S1-11

DRAFT
RECORD OF DECISION

FOR

THE OLD CONSTRUCTION DEBRIS LANDFILL (SEAD-11)

SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK

Prepared for:

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

and

AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT
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June 2009

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ACRONYMS AND ABBREVIATIONS

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

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ACRONYMS AND ABBREVIATIONS (continued)

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

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1.0 DECLARATION OF THE RECORD OF DECISION

Name and Location of Areas of Concern (AOCs)

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

Statement of Basis and Purpose

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

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

AOC Assessment

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

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

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Description of the Selected Remedy

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

State Concurrence

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

Declaration

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

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

Concur and recommend for immediate implementation:

STEPHEN M. ABSOLOM
BRAC Environmental Coordinator

Date

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

Concur and recommend for immediate implementation:

JOSEPH J. VIGNALI
Chief, Consolidations Branch
BRAC Division

Date

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

Concur and recommend for immediate implementation:

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

Date

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2.0 SITE NAME, LOCATION, AND DESCRIPTION

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

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

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

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

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

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

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

Habitat and Ecological Community Characterization

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

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

Hydrology

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

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

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

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

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3.0 SITE HISTORY AND ENFORCEMENT ACTIVITIES

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

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

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

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

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

When the "SWMU Classification Report, *Final*" (Parsons, 1994) was issued, SEAD-11 was classified as a "Moderately High Priority AOC". An Expanded Site Investigation (ESI) was completed at SEAD-11 in 1993 and 1994, which included geophysics surveys, a gas soil survey, and sampling and analysis of surface and subsurface soil and groundwater. Based on the data collected during the ESI, an Additional Sampling Program was conducted in 2000 and 2001.

The Additional Sampling Program consisted of test pit and monitoring well installation, and soil and groundwater sampling and analysis. Based on the sampling results, the Army determined that the disposed materials placed at the landfill represented a potential human health and environmental risk due to the presence of volatile organic carbons (VOCs), carcinogenic polycyclic aromatic hydrocarbons (cPAHs), and metals which were found in the collected soil and groundwater samples.

Based on the results of the ESI and the Additional Sampling Program, the Army prepared the "Action Memorandum for Removal Action at SWMU SEAD-11, *Revised Final"* (Parsons, 2004). The Removal Action was conducted between October 2006 and January 2007, and the final report ("Final Construction Completion Report at Old Construction Debris Landfill (SEAD-11)") was issued in 2008, which included soil and groundwater post-excavation sampling. The IRA was conducted to remove the landfilled materials and associated contaminated soils to eliminate potential source materials that might have posed human health and environmental risks. The objectives of the IRA at SEAD-11 were documented in the Work Plan as follows:

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

A total of 32,900 cubic yards (42,188 tons) of material was excavated during the IRA. The Army prepared and submitted a Construction Completion Report (CCR) to provide record documentation of the IRA construction activities and to provide documentation that all landfill material and soil exceeding cleanup goals were removed. The CCR concluded that no further action (NFA) was required at SEAD-11.

Within this ROD, the Army is recommending NFA at SEAD-11 as the final step in the CERCLA process required for the AOC. Since the listing of SEDA on the NPL in 1990, the Army has worked to develop and prepare the information and data needed to support determinations of what remedial actions are needed at each of the identified SWMUs to ensure that site conditions are protective of human health and the environment, comply with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practical, and are cost effective. Data and information

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developed and evaluated by the Army that serves as the basis for the final recommendations for SEAD-11 are summarized in this ROD. More complete presentation of the data and information that form the basis of the Army's final recommendation for SEAD-11 are provided in the CCR submitted per the requirements of the FFA listed in the Administrative Record provided as **Appendix A**. This ROD is submitted to fulfill the requirements of the FFA for the Seneca Army Depot Activity.

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4.0 COMMUNITY PARTICIPATION

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

Seneca Army Depot Activity
Building 123
5786 State Route 96
Romulus, New York 14541-0009
(607) 869-1309
Hours: Mon – Thurs. 8:30 a.m. – 4:30 p.m.

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

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

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5.0 SCOPE AND ROLE

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

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

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

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

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6.0 SUMMARY OF AOC CHARACTERISTICS

Due to the performance of the IRA at SEAD-11, environmental conditions previously identified for the soil were removed from the site and transported off-site to a licensed landfill. Information and data provided below describing results of historic site investigations conducted prior to 2007 are summarized to document the basis for the performance of the IRA. The purpose of the IRA was to remove the landfilled materials and contaminated soils to eliminate the potential threat that they represented to surrounding populations and to the environment; to remove the potential source of TCE and metals detected in the groundwater immediately downgradient of the landfill; and, to provide documentation to support a NFA finding for SEAD-11 upon completion of the IRA. The contaminants of potential concern (COPCs) identified at SEAD-11 included landfill material ~~(e.g., drums and metal containers)~~ with [redacted] is a chemical substance that may be analyzed and assessed for risk – but not the container., volatile organic compounds (VOCs), cPAHs, and metals in soil. In addition, metals and VOCs were identified as COPCs in groundwater. OK

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

Pertinent information about the environmental conditions remaining at SEAD-11 are provided after the historic overview of the site prior to 2007.

6.1 Historic Data

Soil Gas Survey (1993-1994)

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

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

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

One soil boring was drilled at an upgradient location and three soil samples were collected from the soil boring. Four test pits were excavated to the base of the landfill debris and three samples were obtained from each test pit. Four monitoring wells were installed and one groundwater sample was collected from each well. Soil and groundwater samples were analyzed for Target Compound List (TCL) VOCs, semi-volatile

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organic compounds (SVOCs), pesticides/polychlorinated biphenyls (PCBs), explosives, herbicides, and Target Analyte List (TAL) metals.

During the Additional Sampling Program, conducted in 2000 to investigate the geophysical anomalies detected during the ESI, ten test pits were excavated. The test pits were sampled twice during November 2000 and February 2001 and analyzed for VOCs and metals. As predicted by the EM in-phase response, much of the excavated material was metallic debris, including various scrap metal, metallic rods, and metallic webbing. In addition, crushed 55-gallon drums and other metal containers were found in the landfill. Although abundant metallic material was encountered, the dominant type of fill was nonmetallic, including soil, large concrete slabs and fragments, ash material, and asphalt. The predominant fill materials were construction debris (concrete, glass, and nails), dark brown soil, gravel, and boulders. The test pits dug above the soil gas anomalies did not identify sources of the observed soil gas concentration.

