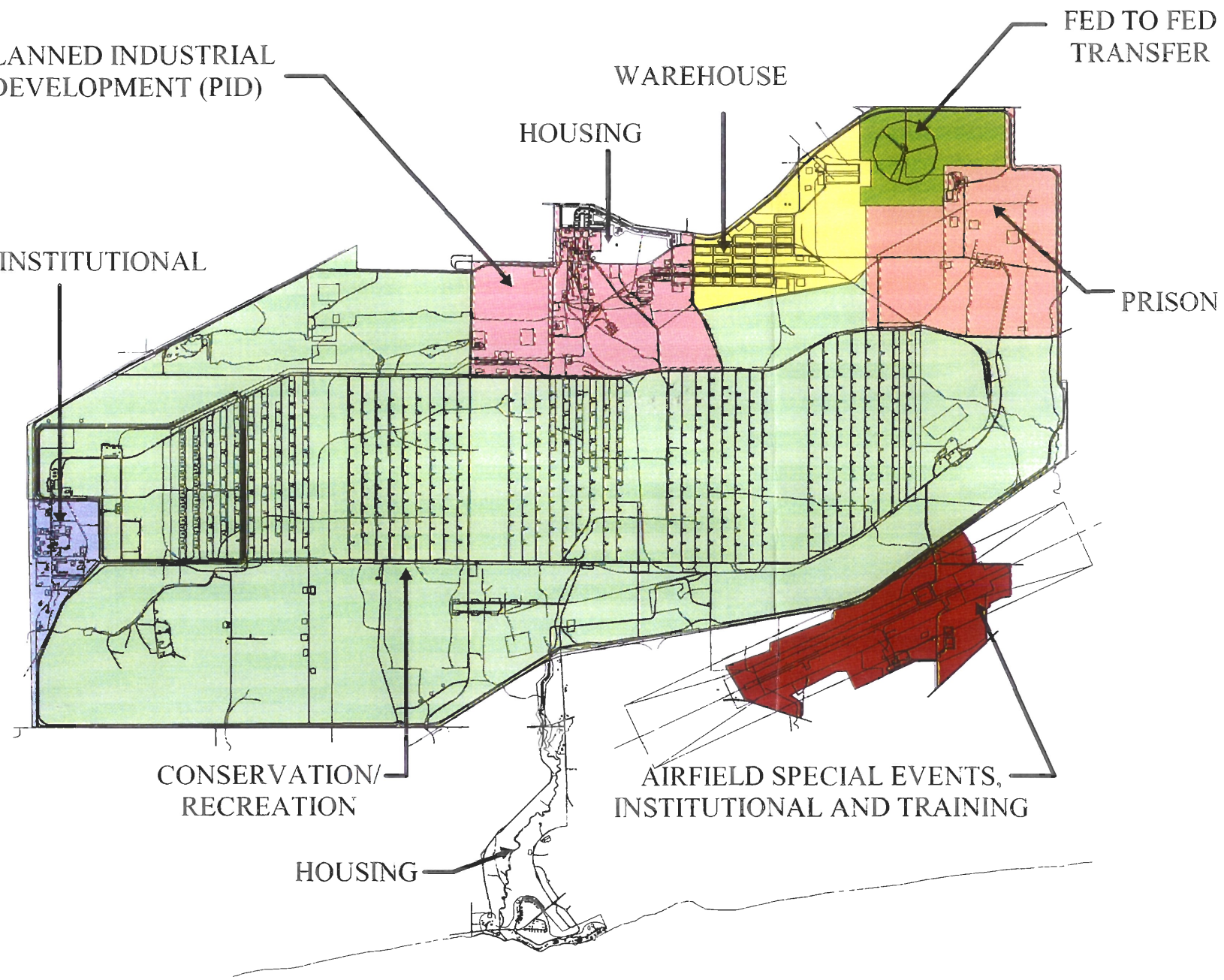
DEPT: ENVIRONMENTAL ENGINEERING | DWG NO:

FIGURE 1-1

DECISION CRITERIA
REMEDIATION FLOWCHART

Page 2 of 2

SCALE: N/A | DATE: AUGUST 2001



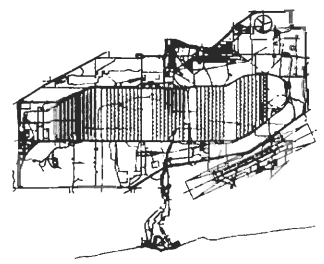
N

LEGEND

- Airfield
- Conservation
- Federal
- Industrial
- Institutional
- Prison
- Warehouse
- Housing

5000 0 5000 10000 Feet

KEY PLAN



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SENECA ARMY DEPOT ACTIVITY

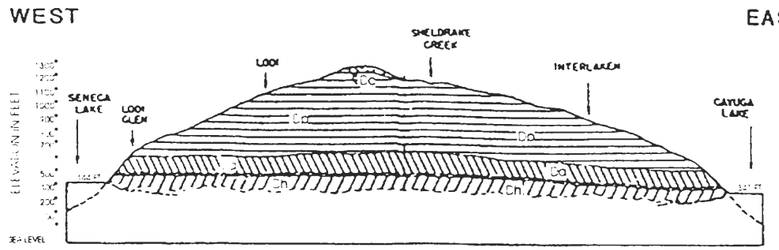
FIGURE 1-2

Future Land Use

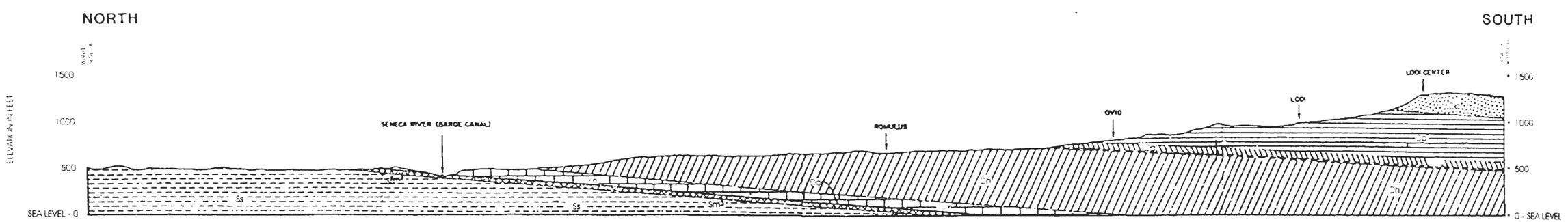
JOB NUMBER: 736026-01001

DATE: AUGUST 2001

o:\seneca\noact\noaction.apr

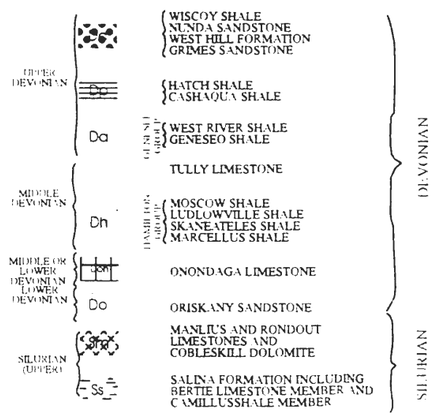


EAST-WEST SECTION ALONG A- A'



NORTH-SOUTH SECTION ALONG 76 50' (B-B')

LEGEND



SCALE
1 0 1 2 3 MILES

SOURCE MODIFIED FROM-THE GROUND WATER RESOURCES OF SENECA COUNTY, NEW YORK MOZOLA, A J., BULLETIN GW-26, ALBANY, NY, 1951

PARSONS
PARSONS ENGINEERING SCIENCE, INC.

CLIENT/PROJECT TITLE
SENECA ARMY DEPOT ACTIVITY
NO FURTHER ACTION SITES
DECISION DOCUMENT

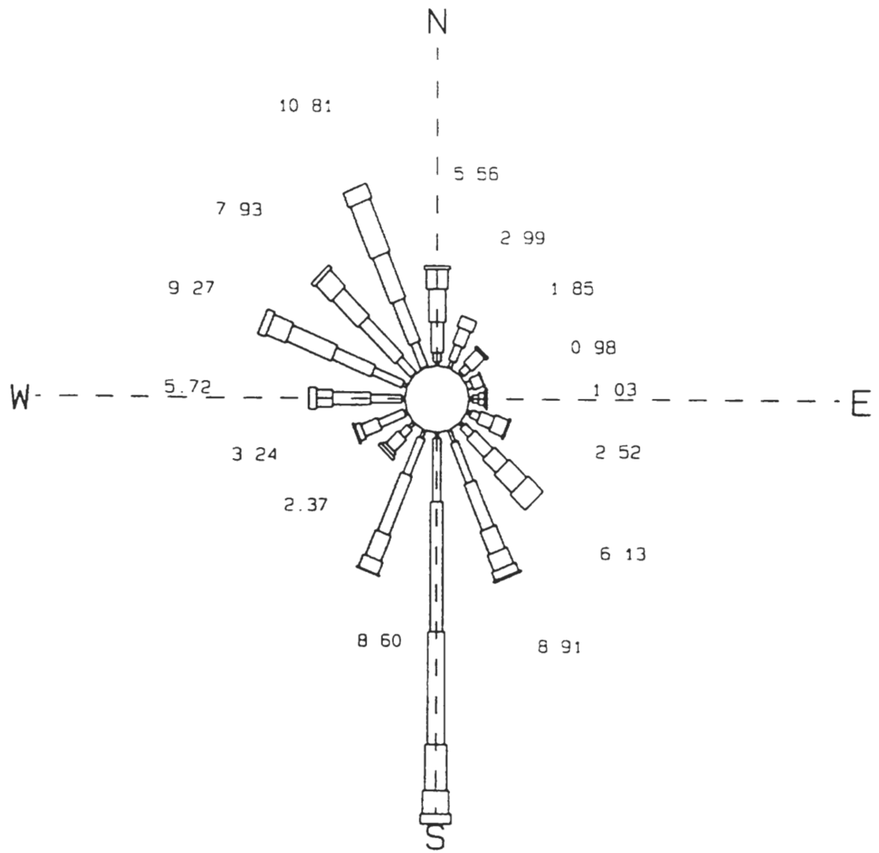
DEPT ENVIRONMENTAL ENGINEERING
DWG NO 736026-01002

FIGURE 1-3

REGIONAL GEOLOGIC CROSS SECTIONS

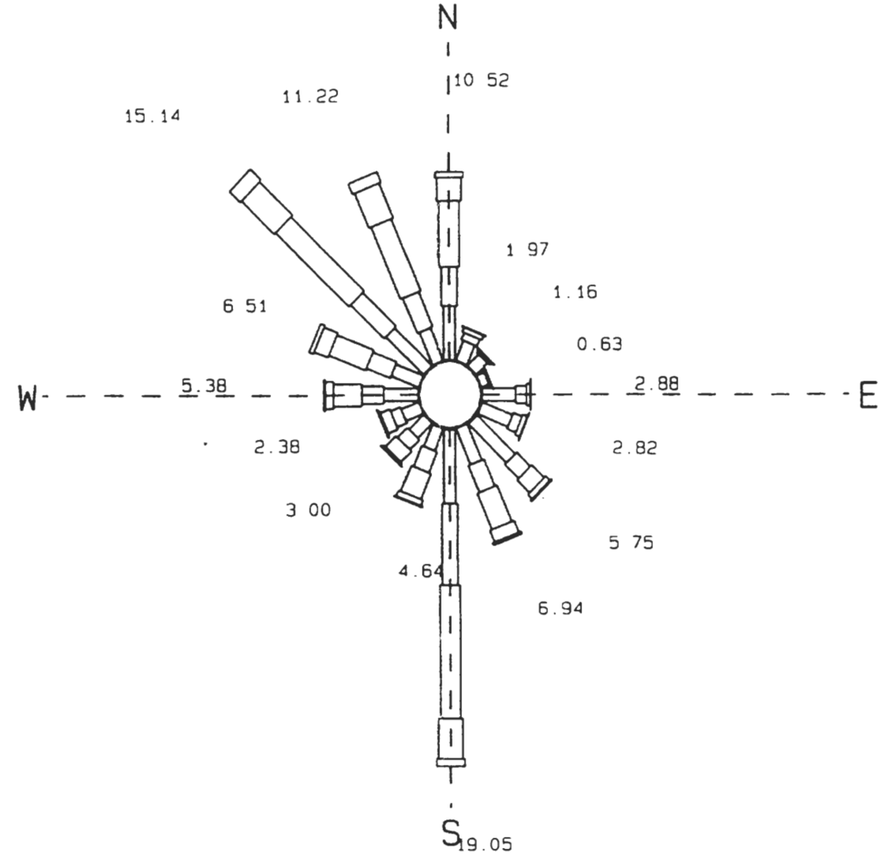
SCALE AS NOTED
DATE AUGUST 2001

R PROJECT_GRAPHICS\SENECA GEOXSEC CDR(CVM)



TOTAL HOURS. 2928
PERCENT CALM 0 00

SENECA ARMY DEPOT
SENECA 10-M MET. TOWER
SEASONAL WIND ROSE
10 METER LEVEL APRIL 24 - JULY 14 1995



TOTAL HOURS: 29307
PERCENT CALM: 14 29
PERCENT MISSING. 0 00

SENECA ARMY DEPOT
ITHACA AIRPORT
ANNUAL WIND ROSE
20 FOOT LEVEL FOR: 1989-1993

PARSONS
PARSONS ENGINEERING SCIENCE, INC.

CLIENT PROJECT TITLE
SENECA ARMY DEPOT ACTIVITY
No Further Action Sites
Decision Document

DEPT ENVIRONMENTAL ENGINEERING DWG NO 734516-01001

FIGURE 1-4
WIND ROSES

SCALE NA DATE SEPTEMBER 2001

GRAPHICS\SENECA\2WROSES.CDR

2 SWMU DISCUSSIONS

The following discussions present and summarize available information pertinent to each of the 22 Solid Waste Management Units (SWMUs) that the Army proposes be classified as "No Further Action" under CERCLA.

2.1 SEAD-01: BUILDING 307 – HAZARDOUS WASTE CONTAINER STORAGE FACILITY

2.1.1 Site Description

The Army constructed Building 307, the Hazardous Waste Container Storage Facility, in 1981 for the purpose of storing hazardous materials that were generated throughout the depot. This unit was specifically identified in the RCRA Part B permit application (#NY0213820830) as a hazardous waste treatment, storage, or disposal unit. The building is located in the east central portion of SEDA, in an area where the future land use has been designated for planned industrial development. The approximate location of this SWMU is shown on **Figure 2-1**, and its location is shown in greater detail on **Figure 2-1a**.

The 40 by 50-foot building consists of a 6-inch thick, monolithic concrete slab floor surrounded by a 6-inch high containment curb. The floor of the building has been sealed to prevent seepage of spilled materials into the concrete floor. Other than that portion of the floor that is covered by the access/egress ramp, the floor of the building is not sloped nor does it contain any collection sumps or drains. The roof of the building is constructed of corrugated zinc-coated steel with single sheets extending from the center ridge of the building to the outside edge. Corrugated steel sheets cover the sides of the building extending from 1 foot below the 2 by 12-inch headers to 6 inches below the top of the curb. A passive ventilation system is provided via the opening at the top of the walls to prevent heat and chemical fume buildup. The only entrance into the building is through a sliding corrugated-steel door located on the south side of the building. A 10-foot wide concrete access/egress ramp extends 10 feet beyond the exterior of the building and 8 feet into the building's interior. The ramp inside the building slopes back into the containment area, while the ramp outside the building slopes back towards the road. The peak of the ramp sits atop the containment wall. A plan view of the building is shown in **Figure 2-2.** The facility conforms to hazardous waste storage regulations in the State of New York. The regulations that determine the design and operation of a hazardous waste storage facility are NY Regulations NYCRR Title 6, Section 373-2.9f.

2.1.2 Historic Operations

Building 307 has been used as a storage area for liquid and solid, hazardous wastes since the time of its construction in 1981. Waste materials stored in the building over time include polychlorinated biphenyls (PCBs), waste solvents, corrosive liquids, flammable solids and flammable liquids. Waste materials generated in the shops located throughout the base are transported to Building 307, and stored inside the building in drums. Transport and storage devices used include new DOT-approved, 55-gallon drums and 5-gallon pails. The total storage capacity of the building is 300, 55-gallon drums or 16,500 gallons of material. The quantity of individual classes (i.e., waste solvents, corrosive liquids, PCBs, etc.) of waste present in the building at any given time is closely monitored and regulated.

Once transported to the building, the drums are stored until disposal contracts are procured for their removal from the building. The Facility Environmental Engineer (FEE) makes regular weekly inspections.

Based on the visual site inspections, performed on September 14, and November 27, 1990, the building was found to be in good structural condition and was managed appropriately as a storage facility. No evidence of a release was noted during any of the inspections at this facility.

2.1.3 Regulatory Status

SEAD-01 continues to function as a storage area for hazardous waste materials in accordance with interim status provisions of RCRA. Inspection reports for the facility and its operations are available in the offices of environmental management personnel at SEDA. Subsequent to the cessation of storage of hazardous waste materials in SEAD-01, this operating unit will be subject to RCRA closure and post-closure requirements identified under existing federal (40 CFR 265) and state (6 NYCRR Part 373) regulations.

2.1.4 Recommended Action

The Army proposes SEAD-01 as a "No Further Action" site under CERCLA.

2.1.5 Justification and Rationale for Recommendation

This SWMU is designated as a "No Further Action" site under CERCLA based on the following information and observations:

1. Hazardous waste has been stored and not disposed of in the building.

2. There is no historic evidence of a release from the building; any historic spills have been contained within the building and cleaned up in accordance with specified protocols.
3. The building continues to operate under interim status provisions of RCRA.
4. The building is subject to closure and post-closure provisions identified under RCRA that will be invoked at the time of termination of the operations.

2.2 SEAD-02: BUILDING 301 – PCB TRANSFORMER STORAGE FACILITY

2.2.1 Site Description

The Army has used Building 301 as a Polychlorinated Biphenyl (PCB) Storage Facility since approximately 1980. The building was upgraded in 1986 to meet conforming storage requirements. The building, which is designated as SEAD-02, is located in east central portion of the facility, near the munitions igloo storage area, in land where the future land use is designated as the site of planned industrial development. The approximate location of this SWMU is shown on **Figure 2-1**, and in greater detail on **Figure 2-1a**.

2.2.2 Historic Operations

Waste oils containing PCBs from machines processed in industrial plant equipment and materials contaminated with PCBs during the cleanup of the machines are stored in Building 307 (SEAD-01). Building 301 (SEAD-02) is used for the storage of materials associated with unserviceable transformers of PCBs. Decommissioned transformer units and other suspected PCB-contaminated electrical equipment are delivered to the building by linemen. Sampling is conducted by the environmental coordinator to determine the concentrations of PCBs in the units and contaminated electrical equipment. The items are then disposed of by the Defense, Reutilization and Marketing Office (DRMO). Inspections are conducted regularly by the environmental coordinator and the fire department onsite at the Depot.

Building 301 measures 35 feet 4 inches long by 23 feet 4 inches wide, and the main structure is bounded partially on two sides, and completely on the third side by a loading dock or platform the measures 6 feet 4 inches in width. There is no loading dock or platform located exterior to the building's fourth wall.

The floor of the building consists of a 6-inch thick, monolithic concrete slab floor with a 6-inch curb. The slab, containment curb, and the access/egress ramp that is located at the overhead door entry are monolithic. The concrete floor is not sloped, and contains no sumps or drainage points. The estimated containment volume of the building is approximately 7,500 gallons.

The roof and walls of the building prevent the accumulation of precipitation inside the building. A roof constructed of pre-cast concrete planks supported by steel trusses covers the building. A gravel and tar coating cover the concrete planks. The roof is slightly pitched to promote storm water runoff.

The 12-foot high walls are made of 1/2-inch thick scored tile. As is shown in **Figure 2-3**, the building has four windows and two roll-up doors. Ventilation in the building is passive as there is no electrical hook-up currently in place at the building.

Subsequent to the transport of a PCB containing unit to Building 301, it is inspected and if it is found to be leaking, it is placed into an overpack drum and surrounded by absorbent material. All leakage from the unit is captured via application of absorbent that is swept-up, containerized, and sent to Building 307 (SEAD-01) for storage pending disposal. Units not found to be leaking at the time of delivery to Building 301 are placed on pallets and stored pending sampling of the fluid and determination of the concentration of PCBs contained. Units found to contain PCB concentrations above 50 parts per million (ppm) are drained and the drained fluid is captured and transported to Building 307 for storage pending disposal. Units containing less that 50 ppm concentrations of PCBs are stored in Building 301 pending their final disposal by the Army.

2.2.3 Available Analytical Data

Soil samples were collected during the upgrade of the SWMUs floor in 1986. The collected samples were analyzed for PCB content and the data obtained is presented in **Table 2-1**. As shown, all samples contained levels of less than 1.0 mg/Kg of total PCBs.

2.2.4 Regulatory Status

SEAD-02 is specifically listed in the Depot's RCRA Part B Permit Application (NY#0213820830) as a hazardous waste treatment, storage and disposal unit.

2.2.5 Recommended Action

The Army proposes that "No Further Action" under CERCLA is required at SEAD-02.

2.2.6 Justification and Rationale for Recommendation

This SWMU is designated as a "No Further Action" site under CERCLA based on the following information and observations:

1. Hazardous waste has been stored and not disposed of in the building.

2. Based on the visual site inspections, performed on September 14, and November 27, 1990, the building was in good structural condition and was managed appropriately as a storage facility.
3. There is no historic evidence or record of a release from the building; historic sampling conducted in 1986 at the time of the upgrade of the facility indicated less than 1 ppm concentrations of total PCBs in soils collected from beneath the area of the slab.
4. The building continues to operate under interim status provisions of RCRA, and as such is subject to closure and post-closure (as applicable) provisions identified in those regulations at the time of the facility's termination of use.

2.3 SEAD-07: SHALE PIT

2.3.1 Site Description

SEAD-07 is an excavation pit that is known as the "Shale Pit" and covers an area approximately two acres in size. SEAD-07 is located north of the north patrol road in the northwestern corner of SEDA. This SWMU is located in a portion of the facility whose future land use has been designated for institutional development. The general location of this SWMU is shown on **Figure 2-1**, and presented in greater detail on **Figure 2-1c**.

2.3.2 Historic Operations

The Shale Pit was first created in 1987 and it was used to dispose construction debris resulting from Depot building and demolition activities. The initial excavation of the pit was terminated above the regional groundwater table. As developed, the Shale Pit holds only concrete, asphalt and wood debris resulting from base building/demolition activities. No cover material has been applied to the debris subsequent to its placement in the pit. Construction debris placed into the pit is considered inert and is free of chemicals that could lead to soil and groundwater contamination. Based on a site inspection conducted on September 13, 1990, approximately 50 percent of the pit was filled with construction debris.

2.3.3 Regulatory Status

Activities conducted in SEAD-07 are exempt from regulation by the State of New York, Subpart 360-7 of the New York Solid Waste Regulations that states, "sites at which only recognizable uncontaminated concrete, asphalt pavement, brick, soil or stone is placed are exempt from regulation" (Section 360-7.1 (b)(i)).

2.3.4 Recommended Action

The Army proposes that "No Further Action" is required at this SWMU under CERCLA.

2.3.5 Justification and Rationale of Recommendation

This SWMU is designated as a "No Further Action" site under CERCLA based on the following information and observations:

1. Only construction debris has been placed in the pit, and the disposed debris is believed to be relatively inert and free of chemicals that could cause contamination.
2. Although storm water does percolate through the disposed debris and enters the underlying soils, the run-off is presumed to be free of chemicals.
3. Construction debris that is free of chemical contamination is exempt from regulation under New York State hazardous waste regulations (NYCRR Section 360-7.1 (b)(i)).

2.4 SEAD-10: SCRAP WOOD PILE

2.4.1 Site Description

SEAD-10 was primarily used for the storage of scrap wood generated from site activities. The Scrap Wood Pile encompassed an area measuring approximately 250 feet by 185 feet that is located on the south side of East Kendaia Road near Building 113. This area is designated for planned industrial development pending Depot closure. The general location of this SWMU is shown on **Figure 2-1**, while **Figure 2-1a** presents greater detail of the area surrounding this SWMU.

2.4.2 Historic Operations

Use of the woodpile began in 1986 and continues in its present location today. Scrap wood from various Depot activities is segregated, stored in piles, and is then sold to Depot employees and the public. The storage area is divided into three sections: 1) an area for scrap wood (west pile; 130 feet by 185 feet); 2) an area for disposal of wooden pallets (middle pile; 60 feet by 185 feet); and 3) an area for pressure treated wood and poles (east pile; 60 feet by 185 feet).

SEDA's fire department periodically uses wood from the scrap wood pile as fuel for fire training exercises. Whenever fire training exercises have been conducted in the past, the State of New York is notified prior to any burning.

2.4.3 Available Analytical Data

Samples of the ash produced by the combustion of scrap wood in SEAD-10 were collected on September 29, 1992 and analyzed for TCLP constituents prior to their disposal by Waste Management – Syracuse NY. The results of these analyses are provided in **Appendix A**, and indicate that none of the measured levels exceed any regulatory limit.

2.4.4 Recommended Action

The Army proposes that SEAD-10 be listed as a "No Further Action" site under CERCLA.

2.4.5 Justification and Rationale for Recommendation

This SWMU is designated as a "No Further Action" site under CERCLA based on the following information and observations:

1. Typically, scrap wood has been stored in this area pending subsequent sale to Depot personnel or the public.
2. The scrap wood placed in the SWMU is chemically inert.
3. Fire training exercises were occasionally completed using scrap wood, but the residual ash was collected, analyzed and found not to meet or exceed any of the Toxicity Characteristic levels defined in 40 CFR 261.24.

2.5 SEAD-18: BUILDING 709 – CLASSIFIED DOCUMENT INCINERATOR

2.5.1 Site Description

The Classified Document Incinerator is located in Building 709. The current Building 709 is located in the north-central portion of SEDA, where the proposed future land use for the site is designated as institutional. SEAD-18 has actually been located at two different places within the north-central portion of SEDA during its existence. Between 1956 and 1983, the original Building 709 was located southwest of Building 707 at the edge of the parking lot near the North Patrol Road. In 1983, the original Building 709 was torn down, and a new building, also designated as Building 709, was constructed in an area between Building 701 and 702. The location of the existing Building 709 (SEAD-18) is shown on **Figure 2-1,** and in greater detail on **Figure 2-1c**. The location of the existing Building 709 is also shown on **Figure 2-4** as location "B," while the first location of Building 709 is marked as location "A" on **Figure 2-4**.

2.5.2 Historic Operations

The existing incinerator is a single chamber, propane-fired Washburn and Granger model S-200. As designed and built, this incinerator does not include any air pollution control devices. The incinerator has a rated capacity of 96 pounds per hour (lb/hr) with normal charging rates of 30-40 pounds per day (lbs/day) of classified paper documents. During its use, personnel of SEDA indicate that it was predominantly used to burn paper wastes with minimal levels of plastic and possibly glass waste intermixed. The incinerator is currently not in use, and it is no longer permitted to operate.

When the incinerator was used, generated ash was collected and buried in local landfills. Originally, some of the ash may have been disposed at the onsite Ash Landfill (SEAD-06), but most recently it was sent off-site to a local municipal landfill. According to SEDA personnel, the ash recovered from the incinerator was tested for EP Toxicity prior to disposal, and the analytical results indicated that none of the measured levels failed criteria in effect at the time. Copies of the analytical data were not available from the Army at the time of document preparation.

2.5.3 Regulatory Status

The incinerator is no longer used; thus, its permit to operate has been allowed to expire.

2.5.4 Recommended Action

The Army recommends that this SWMU be designated as a "No Further Action" site under CERCLA.

2.5.5 Justification and Rationale for Recommendation

This SWMU is designated as a "No Further Action" site under CERCLA based on the following information and data:

1. The unit is no longer used for the incineration of classified documents or other materials.
2. The primary migration pathway for releases from this unit was into the air, and this pathway no longer exists due to the shutdown of the process.
3. There is no continuing or historic exposure potential due to collection and controlled disposal of ash produced from the incineration process.
4. According to SEDA personnel, generated ash was analyzed for EP Toxicity metals prior to disposal and no violations of the criteria in effect at the time of ash disposal were observed.

2.6 SEAD-19: BUILDING 801 – FORMER CLASSIFIED DOCUMENT INCINERATOR

2.6.1 Site Description

Between 1956 and 1983, SEDA operated a Classified Document Incinerator in Building 801, which is located in the north-central portion of the depot. The land in this portion of the Depot is designated as conservation/recreational land for future use. The approximate location of the SEAD-19 is shown on **Figure 2-1**, and in greater detail on **Figure 2-1c.**

2.6.2 Historic Operations

The incinerator at Building 801 was used to incinerate classified documents. The incinerator is a single chamber, propane-fired Washburn and Granger model S-200. As built, the incinerator does not include any air pollution control devices. It has a rated capacity of 96 lb/hr of refuse, but during the time of its use it had a normal charging rate of 30-40 pounds per day (lbs/day) of classified paper documents. Personnel of SEDA indicate that it was predominantly used to burn paper wastes (95%) with some microfilm intermixed.

The incinerator currently is not in use. When the incinerator was used, generated ash was collected and buried in local landfills. Originally, some of the ash may have been disposed at the onsite Ash Landfill (SEAD-06), but most recently it was sent off-site to a local municipal landfill. According to SEDA personnel, the ash recovered from the incinerator was tested for EP Toxicity prior to disposal, and the analytical results indicated that none of the measured levels failed criteria in effect at the time. Copies of the analytical data are not available at the time of report production.

2.6.3 Regulatory Status

Although the incinerator is not currently in use, it is covered by Certificate to Permit Regulated Activities C453089-00460801BNR. Building 801 is located within the portion of the Depot that is currently being investigated under the SEAD-12 program.

2.6.4 Recommended Action

The Army recommends that this SWMU be designated as a "No Further Action" site under CERCLA.

2.6.5 Justification and Rationale for Recommendation

This SWMU is designated as a "No Further Action" site under CERCLA based on the following information and data:

1. While the incinerator still exists, it is no longer used for the burning of classified documents.
2. The primary migration pathway for releases from this unit was into the air, and this pathway no longer is exists since the unit is inactive.
3. There is no continuing or historic exposure potential due to collection and controlled disposal of ash produced from the incineration process.
4. According to SEDA personnel, the ash was analyzed for EP Toxicity metals and no violations of the established criteria were observed.

2.7 SEAD-20: SEWAGE TREATMENT PLANT (STP) NO. 4

2.7.1 Site Description

Sewage Treatment Plant No. 4 is located on the south side of West Romulus Road in the east central portion of SEDA. Land surrounding this facility is slated for planned industrial development (PID). The general location of SEAD-20 is shown on **Figure 2-1**, and in greater detail on **Figure 2-1a**.

2.7.2 Historic Operations

The wastewater treatment plant was designed for a maximum flow capacity of 250,000 gallons per day. Inlet flow received includes domestic wastewater with a minimal component of industrial discharges consisting primarily of boiler plant blowdown fluids. The majority of wastewater received originates from the administration area, the warehouse area, the Military Elliot Acres Housing Complex, and the adjacent civilian communities of Romulus and Varick, New York.

Sewage Treatment Plant No. 4 was put online in 1942. Current unit operations include a bar screen, a wet well, a dual-chambered Imhoff tank, a covered trickling filter containing plastic media, a secondary clarifier, and two sludge drying beds (each measuring approximately 35 feet by 35 feet). The wetlands on the Depot are used as a substitute for in-situ tertiary treatment. Sludge generated in the wastewater treatment plant is periodically removed from the drying beds and stored in the sewage sludge waste piles that are located at SEAD-05.

2.7.3 Regulatory Status

Sewage Treatment Plant No. 4 is currently operating under two permit authorizations; its State Pollutant Discharge Elimination System (SPDES) number is NY0021296 and its NYSDEC identification number is 8-4530-00006/00035 that expires on May 1, 2004. Based on information collected in 1994, there was no evidence of SPDES violations in the preceding three years of its operation.

2.7.4 Recommended Action

The Army recommends that this SWMU be designated as a "No Further Action" site under CERCLA.

2.7.5 Justification and Rationale for Recommendation

This SWMU is designated as a "No Further Action" site under CERCLA based on the following information and observations:

1. The plant has historically operated, and continues to operate today, under State and SPDES wastewater permit authorizations.
2. No evidence of any release from the treatment plant was found in the historic information.
3. Domestic wastewater, not hazardous waste, is treated at the plant.
4. Generated sludge is removed from the sludge drying beds and moved to another location (SEAD-05) for storage and disposal.

2.8 SEAD-21: SEWAGE TREATMENT PLANT NO. 715

2.8.1 Site Description

Sewage Treatment Plant No. 715 is located in the north-central portion of SEDA, west of the north gate where the perimeter fence and the north patrol road split. The treatment plant is within the area where the designated future use is institutional. The approximate location of SEAD-21 is shown on **Figure 2-1** and in greater detail on **Figure 2-1c.**

2.8.2 Historic Operations

Sewage Treatment Plant No. 715 had a permitted capacity of 300,000 gallons of wastewater per day. The design capacity of the facility is 750,000 gallons per day. The treatment plant began operations in 1956. The Army ceased operation of the plant on January 1, 1996 when the troop barracks located in the northern portion of SEDA was closed. During the period of its operation, the wastewater treatment plant only received wastewater from domestic sources.

The plant's equipment inventory consists of a grinder pump and comminutor, a primary settling chamber, two rotating biological contractors (RBCs), a secondary clarifier, sand filters, a sludge holding tank, a sludge digestion tank (old Imhoff tank), and two concrete-lined sludge drying beds with gravel and sand floors (approximately 40 feet by 15 feet each). Sludge produced within the plant was periodically removed and transported to SEAD-05 where it was stored in sewage sludge waste piles.

The treated effluent from this unit was discharged into Reeder Creek. A review of historic operational records maintained for this facility indicates that violations of the facility's SPDES permit were recorded in 1986 when excessive levels of biological oxygen demand and total suspended solids were measured in the plant's effluent. No other SPDES violations were recorded for the facility prior to its closure in 1996.

2.8.3 Regulatory Status

Sewage Treatment Plant No. 715 was designed to receive domestic wastewater from the troop area at the north end of the Depot. The operation of this facility was regulated under NYSDEC authorization number 8-4530-00006/0003 that will expire on May 1, 2004 and under SPDES Permit No. NY0021296.

2.8.4 Recommended Action

The Army proposes this site as a "No Further Action" site under CERCLA.

2.8.5 Justification and Rationale for Recommendation

This SWMU is designated as a "No Further Action" site under CERCLA based on the following information and observations:

1. The Army no longer uses the wastewater treatment plant, and use of this facility by the Army ceased on January 1, 1996.
2. The operation of the wastewater treatment plant was monitored under State Pollutant Discharge Elimination System regulations and guidelines.
3. The Army recorded few violations of the facility's operating permit during its 40 years of operation. Violations, when they occurred, were reported to the regulating authority in accordance with permit requirements.
4. Only domestic wastewater was treated in the treatment facility.
5. Sludge was removed from the drying beds and transported to SEAD-05 for subsequent storage and disposal.

2.9 SEAD-22: SEWAGE TREATMENT PLANT NO. 314

2.9.1 Site Description

Sewage Treatment Plant No. 314 was located in the east central part of SEDA where the land's future use has been designated as the site of planned industrial development. **Figure 2-1** shows the

approximate location of SEAD-22, while **Figure 2-1a** shows the area surrounding SEAD-22 in greater detail.

2.9.2 Historic Operations

The wastewater treatment facility was originally constructed in 1941, at the time of the base's inception, and continued to operate until October of 1978. In 1978, the former treatment plant was converted to a lift station servicing Sewage Treatment Plant No. 4 (SEAD-20). The lift station currently occupies the site of the former wastewater treatment plant.

The historic wastewater treatment plant included a bar screen, an Imhoff tank, a 30-foot diameter trickling filter, a secondary clarifier, a chlorination chamber, and a sludge drying bed. The rated flow capacity of the facility was 100,000 gallons per day of wastewater. All wastewater treated at the historic wastewater treatment plant originated from domestic-type sources; industrial wastewater was not treated in the facility. Once treated, the effluent from the treatment facility was discharged to Kendaia Creek. Based on historic information, there is no evidence that a release of solid or hazardous waste occurred from the facility.

The site is presently occupied by a lift station that pumps wastewater to STP No. 4. All components of the original wastewater treatment operation have been removed or filled and covered with shale and soil. The area is grassy, but several pieces of the former facility's foundation are still evident at the site.

2.9.3 Regulatory Status

No SPDES Permit was required during the time of the treatment plant's operation.

2.9.4 Recommended Action

The Army proposes this SWMU as a "No Further Action" site under CERCLA.

2.9.5 Justification and Rationale for Recommendation

This SWMU is designated as a "No Further Action" site under CERCLA based on the following information and observations:

1. The operation of the historic wastewater treatment plant was terminated in 1978, and all parts of the original facility have been removed or filled with shale and soil.
2. No evidence of any historic release exists for the former facility.

3. The former plant only received and treated domestic wastewater originating from the warehouse area.

2.10 SEAD-29: BUILDING 732 – UNDERGROUND WASTE OIL TANK

2.10.1 Site Description

SEAD-29 is a former 550-gallon, underground waste-oil storage tank that was used to store waste oil generated from the automotive maintenance shop. The tank was located on the southeast side of Building 732 that is within the northern portion of SEDA. This land is designated for future institutional use subsequent to base closure. The approximate location of SEAD-29 is shown on **Figure 2-1**, while the vicinity is shown in greater detail on **Figure 2-1c**.

2.10.2 Historic Operations

The tank was originally installed in 1981 and was constructed of fiberglass with galvanized steel piping. The waste oil stored in the tank was used as a fuel supplement in the boilers located in Building 718 (SEAD-35). Previously, the waste oil was also used as a fuel supplement for the boilers located in Buildings 319 (SEAD-37) and 121 (SEAD-36). The tank was pressure tested on September 23, 1992 when it received a rating of +0.012 gallons per hour and was deemed to be tight. The tank was decommissioned on July 13, 1993. At the time of decommissioning, the contents of the tank were pumped-out, leaving no more than 1 inch of used oil in the bottom. A private contractor removed the tank from the ground and all discolored soil surrounding the former tank was removed and disposed of in accordance with applicable regulations.

Evidence of possible releases from tank filling operations was observed at the site during a site inspection conducted in 1990. However, at the time of the inspection, the extent of the observed releases was assessed to be surficial. SEDA personnel reported that the stained surficial soil has been removed and disposed of appropriately.

2.10.3 Regulatory Status

New York State's tank designation for this unit was 8-416118-059 prior to its removal. The tank is no longer in place in the ground.

2.10.4 Recommended Action

The Army proposes SEAD-29 as a "No Further Action" site under CERCLA.

2.10.5 Justification and Rationale for Recommendation

This SWMU is designated as a "No Further Action" site under CERCLA for the following reasons:

1. The tank has been removed and at the time of removal, all discolored soil surrounding the tank was excavated and disposed in accordance with prevailing requirements.
2. Stained surficial soil observed at the site during an inspection in 1990 was excavated and removed in accordance with applicable regulations.

2.11 SEAD-30: BUILDING 118 – UNDERGROUND WASTE OIL TANK

2.11.1 Site Description

SEAD-30 is a former underground waste oil storage tank that was located on the southern side of Building 118 at the intersection of South Street and Second Avenue in the central eastern portion of SEDA. This location is in the portion of the Depot where the future use is planned industrial development. The approximate location of SEAD-30 is shown on **Figure 2-1**, while the area surrounding this SEAD is shown in greater detail in **Figure 2-1a**.

2.11.2 Historic Operations

The tank was installed in 1941 and it was used to store waste automotive oil generated from Depot vehicle maintenance activities. The waste oil stored in the tank was used as a fuel supplement in the boilers located in Buildings 718 (SEAD-35), 319 (SEAD-37) and 121 (SEAD-36). The 550-gallon tank was fabricated of steel and it was buried approximately sixteen inches below the surface in native, overburden materials that were grass covered. Galvanized piping was used for the transfer of fluids to and from the tank. The tank was removed from the ground in 1992, and at the time of its removal, there was no evidence of any release around the tank. A NYSDEC representative, who oversaw the removal, did not require any confirmational soil sampling when the excavation was open.

2.11.3 Regulatory Status

This tank was identified as EPA Tank #118; its State of New York identification number was 208.

2.11.4 Recommended Action

The Army proposes SEAD-30 as a "No Further Action" site under CERCLA.

2.11.5 Justification and Rationale for Recommendation

This SWMU is designated as a "No Further Action" site under CERCLA based on the following information:

1. The tank was removed from the ground in 1992.
2. At the time of its removal, there was no evidence of any release to the ground surrounding the tank. The tank removal was overseen by a NYSDEC representative who did not require any confirmation soil sampling when the excavation was open.

2.12 SEAD-31: BUILDING 117 – UNDERGROUND WASTE OIL TANK

2.12.1 Site Description

SEAD-31 was an underground waste oil storage tank that was located on the southwest side of Building 117 between Second and Third Avenue. This site is located in the east central portion of SEDA, in an area where the future land use is slated for planned industrial development. The approximate location of SEDA-31 is displayed on **Figure 2-1**; a close-up view of the location of SEAD-31 is provided on **Figure 2-1a**. The Army removed the storage tank on October 7, 1999.

The underground tank was constructed of fiberglass and was equipped with galvanized steel piping. The tank had a capacity of 2,005 gallons and was buried approximately four feet underground in native soil. The ground surface above the tank was grass covered, and the tank site was surrounded by Building 117 on one side, grass on one side, and asphalt pavement on two sides.

2.12.2 Historic Operations

Waste oil was stored in the tank for subsequent use as a fuel supplement in the boilers located at Building 718 (SEAD-35). Previously, it was also used as a fuel supplement in the boilers located in Buildings 319 (SEAD-37) and 121 (SEAD-36). The 2,005-gallon waste oil tank was last tightness tested in 1996 and according to SEDA personnel, the tank passed the 1996 test.

2.12.3 Regulatory Status

The tank was removed as part of base closure activities. The NYSDEC identification number for the tank was NYS 8-416118-025, while the US EPA number was 117.

2.12.4 Recommended Action

The Army proposes SEAD-31 as a "No Further Action" site under CERCLA.

2.12.5 Justification and Rationale for Recommendation

This SWMU is designated as a "No Further Action" site under CERCLA based on the following information:

1. The tank has been removed and its removal was completed in accordance with the State of New York Spill Prevention and Response Requirements.
2. No evidence of a release of waste oil to the soil or the groundwater has been reported and the tank had passed all previous tightness tests.

2.13 SEAD-32: BUILDING 718 – UNDERGROUND WASTE OIL TANKS

2.13.1 Site Description

SEAD-32 is comprised of two underground waste oil storage tanks (Tanks A and B). Tank A (State Identification Number 8-416118-194) has a maximum storage capacity of 40,000 gallons, while Tank B (State Identification Number 8-416118-195) has a maximum storage capacity of 20,000 gallons. These tanks are currently used for the storage Number 6 (No. 6) fuel oil. The approximate location of SEAD-32 is shown on **Figure 2-1**, and in greater detail on **Figure 2-1c.**

2.13.2 Historic Operations

Between 1956 and the present day, the underground tanks of SEAD-32 have primarily been used for the storage of No. 6 fuel oil. With the imposition of RCRA requirements in 1980 – 1981, SEDA altered its historic waste oil management practices, and tried to recover energy value from waste oil that was generated at the Depot. As such, waste oil was routinely blended with the No. 6 fuel oil whenever bulk (i.e., 7,000-gallon) deliveries occurred. The combined No. 6 fuel/waste oil mixture was used as fuel for space heating and generation of hot water supplies. In 1989, the practice of blending waste and virgin oil in SEAD-32 tanks was discontinued when a new 10,000 gallon dual walled fiberglass waste-oil tank with an interstitial space monitoring system was constructed at Building 718 (SEAD-61).

2.13.3 Summary of Available Data

A limited site investigation was performed in SEAD-32 in 1994 to investigate possible releases of No. 6/waste oil to the soil and groundwater. Two soil borings and two groundwater wells were installed and sampled as part of this investigation.

The results of the soil sampling indicate that two low levels of total petroleum hydrocarbons (TPH – 90 and 81 ppm), and one hit of methylene chloride were found in soil. No other volatile organic compounds were detected in the two samples analyzed. The single value reported for methylene chloride (at location SB32-2, 1 ug/Kg or ppb) is believed to be a laboratory artifact and is below NYSDEC's TAGM level of 100 ug/Kg.

The results of the groundwater investigation indicate that no volatile organic compounds were detected in groundwater, while one well contained TPH (MW32-1 at 0.69 ppm). Refer to **Appendix B** for data tables from this sampling event.

2.13.4 Regulatory Status

The government agency that regulates this unit is NYSDEC's Region 8 Water Division with input from the Federal Projects Section, Division of Hazardous Waste Remediation.

2.13.5 Recommended Action

The Army proposes that SEAD-32 be classified as a "No Further Action" site under CERCLA.

2.13.6 Justification and Rationale for Recommendation

This SWMU is designated as a "No Further Action" site under CERCLA based on the following information:

1. Although the tanks are still actively used, they are currently only used for the storage of No. 6 fuel oil that is used as a fuel for heating.
2. Only low levels of TPH (i.e., less than 100 ppm) and very low levels of methylene chloride (i.e., 1 ppb) were detected in soil samples during the 1994 sampling event. The measured level of methylene chloride in soil is well below the NYSDEC TAGM level (i.e., 100 ppb) and there is no published TAGM for TPH.
3. Only one low level of TPH (0.69 ppm) was detected in the groundwater collected during the site investigation. There is no criteria limit value for TPH in groundwater.

2.14 SEAD-35: BUILDING 718 - WASTE OIL-BURNING BOILERS

2.14.1 Site Description

Building 718 is located in the north-central portion of SEDA in an area where the future land use is designated as institutional. The approximate location of SEAD-35 is shown on **Figure 2-1**; a close-up view of the location of this SWMU is provided on **Figure 2-1c**. Building 718 contains three boilers, all of which are designed to burn oil or waste-oil/oil mixtures. All three of the boilers are rated at 10 MBtu/hr capacity, and the stated combustion rate for each of the units is 15.5 gallons per hour.

2.14.2 Historic Operations

These units were originally used to produce heat that was used for space heating and for the production of hot water. Between 1982 and 1989, the fuel used in the boilers was a mixture of waste oil and No. 6 fuel oil. After 1989, SEDA discontinued use of waste oil as a fuel supplement due to difficulties encountered preparing waste oil/No. 6 oil blends that yielded proper combustion characteristics. Therefore, after 1989 only No. 6 fuel oil was burned in the three boilers. The three boilers remain functional today, although their use by the Army was terminated in 1996 when building 718 was shut-down.

2.14.3 Regulatory Status

The three boilers were regulated under NYSDEC Division of Air Resources Emission Point Source Permit Identification Number 453089-0046-07183.

2.14.4 Recommended Action

The Army proposes the three burners as a "No Further Action" site under CERCLA.

2.14.5 Justification and Rationale for Recommendation

This SWMU is designated as a "No Further Action" site under CERCLA based on the following information and observations:

1. There is no evidence that a release of solid waste occurred from any of the boilers during the period of their operation by the Army.
2. The units have not been used to burn waste oil since 1989.
3. Air discharges from these units are regulated by the Division of Air Resources and are subject to review by that authority.

2.15 SEAD-36: BUILDING 121 - WASTE OIL-BURNING BOILERS

2.15.1 Site Description

Building 121 is located in the east central portion of SEDA in an area of the site where the future land use is designated as planned industrial development. The location of Building 121 (SEAD-36) is shown on **Figure 2-1**, and the area surrounding this SEAD is shown in greater detail on **Figure 2-1a**.

Building 121 contains three boilers, two of which are capable of burning waste-oil. The third was originally designed to burn coal. All three of the boilers are rated at 6.6 MBtu/hr capacity, and the stated combustion rate of oil for the two waste-oil fired units is 10.6 gallons per hour. No fuel consumption rate capacity is available for the coal-fired unit.

2.15.2 Historic Operation

A waste oil/No. 6 oil blend was burned in the oil-fired boilers between 1982 and 1989. Waste oil was never fired in the coal-fired unit. The two oil-fired boilers were originally used to produce heat that was used for space heating and the production of hot water. There is no information available to indicate that waste oil was released from either of the burners during the period of their use. The two boilers remain functional today, but they no longer burn a waste oil/fuel oil blend due to difficulties associated with properly balancing the blend and combustion conditions. Number 6 oil is the only fuel burned in the two oil-fired boilers today.

2.15.3 Regulatory Status

All of these units are regulated under NYSDEC Division of Air Resources Emission Point Source Permit Identification Number 453089-0046-00121.

2.15.4 Recommended Action

The Army proposes this SWMU as a "No Further Action" site under CERCLA.

2.15.5 Justification and Rationale for Recommendation

This SWMU is designated as a "No Further Action" site under CERCLA for the following reasons:

1. There is no evidence that a release of solid waste occurred from either of the oil-fired boilers.

2. Although the two oil-fired units are still used, they have not burned waste oil since 1989 due to difficulties associated with preparing proper fuel blends and balancing combustion conditions.
3. Air discharges from these units are regulated by the Division of Air Resources and are subject to review by that authority.

2.16 SEAD-37: BUILDING 319 - WASTE OIL-BURNING BOILERS

2.16.1 Site Description

Building 319 contains two boilers that are capable of burning waste oil/fuel oil blends. Building 319 (SEAD-37) is located in the east central portion of SEDA in a portion of the Depot where the future land use is designated as planned industrial development. The approximate location of SEAD-37 is shown on **Figure 2-1**, and the area surrounding this SEAD is shown in greater detail in **Figure 2-1a.**

2.16.2 Historic Operations

Boilers A and B have rated capacities of 12.0 and 16.1 MBtu/hr, respectively. Each boiler has a combustion rate of 32.9 gallons per hour of fuel. Between 1982 and 1989, both of these units used a waste oil/No. 6 fuel oil mixture as fuel for space heating and hot water production. There is no information available to indicate that waste-oil was released from either of the boilers during the time of their use with waste oil. The boilers remain functional today, but they are no longer fired with waste oil due to difficulties associated with properly balancing fuel blend and combustion conditions. Currently, these units only burn No. 6 oil as fuel.

2.16.3 Regulatory Status

The NYSDEC Division of Air Resources Identification Number for the two boiler units is 453089-0046-00319.

2.16.4 Recommended Action

The Army proposes this SWMU as a "No Further Action" site under CERCLA.

2.16.5 Justification and Rationale for Recommendation

This SWMU is designated as a "No Further Action" site under CERCLA for the following reasons:

1. There is no evidence that a release of solid or hazardous waste occurred from either boiler during the time when they were used to burn waste oil/oil blends.

2. Combustion of a waste oil/No. 6 oil blend in the two boilers in Building 319 ceased in 1989. The boilers remain in use today, although they currently only fire No. 6 fuel oil.
3. Air discharges from these units are regulated by the Division of Air Resources and are subject to review by that authority.

2.17 SEAD-42: BUILDING 106 – PREVENTATIVE MEDICINE LABORATORY

2.17.1 Site Description

According to information provided in a USATHAMA published site inspection report (USATHAMA, 1980) for SEDA, Building 106 once housed a Preventative Medicine Laboratory. Building 106 is a brick building measuring 167 feet long by 63 feet wide that was constructed in approximately 1975. This building is located in the east, central portion of SEDA, in the area designated for planned industrial development. The approximate location of Building 106 is displayed on **Figure 2-1**, and the area surrounding the building is shown in greater detail in **Figure 2-1a**.

2.17.2 Historic Operations

Reportedly, the Preventive Medicine Laboratory was located in the northwest section of Building 106. This laboratory is believed to have measured 12 feet by 28 feet in size. A plan of Building 106 is shown in **Figure 2-5**. Based on information provided in the 1980 USATHAMA report, clinical laboratory work and potable water analyses were performed in the laboratory. However, a site inspection and interview performed on November 28, 1990 was unable to confirm the accuracy of the prior information. During this visit and inspection, personnel of Building 106 were asked questions pertaining to the location of the Preventive Medicine Laboratory. Personnel stated that they were unaware of this laboratory. They further stated that the laboratory used for clinical analyses was not the area shown as the Preventive Medicine Laboratory on the construction drawings, but was the area located southeast of the Preventive Medicine Laboratory (see **Figure 2-5)** that is identified as the Clinical Analysis Laboratory. They also stated that potable water analyses were not conducted in the building, as samples collected for this purpose were shipped to Fort Drum for analysis.

2.17.3 Regulatory Status

Infectious wastes were generated in Building 106, a by-product of the clinical laboratory work. These materials were regulated by the County Health Department (Geneva District Office – NY Regulations Title 6 Section 364.9) and by US Army Rules and Regulations. Review of available information indicates that there is no evidence that any waste was released from the operations conducted in Building 106.

2.17.4 Recommended Action

The Army proposes that SEAD-42 be classified as a "No Further Action" site under CERCLA.

2.17.5 Justification and Rationale for Recommendation

This SWMU is designated as a "No Further Action" site under CERCLA based on the following information:

1. Laboratory and medical facilities in Building 106 are no longer operational.
2. There is no evidence or data to indicate that a release of solid waste ever occurred at any location in Building 106.
3. Infectious wastes previously generated in Building 106 were subject regulation by the County Health Department under NY Regulations Title 6 Section 364.9 and by US Army Rules and Regulations.

2.18 SEAD-49: BUILDING 356 – COLUMBITE ORE STORAGE AREA

2.18.1 Site Description

SEAD-49 is located in the southeastern portion of SEDA in a parcel of land whose future use is designated as warehousing space. The approximate location of Building 356 is shown on **Figure 2-1**. Greater detail of the area surrounding Building 321 is provided on **Figure 2-1b**.

Building 356 is a concrete block warehouse with concrete floors. The warehouse measures 200 feet wide by 1,000 feet long and is divided into 5 separate cells. Each cell is separated from the next by a concrete masonry firewall.

2.18.2 Historic Operations

Columbite ore, a mixture of the oxides of iron, manganese, niobium, and tantalum, was stored in Buildings 324, 356, and 357 at SEDA. Although neither niobium nor tantalum has any naturally occurring radioactive isotopes, radium-226 and thorium-232 may be present in the mixture as impurities.

Available information indicates that the Columbite ore were stored in Building 324 from 1954 to 1973, Building 357 from 1954 to 1984 or 1985, and Building 356 from 1984 to 1993. The ore was originally kept in burlap bags, but later it was stored in 55-gallon drums. The ore originally stored in Building 324 was moved to Building 357 in 1973 and Building 324 was swept clean. The Columbite

ore was removed from Building 357 in 1984 or 1985, and again the building was swept clean. In May 1993, all of the Columbite Ore (5,284 drums) was transferred from Building 356 to a DLA facility in Binghamton, New York. Subsequent to this time, Building 356 was cleaned.

No evidence or record of a release of Columbite ore was observed or was found. Personnel of NYSDEC and NYSDOH performed a radiological survey of SEAD-49 (including Buildings 324, 356, and 357) in June of 1993, approximately two weeks after the Columbite ore had been removed. The results of these surveys are presented in **Appendix C**. Based on these results, NYSDEC personnel recommended a "No Action" classification for SEAD-49.

Subsequent to the removal of the Columbite ore, and NYSDEC's recommendation of "No Action", SEDA reported three separate releases of Diethylenetriamine in Building 356. These all occurred in June of 1995. One of the three events involved three gallons of material (Spill No. 9503157), while the other two involved a total of two quarts. Each of the spills occurred inside 40-foot steel containers that were being off-loaded into Building 356. These spills were cleaned-up and the reported cases are closed.

2.18.3 Regulatory Status

The units were designed in accordance with specifications of the Atomic Energy Act; handling and use of radioactive materials are regulated under Title 10 Code of Federal Regulations. SEDA's Nuclear Regulatory Commission regulatory permit ID number is license #SUC-1275.

2.18.4 Recommended Action

The Army proposes this SWMU as a "No Further Action" under CERCLA.

2.18.5 Justification and Rationale for Recommendation

This SWMU is designated as a "No Further Action" site under CERCLA based on the following information and observations:

1. The Columbite ore was stored, and not treated nor disposed, in Building 356 or either of the other buildings.
2. The Columbite ore was removed from Building 356 in May of 1993 and sent to another off-site facility for deposition.
3. No evidence or data of a release of radioactive materials were found in the review of available information and data at the facility.

4. NYSDEC personnel recommended a "No Action" status for the SWMU based on the results of a field screening survey.
5. The three reported spills that occurred in Building 356 subsequent to the removal of the Columbite ore were all cleaned up immediately at the time they occurred and each of the case reports are closed.

2.19 SEAD-55: BUILDING 357 – TANNIN STORAGE

2.19.1 Site Description

Building 357 is located in the southwestern portion of SEDA, in land whose planned use is designated as warehousing. The approximate location of SEAD-55 is presented on **Figure 2-1,** and greater detail of the area is provided on **Figure 2-1b**.

Building 357 is a concrete block warehouse built on a concrete foundation that measures 200 feet wide by 1,000 feet long and consists of five (5) separate sections. The individual sections are divided by a concrete masonry firewall.

2.19.2 Historic Operation

SEDA used Tannin as a chemical treatment additive for its boiler plant water. Tannin was received as a dry solid in bags, and the bags were stored in Section 2 of Building 357 on pallets. Storage of Tannin in Building 357 began in approximately 1978, and continued until roughly 1994. Section 2 of Building 357 was swept clean one storage of Tannin ceased. Prior to 1978, Tannin was stored in another area at the Depot.

No evidence or records of a release of Tannin were observed or found. As Tannin was received and stored in bags stacked together in wooden frames, it is unlikely that a release could have occurred during storage. If a bag did break, and Tannin was released, the release would be contained by the concrete floor and could be cleaned up according to proper procedures.

2.19.3 Regulatory Status

No environmental permits were issued for the storage of Tannin in Building 357.

2.19.4 Recommended Action

The Army proposes that this SWMU be classified as a "No Further Action" site under CERCLA.

2.19.5 Justification and Rationale for Recommendation

This SWMU is designated as a "No Further Action" site under CERCLA based on the following information and observations:

1. The Tannin that was stored was a raw material and not a waste product.
2. Any spill or release occurring in the warehouse would be captured by the concrete floor and could be easily contained and cleaned.
3. No historic evidence of a release of Tannin has been found in records or information available at the base.

2.20 SEAD-60: OIL DISCHARGE AREA ADJACENT TO BUILDING 609

2.20.1 Site Description

This SWMU is located in the southeastern portion of SEDA in a portion of the site whose future land use is designated as institutional (i.e., Prison). The approximate location of this SWMU is identified on **Figure 2-1**, and is shown in greater detail on **Figure 2-1d**.

Evidence of a release of oil in this area was first observed in 1989. The noted area of the release measured approximately 25 feet long by 10 feet wide and was adjacent to Boiler Building 609.

2.20.2 Historic Operations

SEDA personnel reported that the spill area was caused by a release from a pipe that was located inside of Building 609.

2.20.3 Summary of Available Analytical Data

An expanded site inspection of SEAD-60 was performed in 1994 (Parsons, April 1995). Under this effort, nine soil samples were collected and analyzed from the area of the historic spill. Additionally, three groundwater, three surface water and three sediment samples were collected from the area surrounding the release. Samples were analyzed for volatile and semi-volatile organic compounds, polychlorinated biphenyls and pesticides, metals and total petroleum hydrocarbons. Resulting data for the soils indicated that there was evidence that volatile and semi-volatile organic compounds (primarily comprised of PAHs), polychlorinated biphenyls, total petroleum hydrocarbons and metals were present in the soils, especially in the shallower soils that were collected.

Groundwater samples indicated the presence of two volatile organic compounds, one pesticide, total petroleum hydrocarbons and several metals; however, in many cases the highest hits found were seen in the sample collected from the upgradient well. Metals were the only species detected in the surface water samples. Sediment samples contained many of the same semi-volatile organic compounds that were found in the soil samples, but typically these were found at significantly lower levels than were seen in the soil samples. All of the data are presented in tabular form located in **Appendix D.**

Base on these results, a removal action of soil from the area of the oil release was performed. On March 3 and 4, 1999 approximately 150 cubic yards of soil from the release area were excavated and stockpiled in the vicinity of the APE 1236 deactivation furnace (SEAD-17). This soil was subsequently used as the feedstock during a low temperature thermal desorption demonstration scheduled for the APE system. This demonstration occurred in August and September of 2000.

2.20.4 Regulatory Status

NYSDEC visited SEAD-60 on June 7, 1999, and closed out the site. SEDA received confirmation of the acceptability of the closeout of the facility in a letter dated July 13, 1999 from NYSDEC Region 8 Spill Prevention and Response Unit.

2.20.5 Recommended Action

The Army proposes that this SWMU be designated as a "No Further Action" site under CERCLA.

2.20.6 Justification and Rationale for Recommendation

This SWMU is designated as a "No Further Action" site under CERCLA based on the following information and data:

1. A soil excavation and removal action was completed in March of 1999, and the soil was used as the feedstock during a demonstration study at the APE-1236 deactivation furnace.
2. NYSDEC personnel visited the site and closed it out (pending thermal processing of the soil) in June 1999.
3. Available analytical data indicates that the oil did not adversely affect the groundwater, surface water or sediment downgradient of the location of the oil release.

2.21 SEAD-61: BUILDING 718 – UNDERGROUND WASTE OIL STORAGE TANK

2.21.1 Site Description

SEAD-61 is an underground waste oil storage tank that is located near Building 718 in the north-central portion of SEDA. The approximate location of this SWMU is shown on **Figure 2-1**, while additional detail of the area is provided on **Figure 2-1c**.

The tank previously used to store the waste oil is of double-wall fiberglass tank construction and has a storage capacity of 10,000 gallons. As designed and constructed, the tank meets the specifications of 6 NYCRR Part 614. The tank was installed in 1989 and remains in the ground to this day; however, this tank was pumped empty in approximately 1996 when Army activities at the northern portion of the Depot were terminated.

2.21.2 Historic Operations

This tank was used for the storage of waste oil prior to its burning in the adjacent boiler plant, located in Building 718. There is no evidence that any releases of oil or waste oil ever occurred in the area of this tank.

2.21.3 Regulatory Status

This tank is subject to the requirements of NYS underground storage tank regulations as specified in 6 NYCCR Part 614. Its NYS Petroleum bulk storage number is 8-416118-038. The operations of this tank continue to be regulated by NYSDEC under 6 NYCCR Part 614.

2.21.4 Recommended Action

The Army proposes that this SWMU be designated as a "No Further Action" site under CERCLA.

2.21.5 Justification and Rationale for Recommendation

This SWMU is designated as a "No Further Action" site under CERCLA based on the following information and data:

1. There is no evidence that a release of waste oil has occurred at this unit.
2. This tank is regulated under the NYS underground storage tank program that requires immediate notification, response and clean-up in the event of a release of its contents.