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

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

All of the soils located within the bounds of the Old Construction Debris Landfill at the time when the ESI or the Additional Sampling Program ~~were~~ [redacted] performed were subsequently excavated from the site and removed during the IRA. Therefore, the results summarized above are provided only to document the conditions present prior to the IRA. [Please add post-excavation groundwater sampling to document actual conditions.]

why not use JUST POST IRA Samples

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

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

Three additional monitoring wells, MW11-5 through MW11-7, were installed as part of the Additional Sampling Program. All seven wells (MW11-1 through MW11-7) were sampled in 2000 and again in 2001 and analyzed for TCL VOCs, SVOCs, pesticides/PCBs, explosives, and TAL metals. Results indicated groundwater at the site appears to have been impacted by metals and possibly VOCs. A summary of the groundwater results are presented in **Tables 6-5** and **6-6**. PCE and TCE were detected in

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groundwater samples at concentrations below their respective NYS Class GA standard. The results of the groundwater sampling program at SEAD-11 indicate that aluminum, antimony, iron, manganese, sodium, and thallium were present in individual wells at concentrations above groundwater standard values; however, these metals were found at levels generally consistent with background concentrations historically observed at SEDA. [< This says that the values are "generally consistent" with background values. Thallium which was found at 50% of the samples (see Table 6-5), however, it was not carried over to Table 6-6 due to detection limit higher than MCL. If thallium is consistent with background, how does the statistics compare to the site-wide database?

6.2 Current Conditions

Soil - Interim Removal Action (2006-2008) Results

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

Before initiating the IRA, the Army defined project-specific cleanup goals for targeted VOCs, cPAHs, and metals. A listing of the defined cleanup goals is provided as **Table 6-1** and this listing shows that NYSDEC TAGMs were set as the cleanup goals for targeted VOCs, a value of 10 parts per million (ppm) benzo(a)pyrene toxicity equivalents (BTE)[1] was set for the cPAHs' cleanup goal, and EPA Region IX Preliminary Remediation Goals (PRGs) for residential soil were set as the cleanup goal for metals, except for selected metals[2] where SEDA background soil concentrations exceeded the PRGs, respectively. The acceptable completion of the IRA was then assessed by the collection, analysis, and evaluation of excavation base and perimeter confirmatory soil sample results versus the pre-defined cleanup goals.

Eighty (80) final grid confirmatory samples and 38 final perimeter samples, in addition to the appropriate number of quality assurance and quality control (QA/QC) samples, were collected, analyzed for the targeted hazardous constituents (VOCs, cPAHs, and metals), and compared to the established cleanup goals. Confirmatory samples were collected at a frequency of one sample per every 2,500 square feet (sf) or less from the base of the excavation and one sample per every 50 linear feet (ft) or less along the perimeter. A summary of the final results of the confirmatory analyses is presented in **Table 6-2**. Data for the individual confirmatory samples is provided in **Appendix D**. The results displayed in **Table 6-2** indicate that with the exception of iron, all final confirmatory sample results were less than the defined cleanup goals. Two samples of soil exhibited iron levels in excess of the SEDA background level of 38,600 mg/Kg. Based on this comparison, the Army concluded that no further removal was needed, and that the pre-defined cleanup goals of the IRA had been achieved.

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

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

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After completion of the IRA, NYSDEC and the EPA announced new guidelines for evaluating the acceptability of interim removal action and site cleanups. NYSDEC implemented the use of soil cleanup objectives (SCO) to replace TAGMs. The EPA implemented Regional Screening Levels (RSLs) to replace Region IX PRGs as guidelines for acceptable residual chemical concentrations. Therefore, subsequent to the completion of the IRA, the Army also compared the available analytical data from the soil confirmatory samples to NYSDEC Unrestricted Use SCOs[3] and to the EPA RSLs[4] for residential soil. The results of these comparisons are summarized in **Table 6-3**. The results of this comparison indicate that one VOC (acetone), seven cPAHs, and eight metals were found one or more times in individual samples at concentrations in excess of their respective NYSDEC Unrestricted Use SCO levels. Acetone, one cPAH compound [i.e., benzo(b)fluoranthene], and one metal (zinc) exhibited a 95th upper confidence limit of the arithmetic mean (95th UCL)[5] value that was in excess of the State's Unrestricted Use SCO value. Six cPAH compounds and one metal were found one or more times in individual samples at concentrations in excess of their respective EPA RSL. The 95th UCL value computed for five of the cPAH compounds and arsenic were above their respective RSL value. [This paragraph and Table 6-3 would demonstrate that SEAD-11 should be further remediated or restricted in use. Since the remedy calls for no action and unrestricted use, the ROD would need to justify that remedy selection despite the exceedances or else should call for more cleanup or for restrictions on use.]

Groundwater

Groundwater – Interim Removal Action (2006-2008) Results

Monitoring wells MW11-1 through MW11-7 were sampled once during the IRA to confirm that the groundwater has not been impacted since prior sampling events, and the groundwater is either meeting the GA standard or consistent with background concentrations. A summary of the groundwater data is presented in **Table 6-7**. [<There is no Table 6-7 (it goes up to 6-6 only.] Three VOCs (1,1,2-trichloro-1,2,2-trifluoroethane, tetrachloroethene, and trichloroethene) were detected below their respective groundwater action levels. Three metals (aluminum, iron, and manganese) were detected at concentrations above their respective groundwater action levels; however the maximum detection of each of the metals was significantly below their respective SEDA site-wide background concentrations, as shown below: [<what about thallium? Also, explain how Aluminum complies with MCL when the detection limit was four times higher than its MCL value.]

Parameter	Maximum Detection (µg/L)	Average / Max. SEDA Background (µg/L)
Aluminum	340	2,730 / 42,400
Iron	727	4,480 / 69,400

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

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

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

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Manganese	341	224 / 1,120

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7.0 SUMMARY OF SEAD-11 RISKS

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

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

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

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

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

Risk Characterization Results for Receptors under Training Scenario

The potential cancer risks and non-cancer hazard indices (HIs) for the industrial worker and the adolescent trespasser are within the EPA limits. The cancer risk for the construction worker is within the EPA limit ($1x10^{-6}$ vs. $1x10^{-4}$), but the non-cancer HI for the construction worker is above the EPA limit of 1 (4E+00). [<Exceeds acceptable risk for construction worker. Wouldn't this contradict the unrestricted use remedy?]

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

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As is shown, the SEAD-11 on-site post-IRA soil concentrations are comparable or less than the SEAD-11 upgradient concentrations reported for aluminum and manganese. Additionally, neither aluminum nor manganese are present in SEAD-11 soil samples at levels that are above the State of New York Unrestricted Use SCOs or EPA RSLs. Further, the construction worker's HI derived for manganese is predicated on exposure to manganese dioxide, which is but one of the many forms in which manganese may be present in the soil. The inhalation reference dose (RfC) associated with manganese dioxide is 4,000 times lower than the American Conference of Governmental and Industrial Hygienist's (ACGIH's) threshold limit value[6] for manganese exposure in the workplace, and thus the HI resulting from the use of manganese dioxide's RfC is considered to represent a maximum or ceiling level for the HI that might exist at SEAD-11. ~~Finally, the HI associated with the construction worker's exposure via inhalation is based on a 24 hour per day exposure for the duration of the work, as opposed to a more realistic exposure point time of between 8 and 10 hours per day. This is evidenced in the EPA Integrated Risk Information System (IRIS) summary of the derivation of the RfC for manganese:~~