3. The contents of the tank were pumped out in approximately 1996, and the tank remains empty at this time.

2.22 SEAD-65: ACID STORAGE AREAS

2.22.1 Site Description

SEAD-65 consists of three separate areas, each of which is located near the western border of SEDA. All of these areas are located in the portion of SEDA that will become conservation/recreation land once the land is released. The approximate location of these three areas is shown on **Figure 2-1**.

SEAD-65A measures approximately 120 feet by 130 feet and is the most southerly located of the three storage areas. During a site inspection (November 27, 1990), portions of a concrete foundation were observed in the area. Otherwise, the area was covered with vegetation including scrub brush and weeds.

SEAD-65B measures approximately 65 feet by 100 feet and is the centrally located of the three areas. Remnants of a concrete foundation were also found at this site during the site inspection, but again the area is primarily covered with weeds and wild grass vegetation.

SEAD-65C is approximately 50 feet by 100 feet in size and is the most northerly located of the three former storage areas. A flagpole and a concrete pad were found in this area on the day of inspection (November 27, 1990); however, like the other two portions of this SWMU, the area was found to be predominantly overlain by natural scrub brush and grass vegetation.

2.22.2 Historic Operations

Each of these areas reportedly was used for the storage of acids, although no information is available to conclusively determine whether acid storage was actually performed in these areas. Additionally, if acid storage was done in these areas, no specific information is known about when such storage occurred.

No evidence of any releases was observed in any of the three areas during the 1990 inspections. In a December 29, 1992 letter to SEDA, personnel of the US EPA recommended measuring the pH of surface soils in the three acid storage areas.

2.22.3 Available Analytical Data

A limited site inspection was performed in 1993 and surficial soil samples (0 to 6 inches) were collected from fifteen locations in the three acid storage areas. One soil sample was collected from the corner of each of the storage areas, while the last sample was collected from the approximate center of each area. These samples were analyzed in the field for pH using SW-846 Method 9045B. The results of these tests are presented on **Table 2-2** and all samples tested were found to have a pH in the range of 6.59 to 8.09. These levels of pH are in the normal range for soils and do not provide evidence of a release.

2.22.4 Regulatory Status

The areas comprising this SWMU are only subject to review under CERCLA.

2.22.5 Recommended Action

The Army proposes that these three areas be designated as "No Further Action" sites under CERCLA.

2.22.6 Justification and Rationale for Recommendation

These areas are designated as a "No Further Action" sites based on the following information and data:

1. There is no documented historic information or data to substantiate that acidic materials were ever stored in any part of the three areas.
2. There are no historic records to indicate that a release of acid materials occurred in the three areas.
3. Available data from limited sampling do not indicate that residual acid materials are present in the soil in any of the three areas where the acid was reportedly held.
4. Each of the areas currently sits fallow, and each is covered by scrub brush and weeds.
5. There were no obvious signs of stressed vegetation observed during the 1990 or recent site inspections.

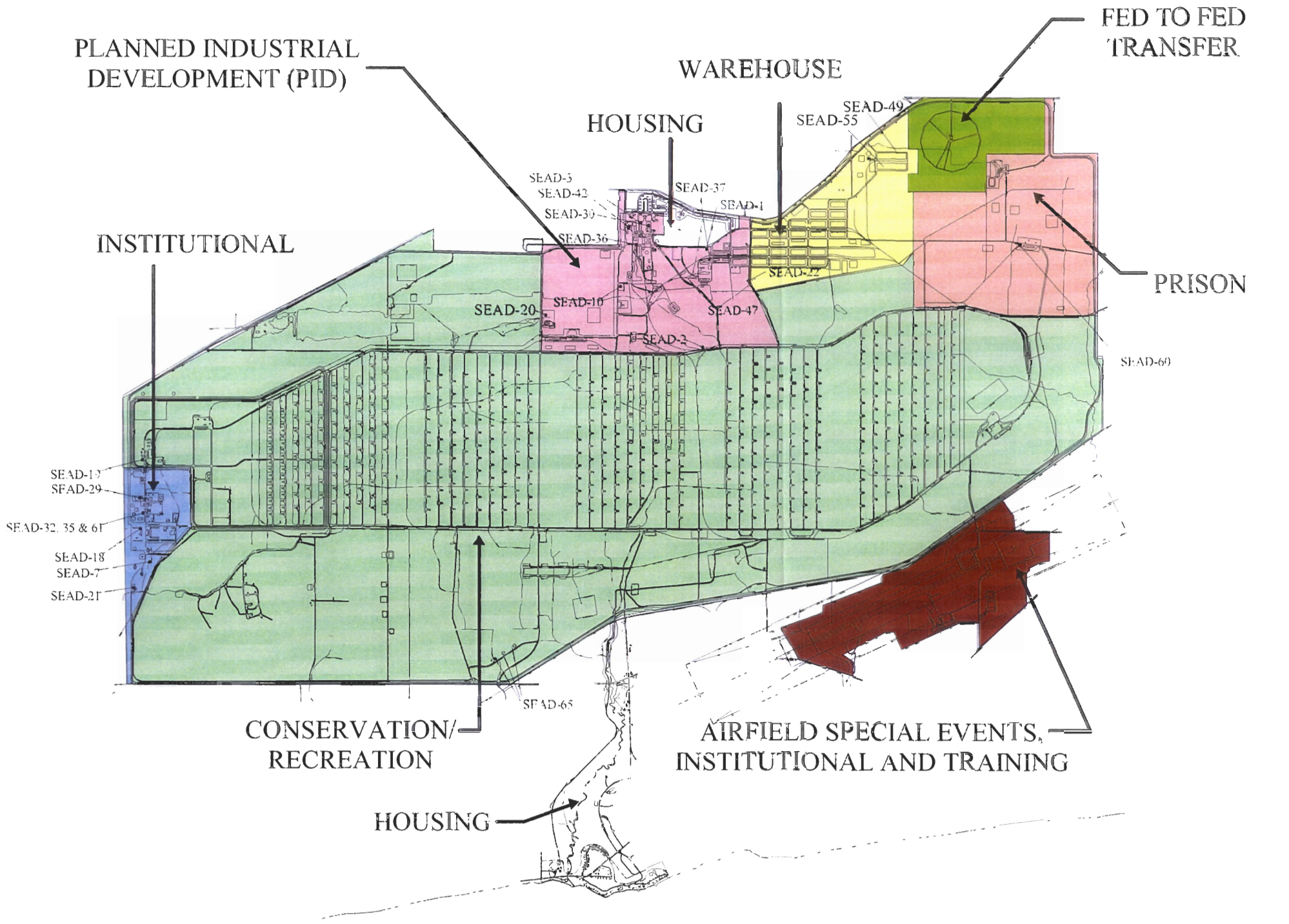
Table 2-1

PCB ANALYSIS RESULTS FROM BUILDING 301

Parameter	#1 NW Corner	#2 NE Corner	#3 SW Corner	#4 SE Corner	Units
PCB 1221	<0.02	<0.50	<0.50	<0.50	mg/kg
PCB 1232	<0.02	<0.50	<0.50	<0.50	mg/kg
PCB 1016	<0.02	<0.50	<0.50	<0.50	mg/kg
PCB 1242	<0.02	<0.50	<0.50	<0.50	mg/kg
PCB 1248	<0.02	<0.50	<0.50	<0.50	mg/kg
PCB 1254	0.21	<0.50	<0.50	0.94	mg/kg
PCB 1260	<0.02	<0.50	<0.50	<0.50	mg/kg
PCB 1262	<0.02	<0.50	<0.50	<0.50	mg/kg
PCB 1268	<0.02	<0.50	<0.50	<0.50	mg/kg
Total PCBs	0.21	<0.50	<0.50	0.94	mg/kg

TABLE 2-2
SOIL ANALYTICAL RESULTS

Sample No.	Sample Location	Control Temp °C	pH	Comments
65-A1	NW Corner-Location A	21.1	7.29	High Clay Content
65-A2	NE Corner-Location A	21.1	7.16	
65-A3	Center-Location A	21.2	7.74	
65-A4	SE Corner-Location A	21.1	7.81	High Clay Content
65-A5	SW Corner-Location A	21.1	7.27	
65-A2 (Dup)	Duplicate of 65-A2	20.9	7.24	
65-B1	W Corner-Location B	20.8	7.51	
65-B2	N Corner-Location B	20.8	7.82	
65-B3	Center-Location B	20.9	8.09	High Clay Content
65-B4	E Corner-Location B	20.7	7.79	
65-B5	S Corner-Location B	20.8	7.67	
65-C1	W Corner-Location C	20.8	7.58	
65-C2	N Corner-Location C	20.7	7.57	High Clay Content
65-C3	Center-Location C	20.6	7.92	High Clay Content
65-C4	E Corner-Location C	20.7	6.59	High Clay Content
65-C5	S Corner-Location C	20.7	6.94	



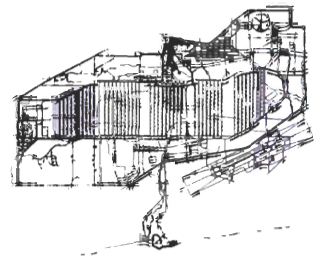
N

LEGEND

- Airfield
- Conservation
- Federal
- Industrial
- Institutional
- Prison
- Warehouse
- Housing

4150 0 4150 Feet

KEY PLAN



PARSONS

PARSONS ENGINEERING SCIENCE, INC.

SENECA ARMY DEPOT ACTIVITY

FIGURE 2-1

NO ACTION SITES

JOB NUMBER: 736626-01901 DATE MARCH 2002

o:\seneca\noactnoaction.apr

N

SEAD-31

SEAD-42

SEAD-37

SEAD-1

SEAD-30

SEAD-36

SEAD-22

SEAD-20

SEAD-10

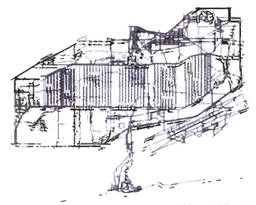
SEAD-2

LEGEND

- Airfield
- Conservation
- Federal
- Industrial
- Institutional
- Prison
- Warehouse
- Housing

950 0 950 Feet

KEY PLAN



PARSONS

PARSONS ENGINEERING SCIENCE, INC.

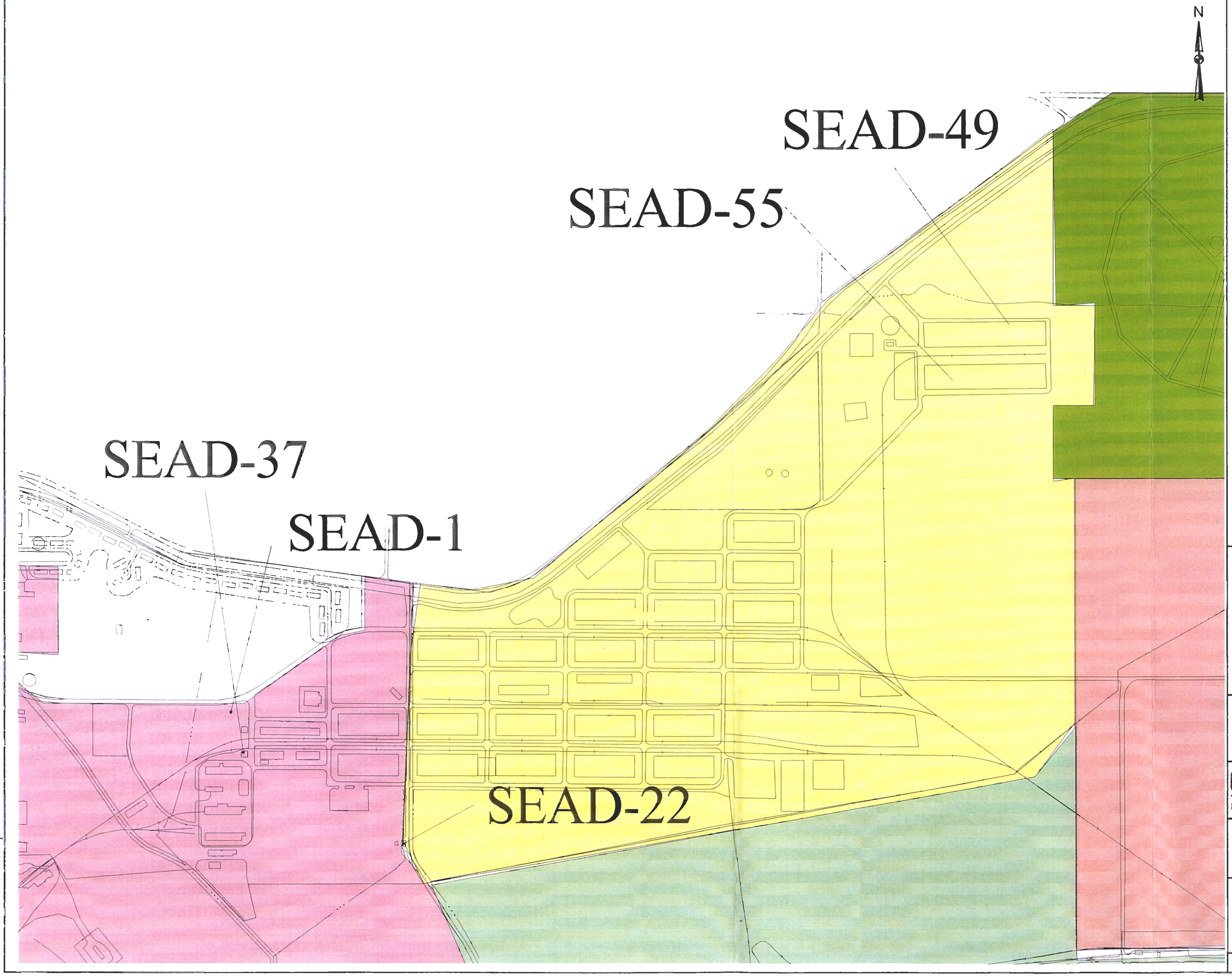
SENECA ARMY DEPOT ACTIVITY

FIGURE 2-1a

NO ACTION SITES
PLANNED INDUSTRIAL DEVELOPMENT AREA

JOB NUMBER [illegible] DATE MARCH 1992

o:\seneca\noaction.apr

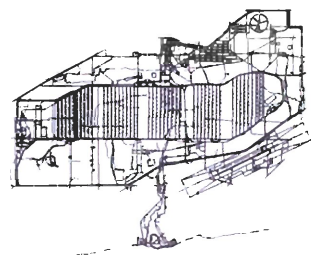


LEGEND

- Airfield
- Conservation
- Federal
- Industrial
- Institutional
- Prison
- Warehouse
- Housing

800 0 800 Feet

KEY PLAN



PARSONS

PARSONS ENGINEERING SCIENCE, INC.

SENECA ARMY DEPOT ACTIVITY

FIGURE 2-1b

NO ACTION SITES
WAREHOUSE AREA

JOB NUMBER: 776026-01001 | DATE: MARCH 2002

o:\seneca\noaction\noaction.apr

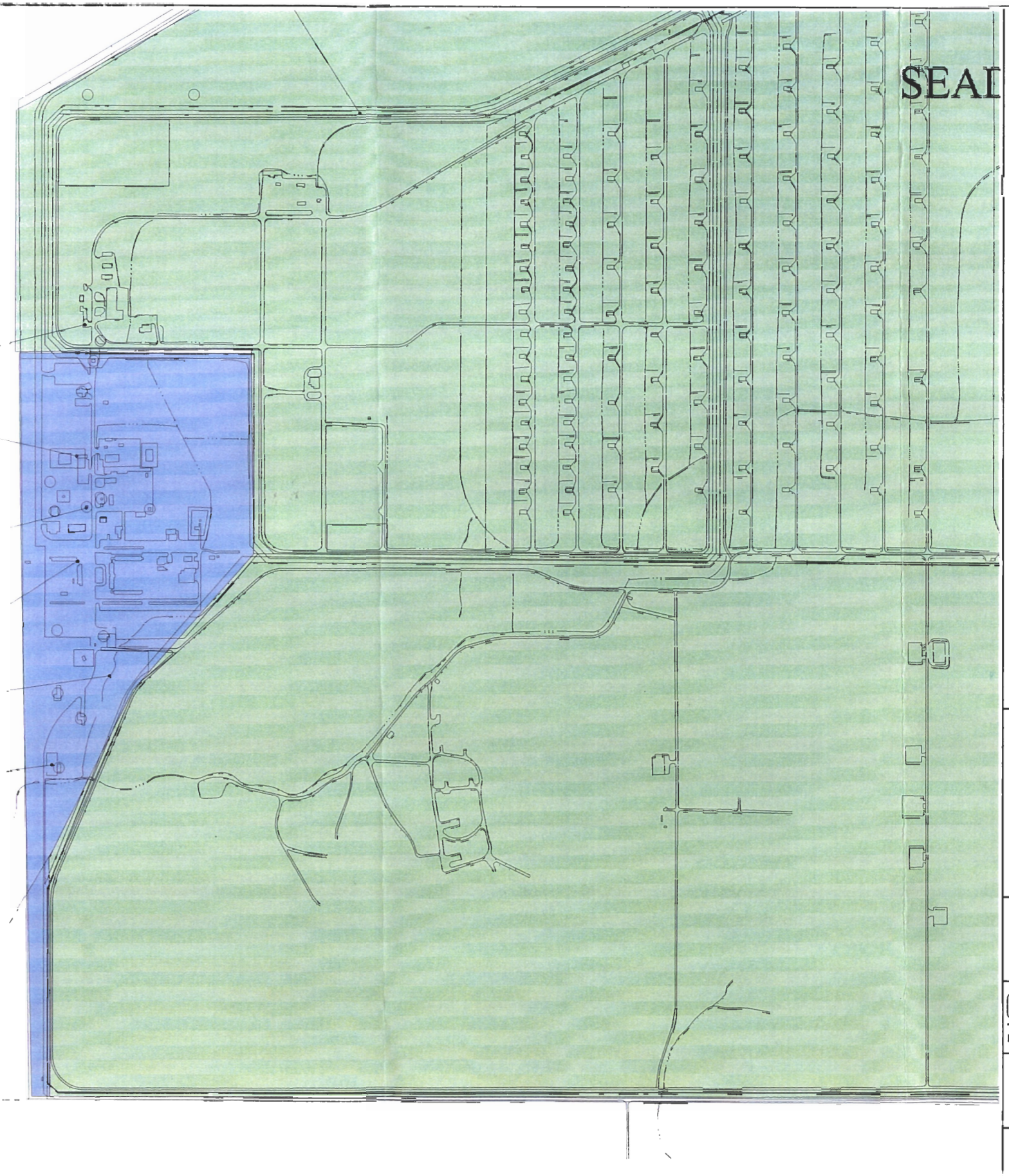
SEAD-19
SEAD-29

SEAD-32, 35 & 61

SEAD-18

SEAD-7

SEAD-21

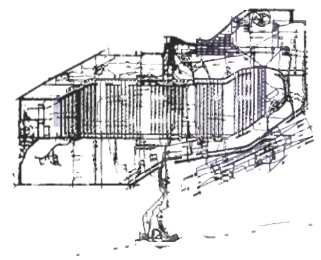


LEGEND

- Airfield
- Conservation
- Federal
- Industrial
- Institutional
- Prison
- Warehouse
- Housing

1200 0 1200 Feet

KEY PLAN



PARSONS

PARSONS ENGINEERING SCIENCE, INC.

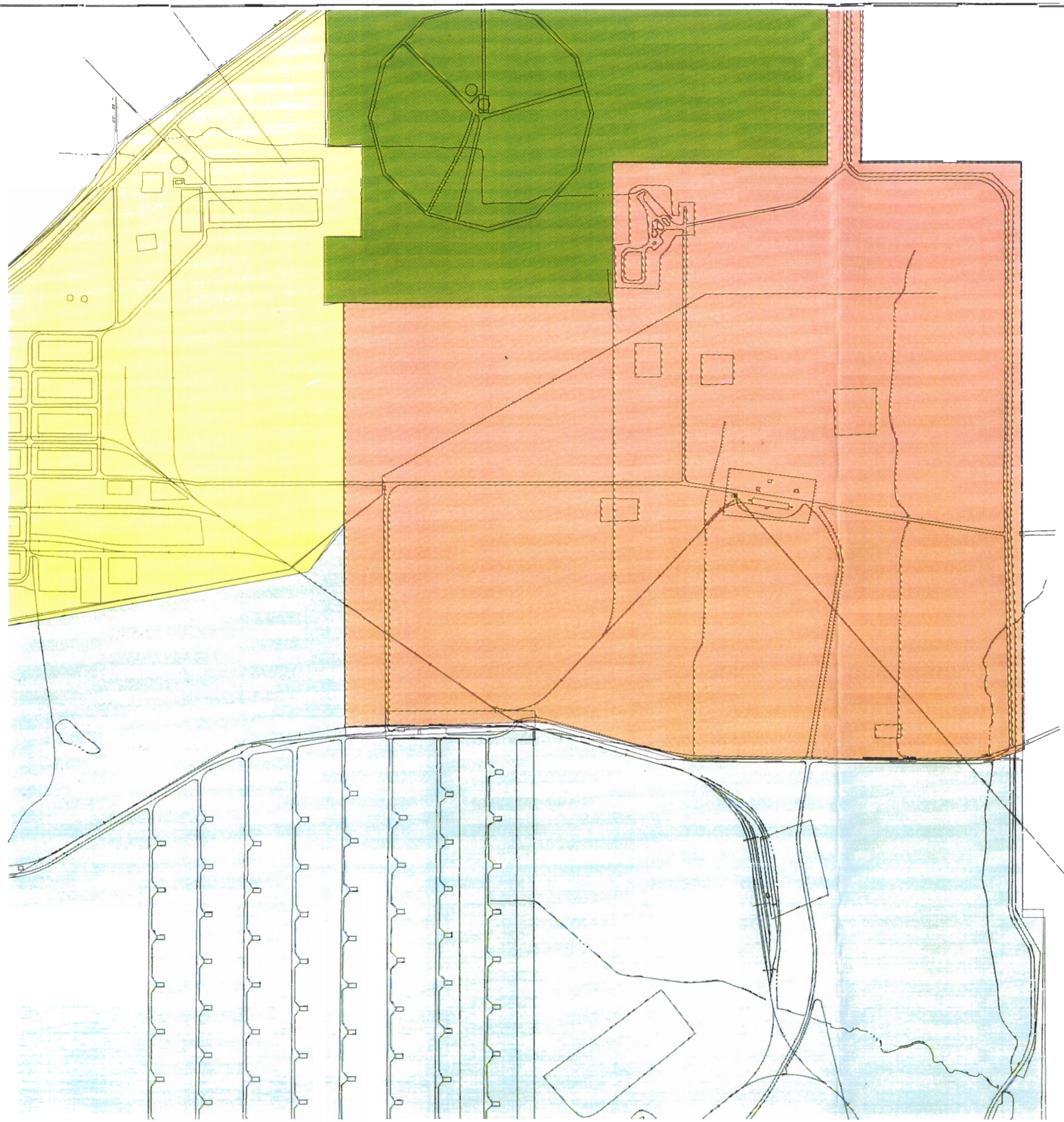
SENECA ARMY DEPOT ACTIVITY

FIGURE 2-1c

NO ACTION SITES
INDUSTRIAL AREA

JOB NUMBER 36026-01001 DATE: MARCH 2002

o:\seneca\impactnoaction.apr

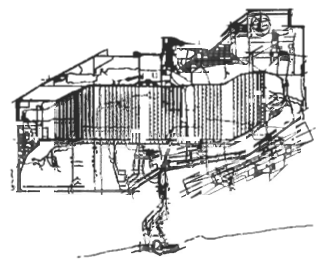


N

LEGEND

- Airfield
- Conservation
- Federal
- Industrial
- Institutional
- Prison
- Warehouse
- Housing

KEY PLAN



PARSONS

PARSONS ENGINEERING SCIENCE, INC.

SENECA ARMY DEPOT ACTIVITY

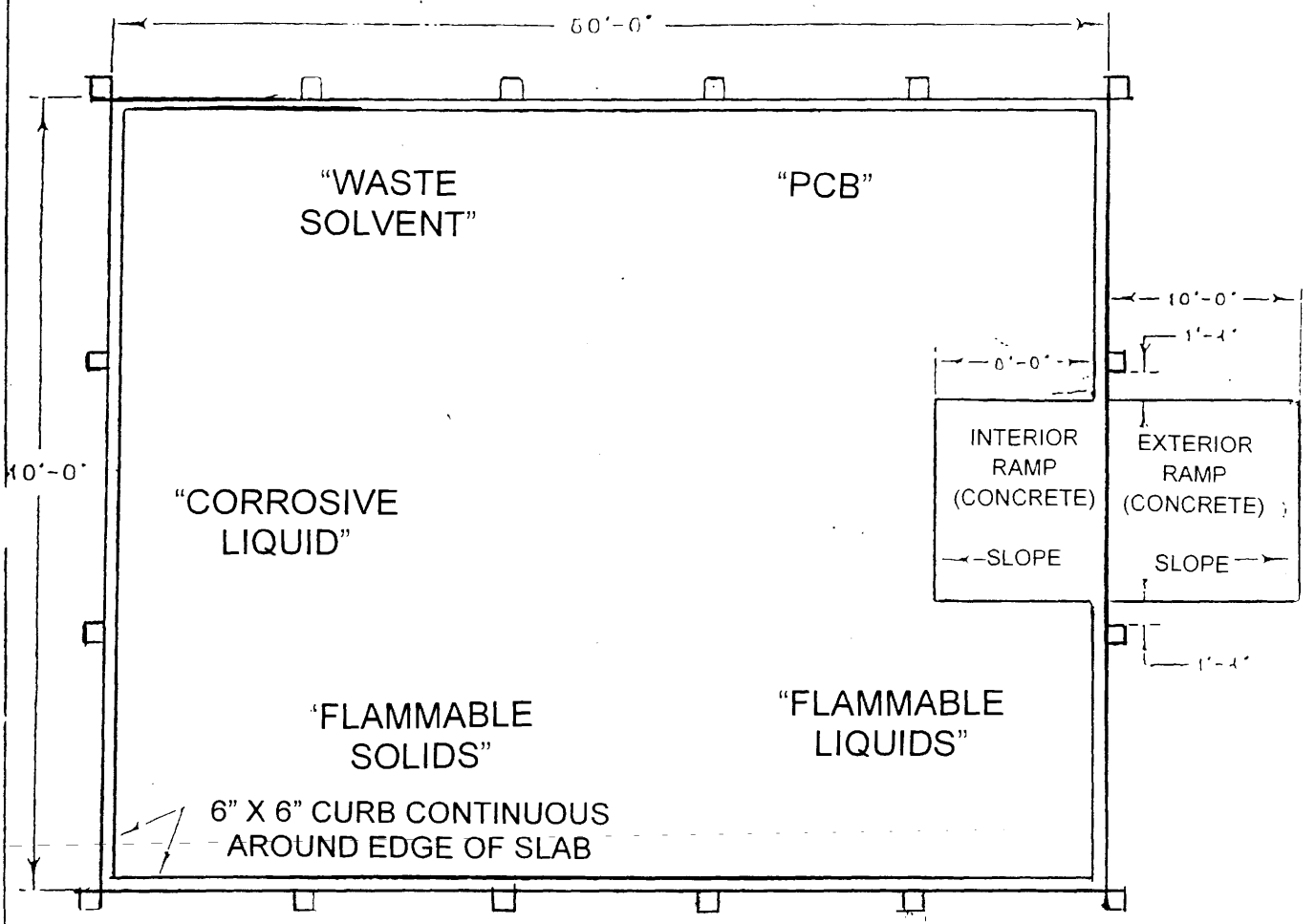
FIGURE 2-1d

NO ACTION SITES
PRISON AREA

JOB NUMBER 736026-01001

DATE SEPTEMBER 2001

o:\seneca\noact\noaction.apr



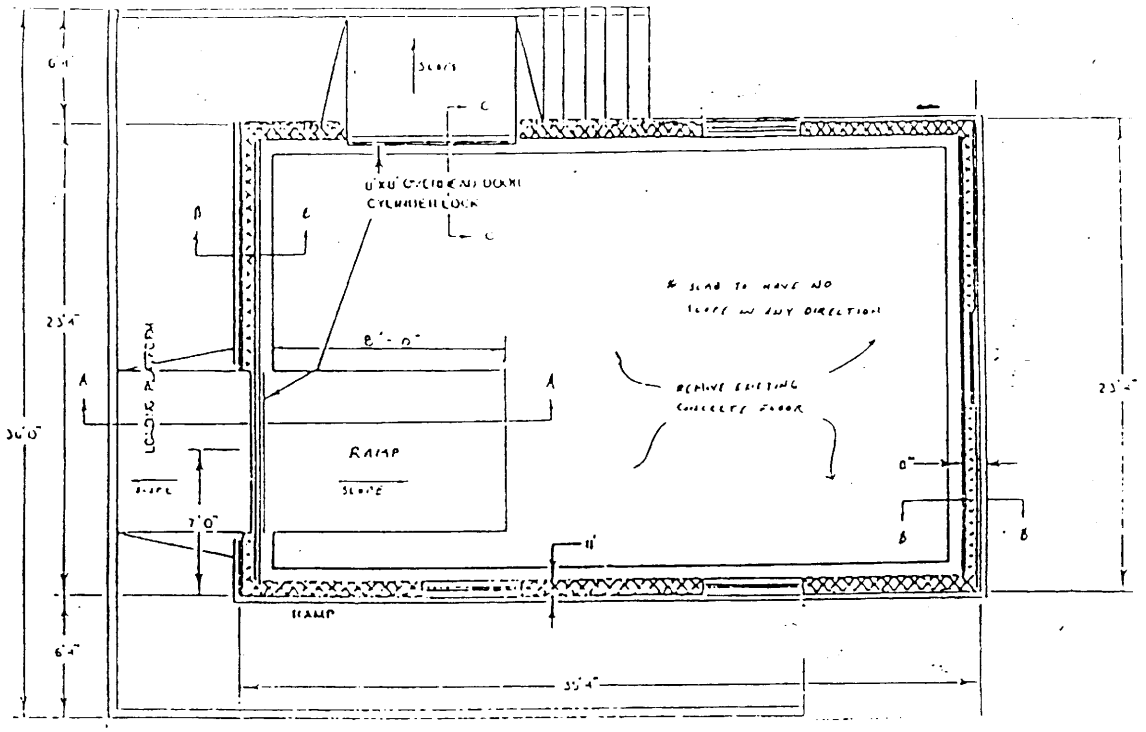
BUILDING 301

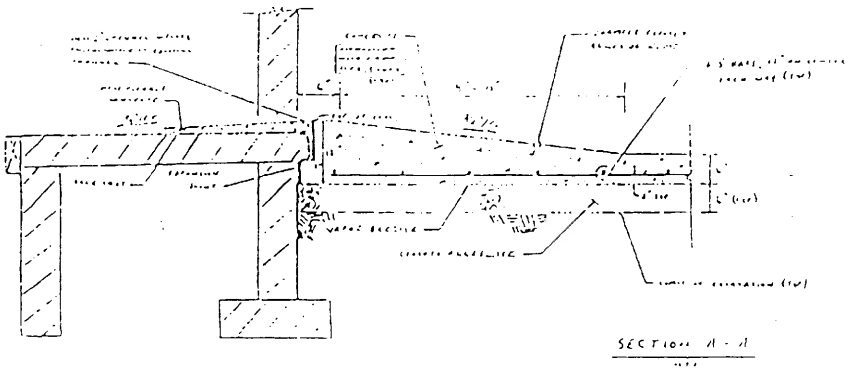
SOURCE: REFERENCE 3

ERC Environmental and Energy Services Co.