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> ~~*"Conversion Factors and Assumptions: Roels et al., 1992: The LOAEL is derived from an occupational lifetime integrated respirable dust (IRD) concentration of manganese dioxide (MnO2) (based on 8-hour TWA occupational exposure multiplied by individual work histories in years) expressed as mg manganese (Mn)/cu.m x years. The IRD concentrations ranged from 0.040 to 4.433 mg Mn/cu.m x years, with a geometric mean of 0.793 mg Mn/cu.m x years and a geometric standard deviation of 2.907. The geometric mean concentration (0.793 mg/cu.m x years) was divided by the average duration of MnO2 exposure (5.3 years) to obtain a LOAEL TWA of 0.15 mg/cu.m. The LOAEL refers to an extrarespiratory effect of particulate exposure and is based on an 8-hour TWA occupational exposure. MVho = 10 cu.m/day, MVh = 20 cu.m/day. LOAEL(HEC) = 0.15 mg/cu.m x (MVho/MVh) x 5 days/7 days = 0.05 mg/cu.m."*~~

~~The assumption for occupational exposure setting is 10 m^3/day. The RfC for manganese was calculated from a value derived from an occupational setting to a value that represents continuous exposure setting by extending the exposure from 5 days to 7 days and from inhalation rate of 10 m^3/day to 20 m^3/day. The use of 10 m^3/day, which represents the occupational exposure setting, should be representative of the construction working scenario and training scenario. The use of 20 m^3/day (a default value presented in the "EPA 2002 Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites"), along with the RfC of 5E-05 mg/m^3, will overstate the potential risks.~~ [I thought we had discussed this previously with the Army and yet the language keeps appearing in the documents. There should be no discussion of the worker being evaluated for a 24-hour exposure period and no discussion of the derivation of the IRIS value.] Therefore, the levels of aluminum and manganese remaining at SEAD-11 individually are not considered to represent a potential concern via inhalation.

Similarly, the presence of aluminum, arsenic, iron, manganese, and vanadium in the SEAD-11 post-IRA on-site soils contribute to the majority of the construction worker's non-cancer hazard index via soil ingestion, but again in each case levels found in the upgradient soils are comparable or higher than those

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

left at SEAD-11. [< This paragraph does not seem relevant. This AOC is to be no further action and unrestricted. Are those upgradient sites restricted? If not, why not?]

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

Risk Characterization Results for Residential Receptors

The potential cancer risks for the adult resident and the child resident at SEAD-11 are $4x10^{-5}$ and $5x10^{-5}$, respectively, both below the EPA's limit for cancer risk (i.e., $1x10^{-4}$). The total life-time cancer risk for the resident (sum of cancer risk for the adult resident and the child resident) is $9x10^{-5}$, below the EPA limit.

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

The elevated HI computed for manganese is associated with the maximum concentration detected at the AOC, and the only sample that was found to contain manganese at a level that exceeded the State's GA groundwater standard. The measured concentration of manganese in the groundwater is below the EPA's RSL for Tap Water. Manganese is frequently identified as a contaminant in the groundwater at all AOCs at the Depot, and is associated with the interaction of the shallow groundwater with the soils that are indigenous to the area. As is shown in **Table 7-3**, while manganese's exposure point concentration for SEAD-11 groundwater exceeds the upgradient concentration reported at the AOC, it is generally consistent with the well concentration that is located upgradient of SEAD-11.

Therefore, manganese is not considered to be a COC in SEAD-11 groundwater.

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

For the child resident, potential affects [<typo: should be "effects"] of soil ingestion results in an elevated HI component of 2. The predominant risk contributors for this exposure pathway include aluminum, arsenic, iron, manganese, and vanadium, all with associated HQs greater than 0.1. As shown above in **Table 7-2** and as was previously discussed for the construction worker, the aluminum, arsenic, iron, manganese, and vanadium concentrations in SEAD-11 soil are consistent with ~~the upgradient conditions~~; [This comparison is not acceptable. Upgradient conditions may include impacted areas (i.e., PID Area) which will potentially impact groundwater at SEAD-11 and require groundwater use restriction.] therefore, none of these metals were identified as COCs in SEAD-11 soil.

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

Based on the results of the risk assessment, it is the Army's position that NFA is needed at SEAD-11. [This is EPA and Army ROD – so not just the Army's position.

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8.0 SELECTED REMEDY

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

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9.0 DOCUMENTATION OF SIGNIFICANT CHANGES

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10.0 STATE ROLE

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

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APPENDIX A

ADMINISTRATIVE RECORD

Note: Need to add an Appendix for the ARARs

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ADMINISTRATIVE RECORD

Old Construction Debris Landfill (SEAD-11)

OCDL-01-001 Data from the Additional Sampling Program Conducted at the Old Construction Debris Landfill (SEAD-11) at Seneca Army Depot Activity (SEDA), April 2001

OCDL-01-002 Cost Estimate Low Permeability Capping Alternative, October 2001

OCDL-01-003 Action Memorandum for Removal Action at SWMU SEAD-11, Seneca Army Depot Activity, (DRAFT), July 2001

OCDL-01-003 Action Memorandum for Removal Action at SWMU SEAD-11, Seneca Army Depot Activity, (DRAFT-FINAL), July 2002

OCDL-01-003 Final Action Memorandum for Removal Action at SWMU SEAD-11, Seneca Army Depot Activity, [CD], April 2003

OCDL-01-003 Revised Final Action Memorandum for Removal Action at SWMU SEAD-11, Seneca Army Depot Activity, [CD], June 2004

OCDL-01-004 Draft Interim Removal Action at Old Construction Debris Landfill (SEAD-11), Seneca Army Depot Activity PBC II, [CD], August 2006

OCDL-01-004 Final Interim Removal Action at Old Construction Debris Landfill (SEAD-11), Seneca Army Depot Activity PBC II, [CD], October 2006

OCDL-01-005 Draft Construction Completion Report at Old Construction Debris Landfill (SEAD-11), [CD], March 2007

OCDL-01-005 Final Construction Completion Report at Old Construction Debris Landfill (SEAD-11), [CD], February 2008

OCDL-03-001 Draft Proposed Plan, Old Construction Debris Landfill (SEAD-11), & CD, May 2008

SEAD-01-007 Engineering Evaluation/Cost Analysis (EE/CA) Approval Memorandum Construction Debris Landfill (SEAD-11) and Garbage Disposal Areas (SEAD-64A and SEAD-64D), December 1998

SEAD-01-008 SEAD-11, SEAD-64A, SEAD-64D Project Scoping Plan for Performing a CERCLA RI/FS at the Construction Debris Landfill (SEAD 11), Garbage Disposal Areas (SEAD 64A and 64D) (Draft-Final), February 1997

SEAD-01-008 SEAD-11, SEAD-64A, SEAD-64D Project Scoping Plan for Performing a CERCLA RI/FS at the Construction Debris Landfill (SEAD 11), Garbage Disposal Areas (SEAD 64A and 64D) (Final), September 1997

SEAD-01-009 Expanded Site Inspection Three Moderate Priority SWMUs - SEADs 11, 13, and 57 (Draft-Final), May 1995

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SEAD-01-009 Expanded Site Inspection Three Moderate Priority SWMUs - SEADs 11, 13, and 57 (Final), December 1995