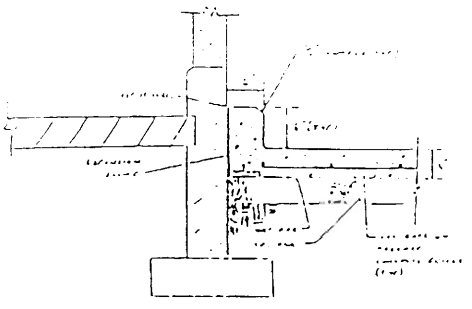
PLAN VIEW OF HAZARDOUS WASTE CONTAINER STORAGE FACILITY

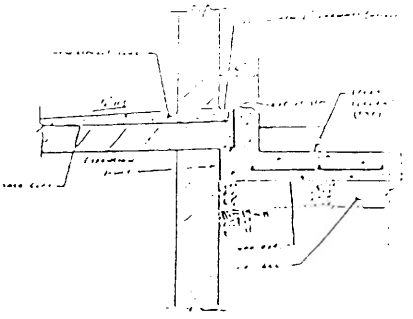
FIGURE 2.2





SECTION A - A

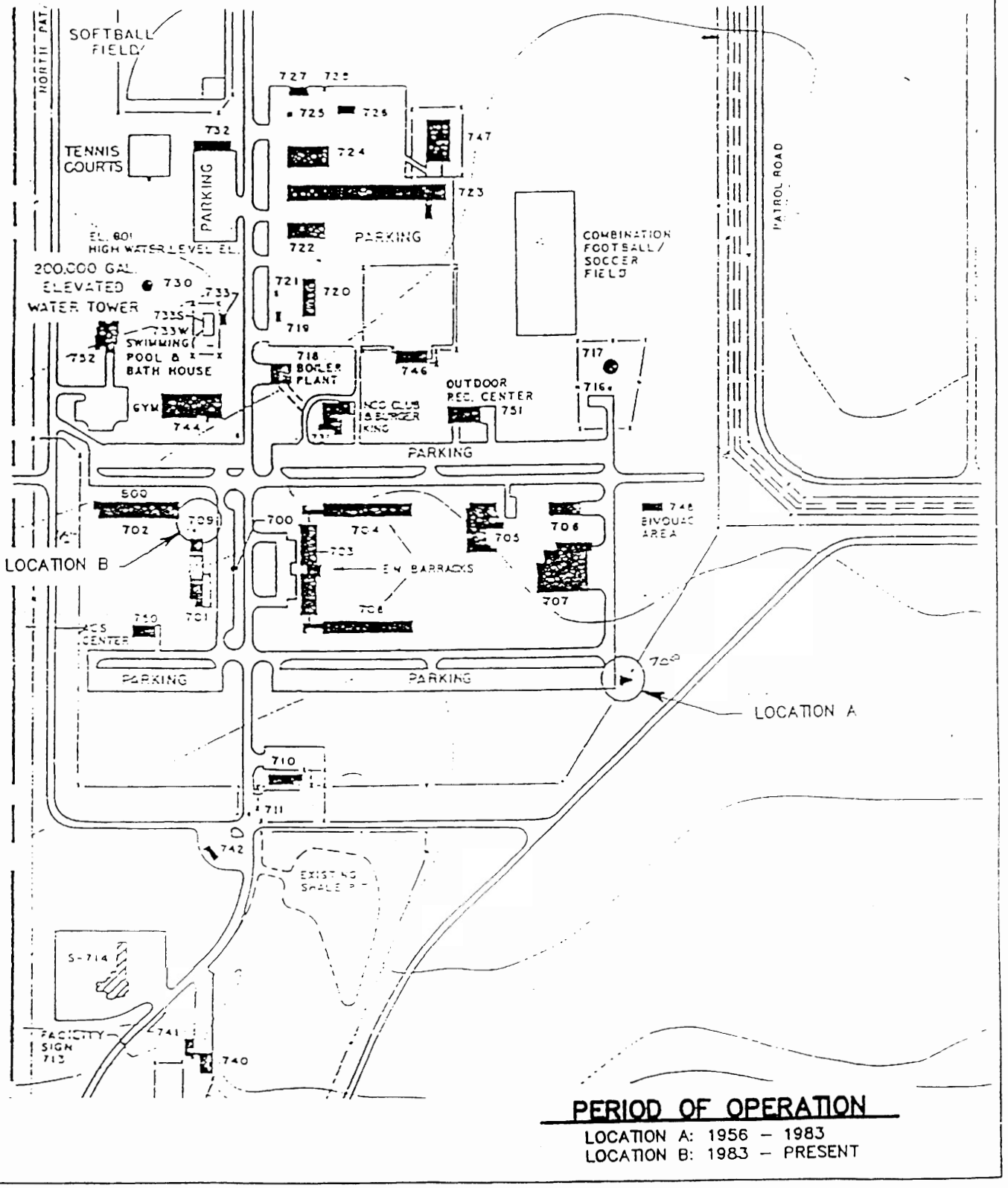




ERC Environmental and Energy Services Co.

PLAN VIEW AND SECTIONS OF PCB TRANSFORMER STORAGE FACILITY

FIGURE 2.3



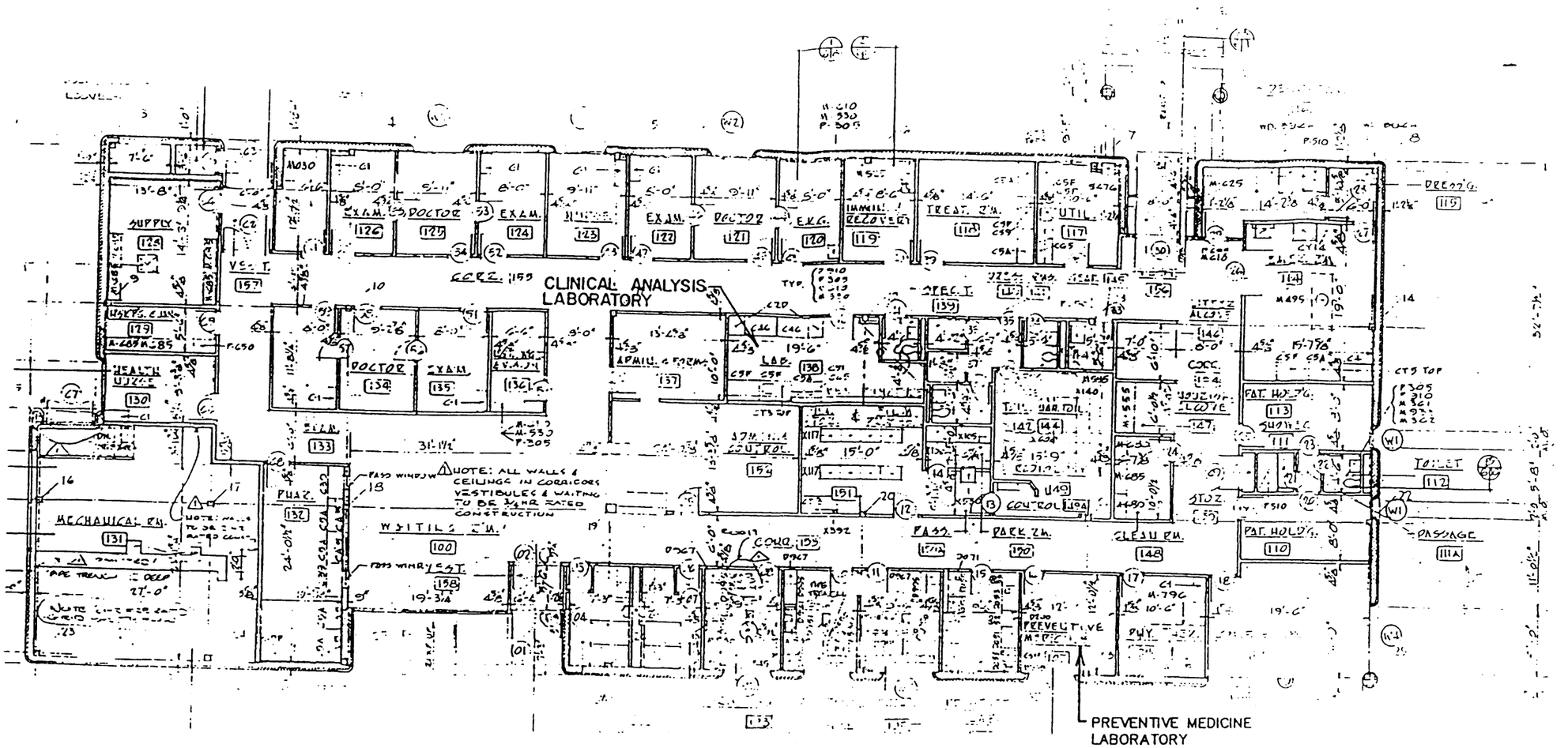
PERIOD OF OPERATION

LOCATION A: 1956 – 1983
LOCATION B: 1983 – PRESENT

ERCE

LOCATION OF CLASSIFIED DOCUMENT INCINERATOR

FIGURE 2.4



FIRST FLOOR PLAN

NOTE

DRAWING ADAPTED FROM BUILDING 106 FLOOR PLAN
SHEET 6 OF 25, FILE NO. 7527-1706,
BY DEPARTMENT OF THE ARMY, NEW YORK DISTRICT,
CORPS OF ENGINEERS, NEW YORK, NEW YORK.
DATED JANUARY 16, 1975.

PLAN VIEW OF BUILDING 106
MEDICAL - DENTAL CLINIC

SCALE: NONE

PREPARED FOR: **U.S. ARMY CORPS OF ENGINEERS HUNTSVILLE DIVISION**

ERCE
3325 PERIMETER HILL DRIVE • NASHVILLE, TENNESSEE 37211

PROJ: D063-001	DATE: SEPTEMBER 1999	FIGURE: 2.5

3 REFERENCES

Brett, C.E., Dick, V.B, Baird, G.C., 1991, "Comparative Taphonamy and Paleoecology of Middle Devonian Dark Gray and Black Shale Facies from western New York;" in eds., Landing, E.L. and Brett, C.E., Dynamic Stratigraphy and Depositional Environments of the Hamilton Group (Middle Devonian) in New York State, Part II, *New York State Museum Bulletin Number 469,* pp. 5-36.

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APPENDIX A:

TCLP Results for Incinerator Ash

SEAD 10

From: Phoenix Environmental Laboratories Inc.
587 E. Middle Turnpike, Box 418
Manchester, Ct. 06040-3731
(203) 645-1102 Pax 645-0823

October 26, 1992

To: Waste Management-Syracuse Inc.
Attn: T.C. Wagner
P.O. Box 28
DeWitt, NY 13214

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. AA18459
Purchase order number: 039442 Project account code: RUSH
Location code: SPECIAL2
Location Description: 01WoodAsh-Waste MagmtSyrac9/29
Sample collection date: 09/29/92
Laboratory submittal date: 09/29/92 Time: 16:15
Received by: MK Validated by: RJ

Parameter: TCLP Extraction for Metals
Method reference: EPA 1311
Result: done
Date started: 09/30/92 Date finished: 10/01/92
Time started: 13:43 Analyst: RS

Parameter: TCLP Arsenic
Method reference: E1311/SW7061
Result: 0.16 mg/L MDL or sensitivity: 0.01
Date started: 10/05/92 Date finished: 10/05/92
Time started: 12:16 Analyst: AM

Parameter: TCLP Barium
Method reference: E1311/SW6010
Result: 0.27 mg/L MDL or sensitivity: 0.01
Date started: 10/05/92 Date finished: 10/05/92
Time started: 10:05 Analyst: DL

Parameter: TCLP Cadmium
Method reference: E1311/SW6010
Result: less than 0.01 mg/L
Date started: 10/05/92 Date finished: 10/05/92
Time started: 10:05 Analyst: DL

Parameter: TCLP Chromium
Method reference: E1311/SW6010
Result: 0.47 mg/L
MDL or sensitivity: 0.01
Date started: 10/05/92
Date finished: 10/05/92
Time started: 10:05
Analyst: DL

Parameter: TCLP Lead
Method reference: E1311/SW6010
Result: less than 0.1 mg/L
Date started: 10/05/92
Date finished: 10/05/92
Time started: 10:05
Analyst: DL

Parameter: TCLP Mercury
Method reference: E1311/SW6010
Result: less than 0.005 mg/L
Date started: 10/06/92
Date finished: 10/06/92
Time started: 10:15
Analyst: AM

Parameter: TCLP Selenium
Method reference: E1311/SW7741
Result: less than 0.01 mg/L
Date started: 10/05/92
Date finished: 10/05/92
Time started: 15:25
Analyst: AM

Parameter: TCLP Silver
Method reference: E1311/SW6010
Result: less than 0.01 mg/L
Date started: 10/05/92
Date finished: 10/05/92
Time started: 10:05
Analyst: DL

Parameter: TCLP Volatiles
Method reference: SW 8240
Result: see appended report
Date started: 10/08/92
Date finished: 10/08/92
Time started: 00:00
Analyst: ENV

Parameter: TCLP Acid and Base-Neutral Ext.
Method reference: SW 8270
Result: see appended report
Date started: 10/08/92
Date finished: 10/08/92
Time started: 09:43
Analyst: DLS

Parameter: TCLP Extraction - Semi-Volatiles
Method reference: EPA 1311
Result: done
Date started: 10/05/92
Date finished: 10/05/92
Time started: 13:41
Analyst: LP

Parameter: TCLP Extraction for Volatiles.
Method reference: EPA 1311
Result: done
Date started: 09/30/92 Date finished: 10/01/92
Time started: 09:55 Analyst: RS

Parameter: TCLP Pesticides
Method reference: SW 8080
Result: see appended report
Date started: 10/08/92 Date finished: 10/08/92
Time started: 00:00 Analyst: WHO

Parameter: TCLP Herbicides
Method reference: SW 8150
Result: see appended report
Date started: 10/08/92 Date finished: 10/08/92
Time started: 00:00 Analyst: WHO

Parameter: TCLP Extraction for Herbicides
Method reference: EPA 1311
Result: done
Date started: 10/05/92 Date finished: 10/05/92
Time started: 13:41 Analyst: LP

Parameter: TCLP Extraction for Pesticides.
Method reference: EPA 1311
Result: done
Date started: 10/05/92 Date finished: 10/05/92
Time started: 13:41 Analyst: LP

Parameter: AA Metals Analysis QC
Method reference: Phoenix QAQC
Result: see appended report
Date started: 10/06/92 Date finished: 10/06/92
Time started: 00:00 Analyst: AM

Parameter: ICP Metals Analysis QC
Method reference: Phoenix QAQC
Result: see appended report
Date started: 10/06/92 Date finished: 10/06/92
Time started: 00:00 Analyst: DL

Parameter: Free Liquids
Method reference: SW846 9095
Result: negative
Date started: 10/09/92 Date finished: 10/09/92
Time started: 12:32 Analyst: LP

Parameter: Semi-Volatile QC Data (MS)
Method reference: Phoenix QAQC
Result: see appended report
Date started: 10/08/92 Date finished: 10/08/92
Time started: 00:00 Analyst: DLS

Parameter: Pesticides (CC) Analycic QC
Method reference: Phoenix QAQC
Result: see appended report
Date started: 10/08/92 Date finished: 10/08/92
Time started: 00:00 Analyst: WHO

Parameter: Herbicides (GC) Analysis QC
Method reference: Phoenix QAQC
Result: see appended report
Date started: 10/08/92 Date finished: 10/08/92
Time started: 00:00 Analyst: WHO

Parameter: Flash Point
Method reference: SW846 - 1010
Result: greater than 200 deg F
Date started: 10/16/92 Date finished: 10/16/92
Time started: 15:47 Analyst: IB

Parameter: Solids by % Solid Matrix
Method reference: S209A/E160.3
Result: 96.7 % MDL or sensitivity: 1.0
Date started: 10/09/92 Date finished: 10/09/92
Time started: 13:51 Analyst: KC

Parameter: pH
Method reference: S423/E150.1
Result: 12.4 pH Units MDL or sensitivity: 1.0
Date started: 10/16/92 Date finished: 10/16/92
Time started: 15:11 Analyst: IB

Parameter: Corrosivity Determination
Method reference: S423/E150.1
Result: negative
Date started: 10/16/92 Date finished: 10/16/92
Time started: 15:14 Analyst: IB

Parameter: Reactivity -Cyanide
Method reference: SW 846
Result: less than .5 mg/Kg
Date started: 10/16/92 Date finished: 10/16/92
Time started: 15:41 Analyst: EM

Parameter: Reactivity - Sulfide
Method reference: SW846
Result: less than 10 mg/Kg
Date started: 10/16/92 Date finished: 10/16/92
Time started: 15:55 Analyst: CJS

Parameter: Reactivity
Method reference: SW 846 - 7.3
Result: negative
Date started: 10/16/92 Date finished: 10/16/92
Time started: 15:55 Analyst: CJS

Parameter: Quotation for Services - Total
Method reference:
Result: done
Date started: 10/19/92 Date finished: 10/19/92
Time started: 10:36 Analyst: MJC

Data for TCLP Acid and Base-Neutral Ext. ug/L:

Component Name	Concentration	Component MDL
O-Cresol	Not Det	10.0
M&P-Cresol	Not Det	10.0
Nitrobenzene	Not Det	10.0
Pentachlorophenol	Not Det	50.0
Pyridine	Not Det	10.0
2,4,5-Trichlorophenol	Not Det	10.0
2,4,6-Trichlorophenol	Not Det	10.0
2,4-Dinitrotoluene	Not Det	10.0
Hexachlorobenzene	Not Det	10.0
Hexachloro-1,3-butadiene	Not Det	10.0
Hexachloroethane	Not Det	10.0

Data for TCLP Pesticides ug/L:

Component Name	Concentration	Component MDL
Chlordane	Not Det	0.5
Endrin	Not Det	0.1
Heptachlor	Not Det	0.05
Heptachlor epoxide	Not Det	0.05
Lindane	Not Det	0.05
Methoxychlor	Not Det	0.5
Toxaphene	Not Det	1.0

Data for TCLP Volatiles ug/L:

Component Name	Concentration	Component MDL

Data for TCLP Volatiles (continued):

Component Name	Concentration	Component MDL
Benzene	Not Det	5.0
Carbon tetrachloride	Not Det	5.0
Chlorobenzene	Not Det	5.0
Chloroform	Not Det	5.0
1,4-Dichlorobenzene	Not Det	5.0
1,2-Dichloroethane	Not Det	5.0
1,1-Dichloroethylene	Not Det	5.0
Methyl ethyl ketone	Not Det	5.0
Tetrachloroethylene	Not Det	5.0
Trichloroethylene	Not Det	5.0
Vinyl chloride	Not Det	5.0

Data for TCLP Herbicides ug/L:

Component Name	Concentration	Component MDL
2,4-D	Not Det	5.0
2,4,5-TP (Silvex)	Not Det	1.0

Data for AA Metals Analysis QC:

QC Source: Sample ID: AA Analyte	QC Blank (PPM)	QC Check Sample (% Rec.)	QC Spike Sample (% Rec.)	QC Sample Replicate (% change)
AS Arsenic	<0.01	108	106	ND 0
Hg Mercury	<0.005	79	107	ND 0
Pb Lead				
Sb Antimony				
Se Selenium	<0.01	106	95	ND 0
Tl Thallium				

Data for ICP Metals Analysis QC:

QC Source:ERA9945 Sample ID: AA18369 AA18458 Analyte	QC Blank (PPM)	QC Check Sample (% Rec.)	QC Spike Sample (% Rec.)	QC Sample Replicate (% change)
Ag Silver	<0.01	99.0	69.6	0
Al Aluminum				

Data for ICP Metals Analysis QC (continued):

As Arsenic					
Au Gold					
B Boron					
Ba Barium	<0.01	96.5	80.9		1.0
Be Beryllium					
Bi Bismuth					
Ca Calcium					
Cd Cadmium	<0.01	102	85.8		0
Co Cobalt					
Cr Chromium	<0.01	98.5	85.2		1.4
Cu Copper					
Fe Iron					
Hg Mercury					
K Potassium					
Li Lithium					
Mg Magnesium					
Mn Manganese					
Mo Molybdenum					
Na Sodium					
Ni Nickel					
Pb Lead	<0.10	73.0	83.4		0
Sb Antimony					
Se Selenium					
Si Silicon					
Sn Tin					
Tl Thallium					
V Vanadium					
W Tungsten					
Zn Zinc	<0.01	97.2	95.6		2.3

Data for Semi-Volatile QC Data (MS):

QC Source: ERA 545 ---------- Analysis	Method Blank (mg/L)	Check Sample (%Rec)	Matrix Spike (%Rec)	Matrix Duplicate (%Rec)	Replica Analys (%diff
1,4-Dichlorobenzene	< 10		72.1%	70.0%	3.
2,4-Dinitrotoluene	< 10		87.0%	88.0%	1.
2-Fluorobiphenyl (BN-Surr)	58.0%		79.4%	77.2%	2.
2-Fluorophenol (A-Surr)	69.9%		74.5%	73.6%	1.
Hexachlorobenzene	< 10		89.6%	89.3%	0.
Hexachlorobutadiene	< 10		51.1%	51.4%	0.
Hexachloroethane	< 10		64.6%	65.7%	1.
2-Methylphenol (o-Cresol)	< 10		81.0%	79.1%	2.
4-Methylphenol (p-Cresol)	< 10		67.2%	66.7%	0.
Nitrobenzene	< 10		84.5%	85.4%	1.
Nitrobenzene-d5 (BN-Surr)	72.7%		62.6%	62.9%	0.

Data for Semi-Volatile QC Data (MS) (continued):

Pentachlorophenol	< 50	103.4%	98.9%	4.
Phenol-d6 (A-Surr)	47.6%	61.7%	59.9%	3.
Pyridine	< 10	74.8%	75.6%	1.
Terphenyl-d14 (BN-Surr)	100.1%	81.1%	80.3%	1.
2,4,6-Tribromophenol(A-Surr)	45.6%	87.0%	86.0%	1.
2,4,5-Trichlorophenol	< 10	96.3%	95.3%	1.
2,4,6-Trichlorophenol	< 10	79.2%	78.0%	1.

Data for Pesticides (GC) Analysis QC:

QC Source: Sample ID: Analyte	Method Blank (ppb)	QC Check Sample (% Rec)	Matrix Spike (% Rec.)	Matrix Spike Dup (% Rec.)	Relative % Diff. (% D)
Aldrin	ND				0%ND
a-BHC	ND		110%		0%ND
b-BHC	ND				0%ND
d-BHC	ND				0%ND
g-BHC	ND		102%		0%ND
Chlordane	ND				0%ND
4,4'-DDD	ND		64%		0%ND
4,4'-DDE	ND				0%ND
4,4'-DDT	ND				0%ND
Dieldrin	ND		66%		0%ND
Endosulfan I	ND				0%ND
Endosulfan II	ND				0%ND
Endrin	ND		104%		0%ND
Endrin aldehyde	ND				0%ND
Endosulfan sulfate	ND				0%ND
Heptachlor	ND				0%ND
Heptachlor epoxide	ND				0%ND
Methoxychlor	ND				0%ND
Toxaphene	ND				0%ND
PCB-1016	ND				0%ND
PCB-1221	ND				0%ND
PCB-1232	ND				0%ND
PCB-1242	ND				0%ND
PCB-1248	ND				0%ND
PCB-1254	ND				0%ND
PCB-1260	ND				0%ND

Data for Herbicides (GC) Analysis QC:

QC Source:	Method	QC	Matrix	Matrix	Relative

Data for Herbicides (GC) Analysis QC (continued):

Sample ID: Analyte	Blank (ppb)	Check Sample (% Rec.)	Spike (% Rec.)	Spike Dup (% Rec.)	% Diff. (% D)
2,4-D	ND			100%	
2,4,5-TP(Silvex)	ND			89%	

Comments:

The bias, as determined from the matrix spike, has been used to correct the measured TCLP values.

Not Det = Not Detected

Neg= There was no free liquid in this sample.

If there are any questions regarding this data, please call.

Dennis L. Strother
Laboratory Director

APPENDIX B:

Soil and Groundwater Results

SEAD 32

GROUNDWATER ANALYSIS RESULTS - SEAD-32

Decision Document - Mini Risk Assessment

Seneca Army Depot Activity

						MATRIX	WATER	WATER	WATER
						LOCATION	SEAD-32	SEAD-32	SEAD-32
						SAMPLE DATE	02/05/94	02/05/94	02/05/94
						ES ID	MW32-1	MW32-2	MW32-3
						LAB ID	210485	210487	210488
						SDG NUMBER			
COMPOUND	UNIT	MAXIMUM	FREQUENCY OF DETECTION	NY AWQS CLASS GA (a)	NUMBER ABOVE TAGM	NUMBER OF DETECTS	NUMBER OF ANALYSES			
VOLATILE ORGANICS										
1,1,1-Trichloroethane	ug/L	0	0%	5	0	0	3	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	ug/L	0	0%	5	0	0	3	10 U	10 U	10 U
1,1,2-Trichloroethane	ug/L	0	0%	NA	0	0	3	10 U	10 U	10 U
1,1-Dichloroethane	ug/L	0	0%	5	0	0	3	10 U	10 U	10 U
1,1-Dichloroethene	ug/L	0	0%	5	0	0	3	10 U	10 U	10 U
1,2-Dichloroethane	ug/L	0	0%	5	0	0	3	10 U	10 U	10 U
1,2-Dichloroethene (total)	ug/L	0	0%	5	0	0	3	10 U	10 U	10 U
1,2-Dichloropropane	ug/L	0	0%	5	0	0	3	10 U	10 U	10 U
2-Butanone	ug/L	0	0%	50	0	0	3	10 U	10 U	10 U
2-Hexanone	ug/L	0	0%	NA	0	0	3	10 U	10 U	10 U
4-Methyl-2-Pentanone	ug/L	0	0%	NA	0	0	3	10 U	10 U	10 U
Acetone	ug/L	0	0%	NA	0	0	3	10 U	10 U	10 U
Benzene	ug/L	0	0%	0.7	0	0	3	10 U	10 U	10 U
Bromodichloromethane	ug/L	0	0%	NA	0	0	3	10 U	10 U	10 U
Bromoform	ug/L	0	0%	NA	0	0	3	10 U	10 U	10 U
Bromomethane	ug/L	0	0%	NA	0	0	3	10 U	10 U	10 U
Carbon Disulfide	ug/L	0	0%	NA	0	0	3	10 U	10 U	10 U
Carbon Tetrachloride	ug/L	0	0%	5	0	0	3	10 U	10 U	10 U
Chlorobenzene	ug/L	0	0%	5	0	0	3	10 U	10 U	10 U
Chloroethane	ug/L	0	0%	5	0	0	3	10 U	10 U	10 U
Chloroform	ug/L	0	0%	7	0	0	3	10 U	10 U	10 U
Chloromethane	ug/L	0	0%	5	0	0	3	10 U	10 U	10 U
cis-1,3-Dichloropropene	ug/L	0	0%	5	0	0	3	10 U	10 U	10 U
Dibromochloromethane	ug/L	0	0%	NA	0	0	3	10 U	10 U	10 U
Ethylbenzene	ug/L	0	0%	5	0	0	3	10 U	10 U	10 U
Methylene Chloride	ug/L	0	0%	5	0	0	3	10 U	10 U	10 U
Styrene	ug/L	0	0%	NA	0	0	3	10 U	10 U	10 U
Tetrachloroethene	ug/L	0	0%	5	0	0	3	10 U	10 U	10 U
Toluene	ug/L	0	0%	5	0	0	3	10 U	10 U	10 U
trans-1,3-Dichloropropene	ug/L	0	0%	5	0	0	3	10 U	10 U	10 U
Trichloroethene	ug/L	0	0%	5	0	0	3	10 U	10 U	10 U
Vinyl Chloride	ug/L	0	0%	2	0	0	3	10 U	10 U	10 U
Xylene (total)	ug/L	0	0%	5	0	0	3	10 U	10 U	10 U
OTHER ANALYSES										
Total Petroleum Hydrocarbons	mg/L	0.69	67%	NA	0	2	3	0.69	0.39 U	0.53

NOTES:

a) NY State Class GA Groundwater Regulations

b) NA = Not Available

c) U = The compound was not detected above this concentration

See Last Page for Notes:

SOIL ANALYSIS RESULTS - SEAD-32

Decision Document - Mini Risk Assessment
Seneca Army Depot Activity

SEAD								SEAD-32	SEAD-32
LOCATION ID									
MATRIX								SOIL	SOIL
SAMPLE NUMBER								SB32-1	SB32-2
SAMP_DEPTH_TOP								2	2
SAMP_DEPTH_BOT								4	4
SAMPLE DATE								01/10/94	01/10/94
SAMPLE TYPE									
COMPOUND	UNIT	MAXIMUM	FREQUENCY OF DETECTION	TAGM (a)	NUMBER ABOVE TAGM	NUMBER OF DETECTS	NUMBER OF ANALYSES		
VOLATILE ORGANICS									
1,1,1-Trichloroethane	ug/Kg	0	0%	800	0	0	2	12 U	11 U
1,1,2,2-Tetrachloroethane	ug/Kg	0	0%	600	0	0	2	12 U	11 U
1,1,2-Trichloroethane	ug/Kg	0	0%	NA	0	0	2	12 U	11 U
1,1-Dichloroethane	ug/Kg	0	0%	200	0	0	2	12 U	11 U
1,1-Dichloroethene	ug/Kg	0	0%	400	0	0	2	12 U	11 U
1,2-Dichloroethane	ug/Kg	0	0%	100	0	0	2	12 U	11 U
1,2-Dichloroethene (total)	ug/Kg	0	0%	NA	0	0	2	12 U	11 U
1,2-Dichloropropane	ug/Kg	0	0%	NA	0	0	2	12 U	11 U
2-Butanone	ug/Kg	0	0%	300	0	0	2	12 U	11 U
2-Hexanone	ug/Kg	0	0%	NA	0	0	2	12 U	11 U
4-Methyl-2-Pentanone	ug/Kg	0	0%	1000	0	0	2	12 U	11 U
Acetone	ug/Kg	0	0%	200	0	0	2	12 U	11 U
Benzene	ug/Kg	0	0%	60	0	0	2	12 U	11 U
Bromodichloromethane	ug/Kg	0	0%	NA	0	0	2	12 U	11 U
Bromoform	ug/Kg	0	0%	NA	0	0	2	12 U	11 U
Bromomethane	ug/Kg	0	0%	NA	0	0	2	12 U	11 U
Carbon Disulfide	ug/Kg	0	0%	2700	0	0	2	12 U	11 U
Carbon Tetrachloride	ug/Kg	0	0%	600	0	0	2	12 U	11 U
Chlorobenzene	ug/Kg	0	0%	1700	0	0	2	12 U	11 U
Chloroethane	ug/Kg	0	0%	1900	0	0	2	12 U	11 U
Chloroform	ug/Kg	0	0%	300	0	0	2	12 U	11 U
Chloromethane	ug/Kg	0	0%	NA	0	0	2	12 U	11 U
cis-1,3-Dichloropropene	ug/Kg	0	0%	NA	0	0	2	12 U	11 U
Dibromochloromethane	ug/Kg	0	0%	NA	0	0	2	12 U	11 U
Ethylbenzene	ug/Kg	0	0%	5500	0	0	2	12 U	11 U
Methylene Chloride	ug/Kg	1	50%	100	0	1	2	12 U	1 J
Styrene	ug/Kg	0	0%	NA	0	0	2	12 U	11 U
Tetrachloroethene	ug/Kg	0	0%	1400	0	0	2	12 U	11 U
Toluene	ug/Kg	0	0%	1500	0	0	2	12 U	11 U
trans-1,3-Dichloropropene	ug/Kg	0	0%	NA	0	0	2	12 U	11 U
Trichloroethene	ug/Kg	0	0%	700	0	0	2	12 U	11 U
Vinyl Chloride	ug/Kg	0	0%	200	0	0	2	12 U	11 U
Xylene (total)	ug/Kg	0	0%	1200	0	0	2	12 U	11 U
OTHER ANALYSES									
Total Solids	%W/W	83.2	100%	NA	0	2	2	83.2	82
Total Petroleum Hydrocarbons	mg/Kg	90	100%	NA	0	2	2	90	81

NOTES:
a) TAGM = Technical and Administrative Guidance Memorandum HWR-94-4046 (January 24, 1994)
b) NA = Not Available
c) U = The compound was not detected below this concentration.
d) J = The reported value is an estimated concentration.
Samples collected during the Limited Sampling Program and reported in the SWMU Classification Report, September 1994.