SEAD-01-020 Draft Contract-Specific Sampling and Analysis Plan, Remedial Actions at Seven Sites (SEADs-4, 11, 16, 17, 38, 70, and 121C), Seneca Army Depot Activity, [CD], July 2006

SEAD-01-020 Final Contract-Specific Sampling and Analysis Plan for Remedial Actions at Seven Sites (SEADs-4, 11, 16, 17, 38, 70, and 121C), Seneca Army Depot Activity, [CD], October 2006

SEAD-01-022 Project Safety Plan and Site-Specific Health and Safety Plan for Seneca Army Depot Activity PBC II, SEAD-4, SEAD-11, SEAD-16 (SEAD-001-R), SEAD-17 (SEAD-001-R), SEAD-38, SEAD-70, SEAD-121C, and Building Demolition, [CD], July 2006

SEAD-05-002 Decision Document for Removal Actions at SWMUs SEAD-11, SEAD-25, SEAD-26, SEAD-38, SEAD-39, SEAD-40, SEAD-41, Seneca Depot Activity (Draft Final), August 1995

Six Sites (SEADs-4, 11, 16, 17, 38, and 121C), Seneca Army Depot Activity PCB II, July 2006

What about adding other items mentioned in this ROD, such as::

"SWMU Classification Report, *Final*" (Parsons, 1994) (Page 3-1)
Federal Facilities Agreement (FFA).
Expanded Site Investigation (ESI) was completed at SEAD-11 in 1993 and 1994
RI report and an FS report
Proposed Plan

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APPENDIX B

LETTER OF CONCURRENCE

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APPENDIX C

PUBLIC COMMENTS AND RESPONSIVENESS SUMMARY

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PUBLIC COMMENTS AND RESPONSIVENESS SUMMARY

FORMER OLD CONSTRUCTION LANDFILL SITE, SEAD-11

SENECA ARMY DEPOT SUPERFUND SITE

INTRODUCTION

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

OVERVIEW

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

BACKGROUND ON COMMUNITY INVOLVEMENT

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

SUMMARY OF COMMUNITY RELATIONS ACTIVITIES

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

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

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

SUMMARY OF COMMENTS AND RESPONSES

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

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APPENDIX D

FINAL CONFIRMATORY SOIL DATA FROM INTERIM REMOVAL ACTION

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APPENDIX E

RISK MEMO AND EPA COMMENTS

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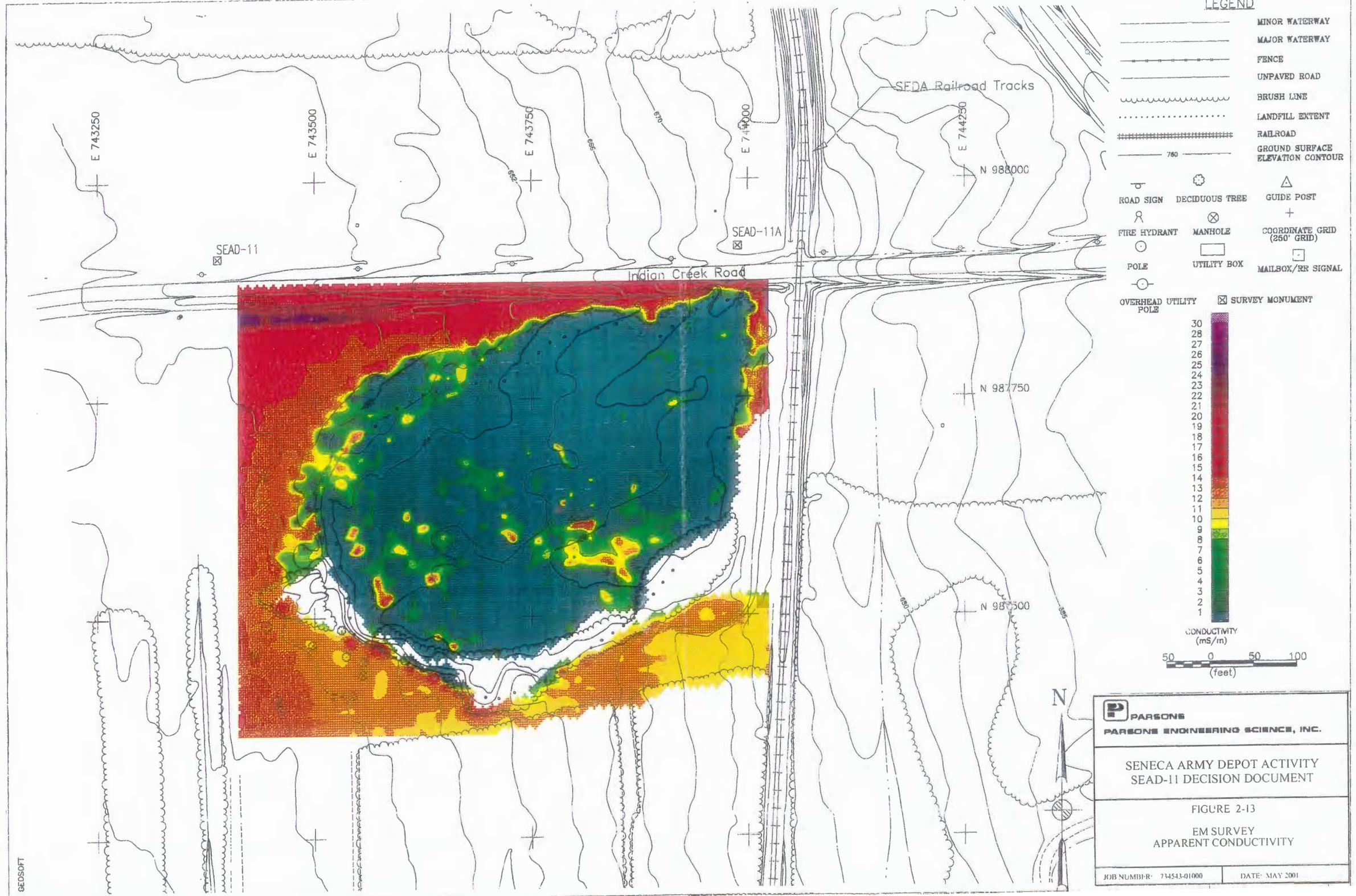


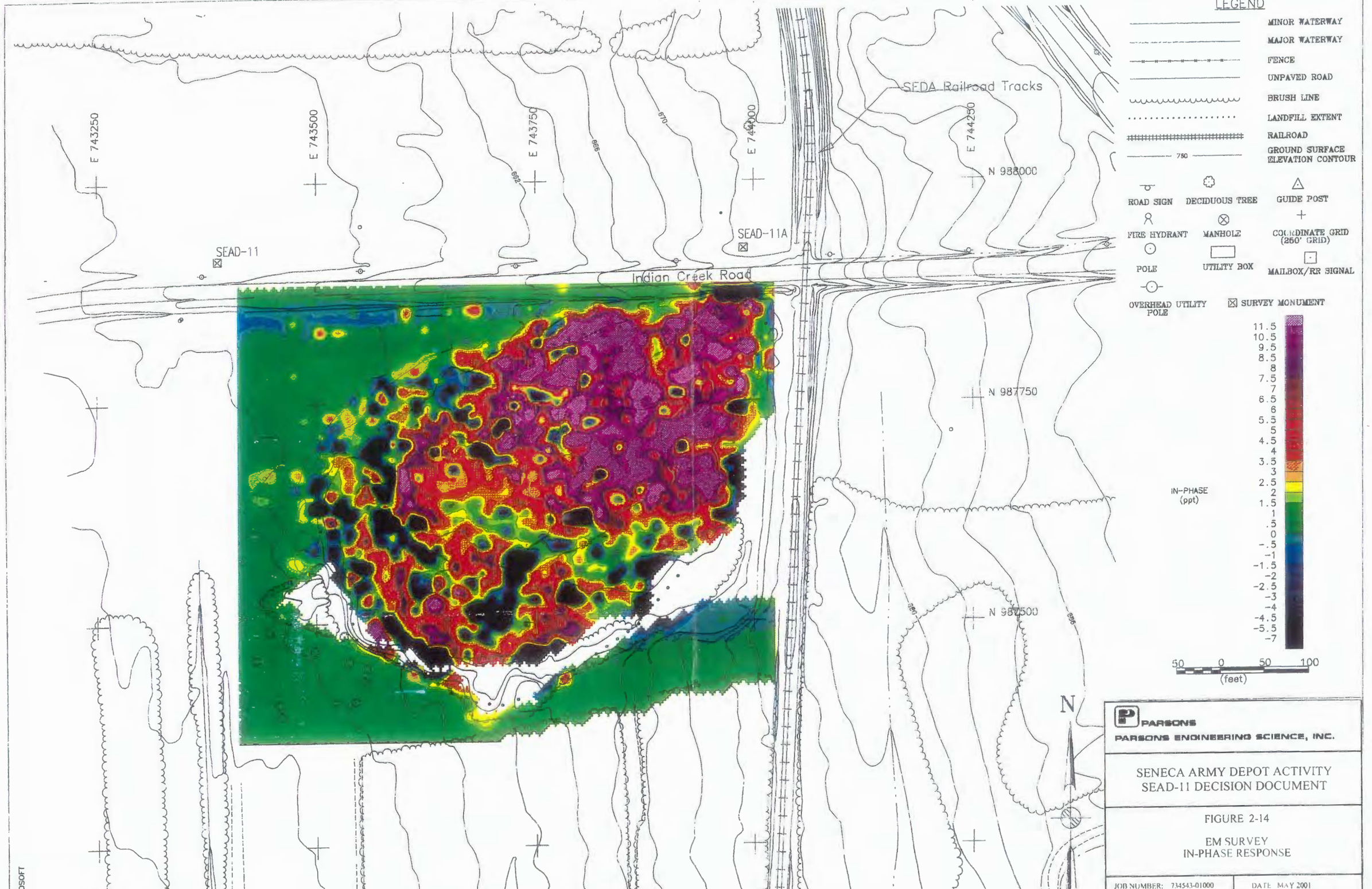
PARSONS
PARSONS ENGINEERING SCIENCE, INC.

SENECA ARMY DEPOT ACTIVITY
SEAD-11 DECISION DOCUMENT

FIGURE 2-13

EM SURVEY
APPARENT CONDUCTIVITY

JOB NUMBER: 734543-01000 | DATE: MAY 2001


LEGEND
MINOR WATERWAY
MAJOR WATERWAY
FENCE
UNPAVED ROAD
BRUSH LINE
LANDFILL EXTENT
RAILROAD
750
GROUND SURFACE ELEVATION CONTOUR
ROAD SIGN
DECIDUOUS TREE
GUIDE POST
FIRE HYDRANT
MANHOLE
COORDINATE GRID (250' GRID)
POLE
UTILITY BOX
MAILBOX/RR SIGNAL
OVERHEAD UTILITY POLE
SURVEY MONUMENT
IN-PHASE (ppt)
11.5
10.5
9.5
8.5
8
7.5
7
6.5
6
5.5
5
4.5
4
3.5
3
2.5
2
1.5
1
.5
0
-.5
-1
-1.5
-2
-2.5
-3
-4
-4.5
-5.5
-7
50 0 50 100
(feet)
SEDA Railroad Tracks
Indian Creek Road
SEAD-11
SEAD-11A
E 743250
E 743500
E 743750
E 744000
E 744250
N 988000
N 987750
N 987500
670
680
690
N
PARSONS
PARSONS ENGINEERING SCIENCE, INC.
SENECA ARMY DEPOT ACTIVITY
SEAD-11 DECISION DOCUMENT
FIGURE 2-14
EM SURVEY
IN-PHASE RESPONSE
JOB NUMBER: 734543-01000
DATE MAY 2001
GEOSOFT

TEST PIT REPORT

ENGINEERING–SCIENCE, INC.	CLIENT: SEAD	TEST PIT #: TP11-1

PROJECT: SEAD 3 SWMU INVESTIGATION
LOCATION: SEAD 11

JOB NUMBER: 720478-0100
EST. GROUND ELEV.:
INSPECTOR: GWC
CONTRACTOR: ES/WRB
START DATE: 11/20/93
COMPLETION DATE: 11/20/93
CHECKED BY:
DATE CHECKED:

TEST PIT DATA

LENGTH	WIDTH	DEPTH	EXCAVATION/SHORING METHOD
8'	4'	4'4"	BACKHOE

MONITORING DATA

INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE
OVM-580B	10.8	—	11/20/93 11:20
LEL/02/tHS		NORMAL	11/20/93 "
RADIATION		—	11/20/93 11:15

QA/QC DUPLICATE SAMPLE: YES or NO
Duplicate Sample Number:
MRD Sample Number:

QA/QC Rinsate Sample Number:

COMMENTS: [15] 3 LOCATION DEPTHS

SCALE (FT)	VOC/ RAD.	SAMPLE NUMBER	SAMPLE DEPTH RANGE	STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
1		1	0-8"		TOPSOIL, FILL TOPSOIL w/definite SCRAP METAL	
2					Cobbweb metal, SCRAPS, Bottles, metal RODS*	* ANOMALY DETERMINATION metal RODS which were entangled in A BALL of webbed metal
3		2	3'4"		metal MASS	
4					FILL MATERIAL w/SHALE FRAGMENTS interbedded	
		3	4'+		NATURAL MATERIAL CLASTIC TILL (DARK GREY Bottom of TEST PIT	
5						

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #: TP11-1

TEST PIT REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: SEAD	TEST PIT #: TP11-2
PROJECT: SENECA 10 SWMU INVESTIGATION		JOB NUMBER: 720478-01000
LOCATION:		EST. GROUND ELEV.
		INSPECTOR: JWC
		CONTRACTOR: ES/UXB
		START DATE: 11/19/93
		COMPLETION DATE: 11/20/93
		CHECKED BY:
		DATE CHECKED:

TEST PIT DATA

LENGTH	WIDTH	DEPTH	EXCAVATION/SHORING METHOD
15'	4'6"	8'6"	BACKHOE

MONITORING DATA

INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE
OVM-580B	10.0 ev	ø	11/19/93 1:30
LEL/O2/H_2S			" "