APPENDIX C:

Radiological Evaluation Results

SEAD 49

STATE OF NEW YORK - DEPARTMENT OF HEALTH

INTEROFFICE MEMORANDUM

TO: William Condon, Chief, Environmental Radiation Section
Bureau Environmental Radiation Protection

FROM: Gary H. Baker, Principal Radiological Health Specialist
Bureau Environmental Radiation Protection

SUBJECT: Seneca Army Depot Site Survey Results of 6/10/93

DATE: September 7, 1993

Summary-

DEC and BERP staff performed a site survey of the Seneca Army Depot on 6/10/93. The survey results indicate that there are several areas of contamination inside and outside of igloo E0804 and one hot spot in igloo E0808 which require further remediation. The areas of contamination in Building E0804 are along the concrete drainage ditch, in the outside drains which exit the building on the North wall at a height of one to two feet above ground level, and in the soil around the drains. The debris samples from the drains and the soil samples all appear to have elevated concentrations of U-238 and Ra-226.

Details-

On 6/10/93, Kamal Gupta and Marsden Chen of the NYSDEC and Gary Baker of the NYSDOH made a site visit of the Seneca Army Depot to investigate possible contamination in three areas as follows: a) Buildings 356 section 4, 357 section 4 and 324 which had been used to store Columbite ore. b) Storage igloos E0801 to E0811 which had been used to store pitchblend and c) Building 803 which is used for storage of radioactive materials and waste.

Upon arrival at the site, state DEC and DOH staff met with Steve Absalan, Jim Miller, and Randy Bataglia of the site environmental office. Jim Miller accompanied the DEC and DOH staff during the surveys of the buildings and grounds. Surveys were conducted of buildings 356, 357 and 324; storage igloos numbers 802, 804, 806, 808, 809, 710 (background location outside); and Building 803. Following the site survey, DOH and DEC staff met with the Army environmental staff to discuss the survey findings. A videotape of the cleanup was provided.

Survey methodology-

The following instruments were used to perform surveys: a NYSDOH Ludlum microR meter model 12S ser. 25116, calibrated on 10/27/92; a NYSDEC Ludlum Model 3-98 with internal GM probe and external NaI probe calibrated 11/4/92

Ser. 69783; and a NYSDOH Eberline E-120 GM survey meter Ser. 6650, calibrated 6/23/92.

Gamma survey readings were taken using both the micro R meter and the DEC instrument in external mode. Beta readings were taken using the E-120 with HP190. The microR and DEC instrument were compared for accuracy prior to surveying using a 1 microCurie Cs-137 source and background readings. Also, instrument readings were compared several times during the surveys until the DEC instrument's external probe failed to operate during a survey of the drain on Igloo E0806. It was noted that the DEC instrument readings had to be divided by 170 to obtain micro/hr from cpm. Soil, debris, and wipes samples were taken in the areas with the highest readings.

During the survey of building 356 it was noted that the Columbite Ore (5,284 drums) had been transfered from Building 356 to a DLA facility in Binghamton, N.Y. approximately two weeks prior to the survey date. A sample of the ore can be obtained from the Binghamton facility if needed. The Army has plans to clean building 356 with a HEPA filtered vacuum system. All areas and buildings where the ore had been stored were surveyed and wipes were taken for analysis.

Results-

With the exception of igloo E0804 and one hot spot in E0808 which showed elevated readings, no significant deviations from background were noted in the buildings and storage igloos.

The following is a summary of survey readings recorded and sample locations:

Survey meter readings-

Location-Readings (microR/hr;E-120 GM)

Background areas 4-15 microR/hr; 20-40 cpm

324 Building 324-All areas 6-8 micro R/hr; Brick column 10 microR/hr

356 section 4 at wipe #1 Building 356 - 12 microR/hr; 20 cpm

356 section 4 at wipe #2 Building 356 - 15 microR/hr

356 section 4 at wipe #3 Building 356 - 9.4 microR/hr; 20 cpm

357 section 4 at wipe #2 Building 357 - 6 microR/hr; 20 cpm

357 section 4 at wipe #3 Building 357 - 6 microR/hr; 20 cpm

E0802 Inside and outside and in drains - 8-10 microR/hr

E0804 Inside of igloo E0804 along East Wall Center (40' from North wall- 40 microR/hr; 400 cpm beta

E0804 Surface Soil next to drain on North wall (East side) - 47 microR/hr; 100 cpm beta

E0804 Soil at depth of 4-6 inches depth outside drain North Wall East side - 106 microR/hr (18000cpm with DEC instr.)

E0804 Wall at drain East side 40 microR/hr maximum

E0804 Outside rear - 4 microR/hr (approximately 10' from South Wall)

E0804 Outside front - (approximately 10' from North Door - 4 microR/hr)

E0804 Inside of igloo E804 at corner of South and East Walls - 12 microR/hr

E0804 Inside 30' from North Wall 16-18 uR/hr; 200 cpm beta

E0804 Inside along East Wall floor 6' from South Wall - 12 microR/hr; 350 cpm beta

E0804 In drainage ditch outside approximately 12' from North Wall 10-18 uR/hr

E0804 Outside North Wall at west drain 18 uR/hr; (12 uR/hr at one meter from wall

E0806 Most areas 8-12 microR/hr; 13 microR/hr
West drain inside, 20' from North Wall; 2300 cpm beta

E0806 Outside both East and West drain outlets - 12 microR/hr; 20 cpm beta

E0808 Inside and Outside at drains to 10 microR/hr;20-30 cpm beta
West drainage ditch, 10' from North Wall- 40-60 cpm beta

E0809 7 to 8 microR/hr; 20-30 cpm beta; West drain- 8 microR/hr; 20 cpm beta

E0809 Outside East drain - 11 microR/hr; 20 cpm beta
Outside West drain - 10 microR/hr; 20 cpm beta

E0710 Background location - 8 to 10 microR/hr

Building 803 - SEAD 72 Readings inside and outside were generally in the background range except on waste drums and radioactive materials containers. The building is still in use. - 10-11 uR/hr; 20 cpm beta inside and outside - drains were sealed to prevent releases to outside.

The following is a summary of locations and results of soil and wipe samples:

Soil-

Sample No./Location/results:

E0804S1 Material inside of igloo 804 in hot spot in drain. East Wall Center - 60' from North Wall - U-238-20 pCi/g; Ra 226-33 pCi/g; U-235-6 pCi/g

E0804S2 Surface Soil next to drain on North wall (East side of Igloo 804) U-238-15.9 pCi/g; Th-232-.7 pCi/g; Ra-226-24.1 pCi/g; K40 18 pCi/g; Cs-137-.8 pCi/g; U-235-1.2 pCi/g

E0804S4 Soil at depth of 4 -6 inches depth outside drain North Wall East 804 - U-238 5.8 pCi/g; Th-232-.9 pCi/g; Ra 226-17 pCi/g; K-40-18.8 K-40-18.8 pCi/g; Cs 137.5 pCi/g; U-235-.6 pCi/g

E0808S1 Material inside of igloo 808 in hot spot in drain. West wall front 10' from North wall. U-238-83 pCi/g; Th-232-<4 pCi/g; Ra 22-87 pCi/g; U-235-11 pCi/g

E0710S1 Background sample outside igloo 710 not used for radioactive storage. U-238-.8 pCi/g; Th-232-.75 pCi/g; Ra 226-.79 pCi/g; K-40 17 pCi/g; Cs 137-.68 pCi/g; U-235 <.1 pCi/g

Wipe samples/location/results -

Sample No./Location/Gross Alpha/Gross Beta		
324-1	Building 324	<20 dpm/<20 dpm
356-1	Building 356	<20 dpm/<20 dpm
356-2	Building 356	<20 dpm/<20 dpm
356-3	Building 356	<20 dpm/<20 dpm
357-1	Building 357	<20 dpm/<20 dpm

357-2 Building 357 <20 dpm/<20 dpm

357-3 Building 357 <20 dpm/<20 dpm

E0804W1 Igloo E0804 (East wall 60' from North Wall - wipe of drain area.
77 + 6 dpm/48 + 3 dpm

E0804W2 Igloo E0804 52 + 5 dpm 54 + 4 dpm

E0806W1 Igloo E0806 <20 dpm/<20 dpm

cc: Dr. Rimawi
Mr. Huang

C[illegible] FOR ENVIRONMENTAL HEALTH
2 UNIVERSITY PLACE
ALBANY, NEW YORK 12203-3313

TELEX NUMBER: (518) 458-6434

TO: Gary Baker

FROM: James Huang

DATE: 9-7-93

NUMBER OF PAGES TO FOLLOW: 5

COMMENTS _____

Please call (518) 458-6495 if you have problems receiving this document.

0425 NEW YORK STATE DEPARTMENT OF HEALTH 007
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID:9320835619 SAMPLE RECEIVED:93/06/16/ CHARGE: 4.00
PROGRAM: 171:STATE-WIDE RADIATION SURVEILLANCE PROGRAM
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE:4955
POLITICAL SUBDIVISION:ROMULUS COUNTY:SENECA
LATITUDE: . LONGITUDE: . Z DIRECTION:
LOCATION: SENECA ARMY DEPOT ROMULUS - ON SITE
DESCRIPTION:#1-E080451-SOIL INSIDE IGLOO 804 IN HOT SPOT IN DRAIN
DESCRIPTION:EAST WALL CENTER
REPORTING LAB: 20:NUCLEAR CHEMISTRY LABORATORY
TEST PATTERN: 20-0046:U235,U238,TH232,RA226,CS137,K40
SAMPLE TYPE: 600:SOIL, SAND
TIME OF SAMPLING: 93/06/11 : DATE PRINTED:93/07/21

ANALYSIS: 20-0046 U235,U238,TH232,RA226,CS137,K40

PARAMETER	RESULT
URANIUM-238 (TH-234)	2.0E 1 +/- 1.0E 1 PCI/G
THORIUM-232 (AC-228)	< 3.E 0 PCI/G
RADIUM-226 (BI-214)	3.3E 1 +/- 0.4E 1 PCI/G
POTASSIUM - 40	< 1.5E 1 PCI/G
CESIUM - 137	< 7.E -1 PCI/G
URANIUM - 235	6.E 0 +/- 4.E 0 PCI/G

**** END OF REPORT ****

COPIES SENT TO: CO(1), RO( ), LPHE( ), FED( ), INFO-P( ), INFO-L( )

JAMES HUANG
BUREAU ENVIRONMENTAL RADIATION PROTECT.
NY STATE DEP'T. HEALTH SUBMITTED BY:WIGLEY
II UNIVERSITY PLACE
ALBANY ***INTERAGENCY MAIL***

PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID:9320835620 SAMPLE RECEIVED:93/06/16/ CHARGE: 4.00
PROGRAM: 171:STATE-WIDE RADIATION SURVEILLANCE PROGRAM
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE:4955
POLITICAL SUBDIVISION:ROMULUS COUNTY:SENECA
LATITUDE: . LONGITUDE: . Z DIRECTION:
LOCATION: SENECA ARMY DEPOT ROMULUS - ON SITE
DESCRIPTION:#2-E080452-SURFACE SOIL NEXT TO DRAIN ON NORTHWALL E SIDE
DESCRIPTION:OF IGLOO 804
REPORTING LAB: 20:NUCLEAR CHEMISTRY LABORATORY
TEST PATTERN: 20-0046:U235,U238,TH232,RA226,CS137,K40
SAMPLE TYPE: 600:SOIL, SAND
TIME OF SAMPLING: 93/06/11 : DATE PRINTED:93/07/21

ANALYSIS: 20-0046 U235,U238,TH232,RA226,CS137,K40

PARAMETER	RESULT
URANIUM-238 (TH-234)	1.59E 1 +/- 0.13E 1 PCI/G
THORIUM-232 (AC-228)	7.E -1 +/- 2.E -1 PCI/G
RADIUM-226 (BI-214)	2.41E 1 +/- 0.08E 1 PCI/G
POTASSIUM - 40	1.80E 1 +/- 0.13E 1 PCI/G
CESIUM - 137	7.9E -1 +/- 0.7E -1 PCI/G
URANIUM - 235	1.2E 0 +/- 0.4E 0 PCI/G

**** END OF REPORT ****

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BUREAU ENVIRONMENTAL RADIATION PROTECT.
NY STATE DEP'T. HEALTH SUBMITTED BY:WIGLEY
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ALBANY ***INTERAGENCY MAIL***

PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID:9320835621 SAMPLE RECEIVED:93/06/16/ CHARGE: 4.00
PROGRAM: 171:STATE-WIDE RADIATION SURVEILLANCE PROGRAM
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE:4955
POLITICAL SUBDIVISION:ROMULUS COUNTY:SENECA
LATITUDE: . LONGITUDE: . Z DIRECTION:
LOCATION: SENECA ARMY DEPOT ROMULUS - ON SITE
DESCRIPTION:#3-E080454-SOIL @ DEPTH OF 4-6INS. OUTSIDE DRAIN NORTHWALL
DESCRIPTION:EAST 804
REPORTING LAB: 20:NUCLEAR CHEMISTRY LABORATORY
TEST PATTERN: 20-0046:U235,U238,TH232,RA226,CS137,K40
SAMPLE TYPE: 600:SOIL, SAND
TIME OF SAMPLING: 93/06/11 : DATE PRINTED:93/07/21

ANALYSIS: 20-0046 U235,U238,TH232,RA226,CS137,K40

PARAMETER	RESULT
URANIUM-238 (TH-234)	5.8E 0 +/- 0.8E 0 PCI/G
THORIUM-232 (AC-228)	8.7E -1 +/- 1.6E -1 PCI/G
RADIUM-226 (BI-214)	1.74E 1 +/- 0.06E 1 PCI/G
POTASSIUM - 40	1.88E 1 +/- 0.12E 1 PCI/G
CESIUM - 137	5.3E -1 +/- 0.6E -1 PCI/G
URANIUM - 235	6.E -1 +/- 3.E -1 PCI/G

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PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID:9320835622 SAMPLE RECEIVED:93/06/16/ CHARGE: 4.00
PROGRAM: 171:STATE-WIDE RADIATION SURVEILLANCE PROGRAM
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE:4955
POLITICAL SUBDIVISION:ROMULUS COUNTY:SENECA
LATITUDE: LONGITUDE: Z DIRECTION:
LOCATION: SENECA ARMY DEPOT ROMULUS - ON SITE
DESCRIPTION:#4-E080851-MATERIAL INSIDE OF IGLOO 808 IN HOT SPOT IN
DESCRIPTION:DRAIN WEST WALL FRONT
REPORTING LAB: 20:NUCLEAR CHEMISTRY LABORATORY
TEST PATTERN: 20-0046:U235,U238,TH232,RA226,CS137,K40
SAMPLE TYPE: 600:SOIL, SAND
TIME OF SAMPLING: 93/06/11 : DATE PRINTED:93/07/21

ANALYSIS: 20-0046 U235,U238,TH232,RA226,CS137,K40

PARAMETER	RESULT
URANIUM-238 (TH-234)	8.3E 1 +/- 1.2E 1 PCI/G
THORIUM-232 (AC-228)	< 4.E 0 PCI/G
RADIUM-226 (BI-214)	8.7E 1 +/- 0.6E 1 PCI/G
POTASSIUM - 40	< 2.E 1 PCI/G
CESIUM - 137	< 8.E -1 PCI/G
URANIUM - 235	1.1E 1 +/- 0.4E 1 PCI/G

**** END OF REPORT ****

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PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID:9320835623 SAMPLE RECEIVED:93/06/16/ CHARGE: 4.00
PROGRAM: 171:STATE-WIDE RADIATION SURVEILLANCE PROGRAM
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE:4955
POLITICAL SUBDIVISION:ROMULUS COUNTY:SENECA
LATITUDE: . LONGITUDE: . Z DIRECTION:
LOCATION: SENECA ARMY DEPOT ROMULUS - ON SITE
DESCRIPTION:#5-E071051-BACKGROUND SAMPLE OUTSIDE OF IGLOO 710 NOT USED
DESCRIPTION:FOR RADIOACTIVE STORAGE
REPORTING LAB: 20:NUCLEAR CHEMISTRY LABORATORY
TEST PATTERN: 20-0046:U235,U238,TH232,RA226,CS137,K40
SAMPLE TYPE: 600:SOIL, SAND
TIME OF SAMPLING: 93/06/11 : DATE PRINTED:93/07/21

ANALYSIS: 20-0046 U235,U238,TH232,RA226,CS137,K40

PARAMETER	RESULT
URANIUM-238 (TH-234)	8.E -1 +/- 3.E -1 PCI/G
THORIUM-232 (AC-228)	7.5E -1 +/- 1.2E -1 PCI/G
RADIUM-226 (BI-214)	7.9E -1 +/- 0.8E -1 PCI/G
POTASSIUM - 40	1.77E 1 +/- 0.11E 1 PCI/G
CESIUM - 137	6.8E -1 +/- 0.5E -1 PCI/G
URANIUM - 235	< 1.1E -1 PCI/G

**** END OF REPORT ****

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PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID:9320835615 SAMPLE RECEIVED:93/06/16/ CHARGE: 4.00
PROGRAM: 171:STATE-WIDE RADIATION SURVEILLANCE PROGRAM
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE:4955
POLITICAL SUBDIVISION:ROMULUS COUNTY:SENECA
LATITUDE: LONGITUDE: Z DIRECTION:
LOCATION: SENECA ARMY DEPOT ROMULUS - ON SITE
DESCRIPTION:F1-E080451-SOIL INSIDE IGLOO 804 IN HOT SPOT IN DRAIN
DESCRIPTION:EAST WALL CENTER
REPORTING LAB: 20:NUCLEAR CHEMISTRY LABORATORY
TEST PATTERN: 20-0046:U235,U238,TH232,RA226,CS137,K40
SAMPLE TYPE: 600:SOIL, SAND
TIME OF SAMPLING: 93/06/11 : DATE PRINTED:93/07/21

ANALYSIS: 20-0056 U235,U238,TH232,RA226,CS137,K40

PARAMETER	RESULT
URANIUM-238 (TH-234)	2.0E 1 +/- 1.0E 1 PCI/G
THORIUM-232 (AC-228)	< 3.E 0 PCI/G
RADIUM-226 (BI-214)	3.3E 1 +/- 0.6E 1 PCI/G
POTASSIUM - 40	< 1.5E 1 PCI/G
CESIUM - 137	< 2.E -1 PCI/G
URANIUM - 235	6.E 0 +/- 4.E 0 PCI/G

**** END OF REPORT ****

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PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID:93208356201 SAMPLE RECEIVED:93/06/16 CHARGE: 0.00
PROGRAM: 77:STATE-WIDE RADIATION SURVEILLANCE PROGRAM
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE:4955
POLITICAL SUBDIVISION:ROMULUS COUNTY:SENECA
LATITUDE: LONGITUDE: Z-DIRECTION:
LOCATION: SENECA ARMY DEPOT ROMULUS - ON SITE
DESCRIPTION:#2-E080452-SURFACE SOIL NEXT TO DRAIN ON NORTHWALL E SIDE
DESCRIPTION:OF IGLOO 804
REPORTING LAB: 10:NUCLEAR CHEMISTRY LABORATORY
TEST PATTERN: 20-0046:U235,U238,TH232,RA226,CS137,K40
SAMPLE TYPE: 600:SOIL, SAND
TIME OF SAMPLING: 93/06/11 : DATE PRINTED:93/07/21

ANALYSIS: 20-0046 U235,U238,TH232,RA226,CS137,K40

PARAMETER	RESULT	
URANIUM-238 (TH-234)	1.59E 1 +/- 0.23E 1	PCI/G
THORIUM-232 (AC-228)	1.4E 1 +/- 2E 1	PCI/G
RADIUM-226 (BI-214)	2.41E 1 +/- 0.08E 1	PCI/G
POTASSIUM - 40	1.80E 1 +/- 0.13E 1	PCI/G
CESIUM - 137	7.9E -1 +/- 0.7E -1	PCI/G
URANIUM - 235	1.2E 0 +/- 0.4E 0	PCI/G

**** END OF REPORT ****

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PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID:932083562 SAMPLE RECEIVED:93/06/16 CHARGE: $ 5.00
PROGRAM: 121:STATE WIDE RADIATION SURVEILLANCE PROGRAM
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE:4955
POLITICAL SUBDIVISION:ROMULUS COUNTY:SENECA
LATITUDE LONGITUDE Z DIRECTION:
LOCATION: SENECA ARMY DEPOT ROMULUS ON SITE
DESCRIPTION:#3-E080454-SOIL @ DEPTH OF 4-6INS. OUTSIDE DRAIN NORTHWALL
DESCRIPTION:EAST 804
REPORTING LAB: 20:NUCLEAR CHEMISTRY LABORATORY
TEST PATTERN: 20-0006:U235,U238,TH232,RA226,CS137,K40
SAMPLE TYPE: 600:SOIL, SAND
TIME OF SAMPLING: 93/06/11 : DATE PRINTED:93/07/21

ANALYSIS: 20-0006 U235,U238,TH232,RA226,CS137,K40

PARAMETER	RESULT
URANIUM-238 (TH-234)	5.8E 0 +/- 0.8E 0 PCI/G
THORIUM-232 (AC-228)	8.7E -1 +/- 1.6E -1 PCI/G
RADIUM-226 (BI-214)	1.74E 1 +/- 0.06E 1 PCI/G
POTASSIUM - 40	1.88E 1 +/- 0.12E 1 PCI/G
CESIUM - 137	5.3E -1 +/- 0.6E -1 PCI/G
URANIUM - 235	6.6E -1 +/- 3.1E -1 PCI/G

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[redacted]

PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

[redacted]

SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE:4955
POLITICAL SUBDIVISION:ROMULUS COUNTY:SENECA

[redacted]

DESCRIPTION:#5-E071051-BACKGROUND SAMPLE OUTSIDE OF IGLOO 710 NOT USED
DESCRIPTION:FOR RADIOACTIVE STORAGE

[redacted]

SAMPLE TYPE: 600:SOIL, SAND
TIME OF SAMPLING: 93/06/11 : DATE PRINTED:93/07/21

[redacted]

------------PARAMETER------------	----------RESULT----------
[redacted]	[redacted]
RADIUM-226 (BI-214)	7.9E -1 +/- 0.8E -1 PCI/G
POTASSIUM - 40	1.77E 1 +/- 0.11E 1 PCI/G
[redacted]	[redacted]

**** END OF REPORT ****

[redacted]

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TOTAL P.12

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH
LABORATORY OF INORGANIC AND NUCLEAR CHEMISTRY
EMPIRE STATE PLAZA - BOX 509
ALBANY, N.Y. 12201-0509

RECEIVED
JUL 19 1993
NEW YORK STATE DEPARTMENT OF HEALTH
BUREAU OF ENVIRONMENTAL
RADIATION PROTECTION

Radiological Analysis of Wipe Samples

Samples taken at: Seneca Army Depot, Romulus N.Y.

Samples taken by: Gary Baker Date: 6/10/93

LINC Accession No.	Field Number	Specific Location	Suspected Contaminant	dpm Gross Alpha	dpm Gross Beta
9320835624	1	324-1 Bldg 324	Ra, U	<20	<20
9320835625	2	356-1 Bldg 356		<20	<20
9320835626	3	356-2 " "		<20	<20
9320835627	4	356-3 " "		<20	<20
9320835628	5	357-1 Bldg 357		<20	<20
9320835629	6	357-2 " "		<20	<20
9320835630	7	357-3 " "		<20	<20
9320835631	8	E0804W1-Tglo E0804		77±6	48±3
9320835632	9	E0804W2-Tglo E0804		52±5	54±4
9320835633	10	E0806W1-Tglo E0806		<20	<20

Date Received: _____ Reported by _____ Date Reported: 7/14/93

NGL-7 (9/89)

TOTAL P.02

APPENDIX D:

Soil, Groundwater, Surface Water
and Sediment Analysis Results

SEAD 60

SENECA ARMY DEPOT
SEAD-60 ENVIRONMENTAL SITE INSPECTION
SOIL ANALYSIS RESULTS

COMPOUND	MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	LOCATION	SEAD-60	SEAD-60	SEAD-60	SEAD-60	SEAD-60	SEAD-60	SEAD-60	SEAD-60	SEAD-60	SEAD-60	SEAD-60
	DEPTH (FEET)	0-0.2	0-0.2	0-2	2-4	2-4	0-0.2	0-0.2	0-0.2	0-0.2	0-0.2	2-4
	SAMPLE DATE	05/27/94	05/27/94	02/28/94	02/28/94	02/28/94	06/07/94	06/07/94	06/07/94	06/07/94	06/07/94	06/08/94
	ES ID	SB60-1-00	SB60-1-20	SB60-1.01	SB60-1.02	SB60-1.20	SB60-2-00	SB60-2-20	SB60-2-20RE	SB60-2-00RE	SB60-2-00	SB60-2-0
	LAB ID	222473	222475	212883	212884	212886	223339	223342	223342	223339	223513	
	SDG NUMBER	44410	44410	42510	42510	42510	44410	44665	44665	44410	44694	
	UNITS		SB60-1-00DUP			SB60-1.02DUP		SB60-2-00DUP	SB60-2-00DUP			
VOLATILE ORGANICS												
Chloromethane	ug/Kg	12 U	12 U	11 U	11 U	11 U	11 U	11 U	49 U	11 U	11 U	
Bromomethane	ug/Kg	12 U	12 U	11 U	11 U	11 U	11 U	11 U	49 U	11 U	11 U	
Vinyl Chloride	ug/Kg	12 U	12 U	11 U	11 U	11 U	11 U	11 U	49 U	11 U	11 U	
Chloroethane	ug/Kg	12 U	12 U	11 U	11 U	11 U	11 U	11 U	49 U	11 U	11 U	
Methylene Chloride	ug/Kg	12 U	12 U	11 U	11 U	11 U	11 U	2 J	27 J	11 U	11 U	
Acetone	ug/Kg	12 U	12 U	11 U	11 U	11 U	180 J	12 U	49 U	170 J	11 U	
Carbon Disulfide	ug/Kg	12 U	12 U	11 U	11 U	11 U	1 J	11 U	49 U	11 U	11 U	
1,1-Dichloroethene	ug/Kg	12 U	12 U	11 U	11 U	11 U	11 U	11 U	49 U	11 U	11 U	
1,1-Dichloroethane	ug/Kg	12 U	12 U	11 U	11 U	11 U	11 U	11 U	49 U	11 U	11 U	
1,2-Dichloroethene (total)	ug/Kg	12 U	12 U	11 U	11 U	11 U	11 U	11 U	49 U	11 U	11 U	
Chloroform	ug/Kg	12 U	12 U	11 U	11 U	11 U	11 U	11 U	49 U	11 U	11 U	
1,2-Dichloroethane	ug/Kg	12 U	12 U	11 U	11 U	11 U	11 U	11 U	49 U	11 U	11 U	
2-Butanone	ug/Kg	12 U	12 U	11 U	11 U	11 U	11 U	11 U	49 U	11 U	11 U	
1,1,1-Trichloroethane	ug/Kg	12 U	12 U	11 U	11 U	11 U	20 J	11 U	49 U	26 J	11 U	
Carbon Tetrachloride	ug/Kg	12 U	12 U	11 U	11 U	11 U	11 U	11 U	49 U	11 U	11 U	
Bromodichloromethane	ug/Kg	12 U	12 U	11 U	11 U	11 U	11 U	11 U	49 U	11 U	11 U	
1,2-Dichloropropane	ug/Kg	12 U	12 U	11 U	11 U	11 U	11 U	11 U	49 U	11 U	11 U	
cis-1,3-Dichloropropene	ug/Kg	12 U	12 U	11 U	11 U	11 U	11 U	11 U	49 U	11 U	11 U	
Trichloroethene	ug/Kg	12 U	12 U	11 U	11 U	11 U	11 U	11 U	49 U	11 U	11 U	
Dibromochloromethane	ug/Kg	12 U	12 U	11 U	11 U	11 U	11 U	11 U	49 U	11 U	11 U	
1,1,2-Trichloroethane	ug/Kg	12 U	12 U	11 U	11 U	11 U	11 U	11 U	49 U	11 U	11 U	
Benzene	ug/Kg	12 U	12 U	11 U	11 U	11 U	11 U	11 U	49 U	11 U	11 U	
trans-1,3-Dichloropropene	ug/Kg	12 U	12 U	11 U	11 U	11 U	11 U	11 U	49 U	11 U	11 U	
Bromoform	ug/Kg	12 U	12 U	11 U	11 U	11 U	11 U	11 U	49 U	11 U	11 U	
4-Methyl-2-Pentanone	ug/Kg	12 U	12 U	11 U	11 U	11 U	11 U	11 U	49 U	11 U	11 U	
2-Hexanone	ug/Kg	12 U	12 U	11 U	11 U	11 U	11 U	11 U	49 U	11 U	11 U	
Tetrachloroethene	ug/Kg	12 U	12 U	11 U	11 U	1 J	11 U	11 U	49 U	11 U	11 U	
1,1,2,2-Tetrachloroethane	ug/Kg	12 U	12 U	11 U	11 U	11 U	11 U	11 U	49 U	11 U	11 U	
Toluene	ug/Kg	12 U	12 U	11 U	11 U	11 U	11 U	11 U	49 U	11 U	11 U	
Chlorobenzene	ug/Kg	12 U	12 U	11 U	11 U	11 U	11 U	11 U	49 U	11 U	11 U	
Ethylbenzene	ug/Kg	12 U	12 U	11 U	11 U	11 U	6 J	13 J	5 J	13 J	2 J	
Styrene	ug/Kg	12 U	12 U	11 U	11 U	11 U	11 U	11 U	49 U	11 U	11 U	
Xylene (total)	ug/Kg	12 U	12 U	11 U	11 U	11 U	2 J	2 J	49 U	4 J	11 U	
							11 U	11 U	49 U	11 U	11 U	
HERBICIDES							5 J			9 J	11 U	
2,4-D	ug/Kg											
2,4-DB	ug/Kg											
2,4,5-T	ug/Kg											
2,4,5-TP (Silvex)	ug/Kg											
Dalapon	ug/Kg											
Dicamba	ug/Kg											
Dichloroprop	ug/Kg											
Dinoseb	ug/Kg											
MCPA	ug/Kg											
MCPP	ug/Kg											
NITROAROMATICS												
HMX	ug/Kg											
RDX	ug/Kg											
1,3,5-Trinitrobenzene	ug/Kg											
1,3-Dinitrobenzene	ug/Kg											
Tetryl	ug/Kg											
2,4,6-Trinitrotoluene	ug/Kg											
4-amino-2,6-Dinitrotoluene	ug/Kg											
2-amino-4,6-Dinitrotoluene	ug/Kg											
2,6-Dinitrotoluene	ug/Kg											
2,4-Dinitrotoluene	ug/Kg											