COMMENTS:

SEAD-11 LANDFILL INVESTIGATION

TOTAL SAMPLES: [15] 3 LOCATIONS (DEPTHS)

SCALE (FT)	VOC/ RAD.	SAMPLE NUMBER	SAMPLE DEPTH RANGE	STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
	ø				TOPSOIL W/FOREIGN MATERIAL METAL PIECES	
1	ø	FULL SUITE	SAMPLE TAKEN 8"		FILL MATERIAL MED.-BROWN SILT ORGANIC W/ HUGE PIECES OF CONCRETE (5'x4') SECTIONS 1" DIAMETER STEEL CABLE >20' LONG	LARGE FOREIGN OBJECTS
2						
3					Rubber Hoses LARGE METAL TRASH (1) << FILL MATERIAL)) 6" STEEL GURDERS Rebar CONCRETE PIECES	
4						
5					FILL MATERIAL	

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS TEST PIT #:

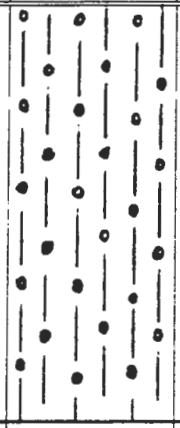
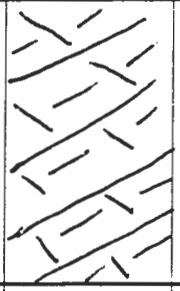
TEST PIT REPORT

ENGINEERING-SCIENCE, INC.	CLIENT:	TEST PIT #: TP11-2 (CONT'D)

MONITORING DATA

INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE
OVM-580B	10.0 %	—	11/20/93 10:30 AM
LEL/O2/H_2S	—	—	"

DATE START: 11/19/93
DATE FINISH: 11/20/93
INSPECTOR: JWC
CONTRACTOR: ES/JXB

SCALE (FT)	VOC/ RAD.	SAMPLE NUMBER	SAMPLE DEPTH RANGE	STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
6	ϕ				FILL MATERIAL MEDIUM BROWN SILT W/ CONCRETE AND STEEL PIECES	
7	ϕ	5 Full Suite	SAMPLE TAKEN		ASPHALT MATERIAL MUCH LIKE ROOFING MATERIAL	SAMPLE HAD ODOR OF TAR/ ASPHALT
8		5	SAMPLE Full Suite		NATURAL MATERIAL MED.-FINE SILTY SAND MED. BROWN	NO WATER ENCOUNTERED

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #:

TEST PIT REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: USACOE	TEST PIT #: TP11-3

PROJECT: Seneca Army Depot
LOCATION: SEAD 11

JOB NUMBER:
EST. GROUND ELEV.
INSPECTOR: BH
CONTRACTOR:
START DATE: 12/14/93
COMPLETION DATE:
CHECKED BY:
DATE CHECKED:

TEST PIT DATA

LENGTH	WIDTH	DEPTH	EXCAVATION/SHORING METHOD

MONITORING DATA

INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE
OVM	PID		
Rad			

COMMENTS: SG 2-1 Location
Depth O.C
Width
Length

TOTAL SAMPLES:

SCALE (FT)	VOC/ RAD	SAMPLE NUMBER	SAMPLE DEPTH RANGE	STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
1	Oppm		0-1		Building material, concrete/brick, wire, pipe, Glass, Stick, Dark brn (color) Rust, Plastic (melted) Ash (black)	Sample No 11-3-1 Time 1350
2	↓		1-2			
3		Oppm	2-4		Metal, Glass bottle (Soda bottle) w/liquid Dark brn, Nails Large boulders wet soil, sand, Rust Ash (black)	Sample No 11-3-2 Time 1400
4			4-6		Same Metal, Glass Gravel, small rock, nails Debris, Dark Brn Soil	Sample No 11-3-3 TIME 1420
5						

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS TEST PIT #:

TEST PIT REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: U.S. ACOE	TEST PIT #: TP11-4

MONITORING DATA

INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE
VOA	PID	Appx	

DATE START: 13/14/93
DATE FINISH:
INSPECTOR: BH
CONTRACTOR:

SCALE (FT)	VOC./ RAD.	SAMPLE NUMBER	SAMPLE DEPTH RANGE	STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
	Appx 0-2				Glass, Oils Clay, Sand, Dk Brn	SG 2-3 Time 1500 11-4-1
	Appx 2-4				Clay, Shale Dk Brown (color) Rock	Time 1515 11-4-2
	Appx Rock	4-6			Sand, Clay, Glass Dark Brn	11-4-3 Time 1530

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #:

PARSONS ENGINEERING SCIENCE, INC.
TEST PIT RECORD

Project Name: SEAD-11 Additional Sampling
Project Number:
Date / Time Start: 10/25/00 1002
Date / Time Finish: 10/25/00 1070
Weather: Cloudy, 58°F, Light wind - South
Contractor: Arrow
Inspector(s):

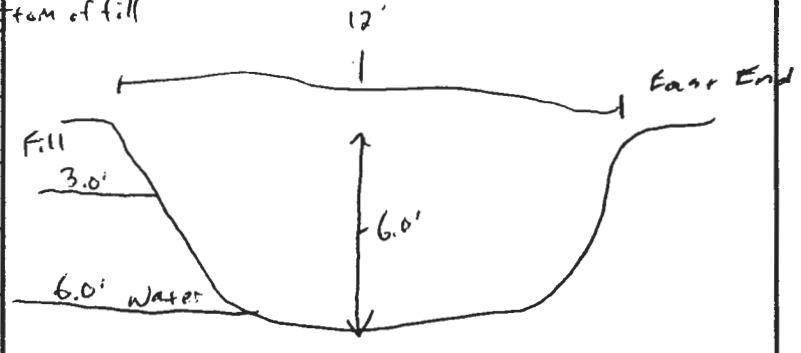
TEST PIT NO. TP11-5
Location:

DEPTH (ft bgs)	Stratigraphy	Macro	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
0.5'			Dark Brown Topsoil	
3.0'			Black to brown sandy soil with mostly fea gravel. Bricks, asphalt asbestos? Transite corrugated roofing sheet metal, misc metal, large concrete chunks	0ppm throughout layer
			Bottom of fill	
6.0'			Brown to grey sandy clay Water at 6.0'	0ppm
			Bottom of excavation	

EXCAVATION DIMENSIONS: (Length X Width X Depth)
AIR MONITORING DATA: Background OVM Reading:
Maximum Breathing Zone OVM Reading:

TIME	SAMPLE I.D.	LOCATION
1026	11407 TP-11-5 Deep	Center of excavation 3' in depth - bottom of fill
1030 (1025 KS)	11408 TP-11-5 Shallow	0.5' depth on West end.

CROSS SECTION
(Include approximate dimensions)



PARSONS ENGINEERING SCIENCE, INC.
TEST PIT RECORD

Project Name: SEAD-11 Additional Sampling
Project Number: 734543-01001
Date / Time Start: 10/25/00 1106
Date / Time Finish: 10/25/00 1155
Weather: Breezy Clouds - 65° F, Light wind
Contractor: Arrow
Inspector(s): ISKS, DRD

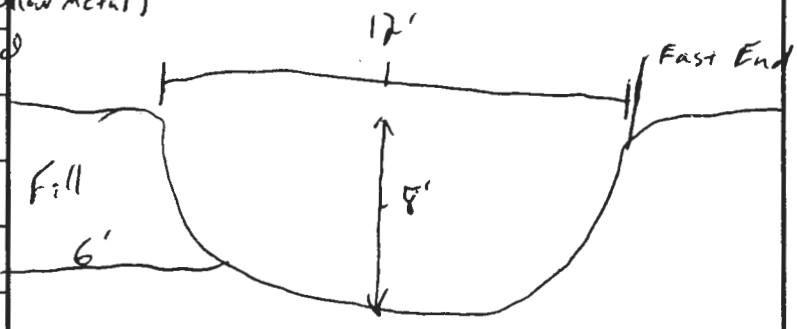
TEST PIT NO. TP11-6
Location: SEAD-11
Former Seneca Army Depot
Romulus, NY

DEPTH (ft bgs)	Stratigraphy	Macro	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
0.5'			Dark Brown Topsoil	
6.0'			Brown to Black sandy soil (Fill) with metal debris, barbed wire, pipe cable, etc. Bottles, brick tar chunks. Large metal (4-5' Round cylindrical piece on west end at 3-4' in depth. Another piece visible in North side of pit.	0ppm throughout
8.0'			Brown sandy clay	0ppm
			Bottom of excavation	

EXCAVATION DIMENSIONS: (Length X Width X Depth) 12' x 2.5 x 8'
AIR MONITORING DATA: Background OVM Reading: 0.0
Maximum Breathing Zone OVM Reading: 0.0

TIME	SAMPLE I.D.	LOCATION
1130	114009 Deep TP-11-6	3-4' depth from inside cylinder (hollow metal)
1140	114010 Shallow TP-11-6	0.5 on east end below topsoil

CROSS SECTION
(Include approximate dimensions)



PARSONS ENGINEERING SCIENCE, INC.
TEST PIT RECORD

Project Name: SEAD-11 Additional Sampling
Project Number: 734543-01001
Date / Time Start: 10/25/00 1250
Date / Time Finish: 10/25/00 1340
Weather: Sunny, warm Temps in 60s
Contractor: Arrow
Inspector(s): KKS + DRD

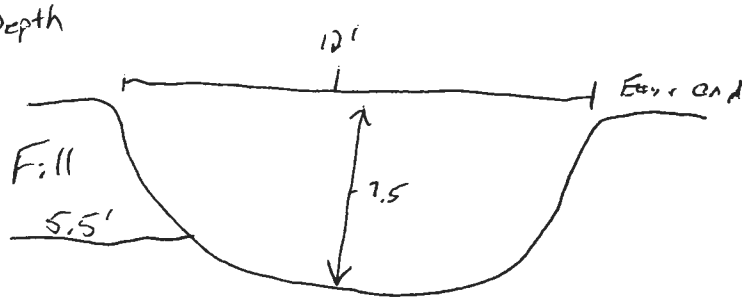
TEST PIT NO. TP-11-7
Location: SEAD-11
Former Seneca Army Depot
Romulus, NY

DEPTH (ft bgs)	Stratigraphy	Macro	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
0.5			Dark Brown Topsoil	
5.5'			Black to brown sandy soil. Mostly household waste, bottles (glass and plastic), Toys. Washing Machine body 4-5' depth 10' from east end	Oppm Throughout
7.5			Brown sandy clay	Oppm
			Bottom of excavation	

EXCAVATION DIMENSIONS: (Length X Width X Depth) 12' x 2.5' x 7.5'
AIR MONITORING DATA: Background OVM Reading: 0.0
Maximum Breathing Zone OVM Reading: 0.0

TIME	SAMPLE I.D.	LOCATION
1310	114011 Deep TP-11-7	greenish material inside Washer 4-5'
1320	114012 Shallow TP-11-7	0.5' Depth at east end

CROSS SECTION
(Include approximate dimensions)



OK

PARSONS ENGINEERING SCIENCE, INC.
TEST PIT RECORD

Project Name: SEAD-11 Additional sampling
Project Number:
Date / Time Start: 10/25/00 0940
Date / Time Finish: 10/25/00 0945
Weather: Overcast, foggy Temps in 50's
Contractor:
Inspector(s):

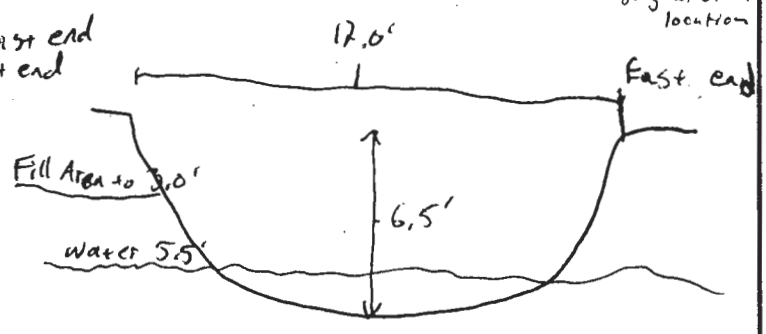
TEST PIT NO. 11-8
Location: SEAD-11

DEPTH (ft bgs)	Stratigraphy	Macro	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
0.5'			Dark brown topsoil	
3.0'			Brown to Black Sandy soil with numerous metal objects. Banding, ammo can, crushed container etc wire, Auto parts - horn, oil pan, thermostat	0 ppm throughout layer
5.5'			Brown to grey sandy clay, some gravel water at 5.5'	0 ppm
6.5'			Bottom of excavation	

EXCAVATION DIMENSIONS: (Length X Width X Depth) 12 x 2.5 x 6.5
AIR MONITORING DATA: Background OVM Reading: 0.0
Maximum Breathing Zone OVM Reading: 0.0

TIME	SAMPLE I.D.	LOCATION
0915	114005 TP-11-8 Deep	Composite 2 to 3' depth next to 2 metal containers
0920	114006 TP-11-8 Shallow	Containers 6' from east end 0.5' depth 2' from east end

CROSS SECTION
(Include approximate dimensions)



PARSONS ENGINEERING SCIENCE, INC.
TEST PIT RECORD

Project Name: SEAD-11 Test Pits
Project Number:
Date / Time Start: 10/24/00 1535
Date / Time Finish: 10/24/00 1715
Weather: Overcast, Temps in 50s
Contractor: Arrow
Inspector(s): KLS, DD

TEST PIT NO. 11-9
Location: SEAD-11

DEPTH (ft bgs)	Stratigraphy	Macro	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
0-0.5'			Dark Brown Topsoil	
3.5'	Fill		Rusted Metal Debris, crushed 55 gal drum at 3' depth, wood pieces, steel cable, rubber hoses, etc. Soils are black to brown sandy soil, rust colored 35 gallon sstee1? drum found on east end 1' depth	0ppm / 0ppm in crushed drum - 0ppm sstee1 drum Drum located in center 35 gal drum east end (0ppm)
7.5'			Brown to gray low plast. clay with sand and small to large cobbles, moist Water at 7.5'	0 ppm