SENECA ARMY DEPOT
SEAD-60 ENVIRONMENTAL SITE INSPECTION
SOIL ANALYSIS RESULTS

COMPOUND	MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
LOCATION		SEAD-60	SEAD-60	SEAD-60	SEAD-60	SEAD-60	SEAD-60	SEAD-60	SEAD-60	SEAD-60	SEAD-60
DEPTH (FEET)		0-0.2	0-0.2	0-2	2-4	2-4	0-0.2	0-0.2	0-0.2	0-0.2	2-4
SAMPLE DATE		05/27/94	05/27/94	02/28/94	02/28/94	02/28/94	06/07/94	06/07/94	06/07/94	06/07/94	06/06/94
ES ID		SB60-1-00	SB60-1-20	SB60-1.01	SB60-1.02	SB60-1.20	SB60-2-00	SB60-2-20	SB60-2-20RE	SB60-2-00RE	SB60-2-0:
LAB ID		222473	222475	212883	212884	212886	223339	223342	223342	223339	223513
SDG NUMBER		44410	44410	42510	42510	42510	44410	44665	44665	44410	44694
UNITS			SB60-1-00DUP			SB60-1.02DUP		SB60-2-00DUP	SB60-2-00DUP		
SEMIVOLATILE ORGANICS											
Phenol	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
bis(2-Chloroethyl) ether	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
2-Chlorophenol	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
1,3-Dichlorobenzene	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
1,4-Dichlorobenzene	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
1,2-Dichlorobenzene	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
2-Methylphenol	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
2,2'-oxybis(1-Chloropropane)	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
4-Methylphenol	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
N-Nitroso-di-n-propylamine	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
Hexachloroethane	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
Nitrobenzene	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
Isophorone	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
2-Nitrophenol	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
2,4-Dimethylphenol	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
bis(2-Chloroethoxy) methane	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
2,4-Dichlorophenol	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
1,2,4-Trichlorobenzene	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
Naphthalene	ug/Kg	390 U	38 J	370 U	370 U	390 U	18000 U	14000 U			360 U
4-Chloroaniline	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
Hexachlorobutadiene	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
4-Chloro-3-methylphenol	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
2-Methylnaphthalene	ug/Kg	390 U	390 U	370 U	370 U	390 U	1100 J	14000 U			360 U
Hexachlorocyclopentadiene	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
2,4,6-Trichlorophenol	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
2,4,5-Trichlorophenol	ug/Kg	940 U	940 U	910 U	910 U	950 U	44000 U	35000 U			870 U
2-Chloronaphthalene	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
2-Nitroaniline	ug/Kg	940 U	940 U	910 U	910 U	950 U	44000 U	35000 U			870 U
Dimethylphthalate	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
Acenaphthylene	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
2,6-Dinitrotoluene	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
3-Nitroaniline	ug/Kg	940 U	940 U	910 U	910 U	950 U	44000 U	35000 U			870 U
Acenaphthene	ug/Kg	390 U	59 J	370 U	370 U	390 U	18000 U	1400 J			360 U
2,4-Dinitrophenol	ug/Kg	940 U	940 U	910 U	910 U	950 U	44000 U	35000 U			870 U
4-Nitrophenol	ug/Kg	940 U	940 U	910 U	910 U	950 U	44000 U	35000 U			870 U
Dibenzofuran	ug/Kg	390 U	29 J	370 U	370 U	390 U	18000 U	14000 U			360 U
2,4-Dinitrotoluene	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
Diethylphthalate	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
4-Chlorophenyl-phenylether	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
Fluorene	ug/Kg	390 U	48 J	370 U	370 U	390 U	18000 U	1300 J			360 U
4-Nitroaniline	ug/Kg	940 U	940 U	910 U	910 U	950 U	44000 U	35000 U			870 U
4,6-Dinitro-2-methylphenol	ug/Kg	940 U	940 U	910 U	910 U	950 U	44000 U	35000 U			870 U
N-Nitrosodiphenylamine	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
4-Bromophenyl-phenylether	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
Hexachlorobenzene	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
Pentachlorophenol	ug/Kg	940 U	940 U	910 U	910 U	950 U	44000 U	35000 U			870 U
Phenanthrene	ug/Kg	140 J	570 J	25 J	370 U	390 U	5100 J	8900 J			360 U
Anthracene	ug/Kg	26 J	98 J	370 U	370 U	390 U	18000 U	2000 J			360 U
Carbazole	ug/Kg	390 U	79 J	370 U	370 U	390 U	18000 U	14000 U			360 U
Di-n-butylphthalate	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	1500 J			360 U
Fluoranthene	ug/Kg	480 J	1100 J	33 J	370 U	390 U	7300 J	14000 J			27 J
Pyrene	ug/Kg	350 J	700 J	31 J	37 J	27 J	10000 J	27000 J			27 J
Butylbenzylphthalate	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
3,3'-Dichlorobenzidine	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
Benzo(a)anthracene	ug/Kg	200 J	340 J	370 U	370 U	390 U	18000 U	14000 U			360 U
Chrysene	ug/Kg	250 J	400	370 U	370 U	390 U	18000 U	17000 J			18 J
bis(2-Ethylhexyl)phthalate	ug/Kg	42 J	54 J	370 U	370 U	380 J	18000 U	14000 U			360 U
Di-n-octylphthalate	ug/Kg	390 U	390 U	370 U	370 U	390 U	18000 U	14000 U			360 U
Benzo(b)fluoranthene	ug/Kg	310 J	730 J	370 U	370 U	390 U	18000 U	18000 J			360 U
Benzo(k)fluoranthene	ug/Kg	190 J	390 UJ	370 U	370 U	390 U	18000 U	14000 UJ			360 U
Benzo(a)pyrene	ug/Kg	230 J	350 J	370 U	370 U	390 U	18000 U	14000 U			360 U
Indeno(1,2,3-cd)pyrene	ug/Kg	150 J	220 J	370 U	370 U	390 U	18000 U	14000 U			360 U
Dibenz(a,h)anthracene	ug/Kg	91 J	110 J	370 U	370 U	390 U	18000 U	14000 U			360 U
Benzo(g,h,i)perylene	ug/Kg	220 J	190 J	370 U	370 U	390 U	18000 U	14000 U			360 U

SENECA ARMY DEPOT
SEAD-60 ENVIRONMENTAL SITE INSPECTION
SOIL ANALYSIS RESULTS

COMPOUND	MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	LOCATION	SEAD-60	SEAD-60	SEAD-60	SEAD-60	SEAD-60	SEAD-60	SEAD-60	SEAD-60	SEAD-60	SEAD-60
	DEPTH (FEET)	0-0.2	0-0.2	0-2	2-4	2-4	0-0.2	0-0.2	0-0.2	0-0.2	2-4
	SAMPLE DATE	05/27/94	05/27/94	02/28/94	02/28/94	02/28/94	06/07/94	06/07/94	06/07/94	06/07/94	06/08/94
	ES ID	SB60-1-00	SB60-1-20	SB60-1.01	SB60-1.02	SB60-1.20	SB60-2-00	SB60-2-20	SB60-2-20RE	SB60-2-00RE	SB60-2-0:
	LAB ID	222473	222475	212883	212884	212888	223339	223342	223342	223339	223513
	SDG NUMBER	44410	44410	42510	42510	42510	44410	44665	44665	44410	44694
	UNITS		SB60-1-00DUP			SB60-1.02DUP		SB60-2-00DUP	SB60-2-00DUP		
PESTICIDES/PCB											
alpha-BHC	ug/Kg	4 UJ	2 UJ	1.9 U	1.9 U	2 U	9.4 U	5 J			1.8 U
beta-BHC	ug/Kg	4 UJ	2 UJ	1.9 U	1.9 U	2 U	9.4 U	9.2 U			1.8 U
delta-BHC	ug/Kg	4 UJ	2 UJ	1.9 U	1.9 U	2 U	9.4 U	9.2 U			1.8 U
gamma-BHC (Lindane)	ug/Kg	4 UJ	2 UJ	1.9 U	1.9 U	2 U	9.4 U	9.2 U			1.8 U
Heptachlor	ug/Kg	4 UJ	2 UJ	1.9 U	1.9 U	2 U	9.4 U	9.2 U			1.8 U
Aldrin	ug/Kg	4 UJ	2 UJ	1.9 U	1.9 U	2 U	18 J	14 J			1.8 U
Heptachlor epoxide	ug/Kg	4 UJ	2 UJ	1.9 U	1.9 U	2 U	9.4 U	9.2 U			1.8 U
Endosulfan I	ug/Kg	3.2 J	2.2 J	1.9 U	1.9 U	2 U	31 J	34 J			1.8 U
Dieldrin	ug/Kg	7.8 UJ	3.9 UJ	3.7 U	3.7 U	3.9 U	18 U	18 U			3.6 U
4,4'-DDE	ug/Kg	110 J	57 J	2.7 J	3.7 U	3.9 U	28 J	31 J			3.6 U
Endrin	ug/Kg	7.8 UJ	3.9 UJ	3.7 U	3.7 U	3.9 U	18 U	18 U			3.6 U
Endosulfan II	ug/Kg	7.8 UJ	3.9 UJ	3.7 U	3.7 U	3.9 U	18 U	18 U			3.6 U
4,4'-DDD	ug/Kg	7.8 UJ	3.9 UJ	3.7 U	3.7 U	3.9 U	49 J	55 J			3.6 U
Endosulfan sulfate	ug/Kg	7.8 UJ	3.9 UJ	3.7 U	3.7 U	3.9 U	18 U	18 U			3.8 U
4,4'-DDT	ug/Kg	84 J	8.7 J	3.7 U	3.7 U	3.9 U	130 J	100			3.6 U
Methoxychlor	ug/Kg	40 UJ	20 UJ	19 U	19 U	20 U	94 U	92 U			18 U
Endrin ketone	ug/Kg	7.8 UJ	3.9 UJ	3.7 U	3.7 U	3.9 U	14 J	13 J			3.6 U
Endrin aldehyde	ug/Kg	7.8 UJ	3.9 UJ	3.7 U	3.7 U	3.9 U	18 U	18 U			3.8 U
alpha-Chlordane	ug/Kg	4 UJ	2 UJ	1.9 U	1.9 U	2 U	27 J	26 J			1.8 U
gamma-Chlordane	ug/Kg	4 UJ	2 UJ	1.9 U	1.9 U	2 U	9.8 J	10 J			1.8 U
Toxaphene	ug/Kg	400 UJ	200 UJ	190 U	190 U	200 U	940 U	920 U			180 U
Aroclor-1016	ug/Kg	78 UJ	39 UJ	37 U	37 U	39 U	180 U	180 U			36 U
Aroclor-1221	ug/Kg	160 UJ	79 UJ	78 U	78 U	80 U	370 U	360 U			73 U
Aroclor-1232	ug/Kg	78 UJ	39 UJ	37 U	37 U	39 U	180 U	180 U			36 U
Aroclor-1242	ug/Kg	78 UJ	39 UJ	37 U	37 U	39 U	180 U	970 J			36 U
Aroclor-1248	ug/Kg	78 UJ	39 UJ	37 U	37 U	39 U	2100 J	180 U			36 U
Aroclor-1254	ug/Kg	78 UJ	39 UJ	37 U	37 U	39 U	180 U	180 U			36 U
Aroclor-1260	ug/Kg	78 UJ	39 UJ	37 U	37 U	39 U	4400 J	3400			36 U
METALS											
Aluminum	mg/Kg	10700	10800	8440	13300	10500	9300	9420			6850 J
Antimony	mg/Kg	0.28 J	0.26 UJ	0.43 J	0.36 J	0.2 UJ	1.8 J	0.27 J			0.29 J
Arsenic	mg/Kg	5.3	5.1	4.1 J	6.2 J	4.7 J	8.1	5.5			4.6
Barium	mg/Kg	71.5	77.6	98.3	85.8	68.6	679	575			71.7 J
Beryllium	mg/Kg	0.46 J	0.47 J	0.43 J	0.67 J	0.40 J	0.38 J	0.42 J			0.26 J
Cadmium	mg/Kg	0.58 J	0.43 J	0.36 J	0.27 J	0.24 J	2	1.2			0.32 J
Calcium	mg/Kg	65800	63600	75100	39500	64000	56200	45900 J			90900 J
Chromium	mg/Kg	17.7	18.3	14.2	19.4	18.6	18.8	16			12 J
Cobalt	mg/Kg	9.6	9.4 J	8.3 J	10.8	9.7 J	9.5 J	7.5 J			8.1 J
Copper	mg/Kg	24.9	23	21.3	21.7	20.8	190	112			16.6 J
Iron	mg/Kg	22000	22800	18900	23900	21000	22800	18200			15600 J
Lead	mg/Kg	17.1	14.2	47.5 J	12.6 J	9.4 J	66.7	36.3			7.2
Magnesium	mg/Kg	13300	12200	11300	10400	17200	9150	12200			25400 J
Manganese	mg/Kg	422	377	333	360	431	317	305			536 J
Mercury	mg/Kg	0.06 J	0.05 J	0.08 J	0.03 J	0.02 J	0.03 J	0.01 U			0.03 J
Nickel	mg/Kg	30.9	30.2	23.5	29.1	27.7	29.5	23			23.5 J
Potassium	mg/Kg	1830 J	1920 J	1470	1620	1820	1870 J	1770 J			1860
Selenium	mg/Kg	0.43 U	0.58 U	0.32 U	0.31 U	0.34 U	1.5 J	0.68 J			0.54 U
Silver	mg/Kg	0.08 UJ	0.11 UJ	0.13 U	0.13 U	0.14 U	0.1 UJ	0.08 UJ			0.1 UJ
Sodium	mg/Kg	93.4 J	105 J	75 J	99.8 J	129 J	127 J	106 J			119 J
Thallium	mg/Kg	0.3 U	0.41 U	0.25 U	0.14 U	0.26 U	0.39 U	0.31 U			0.38 U
Vanadium	mg/Kg	17.9	18.6	14.8	21.9	17	21.2	18.1			13.7 J
Zinc	mg/Kg	85	79.7	58.6	80.7	101	569	415			43.7 J
Cyanide	mg/Kg	0.58 U	0.48 U	0.52 U	0.52 U	0.59 U	0.48 U	0.51 U			0.48 U
OTHER ANALYSES											
Nitrate/Nitrite-Nitrogen	mg/Kg										
Total Petroleum Hydrocarbons	mg/Kg	30 U	87 J	29 U	87 J	27 U	208000	218000			283
Total Solids	%W/W	85.4	85.2	86.4	87.7	83.8	90.1	92.5			91.8

SENECA ARMY DEPOT
SEAD-60 ENVIRONMENTAL SITE INSPECTION
SOIL ANALYSIS RESULTS

	MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL
	LOCATION	SEAD-60	SEAD-60	SEAD-60	SEAD-60	SEAD-60
	DEPTH (FEET)	6-8	6-8	0-0.2	4-6	8-8
	SAMPLE DATE	06/07/94	06/07/94	06/08/94	06/08/94	06/08/94
	ES ID	SB60-2-04	SB60-2-04RE	SB60-3.00	SB60-3.03	SB60-3.04
	LAB ID	223340	223340	223499	223500	223501
	SDG NUMBER	44665	44665	44665	44665	44665
COMPOUND	UNITS					
VOLATILE ORGANICS						
Chloromethane	ug/Kg	11 U R		14 U	11 U	11 U
Bromomethane	ug/Kg	11 U R		14 U	11 U	11 U
Vinyl Chloride	ug/Kg	11 U R		14 U	11 U	11 U
Chloroethane	ug/Kg	11 U R		14 U	11 U	11 U
Methylene Chloride	ug/Kg	3 J		21	54	1 J
Acetone	ug/Kg	11 U R		14 U	11 U	11 U
Carbon Disulfide	ug/Kg	11 U R		14 U	11 U	2 J
1,1-Dichloroethene	ug/Kg	11 U R		14 U	11 U	11 U
1,1-Dichloroethane	ug/Kg	11 U R		14 U	11 U	11 U
1,2-Dichloroethene (total)	ug/Kg	11 U R		14 U	11 U	11 U
Chloroform	ug/Kg	11 U R		14 U	11 U	11 U
1,2-Dichloroethane	ug/Kg	11 U R		14 U	11 U	11 U
2-Butanone	ug/Kg	11 U R		14 U	11 U	11 U
1,1,1-Trichloroethane	ug/Kg	11 U R		14 U	11 U	11 U
Carbon Tetrachloride	ug/Kg	11 U R		14 U	11 U	11 U
Bromodichloromethane	ug/Kg	11 U R		14 U	11 U	11 U
1,2-Dichloropropane	ug/Kg	11 U R		14 U	11 U	11 U
cis-1,3-Dichloropropene	ug/Kg	11 U R		14 U	11 U	11 U
Trichloroethene	ug/Kg	11 U R		14 U	11 U	11 U
Dibromochloromethane	ug/Kg	11 U R		14 U	11 U	11 U
1,1,2-Trichloroethane	ug/Kg	11 U R		14 U	11 U	11 U
Benzene	ug/Kg	11 U R		14 U	11 U	11 U
trans-1,3-Dichloropropene	ug/Kg	11 U R		14 U	11 U	11 U
Bromoform	ug/Kg	11 U R		14 U	11 U	11 U
4-Methyl-2-Pentanone	ug/Kg	11 U R		14 U	11 U	11 U
2-Hexanone	ug/Kg	11 U R		14 U	11 U	11 U
Tetrachloroethene	ug/Kg	3 J		14 U	11 U	11 U
1,1,2,2-Tetrachloroethane	ug/Kg	11 U R		14 U	11 U	11 U
Toluene	ug/Kg	2 J		14 U	11 U	11 U
Chlorobenzene	ug/Kg	11 U R		14 U	11 U	11 U
Ethylbenzene	ug/Kg	11 U R		14 U	11 U	11 U
Styrene	ug/Kg	11 U R		14 U	11 U	11 U
Xylene (total)	ug/Kg	11 U R		14 U	11 U	11 U
HERBICIDES						
2,4-D	ug/Kg					
2,4-DB	ug/Kg					
2,4,5-T	ug/Kg					
2,4,5-TP (Silvex)	ug/Kg					
Dalapon	ug/Kg					
Dicamba	ug/Kg					
Dichloroprop	ug/Kg					
Dinoseb	ug/Kg					
MCPA	ug/Kg					
MCPP	ug/Kg					
NITROAROMATICS						
HMX	ug/Kg					
RDX	ug/Kg					
1,3,5-Trinitrobenzene	ug/Kg					
1,3-Dinitrobenzene	ug/Kg					
Tetryl	ug/Kg					
2,4,6-Trinitrotoluene	ug/Kg					
4-amino-2,6-Dinitrotoluene	ug/Kg					
2-amino-4,6-Dinitrotoluene	ug/Kg					
2,6-Dinitrotoluene	ug/Kg					
2,4-Dinitrotoluene	ug/Kg					

SENECA ARMY DEPOT
SEAD-60 ENVIRONMENTAL SITE INSPECTION
SOIL ANALYSIS RESULTS

	MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL
	LOCATION	SEAD-60	SEAD-60	SEAD-60	SEAD-60	SEAD-60
	DEPTH (FEET)	6-8	6-8	0-0.2	4-6	6-8
	SAMPLE DATE	06/07/94	06/07/94	06/06/94	06/06/94	06/06/94
	ES ID	SB60-2-04	SB60-2-04RE	SB60-3.00	SB60-3.03	SB60-3.04
	LAB ID	223340	223340	223499	223500	223501
	SDG NUMBER	44665	44665	44665	44665	44665
COMPOUND	UNITS					
SEMIVOLATILE ORGANICS						
Phenol	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
bis(2-Chloroethyl) ether	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
2-Chlorophenol	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
1,3-Dichlorobenzene	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
1,4-Dichlorobenzene	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
1,2-Dichlorobenzene	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
2-Methylphenol	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
2,2'-oxybis(1-Chloropropane)	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
4-Methylphenol	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
N-Nitroso-di-n-propylamine	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
Hexachloroethane	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
Nitrobenzene	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
Isophorone	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
2-Nitrophenol	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
2,4-Dimethylphenol	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
bis(2-Chloroethoxy) methane	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
2,4-Dichlorophenol	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
1,2,4-Trichlorobenzene	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
Naphthalene	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
4-Chloroaniline	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
Hexachlorobutadiene	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
4-Chloro-3-methylphenol	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
2-Methylnaphthalene	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
Hexachlorocyclopentadiene	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
2,4,6-Trichlorophenol	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
2,4,5-Trichlorophenol	ug/Kg	850 U	850 UJ	5400 U	860 U	850 U
2-Chloronaphthalene	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
2-Nitroaniline	ug/Kg	850 U	850 UJ	5400 U	860 U	850 U
Dimethylphthalate	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
Acenaphthylene	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
2,6-Dinitrotoluene	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
3-Nitroaniline	ug/Kg	850 U	850 UJ	5400 U	860 U	850 U
Acenaphthene	ug/Kg	350 U	32 J	2200 U	350 U	350 U
2,4-Dinitrophenol	ug/Kg	850 U	850 UJ	5400 U	860 U	850 U
4-Nitrophenol	ug/Kg	850 U	850 UJ	5400 U	860 U	850 U
Dibenzofuran	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
2,4-Dinitrotoluene	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
Diethylphthalate	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
4-Chlorophenyl-phenyl ether	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
Fluorene	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
4-Nitroaniline	ug/Kg	850 U	850 UJ	5400 U	860 U	850 U
4,6-Dinitro-2-methylphenol	ug/Kg	850 U	850 UJ	5400 U	860 U	850 U
N-Nitrosodiphenylamine	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
4-Bromophenyl-phenyl ether	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
Hexachlorobenzene	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
Pentachlorophenol	ug/Kg	850 U	850 UJ	5400 U	860 U	850 U
Phenanthrene	ug/Kg	350 U	350 UJ	680 J	350 U	350 U
Anthracene	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
Carbazole	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
Di-n-butylphthalate	ug/Kg	350 U	350 UJ	2200 U	81 J	94 J
Fluoranthene	ug/Kg	29 J	350 UJ	1300 J	350 U	350 U
Pyrene	ug/Kg	62 J	350 UJ	2000 J	350 U	350 U
Butylbenzylphthalate	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
3,3'-Dichlorobenzidine	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
Benzo(a)anthracene	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
Chrysene	ug/Kg	350 U	350 UJ	1100 J	350 U	350 U
bis(2-Ethylhexyl)phthalate	ug/Kg	43 J	350 UJ	2200 U	350 U	160 J
Di-n-octylphthalate	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
Benzo(b)fluoranthene	ug/Kg	350 U	350 UJ	1500 J	350 U	350 U
Benzo(k)fluoranthene	ug/Kg	350 U	350 UJ	2200 UJ	350 U	350 U
Benzo(a)pyrene	ug/Kg	350 U	350 UJ	2200 U	350 U	350 U
Indeno(1,2,3-cd)pyrene	ug/Kg	350 U	46 J	1100 J	350 U	350 U
Dibenz(a,h)anthracene	ug/Kg	350 U	27 J	1100 J	350 U	350 U
Benzo(g,h,i)perylene	ug/Kg	350 U	43 J	1600 J	350 U	350 U

SENECA ARMY DEPOT
SEAD-60 ENVIRONMENTAL SITE INSPECTION
SOIL ANALYSIS RESULTS

	MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL
	LOCATION	SEAD-60	SEAD-60	SEAD-60	SEAD-60	SEAD-60
	DEPTH (FEET)	6-8	6-8	0-0.2	4-6	6-8
	SAMPLE DATE	06/07/94	06/07/94	06/08/94	06/08/94	06/08/94
	ES ID	SB60-2-04	SB60-2-04RE	SB60-3.00	SB60-3.03	SB60-3.04
	LAB ID	223340	223340	223499	223500	223501
	SDG NUMBER	44665	44665	44665	44665	44665
COMPOUND	UNITS					
PESTICIDES/PCB						
alpha-BHC	ug/Kg	1.8 U		2.9 UJ	1.8 U	1.8 U
beta-BHC	ug/Kg	1.8 U		2.9 UJ	1.8 U	1.8 U
delta-BHC	ug/Kg	1.8 U		2.9 UJ	1.8 U	1.8 U
gamma-BHC (Lindane)	ug/Kg	1.8 U		2.9 UJ	1.8 U	1.8 U
Heptachlor	ug/Kg	1.8 U		2.9 UJ	1.8 U	1.8 U
Aldrin	ug/Kg	1.8 U		2.9 UJ	1.8 U	1.8 U
Heptachlor epoxide	ug/Kg	1.8 U		2.9 UJ	1.8 U	1.8 U
Endosulfan I	ug/Kg	1.8 U		6.3 J	1.8 U	1.8 U
Dieldrin	ug/Kg	3.5 U		5.6 UJ	3.5 U	3.5 U
4,4'-DDE	ug/Kg	3.5 U		26 J	3.5 U	3.5 U
Endrin	ug/Kg	3.5 U		5.6 UJ	3.5 U	3.5 U
Endosulfan II	ug/Kg	3.5 U		5.6 UJ	3.5 U	3.5 U
4,4'-DDD	ug/Kg	3.5 U		100 J	3.5 U	3.5 U
Endosulfan sulfate	ug/Kg	3.5 U		5.6 UJ	3.5 U	3.5 U
4,4'-DDT	ug/Kg	3.5 U		5.6 UJ	3.5 U	3.5 U
Methoxychlor	ug/Kg	18 U		29 UJ	18 U	18 U
Endrin ketone	ug/Kg	3.5 U		5.6 UJ	3.5 U	3.5 U
Endrin aldehyde	ug/Kg	3.5 U		5.6 UJ	3.5 U	3.5 U
alpha-Chlordane	ug/Kg	1.8 U		3 J	1.8 U	1.8 U
gamma-Chlordane	ug/Kg	1.8 U		2.9 UJ	1.8 U	1.8 U
Toxaphene	ug/Kg	180 U		290 UJ	180 U	180 U
Aroclor-1016	ug/Kg	35 U		56 UJ	35 U	35 U
Aroclor-1221	ug/Kg	71 U		110 UJ	72 U	71 U
Aroclor-1232	ug/Kg	35 U		56 UJ	35 U	35 U
Aroclor-1242	ug/Kg	35 U		56 UJ	35 U	35 U
Aroclor-1248	ug/Kg	35 U		56 UJ	35 U	35 U
Aroclor-1254	ug/Kg	35 U		56 UJ	35 U	35 U
Aroclor-1260	ug/Kg	35 U		220 J	35 U	35 U
METALS						
Aluminum	mg/Kg	8320		14100	6980	13200
Antimony	mg/Kg	0.22 UJ		0.49 J	0.26 J	0.18 UJ
Arsenic	mg/Kg	3.8		7	4	5.6
Barium	mg/Kg	90.1		416	64	50.1
Beryllium	mg/Kg	0.38 J		0.66 J	0.35 J	0.63 J
Cadmium	mg/Kg	0.33 J		1.5 J	0.35 J	0.72
Calcium	mg/Kg	72300 J		23700 J	102000 J	50600 J
Chromium	mg/Kg	14.1		23.3	12	22.7
Cobalt	mg/Kg	7.9 J		13.1 J	8.2	12.7
Copper	mg/Kg	20.5		74.1	19.8	30.8
Iron	mg/Kg	17700		25700	15500	32100
Lead	mg/Kg	9.5		50.6	8.2	15.3
Magnesium	mg/Kg	19000		8570	18000	11400
Manganese	mg/Kg	368		443	417	378
Mercury	mg/Kg	0.07 J		0.02 U	0.02 J	0.01 J
Nickel	mg/Kg	23.6		31.3	22.9	44.3
Potassium	mg/Kg	1820 J		1820 J	1690 J	1920 J
Selenium	mg/Kg	0.47 U		1.2 J	0.43 U	0.65 J
Silver	mg/Kg	0.09 UJ		0.17 UJ	0.08 UJ	0.07 UJ
Sodium	mg/Kg	119 J		118 J	113 J	140 J
Thallium	mg/Kg	0.33 U		0.84 U	0.3 U	0.26 U
Vanadium	mg/Kg	14.5		26.2	12.9	19.3
Zinc	mg/Kg	64.4		314	56.3	266
Cyanide	mg/Kg	0.43 U		0.76 U	0.46 U	0.51 U
OTHER ANALYSES						
Nitrate/Nitrite - Nitrogen	mg/Kg					
Total Petroleum Hydrocarbons	mg/Kg	332		50900	57	34
Total Solids	%W/W	94.2		59.1	93.1	93.8

SENECA ARMY DEPOT
SEAD-60 ENVIRONMENTAL SITE INSPECTION
GROUNDWATER ANALYSIS RESULTS

	MATRIX	WATER	WATER	WATER	WATER
	LOCATION	SEAD-60	SEAD-60	SEAD-60	SEAD-60
	SAMPLE DATE	07/07/94	07/07/94	07/07/94	03/29/94
	ES ID	MW60-1	MW60-2	MW60-5	MW60-3
	LAB ID	226301	226302	226305	215838
	SDG NUMBER	45257	45257	45257	43179
COMPOUND	UNITS			MW60-2DUP	
VOLATILE ORGANICS					
Chloromethane	ug/L	10 U	10 U	10 U	10 U
Bromomethane	ug/L	10 U	10 U	10 U	10 U
Vinyl Chloride	ug/L	10 U	10 U	10 U	10 U
Chloroethane	ug/L	10 U	10 U	10 U	10 U
Methylene Chloride	ug/L	10 U	10 U	10 U	10 U
Acetone	ug/L	48	27 J	77 J	10 U
Carbon Disulfide	ug/L	10 U	10 U	10 U	10 U
1,1-Dichloroethene	ug/L	10 U	10 U	10 U	10 U
1,1-Dichloroethane	ug/L	10 U	10 U	10 U	10 U
1,2-Dichloroethene (total)	ug/L	10 U	10 U	10 U	10 U
Chloroform	ug/L	10 U	10 U	10 U	10 U
1,2-Dichloroethane	ug/L	10 U	10 U	10 U	10 U
2-Butanone	ug/L	10 U	10 U	10 U	10 U
1,1,1-Trichloroethane	ug/L	10 U	10 U	10 U	10 U
Carbon Tetrachloride	ug/L	10 U	10 U	10 U	10 U
Bromodichloromethane	ug/L	10 U	10 U	10 U	10 U
1,2-Dichloropropane	ug/L	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene	ug/L	10 U	10 U	10 U	10 U
Trichloroethene	ug/L	10 U	10 U	10 U	10 U
Dibromochloromethane	ug/L	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane	ug/L	10 U	10 U	10 U	10 U
Benzene	ug/L	1 J	10 U	10 U	10 U
trans-1,3-Dichloropropene	ug/L	10 U	10 U	10 U	10 U
Bromoform	ug/L	10 U	10 U	10 U	10 U
4-Methyl-2-Pentanone	ug/L	10 U	10 U	10 U	10 U
2-Hexanone	ug/L	10 U	10 U	10 U	10 U
Tetrachloroethene	ug/L	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	ug/L	10 U	10 U	10 U	10 U
Toluene	ug/L	10 U	10 U	10 U	10 U
Chlorobenzene	ug/L	10 U	10 U	10 U	10 U
Ethylbenzene	ug/L	10 U	10 U	10 U	10 U
Styrene	ug/L	10 U	10 U	10 U	10 U
Xylene (total)	ug/L	10 U	10 U	10 U	10 U
HERBICIDES					
2,4-D	ug/L				
2,4-DB	ug/L				
2,4,5-T	ug/L				
2,4,5-TP (Silvex)	ug/L				
Dalapon	ug/L				
Dicamba	ug/L				
Dichloroprop	ug/L				
Dinoseb	ug/L				
MCPA	ug/L				
MCPP	ug/L				
NITROAROMATICS					
HMX	ug/L				
RDX	ug/L				
1,3,5-Trinitrobenzene	ug/L				
1,3-Dinitrobenzene	ug/L				
Tetryl	ug/L				
2,4,6-Trinitrotoluene	ug/L				
4-amino-2,6-Dinitrotoluene	ug/L				
2-amino-4,6-Dinitrotoluene	ug/L				
2,6-Dinitrotoluene	ug/L				
2,4-Dinitrotoluene	ug/L				

SENECA ARMY DEPOT
SEAD-60 ENVIRONMENTAL SITE INSPECTION
GROUNDWATER ANALYSIS RESULTS

COMPOUND	MATRIX LOCATION SAMPLE DATE ES ID LAB ID SDG NUMBER UNITS	WATER SEAD-60 07/07/94 MW60-1 226301 45257	WATER SEAD-60 07/07/94 MW60-2 226302 45257	WATER SEAD-60 07/07/94 MW60-5 226305 45257 MW60-2DUP	WATER SEAD-60 03/29/94 MW60-3 215838 43179
SEMIVOLATILE ORGANICS					
Phenol	ug/L	10 U	10 U	11 U	10 U
bis(2-Chloroethyl) ether	ug/L	10 U	10 U	11 U	10 U
2-Chlorophenol	ug/L	10 U	10 U	11 U	10 U
1,3-Dichlorobenzene	ug/L	10 U	10 U	11 U	10 U
1,4-Dichlorobenzene	ug/L	10 U	10 U	11 U	10 U
1,2-Dichlorobenzene	ug/L	10 U	10 U	11 U	10 U
2-Methylphenol	ug/L	10 U	10 U	11 U	10 U
2,2'-oxybis(1-Chloropropane)	ug/L	10 U	10 U	11 U	10 U
4-Methylphenol	ug/L	10 U	10 U	11 U	10 U
N-Nitroso-di-n-propylamine	ug/L	10 U	10 U	11 U	10 U
Hexachloroethane	ug/L	10 U	10 U	11 U	10 U
Nitrobenzene	ug/L	10 U	10 U	11 U	10 U
Isophorone	ug/L	10 U	10 U	11 U	10 U
2-Nitrophenol	ug/L	10 U	10 U	11 U	10 U
2,4-Dimethylphenol	ug/L	10 U	10 U	11 U	10 U
bis(2-Chloroethoxy) methane	ug/L	10 U	10 U	11 U	10 U
2,4-Dichlorophenol	ug/L	10 U	10 U	11 U	10 U
1,2,4-Trichlorobenzene	ug/L	10 U	10 U	11 U	10 U
Naphthalene	ug/L	10 U	10 U	11 U	10 U
4-Chloroaniline	ug/L	10 U	10 U	11 U	10 U
Hexachlorobutadiene	ug/L	10 U	10 U	11 U	10 U
4-Chloro-3-methylphenol	ug/L	10 U	10 U	11 U	10 U
2-Methylnaphthalene	ug/L	10 U	10 U	11 U	10 U
Hexachlorocyclopentadiene	ug/L	10 U	10 U	11 U	10 U
2,4,6-Trichlorophenol	ug/L	10 U	10 U	11 U	10 U
2,4,5-Trichlorophenol	ug/L	25 U	26 U	26 U	26 U
2-Chloronaphthalene	ug/L	10 U	10 U	11 U	10 U
2-Nitroaniline	ug/L	25 U	26 U	26 U	26 U
Dimethylphthalate	ug/L	10 U	10 U	11 U	10 U
Acenaphthylene	ug/L	10 U	10 U	11 U	10 U
2,6-Dinitrotoluene	ug/L	10 U	10 U	11 U	10 U
3-Nitroaniline	ug/L	25 U	26 U	26 U	26 U
Acenaphthene	ug/L	10 U	10 U	11 U	10 U
2,4-Dinitrophenol	ug/L	25 U	26 U	26 U	26 U
4-Nitrophenol	ug/L	25 U	26 U	26 U	26 U
Dibenzofuran	ug/L	10 U	10 U	11 U	10 U
2,4-Dinitrotoluene	ug/L	10 U	10 U	11 U	10 U
Diethylphthalate	ug/L	10 U	10 U	11 U	10 U
4-Chlorophenyl-phenylether	ug/L	10 U	10 U	11 U	10 U
Fluorene	ug/L	10 U	10 U	11 U	10 U
4-Nitroaniline	ug/L	25 U	26 U	26 U	26 U
4,6-Dinitro-2-methylphenol	ug/L	25 U	26 U	26 U	26 U
N-Nitrosodiphenylamine	ug/L	10 U	10 U	11 U	10 U
4-Bromophenyl-phenylether	ug/L	10 U	10 U	11 U	10 U
Hexachlorobenzene	ug/L	10 U	10 U	11 U	10 U
Pentachlorophenol	ug/L	25 U	26 U	26 U	26 U
Phenanthrene	ug/L	10 U	10 U	11 U	10 U
Anthracene	ug/L	10 U	10 U	11 U	10 U
Carbazole	ug/L	10 U	10 U	11 U	10 U
Di-n-butylphthalate	ug/L	10 U	10 U	11 U	10 U
Fluoranthene	ug/L	10 U	10 U	11 U	10 U
Pyrene	ug/L	10 U	10 U	11 U	10 U
Butylbenzylphthalate	ug/L	10 U	10 U	11 U	10 U
3,3'-Dichlorobenzidine	ug/L	10 U	10 U	11 U	10 U
Benzo(a)anthracene	ug/L	10 U	10 U	11 U	10 U
Chrysene	ug/L	10 U	10 U	11 U	10 U
bis(2-Ethylhexyl)phthalate	ug/L	10 U	25 U	11 U	10 U
Di-n-octylphthalate	ug/L	10 U	10 U	11 U	10 U
Benzo(b)fluoranthene	ug/L	10 U	10 U	11 U	10 U
Benzo(k)fluoranthene	ug/L	10 U	10 U	11 U	10 U
Benzo(a)pyrene	ug/L	10 U	10 U	11 U	10 U
Indeno(1,2,3-cd)pyrene	ug/L	10 U	10 U	11 U	10 U
Dibenz(a,h)anthracene	ug/L	10 U	10 U	11 U	10 U
Benzo(g,h,i)perylene	ug/L	10 U	10 U	11 U	10 U

SENECA ARMY DEPOT
SEAD-60 ENVIRONMENTAL SITE INSPECTION
GROUNDWATER ANALYSIS RESULTS

COMPOUND	MATRIX LOCATION SAMPLE DATE ES ID LAB ID SDG NUMBER UNITS	WATER SEAD-60 07/07/94 MW60-1 226301 45257	WATER SEAD-60 07/07/94 MW60-2 226302 45257	WATER SEAD-60 07/07/94 MW60-5 226305 45257 MW60-2DUP	WATER SEAD-60 03/29/94 MW60-3 215838 43179
PESTICIDES/PCB					
alpha-BHC	ug/L	0.051 U	0.051 U	0.054 UJ	0.052 U
beta-BHC	ug/L	0.051 U	0.051 U	0.054 UJ	0.049 J
delta-BHC	ug/L	0.051 U	0.051 U	0.054 UJ	0.052 U
gamma-BHC (Lindane)	ug/L	0.051 U	0.051 U	0.054 UJ	0.052 U
Heptachlor	ug/L	0.051 U	0.051 U	0.054 UJ	0.052 U
Aldrin	ug/L	0.051 U	0.051 U	0.054 UJ	0.052 U
Heptachlor epoxide	ug/L	0.051 U	0.051 U	0.054 UJ	0.052 U
Endosulfan I	ug/L	0.051 U	0.051 U	0.054 UJ	0.052 U
Dieldrin	ug/L	0.1 U	0.1 U	0.11 UJ	0.1 U
4,4'-DDE	ug/L	0.1 U	0.1 U	0.11 UJ	0.1 U
Endrin	ug/L	0.1 U	0.1 U	0.11 UJ	0.1 U
Endosulfan II	ug/L	0.1 U	0.1 U	0.11 UJ	0.1 U
4,4'-DDD	ug/L	0.1 U	0.1 U	0.11 UJ	0.1 U
Endosulfan sulfate	ug/L	0.1 U	0.1 U	0.11 UJ	0.1 U
4,4'-DDT	ug/L	0.1 U	0.1 U	0.11 UJ	0.1 U
Methoxychlor	ug/L	0.51 U	0.51 U	0.54 UJ	0.52 U
Endrin ketone	ug/L	0.1 U	0.1 U	0.11 UJ	0.1 U
Endrin aldehyde	ug/L	0.1 U	0.1 U	0.11 UJ	0.1 U
alpha-Chlordane	ug/L	0.051 U	0.051 U	0.054 UJ	0.052 U
gamma-Chlordane	ug/L	0.051 U	0.051 U	0.054 UJ	0.052 U
Toxaphene	ug/L	5.1 U	5.1 U	5.4 UJ	5.2 U
Aroclor-1016	ug/L	1 U	1 U	1.1 UJ	1 U
Aroclor-1221	ug/L	2 U	2 U	2.2 UJ	2.1 U
Aroclor-1232	ug/L	1 U	1 U	1.1 UJ	1 U
Aroclor-1242	ug/L	1 U	1 U	1.1 UJ	1 U
Aroclor-1248	ug/L	1 U	1 U	1.1 UJ	1 U
Aroclor-1254	ug/L	1 U	1 U	1.1 UJ	1 U
Aroclor-1260	ug/L	1 U	1 U	1.1 UJ	1 U
METALS					
Aluminum	ug/L	348	42.8 J	58 J	376
Antimony	ug/L	1.3 U	1.3 U	1.3 U	0.99 U
Arsenic	ug/L	2 U	2 U	2 U	1.5 U
Barium	ug/L	88.7 J	45 J	40 J	34 J
Beryllium	ug/L	0.1 U	0.1 U	0.1 U	0.06 U
Cadmium	ug/L	0.2 U	0.2 U	0.2 U	0.1 U
Calcium	ug/L	95100	109000	112000	113000
Chromium	ug/L	0.58 J	0.4 U	0.4 U	0.51 J
Cobalt	ug/L	0.5 U	0.5 U	0.5 U	0.72 J
Copper	ug/L	0.5 U	0.5 U	0.5 U	0.99 J
Iron	ug/L	1290	1300	1340	1440
Lead	ug/L	0.9 U	0.9 U	0.89 U	0.79 U
Magnesium	ug/L	31100	53500	55100	52600
Manganese	ug/L	377	125	116	166
Mercury	ug/L	0.05 J	0.04 U	0.05 J	0.03 U
Nickel	ug/L	0.7 U	0.7 U	0.7 U	1.6 J
Potassium	ug/L	8760	4530 J	3950 J	4510 J
Selenium	ug/L	2.7 U	2.7 U	2.7 U	1.7 U
Silver	ug/L	0.5 U	0.5 U	0.5 U	0.89 U
Sodium	ug/L	59400	12300	10900	11400
Thallium	ug/L	1.9 U	1.9 U	1.9 U	1.8 J
Vanadium	ug/L	1 J	0.5 U	0.5 U	1.5 J
Zinc	ug/L	6.9 J	3.2 J	2.2 U	4.8 J
Cyanide	ug/L	5 U	5 U	5 U	5 U
OTHER ANALYSES					
Nitrate/Nitrite - Nitrogen	mg/L				
Total Petroleum Hydrocarbons	mg/L	2.2	1.22	0.78	0.4 U
pH	Standard Units	7.4	7.3	7.3	7.6
Conductivity	umhos/cm	1010	700	700	615
Temperature	°C	11.7	11.5	11.5	8.2
Turbidity	NTU	104	6.8	8.6	5.8

SENECA ARMY DEPOT
SEAD-60 ENVIRONMENTAL SITE INSPECTION
SURFACE WATER ANALYSIS RESULTS

	MATRIX	WATER	WATER	WATER	WATER
	LOCATION	SEAD-60	SEAD-60	SEAD-60	SEAD-60
	SAMPLE DATE	04/27/94	04/20/94	04/20/94	04/20/94
	ES ID	SW60-1	SW60-2	SW60-3	SW60-5
	LAB ID	219531	218496	218497	218498
	SDG NUMBER	43626	43626	43626	43626
COMPOUND	UNITS				SW60-3DUP
VOLATILE ORGANICS					
Chloromethane	ug/L	10 U	10 U	10 U	10 U
Bromomethane	ug/L	10 U	10 U	10 U	10 U
Vinyl Chloride	ug/L	10 U	10 U	10 U	10 U
Chloroethane	ug/L	10 U	10 U	10 U	10 U
Methylene Chloride	ug/L	10 U	10 U	10 U	10 U
Acetone	ug/L	10 U	10 U	10 U	10 U
Carbon Disulfide	ug/L	10 U	10 U	10 U	10 U
1,1-Dichloroethene	ug/L	10 U	10 U	10 U	10 U
1,1-Dichloroethane	ug/L	10 U	10 U	10 U	10 U
1,2-Dichloroethene (total)	ug/L	10 U	10 U	10 U	10 U
Chloroform	ug/L	10 U	10 U	10 U	10 U
1,2-Dichloroethane	ug/L	10 U	10 U	10 U	10 U
2-Butanone	ug/L	10 U	10 U	10 U	10 U
1,1,1-Trichloroethane	ug/L	10 U	10 U	10 U	10 U
Carbon Tetrachloride	ug/L	10 U	10 U	10 U	10 U
Bromodichloromethane	ug/L	10 U	10 U	10 U	10 U
1,2-Dichloropropane	ug/L	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene	ug/L	10 U	10 U	10 U	10 U
Trichloroethene	ug/L	10 U	10 U	10 U	10 U
Dibromochloromethane	ug/L	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane	ug/L	10 U	10 U	10 U	10 U
Benzene	ug/L	10 U	10 U	10 U	10 U
trans-1,3-Dichloropropene	ug/L	10 U	10 U	10 U	10 U
Bromoform	ug/L	10 U	10 U	10 U	10 U
4-Methyl-2-Pentanone	ug/L	10 U	10 U	10 U	10 U
2-Hexanone	ug/L	10 U	10 U	10 U	10 U
Tetrachloroethene	ug/L	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	ug/L	10 U	10 U	10 U	10 U
Toluene	ug/L	10 U	10 U	10 U	10 U
Chlorobenzene	ug/L	10 U	10 U	10 U	10 U
Ethylbenzene	ug/L	10 U	10 U	10 U	10 U
Styrene	ug/L	10 U	10 U	10 U	10 U
Xylene (total)	ug/L	10 U	10 U	10 U	10 U
HERBICIDES					
2,4-D	ug/L				
2,4-DB	ug/L				
2,4,5-T	ug/L				
2,4,5-TP (Silvex)	ug/L				
Dalapon	ug/L				
Dicamba	ug/L				
Dichloroprop	ug/L				
Dinoseb	ug/L				
MCPA	ug/L				
MCPP	ug/L				
NITROAROMATICS					
HMX	ug/L				
RDX	ug/L				
1,3,5-Trinitrobenzene	ug/L				
1,3-Dinitrobenzene	ug/L				
Tetryl	ug/L				
2,4,6-Trinitrotoluene	ug/L				
4-amino-2,6-Dinitrotoluene	ug/L				
2-amino-4,6-Dinitrotoluene	ug/L				
2,6-Dinitrotoluene	ug/L				
2,4-Dinitrotoluene	ug/L				

SENECA ARMY DEPOT
SEAD-60 ENVIRONMENTAL SITE INSPECTION
SURFACE WATER ANALYSIS RESULTS

COMPOUND	MATRIX LOCATION SAMPLE DATE ES ID LAB ID SDG NUMBER UNITS	WATER SEAD-60 04/27/94 SW60-1 219531 43626	WATER SEAD-60 04/20/94 SW60-2 218496 43626	WATER SEAD-60 04/20/94 SW60-3 218497 43626	WATER SEAD-60 04/20/94 SW60-5 218498 43626 SW60-3DUP
SEMIVOLATILE ORGANICS					
Phenol	ug/L	10 U	12 U	11 U	11 U
bis(2-Chloroethyl) ether	ug/L	10 U	12 U	11 U	11 U
2-Chlorophenol	ug/L	10 U	12 U	11 U	11 U
1,3-Dichlorobenzene	ug/L	10 U	12 U	11 U	11 U
1,4-Dichlorobenzene	ug/L	10 U	12 U	11 U	11 U
1,2-Dichlorobenzene	ug/L	10 U	12 U	11 U	11 U
2-Methylphenol	ug/L	10 U	12 U	11 U	11 U
2,2'-oxybis(1-Chloropropane)	ug/L	10 U	12 U	11 U	11 U
4-Methylphenol	ug/L	10 U	12 U	11 U	11 U
N-Nitroso-di-n-propylamine	ug/L	10 U	12 U	11 U	11 U
Hexachloroethane	ug/L	10 U	12 U	11 U	11 U
Nitrobenzene	ug/L	10 U	12 U	11 U	11 U
Isophorone	ug/L	10 U	12 U	11 U	11 U
2-Nitrophenol	ug/L	10 U	12 U	11 U	11 U
2,4-Dimethylphenol	ug/L	10 U	12 U	11 U	11 U
bis(2-Chloroethoxy) methane	ug/L	10 U	12 U	11 U	11 U
2,4-Dichlorophenol	ug/L	10 U	12 U	11 U	11 U
1,2,4-Trichlorobenzene	ug/L	10 U	12 U	11 U	11 U
Naphthalene	ug/L	10 U	12 U	11 U	11 U
4-Chloroaniline	ug/L	10 U	12 U	11 U	11 U
Hexachlorobutadiene	ug/L	10 U	12 U	11 U	11 U
4-Chloro-3-methylphenol	ug/L	10 U	12 U	11 U	11 U
2-Methylnaphthalene	ug/L	10 U	12 U	11 U	11 U
Hexachlorocyclopentadiene	ug/L	10 U	12 U	11 U	11 U
2,4,6-Trichlorophenol	ug/L	10 U	12 U	11 U	11 U
2,4,5-Trichlorophenol	ug/L	26 U	29 U	29 U	27 U
2-Chloronaphthalene	ug/L	10 U	12 U	11 U	11 U
2-Nitroaniline	ug/L	26 U	29 U	29 U	27 U
Dimethylphthalate	ug/L	10 U	12 U	11 U	11 U
Acenaphthylene	ug/L	10 U	12 U	11 U	11 U
2,6-Dinitrotoluene	ug/L	10 U	12 U	11 U	11 U
3-Nitroaniline	ug/L	26 U	29 U	29 U	27 U
Acenaphthene	ug/L	10 U	12 U	11 U	11 U
2,4-Dinitrophenol	ug/L	26 U	29 U	29 U	27 U
4-Nitrophenol	ug/L	26 U	29 U	29 U	27 U
Dibenzofuran	ug/L	10 U	12 U	11 U	11 U
2,4-Dinitrotoluene	ug/L	10 U	12 U	11 U	11 U
Diethylphthalate	ug/L	10 U	12 U	11 U	11 U
4-Chlorophenyl-phenylether	ug/L	10 U	12 U	11 U	11 U
Fluorene	ug/L	10 U	12 U	11 U	11 U
4-Nitroaniline	ug/L	26 U	29 U	29 U	27 U
4,6-Dinitro-2-methylphenol	ug/L	26 U	29 U	29 U	27 U
N-Nitrosodiphenylamine	ug/L	10 U	12 U	11 U	11 U
4-Bromophenyl-phenylether	ug/L	10 U	12 U	11 U	11 U
Hexachlorobenzene	ug/L	10 U	12 U	11 U	11 U
Pentachlorophenol	ug/L	26 U	29 U	29 U	27 U
Phenanthrene	ug/L	10 U	12 U	11 U	11 U
Anthracene	ug/L	10 U	12 U	11 U	11 U
Carbazole	ug/L	10 U	12 U	11 U	11 U
Di-n-butylphthalate	ug/L	10 U	12 U	11 U	11 U
Fluoranthene	ug/L	10 U	12 U	11 U	11 U
Pyrene	ug/L	10 U	12 U	11 U	11 U
Butylbenzylphthalate	ug/L	10 U	12 U	11 U	11 U
3,3'-Dichlorobenzidine	ug/L	10 U	12 U	11 U	11 U
Benzo(a)anthracene	ug/L	10 U	12 U	11 U	11 U
Chrysene	ug/L	10 U	12 U	11 U	11 U
bis(2-Ethylhexyl)phthalate	ug/L	10 U	12 U	11 U	11 U
Di-n-octylphthalate	ug/L	10 U	12 U	11 U	11 U
Benzo(b)fluoranthene	ug/L	10 U	12 U	11 U	11 U
Benzo(k)fluoranthene	ug/L	10 U	12 U	11 U	11 U
Benzo(a)pyrene	ug/L	10 U	12 U	11 U	11 U
Indeno(1,2,3-cd)pyrene	ug/L	10 U	12 U	11 U	11 U
Dibenz(a,h)anthracene	ug/L	10 U	12 U	11 U	11 U
Benzo(g,h,i)perylene	ug/L	10 U	12 U	11 U	11 U

BENECA ARMY DEPOT
SEAD-60 ENVIRONMENTAL SITE INSPECTION
SURFACE WATER ANALYSIS RESULTS

	MATRIX	WATER	WATER	WATER	WATER
	LOCATION	SEAD-60	SEAD-60	SEAD-60	SEAD-60
	SAMPLE DATE	04/27/94	04/20/94	04/20/94	04/20/94
	ES ID	SW60-1	SW60-2	SW60-3	SW60-5
	LAB ID	219531	218496	218497	218498
	SDG NUMBER	43626	43626	43626	43626
COMPOUND	UNITS				SW60-3DUP
PESTICIDES/PCB					
alpha-BHC	ug/L	0.054 U	0.058 U	0.058 U	0.054 U
beta-BHC	ug/L	0.054 U	0.058 U	0.058 U	0.054 U
delta-BHC	ug/L	0.054 U	0.058 U	0.058 U	0.054 U
gamma-BHC (Lindane)	ug/L	0.054 U	0.058 U	0.058 U	0.054 U
Heptachlor	ug/L	0.054 U	0.058 U	0.058 U	0.054 U
Aldrin	ug/L	0.054 U	0.058 U	0.058 U	0.054 U
Heptachlor epoxide	ug/L	0.054 U	0.058 U	0.058 U	0.054 U
Endosulfan I	ug/L	0.054 U	0.058 U	0.058 U	0.054 U
Dieldrin	ug/L	0.11 U	0.12 U	0.12 U	0.11 U
4,4'-DDE	ug/L	0.11 U	0.12 U	0.12 U	0.11 U
Endrin	ug/L	0.11 U	0.12 U	0.12 U	0.11 U
Endosulfan II	ug/L	0.11 U	0.12 U	0.12 U	0.11 U
4,4'-DDD	ug/L	0.11 U	0.12 U	0.12 U	0.11 U
Endosulfan sulfate	ug/L	0.11 U	0.12 U	0.12 U	0.11 U
4,4'-DDT	ug/L	0.11 U	0.12 U	0.12 U	0.11 U
Methoxychlor	ug/L	0.54 U	0.58 U	0.58 U	0.54 U
Endrin ketone	ug/L	0.11 U	0.12 U	0.12 U	0.11 U
Endrin aldehyde	ug/L	0.11 U	0.12 U	0.12 U	0.11 U
alpha-Chlordane	ug/L	0.054 U	0.058 U	0.058 U	0.054 U
gamma-Chlordane	ug/L	0.054 U	0.058 U	0.058 U	0.054 U
Toxaphene	ug/L	5.4 U	5.8 U	5.8 U	5.4 U
Aroclor-1016	ug/L	1.1 U	1.2 U	1.2 U	1.1 U
Aroclor-1221	ug/L	2.2 U	2.3 U	2.3 U	2.1 U
Aroclor-1232	ug/L	1.1 U	1.2 U	1.2 U	1.1 U
Aroclor-1242	ug/L	1.1 U	1.2 U	1.2 U	1.1 U
Aroclor-1248	ug/L	1.1 U	1.2 U	1.2 U	1.1 U
Aroclor-1254	ug/L	1.1 U	1.2 U	1.2 U	1.1 U
Aroclor-1260	ug/L	1.1 U	1.2 U	1.2 U	1.1 U
METALS					
Aluminum	ug/L	35.7 J	259	71 J	93.5 J
Antimony	ug/L	1 U	1 U	0.99 U	0.99 U
Arsenic	ug/L	1.5 U	1.6 J	1.5 U	1.5 U
Barium	ug/L	28.7 J	49.4 J	21.9 J	22.4 J
Beryllium	ug/L	0.08 U	0.08 U	0.08 U	0.08 U
Cadmium	ug/L	0.1 U	0.1 U	0.1 U	0.1 U
Calcium	ug/L	42300	89000	41800	42200
Chromium	ug/L	0.56 J	0.68 J	0.4 U	0.4 U
Cobalt	ug/L	0.6 U	0.6 U	0.59 U	0.59 U
Copper	ug/L	1.7 J	2 J	1.1 J	1.1 J
Iron	ug/L	78 J	453	86.9 J	121
Lead	ug/L	0.8 U	0.8 U	0.79 U	0.79 U
Magnesium	ug/L	8260	22000	8310	8390
Manganese	ug/L	12.5 J	28.5	3.8 J	4.5 J
Mercury	ug/L	0.03 U	0.03 U	0.03 U	0.03 U
Nickel	ug/L	0.98 J	1.8 J	0.59 U	0.83 J
Potassium	ug/L	1060 J	1430 J	643 J	649 J
Selenium	ug/L	1.7 U	1.7 U	1.7 U	1.7 U
Silver	ug/L	0.7 U	0.7 U	0.69 U	0.69 U
Sodium	ug/L	2030 J	53800	2340 J	2410 J
Thallium	ug/L	1.6 U	1.6 U	1.6 U	1.6 U
Vanadium	ug/L	0.7 U	0.85 J	0.69 U	0.69 U
Zinc	ug/L	3 J	3.4 J	6.5 J	9.6 J
Cyanide	ug/L	5 UJ	5 UJ	5 UJ	5 UJ
OTHER ANALYSES					
Nitrate/Nitrite - Nitrogen	mg/L				
Total Petroleum Hydrocarbons	mg/L	0.38 U	0.41 U	0.43 U	0.39 U
pH	Standard Units	8.4	8.7	9.1	9.1
Conductivity	umhos/cm	232	675	180	180
Temperature	°C	23.3	16	10	10
Turbidity	NTU	2.2	5.7	2.4	2.4

SENECA ARMY DEPOT
SEAD-60 ENVIRONMENTAL SITE INSPECTION
SEDIMENT ANALYSIS RESULTS

	MATRIX	SOIL	SOIL	SOIL	SOIL
	LOCATION	SEAD-60	SEAD-60	SEAD-60	SEAD-60
	DEPTH (FEET)	0-0.2	0-0.2	0-0.2	0-0.2
	SAMPLE DATE	04/27/94	04/20/94	04/20/94	04/20/94
	ES ID	SD60-1	SD60-2	SD60-3	SD60-5
	LAB ID	219550	218490	218491	218493
	SDG NUMBER	43663	43663	43663	43663
COMPOUND	UNITS				SD60-3DUP
VOLATILE ORGANICS					
Chloromethane	ug/Kg	16 U	19 U	16 U	15 U
Bromomethane	ug/Kg	16 U	19 U	16 U	15 U
Vinyl Chloride	ug/Kg	16 U	19 U	16 U	15 U
Chloroethane	ug/Kg	16 U	19 U	16 U	15 U
Methylene Chloride	ug/Kg	16 U	19 U	16 U	15 U
Acetone	ug/Kg	16 U	19 U	16 U	15 U
Carbon Disulfide	ug/Kg	16 U	19 U	16 U	15 U
1,1-Dichloroethene	ug/Kg	16 U	19 U	16 U	15 U
1,1-Dichloroethane	ug/Kg	16 U	19 U	16 U	15 U
1,2-Dichloroethene (total)	ug/Kg	16 U	19 U	16 U	15 U
Chloroform	ug/Kg	16 U	3 J	16 U	15 U
1,2-Dichloroethane	ug/Kg	16 U	19 U	16 U	15 U
2-Butanone	ug/Kg	16 U	19 U	16 U	15 U
1,1,1-Trichloroethane	ug/Kg	16 U	19 U	16 U	15 U
Carbon Tetrachloride	ug/Kg	16 U	19 U	16 U	15 U
Bromodichloromethane	ug/Kg	16 U	19 U	16 U	15 U
1,2-Dichloropropane	ug/Kg	16 U	19 U	16 U	15 U
cis-1,3-Dichloropropene	ug/Kg	16 U	19 U	16 U	15 U
Trichloroethene	ug/Kg	16 U	19 U	16 U	15 U
Dibromochloromethane	ug/Kg	16 U	19 U	16 U	15 U
1,1,2-Trichloroethane	ug/Kg	16 U	19 U	16 U	15 U
Benzene	ug/Kg	16 U	19 U	16 U	15 U
trans-1,3-Dichloropropene	ug/Kg	16 U	19 U	16 U	15 U
Bromoform	ug/Kg	16 U	19 U	16 U	15 U
4-Methyl-2-Pentanone	ug/Kg	16 U	19 U	16 U	15 U
2-Hexanone	ug/Kg	16 U	19 U	16 U	15 U
Tetrachloroethene	ug/Kg	16 U	19 U	16 U	15 U
1,1,2,2-Tetrachloroethane	ug/Kg	16 U	19 U	16 U	15 U
Toluene	ug/Kg	16 U	19 U	16 U	15 U
Chlorobenzene	ug/Kg	16 U	19 U	16 U	15 U
Ethylbenzene	ug/Kg	16 U	19 U	16 U	15 U
Styrene	ug/Kg	16 U	19 U	16 U	15 U
Xylene (total)	ug/Kg	16 U	19 U	16 U	15 U
HERBICIDES					
2,4-D	ug/Kg				
2,4-DB	ug/Kg				
2,4,5-T	ug/Kg				
2,4,5-TP (Silvex)	ug/Kg				
Dalapon	ug/Kg				
Dicamba	ug/Kg				
Dichloroprop	ug/Kg				
Dinoseb	ug/Kg				
MCPA	ug/Kg				
MCPP	ug/Kg				
NITROAROMATICS					
HMX	ug/Kg				
RDX	ug/Kg				
1,3,5-Trinitrobenzene	ug/Kg				
1,3-Dinitrobenzene	ug/Kg				
Tetryl	ug/Kg				
2,4,6-Trinitrotoluene	ug/Kg				
4-amino-2,6-Dinitrotoluene	ug/Kg				
2-amino-4,6-Dinitrotoluene	ug/Kg				
2,6-Dinitrotoluene	ug/Kg				
2,4-Dinitrotoluene	ug/Kg				

SENECA ARMY DEPOT
SEAD-60 ENVIRONMENTAL SITE INSPECTION
SEDIMENT ANALYSIS RESULTS

COMPOUND	MATRIX / LOCATION / DEPTH (FEET) / SAMPLE DATE / ES ID / LAB ID / SDG NUMBER	UNITS	SOIL SEAD-60 0-0.2 04/27/94 SD60-1 219550 43663	SOIL SEAD-60 0-0.2 04/20/94 SD60-2 218490 43663	SOIL SEAD-60 0-0.2 04/20/94 SD60-3 218491 43663	SOIL SEAD-60 0-0.2 04/20/94 SD60-5 218493 43663 SD60-3DUP
SEMIVOLATILE ORGANICS						
Phenol		ug/Kg	580 U	650 U	550 U	520 U
bis(2-Chloroethyl) ether		ug/Kg	580 U	650 U	550 U	520 U
2-Chlorophenol		ug/Kg	580 U	650 U	550 U	520 U
1,3-Dichlorobenzene		ug/Kg	580 U	650 U	550 U	520 U
1,4-Dichlorobenzene		ug/Kg	580 U	650 U	550 U	520 U
1,2-Dichlorobenzene		ug/Kg	580 U	650 U	550 U	520 U
2-Methylphenol		ug/Kg	580 U	650 U	550 U	520 U
2,2'-oxybis(1-Chloropropane)		ug/Kg	580 U	650 U	550 U	520 U
4-Methylphenol		ug/Kg	580 U	650 U	550 U	520 U
N-Nitroso-di-n-propylamine		ug/Kg	580 U	650 U	550 U	520 U
Hexachloroethane		ug/Kg	580 U	650 U	550 U	520 U
Nitrobenzene		ug/Kg	580 U	650 U	550 U	520 U
Isophorone		ug/Kg	580 U	650 U	550 U	520 U
2-Nitrophenol		ug/Kg	580 U	650 U	550 U	520 U
2,4-Dimethylphenol		ug/Kg	580 U	650 U	550 U	520 U
bis(2-Chloroethoxy) methane		ug/Kg	580 U	650 U	550 U	520 U
2,4-Dichlorophenol		ug/Kg	580 U	650 U	550 U	520 U
1,2,4-Trichlorobenzene		ug/Kg	580 U	650 U	550 U	520 U
Naphthalene		ug/Kg	580 U	650 U	550 U	520 U
4-Chloroaniline		ug/Kg	580 U	650 U	550 U	520 U
Hexachlorobutadiene		ug/Kg	580 U	650 U	550 U	520 U
4-Chloro-3-methylphenol		ug/Kg	580 U	650 U	550 U	520 U
2-Methylnaphthalene		ug/Kg	580 U	650 U	550 U	520 U
Hexachlorocyclopentadiene		ug/Kg	580 U	650 U	550 U	520 U
2,4,6-Trichlorophenol		ug/Kg	580 U	650 U	550 U	520 U
2,4,5-Trichlorophenol		ug/Kg	1400 U	1600 U	1300 U	1300 U
2-Chloronaphthalene		ug/Kg	580 U	650 U	550 U	520 U
2-Nitroaniline		ug/Kg	1400 U	1600 U	1300 U	1300 U
Dimethylphthalate		ug/Kg	580 U	650 U	550 U	520 U
Acenaphthylene		ug/Kg	580 U	650 U	550 U	520 U
2,6-Dinitrotoluene		ug/Kg	580 U	650 U	550 U	520 U
3-Nitroaniline		ug/Kg	1400 U	1600 U	1300 U	1300 U
Acenaphthene		ug/Kg	580 U	650 U	550 U	520 U
2,4-Dinitrophenol		ug/Kg	1400 U	1600 U	1300 U	1300 U
4-Nitrophenol		ug/Kg	1400 U	1600 U	1300 U	1300 U
Dibenzofuran		ug/Kg	580 U	650 U	550 U	520 U
2,4-Dinitrotoluene		ug/Kg	580 U	650 U	550 U	520 U
Diethylphthalate		ug/Kg	580 U	650 U	550 U	520 U
4-Chlorophenyl-phenyl ether		ug/Kg	580 U	650 U	550 U	520 U
Fluorene		ug/Kg	580 U	650 U	550 U	520 U
4-Nitroaniline		ug/Kg	1400 U	1600 U	1300 U	1300 U
4,6-Dinitro-2-methylphenol		ug/Kg	1400 U	1600 U	1300 U	1300 U
N-Nitrosodiphenylamine		ug/Kg	580 U	650 U	550 U	520 U
4-Bromophenyl-phenyl ether		ug/Kg	580 U	650 U	550 U	520 U
Hexachlorobenzene		ug/Kg	580 U	650 U	550 U	520 U
Pentachlorophenol		ug/Kg	1400 U	1600 U	1300 U	1300 U
Phenanthrene		ug/Kg	580 U	83 J	70 J	57 J
Anthracene		ug/Kg	580 U	650 U	550 U	520 U
Carbazole		ug/Kg	580 U	650 U	550 U	520 U
Di-n-butylphthalate		ug/Kg	580 U	650 U	550 U	520 U
Fluoranthene		ug/Kg	580 U	160 J	200 J	160 J
Pyrene		ug/Kg	580 U	190 J	250 J	180 J
Butylbenzylphthalate		ug/Kg	580 U	650 U	550 U	520 U
3,3'-Dichlorobenzidine		ug/Kg	580 U	650 U	550 U	520 U
Benzo(a)anthracene		ug/Kg	580 U	56 J	68 J	51 J
Chrysene		ug/Kg	580 U	130 J	160 J	130 J
bis(2-Ethylhexyl)phthalate		ug/Kg	110 J	1100	75 J	53 J
Di-n-octylphthalate		ug/Kg	580 U	650 U	550 U	520 U
Benzo(b)fluoranthene		ug/Kg	580 U	120 J	120 J	90 J
Benzo(k)fluoranthene		ug/Kg	580 U	87 J	97 J	92 J
Benzo(a)pyrene		ug/Kg	580 U	79 J	84 J	59 J
Indeno(1,2,3-cd)pyrene		ug/Kg	580 U	68 J	57 J	48 J
Dibenz(a,h)anthracene		ug/Kg	580 U	650 U	550 U	520 U
Benzo(g,h,i)perylene		ug/Kg	580 U	93 J	87 J	54 J

SENECA ARMY DEPOT
SEAD-60 ENVIRONMENTAL SITE INSPECTION
SEDIMENT ANALYSIS RESULTS

	MATRIX	SOIL	SOIL	SOIL	SOIL
	LOCATION	SEAD-60	SEAD-60	SEAD-60	SEAD-60
	DEPTH (FEET)	0-0.2	0-0.2	0-0.2	0-0.2
	SAMPLE DATE	04/27/94	04/20/94	04/20/94	04/20/94
	ES ID	SD60-1	SD60-2	SD60-3	SD60-5
	LAB ID	219550	218490	218491	218493
	SDG NUMBER	43663	43663	43663	43663
COMPOUND	UNITS				SD60-3DUP
PESTICIDES/PCB					
alpha-BHC	ug/Kg	3 U	3.3 U	2.8 U	2.7 U
beta-BHC	ug/Kg	3 U	3.3 U	2.8 U	2.7 U
delta-BHC	ug/Kg	3 U	3.3 U	2.8 U	2.7 U
gamma-BHC (Lindane)	ug/Kg	3 U	3.3 U	2.8 U	2.7 U
Heptachlor	ug/Kg	3 U	3.3 U	2.8 U	2.7 U
Aldrin	ug/Kg	3 U	3.3 U	2.8 U	2.7 U
Heptachlor epoxide	ug/Kg	3 U	3.3 U	2.8 U	2.7 U
Endosulfan I	ug/Kg	3 U	3.3 U	2.1 J	1.8 J
Dieldrin	ug/Kg	5.8 U	6.5 U	5.5 U	5.2 U
4,4'-DDE	ug/Kg	5.8 U	6.5 U	5.4 J	5 J
Endrin	ug/Kg	5.8 U	6.5 U	5.5 U	5.2 U
Endosulfan II	ug/Kg	5.8 U	6.5 U	5.5 U	5.2 U
4,4'-DDD	ug/Kg	5.8 U	6.5 U	5.5 U	5.2 U
Endosulfan sulfate	ug/Kg	5.8 U	6.5 U	5.5 U	5.2 U
4,4'-DDT	ug/Kg	5.8 U	6.5 U	2.7 J	3.4 J
Methoxychlor	ug/Kg	30 U	33 U	28 U	27 U
Endrin ketone	ug/Kg	5.8 U	6.5 U	5.5 U	5.2 U
Endrin aldehyde	ug/Kg	5.8 U	6.5 U	5.5 U	5.2 U
alpha-Chlordane	ug/Kg	3 U	3.3 U	1.9 J	2.7 U
gamma-Chlordane	ug/Kg	3 U	3.3 U	2.8 U	2.7 U
Toxaphene	ug/Kg	300 U	330 U	280 U	270 U
Aroclor-1016	ug/Kg	58 U	65 U	55 U	52 U
Aroclor-1221	ug/Kg	120 U	130 U	110 U	110 U
Aroclor-1232	ug/Kg	58 U	65 U	55 U	52 U
Aroclor-1242	ug/Kg	58 U	65 U	55 U	52 U
Aroclor-1248	ug/Kg	58 U	65 U	55 U	52 U
Aroclor-1254	ug/Kg	58 U	65 U	55 U	52 U
Aroclor-1260	ug/Kg	58 U	65 U	55 U	52 U
METALS					
Aluminum	mg/Kg	12700	10700	5470	2940
Antimony	mg/Kg	0.28 UJ	0.24 UJ	0.28 UJ	0.32 UJ
Arsenic	mg/Kg	4.8	3.6	3.7	2.9 J
Barium	mg/Kg	97.6	80.3	46.5 J	23.5 J
Beryllium	mg/Kg	0.62 J	0.54 J	0.35 J	0.21 J
Cadmium	mg/Kg	0.34 J	0.44 J	0.25 J	0.13 J
Calcium	mg/Kg	3760	21300	93000	227000
Chromium	mg/Kg	19.5	17.5	9	4.8
Cobalt	mg/Kg	9.6 J	8.2 J	6.7 J	3.3 J
Copper	mg/Kg	14.2	21.1	12.5	7.7 J
Iron	mg/Kg	25000	22000	12700	6580
Lead	mg/Kg	13.9	24.6	9.1	3.5
Magnesium	mg/Kg	4370	7490	8380	3770
Manganese	mg/Kg	487 J	282 J	509 J	292 J
Mercury	mg/Kg	0.05 J R	0.04 J R	0.02 U	0.03 J
Nickel	mg/Kg	27.2	26.7	16.2	9.2 J
Potassium	mg/Kg	1610	1190 J	966 J	765 J
Selenium	mg/Kg	0.48 U	0.41 U	0.48 U	0.54 U
Silver	mg/Kg	0.2 U	0.17 U	0.2 U	0.22 U
Sodium	mg/Kg	45 U	134 J	67.3 J	91 J
Thallium	mg/Kg	0.45 U	0.55 J	0.46 U	0.51 U
Vanadium	mg/Kg	23.9	19.2	11.1 J	6.6 J
Zinc	mg/Kg	93.5	88.1	101	48.6
Cyanide	mg/Kg	0.63 U	0.84 U	3.3	2.1
OTHER ANALYSES					
Nitrate/Nitrite-Nitrogen	mg/Kg				
Total Petroleum Hydrocarbons	mg/Kg	40 U	149	44 U	48 U
Total Solids	%W/W	56.8	50.7	60.5	62.8

APPENDIX E:

Response to Regulatory Agency Comments:
NO FURTHER ACTION SITES REPORT

Response to Comments
by
US Environmental Protection Agency, Region 2
for Draft Decision Document
Twenty-Six Low/No Further Action Sites
SEAD 1, 2, 7, 10, 18, 19, 20, 21, 22, 29, 30, 31, 32, 35,
36, 37, 42, 47, 49, 51, 53, 55, 60, 61, 65, 70 and 72
Seneca Army Depot Activity
Romulus, New York
May 17, 2001

In reference to the above subject document dated November 1999. EPA reviewed the document and offers the following comments.

GENERAL COMMENTS:

Comment:

1. There seems to be a typographical error on the number for the first figure of Chapter 2. Referenced Figure 2-1 cannot be found in the document. Please include more specific maps for the different areas (i.e.. North End, PID, Warehouse, Q, etc.).

Response:

Agree. The typographical error has been corrected. Additional figures are being added to the document per your request.

Comment:

2. EPA acknowledges the application of RCRA permit regulations for SEADs-01 and 02, and Clean Water Act requirements implemented by NYSDEC SPDES Program for SEADs-20 and 22. The Army's recommendation of no further action under CERCLA seems to be appropriate for these sites.

Response:

No response necessary.

Comment:

3. Please note that some sites related to the North End Property were addressed under a separate cover letter dated January 10, 2000 regarding the North End Property Finding of Suitability to Transfer (FOST). Those sites are SEADs-07, 18, 21, 29, 32, 35, and 61.

Response:

No response necessary.

Comment:

4. SEAD-60 was addressed under our review of the Prison FOST dated May 15, 2000.

Response:

No response necessary.

Comment:

5. Other sites that EPA agrees with a NFA recommendation are SEAD-30, 31, 49, 53, 55, and 65.

Response:

No response necessary.

Comment:

6. The Specific Comments below refer to several sites that require additional documentation to support a No Further Action (NFA) recommendation

SPECIFIC COMMENTS

Comment 1:

Page 2-5. Section 2.2.2: The second paragraph omits discussion of the fourth wall of this building. Revise text to indicate that the fourth side of the building is completely unbounded.

Response:

Agree. The absence of any loading dock on the fourth side of the building has been added to the description.

Comment 2:

Page 2-6. Section 2.2.3: Details regarding the four soil samples collected during the upgrade of the floor in 1986 are missing from the text. Figure 2.3 does not show sample locations, nor does it provide a cardinal directional arrow to relate the sample locations in Table 2-1 to the building corners. No topographic information is provided to determine which of the collected samples are furthest downgradient. Furthermore, relevant information regarding samples collection (i.e., by hand, with a trowel, Geoprobe®), depth, and method used was not provided. Were the samples collected outside the corners of the building or were they collected from directly beneath the pad? Additional information is needed.

Response:

All available information from the sampling event has been presented in the Decision Document. Additional data may be collected as part of the future closure of this facility under RCRA.

Comment 3:

Page 2-9. Section 2.3.1: The text does not indicate the estimated depth of materials in this landfill. This information is important, because, while the text states that excavation at the Shale Pit was terminated before the water table was encountered, other documents related to Seneca Army Depot indicate that the water table is within 4 to 6 feet of the surface, which is relatively shallow. Provide the depth of waste.

Response:

Based on a photograph that was provided in the SWMU Classification Report, the depth of the shale pit is estimated to be approximately four feet deep. As the description of the shale pit landfill indicates, the excavation of shale was terminated before the groundwater table was intercepted or breached. Therefore, construction debris was not placed such that it intersected the groundwater table.

Comment 4:

Page 2-10. Section 2.4.3: The results of the TCLP analyses show a pH of 12.4 in Appendix A, page 4. Please provide an explanation for such a high number.

Response:

The laboratory analysis of a sample of wood ash collected in September of 1992 shows a pH of 12.4. The same sample was analyzed for corrosivity and the results were negative. The unusual pH is probably due to the high percentage of Calcium Oxide (Lime) found in wood ash.

Comment 5:

Page 2-13. Section 2.5.3 & Page 2-14. Section 2.6.4: Closure needs to be documented. Additional information is needed.

Response:

All available information regarding these two units has been provided.

Comment 6:

Page 2-19. Section 2.10.2: Provide better documentation that confirmation samples were collected following tank removal and following surface soil removal.

Response:

The tank (SEAD-29) was removed by the Army's internal storage tank removal team. Data collected during the removal operation is not available.

Comment 7:

Page 2-23. Section 2.14.2: It is not clear from this paragraph when use of the boilers at this site was discontinued. The text in this section and in Section 2.14.5 states that they were not used after 1989, but later indicates that they were used until 1996 when Building 718 was shut down. Clarification is needed.

Response:

The text has been revised to indicate that a waste oil/number 6 fuel oil mixture was burned in the boilers in SEAD-35 between 1982 and 1989. After 1989, only number 6 fuel oil without waste oil additives was burned in the boilers. The change of fuel resulted from problems that were encountered in properly balancing oil mixture to achieve good combustion conditions.

Comment 8:

Page 2-25, Section 2.15.5: It is unclear whether all three boilers currently burn Number 6 fuel oil, or only the two that previously burned waste oil. Clarification is needed. Item #2 of the current justification section implies that these boilers are no longer in use, which is not the case. Revise the justification to indicate that these boilers are still in use at the site to burn Number 6 fuel oil.

Response:

The text has been revised to show that only two boilers in SEAD-36 were used to burn waste oil/oil mixtures. The text of Justification Item #2 has been changed to indicate that the two oil-fired boilers remain functional today, but that they only burn Number 6 fuel oil.

Comment 9:

Page 2-26, Section 2.16.5: Item #2 of the current justification section implies that these boilers are no longer in use, which is not the case. Revise the justification to indicate that these boilers are still in use at the site to burn Number 6 fuel oil.

Response:

The text has been revised to indicate that the boilers in SEAD-37 are still operational and that they only fire Number 6 fuel oil.

Comment 10:

Page 2-26, Section 2.17.2: According to Figure 2-5, the Preventative Maintenance Laboratory was located in the northwest portion of Building 106, not the northeast, as indicated in the text in this section. The Clinical Analyses laboratory would then be located southeast of the Preventative Maintenance Laboratory.

Response:

The identified changes in the text have been made.

Comment 11:

Page 2-28, Section 2.17.5: As stated in Item #2, the "exact nature and location of operations conducted in the facility remain uncertain," the SI should be provided as an appendix. In addition, the sewer system used in this building is not documented. Wastes from the laboratory, such as solvents could have been disposed of through building drains. A break in a clay sewer line, for example, would be a release of CERCLA hazardous substances. Provide documentation regarding the drainage

system used in this laboratory and documentation of any releases. If appropriate, manholes located near the building should be sampled.

Response:

There is no documentation indicating that any release ever occurred in this facility. The suggestion that a break in a clay sewer line could have resulted in a release of waste is nothing more than supposition, as it is not based on any available information.

Comment 12:

Page 2-29, Section 2.18.6: The NFA recommendation is not appropriate for the Building 321 portion of SEAD-47. The text does not present any data from radiological screening investigations in this building. Considering the types of radionuclides that are known to have been in storage at the facility (Co-60, U-235, Ra-226, Sr/Y-90. and p- 239), the recent time period in which these materials are known to have been present in the building (1997/1998), and that other portions of the Depot show evidence of residual radiological contamination, a screening investigation should be completed at this building.

Response:

As the name of this SEAD implies, both of these buildings were used to store radiation calibration sources and not waste. There is no data to indicate that releases ever occurred in either of these facilities. Both of these facilities will eventually be surveyed as part of the close-out of SEDA's NRC license. Additionally, since Building 806 is located within SEAD-12 it will be (has been) surveyed as part of the continuing investigation of SEAD-12 buildings. Therefore, the Army contends that both of these facilities warrant a determination of No Further Action under CERCLA as additional surveys and close-out activities will be completed under other regulatory programs.

Comment 13:

Page 2-33, Section 2.20.3: Appendix C shows that the NYSDEC did not consider the 1983 monitoring program to be adequate because of the limited number of herbicides that were included in the analysis. The NYSDEC indicated that many other herbicides were used at the base, including bromacil, arsenal, roundup (glyphosate), tordon 10K (picloram), simiazine, 80W, borocil iv, and dioxin. The limited analyses that were performed (2,4-D, 2,4,5-T, and silex) provided the basis for the NYSDEC to recommend classification of SEAD-51 as an Area of Concern {AOC). It does not appear as though the Depot has performed any sampling at the site in addition to that from 1983; Therefore, any residue that may have been present in the site soils from other herbicides may still be present and may present unacceptable risks. Additional sampling should be planned. Also, given the future land use for this site as conservation/recreational, discuss the ecological-based criteria.

Response:

The Army is not considering collection and analysis of additional soil samples from SEAD-51. Licensed personnel applied herbicides at SEAD-51. Furthermore, commercial products were used in accordance with their intended purpose; therefore, it is the Army's contention that residues of commercial herbicides, used in accordance with their intended purpose, are exempt from regulation. Furthermore, existing data collected from SEAD-51 and reported to the agencies in prior reports show that residues of 2,4-D and 2,4,5-T are below EPA health based and TAGM criteria.

Comment 14:

Page 2-37, Section 2.23.3: The text in this section indicates that analytical data for the samples collected from this spill site are contained in Appendix E. However, this appendix contains only results for surface water and sediment samples collected at SEAD-60. All data should be provided. However, this does not affect the NFA recommendation for the site, which is appropriate.

Response:

Agree. Soil and groundwater sampling data obtained in SEAD-60 have been added to Appendix E.

Comment 15:

Page 2-44, Section 2.26.3: The interoffice memo from Gary Baker that is referred to as located in Appendix B is actually located in Appendix C. This memo indicates that Building 803 stored primarily radioactive materials and waste. The memo makes mention of the radiological surveys that were performed at several buildings, including Building 803. However, no data from Building 803 appears in this memo and its attached tables. The data addresses Buildings 324, 356, and 357 and igloos E0802, E0804, E0806, and EO809. Therefore, the source of the data in Table 2.5 is unclear. The text also states that results from the wipe samples are in Appendix F. However, these wipe samples are combined with samples collected at Building 806, and they are listed by Parsons sample ID, so it is not possible to determine which samples are from Building 803. These points must be clarified in the Final Decision Document; however, they do not impact the recommendation of NFA for SEAD-72, which is a appropriate because the site will be investigated as part of SEAD-12. This fact should be included as a justification in Section 2.26.6.

Response:

Agree. During the reproduction of the report, page 4 of Gary Baker's memorandum was inadvertently omitted and not copied. This is the page that contains his findings from the 1993 survey of Building 803.

The data presented in Table 2-5 was obtained as part of the ongoing SEAD-12 investigation. The data summarized in Table 2-5 appear on Page 4 of the faxed copy of the memorandum from Patrick Kuykendall to the Commander of the Seneca Army Depot dated January 20, 1999 that is provided in Appendix F. Sample coding used e.g., "803D1" includes information on the building number, i.e., 803, and the sample location within the building i.e., D1, drain 1. Refer to Figure 2.6 for additional information regarding sample locations.

These data are provided in this document to further substantiate the Army's position that no residual radiological contamination is found in this building. These data will be more fully presented and discussed in forthcoming reports issued to document and substantiate the findings of the SEAD-12 investigations.

Response To Comments
By
New York State Department of
Environmental Conservation (NYSDEC)
For Draft-Final Decision Document
Twenty-Six Low/No Further Action Sites

SEAD 1, 2, 7, 10, 18, 19, 20, 21, 22, 29, 30, 31, 32, 35, 36, 37, 42, 47, 49, 51, 53, 55, 60, 61, 65, 70 and 72

Seneca Army Depot Activity
Romulus, New York
June 25, 2001

The New York State Department of Environmental Conservation (NYSDEC) have completed a review of the report titled Draft Decision Document, Twenty Six Low/No-Further Action Sites. As you are aware, we previously reviewed those portions of this report which discuss areas involved, or potentially involved, in the North Depot Area property transfer and forwarded the comments on those sites to SEDA on January 4, 2000. Please find below our comments for the remainder of the report.

Comment #1:

SEAD-01: Building 307 - Hazardous Waste Container Storage Facility: We concur that this area may be considered a No Further Action SWMU with the understanding that closure of this facility will be performed at a later date in accordance with the applicable RCRA regulations under DEC's regulatory oversight and approval.

Response:

Agree. No change to the text or response is necessary.

Comment #2:

SEAD-02: Building 301 - PCB Transformer Storage Facility: We concur that this area may be considered a No Further Action SWMU with the understanding that closure of this facility will be performed at a later date in accordance with applicable RCRA regulations under DEC's regulatory oversight and approval.

Response:

Agree. No change to the text or response is necessary.

Comment #3:

SEAD-29 - Building 732 - Underground Waste Oil Tank: Although comments on this SEAD were included in our January 4, 2000 letter commenting on the North Depot Area SWMUs, further review has identified an additional concern, viz., the tank designation in Section 2.10.3 of this report is incorrect. New York State's tank designation for this unit is 8-416118-059. Throughout the

Decision Document report tank identification numbers should be checked for accuracy, as "8-416118-" is repeatedly written as "8-416418-"

Response:

Agree. Tank designations for Seneca Army Depot have been corrected throughout the Decision Document text to ensure that the proper Agency Id number prefix (i.e., 8-416118-) has been used.

Comment #4:

SEAD-31 - Building 117 - Underground Waste Oil Tank: Section 2.12.3 of the report states that the tank designation for this tank is 8-416418-025. Although we believe that the report is in error as it identifies the facility number (the digits between the hyphens in this ID should read 416118), this simple correction would still not correctly identify the tank described in this section. The tank identified by New York State with ID # 8-416118-025 (tank 25 at the depot) was a 20,000-gallon underground tank now removed. The identification number offered in this section of the report should be checked for accuracy.

Response:

Disagree. The Army indicates that the correct tank number for this tank was 025. SEDA personnel indicate that tank identification numbers are frequently reused once a tank has been removed. The identified tank was removed on October 7, 1999. At the time of removal, the tank designated as 8-416118-025 was a 2005-gallon fiberglass tank used for the storage of waste oil. Therefore, the identification number for this tank should be 8-416118-025, and this number has been inserted into the text.

Comment #5:

SEAD-32 - Building 718 - Underground Waste Oil Tanks: Although comments on this SEAD were included in our January 4, 2000 letter commenting on the North Depot Area SWMUs, further review has identified additional information. The New York State identification numbers for these tanks, stated as being not available in this section, are probably 8-416118-194 for Tank A and 8-416118-195 for Tank B. These identification numbers should be checked and if correct, included in this report.

Response:

Agree. The text provided for SEAD-32 has been revised to show that Tank A, a 40,000-gallon No.6 fuel oil tank is identified by the state as 8-416118-194, and Tank B, a 20,000-gallon No.6 fuel oil tank, is identified by the state as 8-416118-195.

Comment #6:

SEAD-47 - Buildings 321 and 806 - Radiation Calibration Source Area: The report apparently uses data generated during the yet uncompleted investigation at SEAD-12 to support the determination that this site should be a No Further Action SWMU. The regulatory agencies have not yet received the necessary supporting data (e.g. location and method of samples, data validation, analysis, etc...), and thus we cannot accept at this time that the data is valid and complete to support

SEDA's determination. It is premature to designate this site as "No Further Action" before the completion of the SEAD-12 Remedial Investigation.

Response:

Disagree. In the SRC meeting minutes of September 25, 1992, the NYSDEC agreed that SEAD-47 should be classified as a "No Action" site. The comment received indicates that the NYSDEC is reversing its prior position, and rescinding its prior approval. Available data does not support this reversal of position. Both of these facilities were used to storage radiation calibration sources and not waste materials. No data is available to suggest that any release has occurred in either of these buildings. Existing data collected from Building 806 substantiate the Army's contention that Building 806 warrants no further action. These data have been provided in their current state (i.e., as draft material) to substantiate the Army's "No Further Action" determination. If new data is collected under the continuing investigation of SEAD-12 that indicates that actions are necessary in Building 806 or any other building, such actions will be taken under that effort. Building 321 will be surveyed as part of SEDA's final close-out of its NRC license. If findings of that permits close-out indicate that actions are warranted, they will be implemented under the NRC's review and oversight.

Comment #7:

SEAD-51 - Herbicide Usage - Perimeter of High Security Area: Section 51.9 of the SWMU Classification Report states that the NYSDEC and the Army agreed that "as long as the land use does not change no limited sampling is required". Now the base is closing, and the land use will be changing, is limited sampling of SEAD-51 being planned by SEDA?

Response:

The Army is not considering collection and analysis of additional soil samples from SEAD-51. Herbicides were applied at SEAD-51 by licensed personnel. Furthermore, commercial products were used in accordance with their intended purpose; therefore, it is the Army's contention that residues of commercial herbicides, used in accordance with their intended purpose, are exempt from regulation. Furthermore, existing data collected from SEAD-51 and reported to the agencies in prior reports show that residues of 2,4-D and 2,4,5-T are below EPA health based and TAGM criteria.

Comment #8

SEAD-53 - Munitions Storage Igloos: The State has reservations about designating several hundred munitions storage igloos as "No Further Action" based on the limited information provided. We request that SEAD-53 be removed from this report and discussed individually so that its status is determined with the necessary examination.

Response:

Disagree. The Army has no plans to sample the Munitions Storage Igloos at Seneca Army Depot. The igloos were used to store ordnance and military materials, and at the time of their storage, these materials were not wastes. Some of the stored materials were subsequently used for their intended purpose. Some of the stored materials were subsequently moved to locations away from Seneca where they are still being stored in anticipation of future use. Finally, some of the materials stored in

the igloos at SEDA, were moved to other locations at the depot where they were demilitarized and destroyed.

The Army contends that storage of ordnance and military materials in anticipation of potential use precludes them from being classified as waste. Thus, the storage igloos are not a waste storage unit.

Comment #9:

SEAD-55 - Building 357 - Tannin Storage: Please clarify the comment "[t]his area is not regulated by any current permit number other than NYSDEC Division 8" Assuming that the author meant to write NYSDEC Region 8, the meaning of the comment remains unclear.

Response:

The text has been changed to state "Use of this area is not currently, and was not historically, specifically constrained by conditions or stipulations identified in environmental permits issued for SEDA."

Comment #10:

SEAD-60 -Oil Discharge Adjacent to Building 609: The report should clarify that the "removal action" performed at this site was actually a clean-up performed under the oversight of the NYSDEC Region 8 Spill Prevention & Response unit. The groundwater results should be included in Appendix E. The report should note what actions are proposed to locate the source of up gradient groundwater contamination.

Response:

The text has been revised to include the NYSDEC Region 8 Spill Prevention and Response Unit and oversight of the removal action. Results from the groundwater sampling have been provided in Appendix E. The Army is not planning any additional sampling and analysis in the area up-gradient of SEAD-60 since none of the measured groundwater concentrations exceed groundwater quality standards.

Comment #11:

SEAD-72 - Building 803 - Mixed Waste Storage Facility: The report apparently uses data generated during the yet uncompleted investigation at SEAD-12 to support the determination that this site should be a "No Further Action" SWMU. It is premature to designate this site as "No Further Action" before the completion of the SEAD-12 Remedial Investigation. Also note on Figure 2.6 should be checked; if the half drawing is in half scale, wouldn't the scale in the example double to 1"=8'-0"

Response:

Personnel of the New York State Department of Health (NYSDEC) and the New York State Department of Environmental Conservation (NYSDEC) conducted site surveys and radiological monitoring in several buildings at Seneca Army Depot on June 10, 1993. At this time a limited

radiological assessment of Building 803 was performed. An Interoffice Memorandum prepared by Gary Baker, Principal Radiological Health Specialist, Bureau Environmental Radiation Protection to William Condon, Chief of the same bureau was prepared and transmitted on September 7, 1993. The results of this assessment are provided as an appendix to the No Further Action Decision Document. In this memorandum the following statement appears.

"With the exception of igloo EO804 and one hot spot in E0808 which showed elevated readings, no significant deviations from background were noted in the buildings and storage igloos."

Additionally, the following statement appears subsequently in the memorandum.

"Building 803 – SEAD 72 Readings inside and outside were generally in the background range except on waste drums and radioactive materials containers. The building is still in use. – 10-11 uR/hr; 20 cpm beta inside and outside – drains were sealed to prevent releases to the outside."

Furthermore, since Building 803, the Mixed Waste Storage Facility, was listed in SEDA's Resource Conservation and Recovery Act (RCRA) Part A and Part B permit applications, this unit is currently under RCRA interim status and is the subject of a future RCRA closure. At the time of RCRA closure, necessary steps will be implemented to characterize the condition of Building 803 and its surroundings. Additionally, this site is also currently being investigated as part of the ongoing SEAD-12 investigations, and data developed by these investigations will be used in support of the pending SWMU closure. Therefore, the Army believes that a "No Further Action" determination is warranted for Building 803 under CERCLA.

Notes regarding the scale of this drawing have been clarified. The approximate scale for this drawing is 1 inch = 8 feet as is indicated on the bar scale shown on the drawing.