EXCAVATION DIMENSIONS: (Length X Width X Depth)
AIR MONITORING DATA: Background OVM Reading:
Maximum Breathing Zone OVM Reading:

TIME	SAMPLE I.D.	LOCATION
	114002 Deep TP-11-9 (Deep)	8' west of stake 3.5' depth below crushed drum
	114003 TP-11-9 (Shallow)	1' west of stake 0.5' below topsoil
	114004 TP-11-9 (Deep-2)	3' west of stake 1.5' depth below 35 gal drum

CROSS SECTION
(Include approximate dimensions)

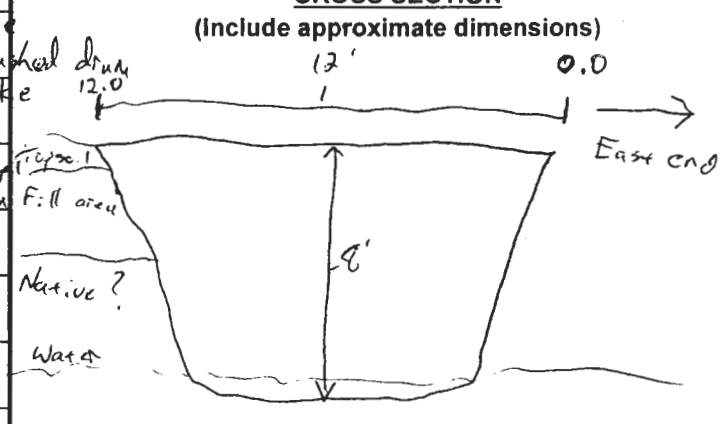


Photo 5 Crushed drum TP-11-9

Photo 6 Crushed drum out of hole TP-11-9

Photo 7 Crushed 35 gal sstee1 drum TP 11-9

PARSONS ENGINEERING SCIENCE, INC.
TEST PIT RECORD

Project Name: SEAD-11 Additional Sampling
Project Number:
Date / Time Start:
Date / Time Finish:
Weather: Sunny, warm, Temps in 60s
Contractor: Arrow
Inspector(s): KKS, D.D.

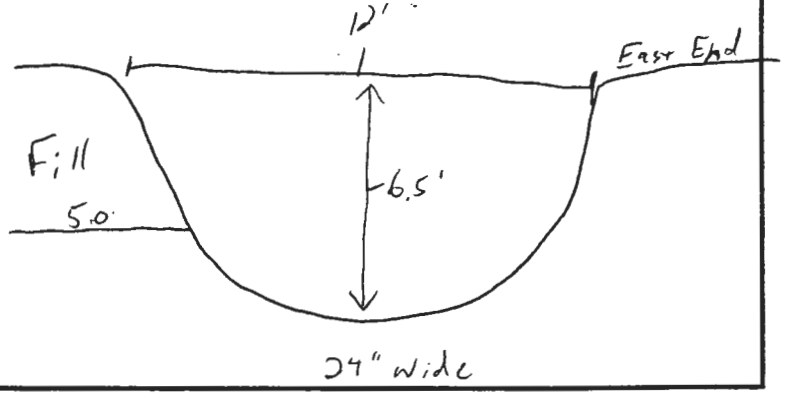
TEST PIT NO. TP-11-10
Location:

DEPTH (ft bgs)	Stratigraphy	Macro	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
0.5'			Dark Brown Topsoil	
			Black sandy soil with fill materials. Bottles, Leaf spring, Pipe, drywall Scrap metal, bricks, roofing tin and tar Wood	0 ppm throughout
5.0'			Bottom of fill	
			Brown sandy clay, low plast.	0 ppm
6.5'			Bottom of Excavation	

EXCAVATION DIMENSIONS: (Length X Width X Depth)
AIR MONITORING DATA: Background OVM Reading:
Maximum Breathing Zone OVM Reading:

TIME	SAMPLE I.D.	LOCATION
1420	TP-11-10 Deep 114013	5.0' Depth interface with native soils on east end
1425	TP-11-10 Shallow 114014	0.5' on east end

CROSS SECTION
(Include approximate dimensions)



PARSONS ENGINEERING SCIENCE, INC.
TEST PIT RECORD

Project Name: SEAD-11 Additional Sampling
Project Number: 734543-01001
Date / Time Start: 10/23/00 1605
Date / Time Finish: 10/23/00 1700
Weather: Clear Warm
Contractor: Arrow
Inspector(s): Dale Dolph + Kerry Smith

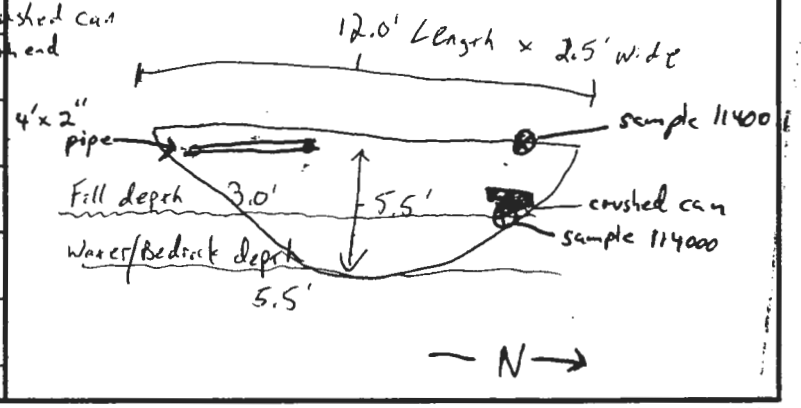
TEST PIT NO. 11
Location: SEAD-11

DEPTH (ft bgs)	Stratigraphy	Macro	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
0-3.0			Dark Brown Topsoil	0 ppm PID
3.0			Metal Debris, fasteners, scrap metal crushed metal container bricks etc w/ dark brown sandy soil/ash Metal Pipe, metal banding, Bomb Tail Fins (5) Asbestos? roof board (corrugated) small pieces	0 ppm PID
5.5'			Gray silty clay, low plasticity with angular gravel and wood (3.5')	0 ppm PID
			Water large rock (Boulders) Bedrock? water	

EXCAVATION DIMENSIONS: (Length X Width X Depth)
AIR MONITORING DATA: Background OVM Reading:
Maximum Breathing Zone OVM Reading:

TIME	SAMPLE I.D.	LOCATION
1630	TP-11 (Deep) 114000	3-3.5' Depth North end below crushed can
1650	TP-11 (Shallow) 114001	0.5-1' Depth - North end Below topsoil layer
1655	? Asbestos? Roof Board	3' depth

CROSS SECTION
(Include approximate dimensions)



Misc 1 - Metal fasteners TP-11
2 - Metal Pipe and debris TP-11
3 - Metal Debris TP-11

PARSONS ENGINEERING SCIENCE, INC.
TEST PIT RECORD

Project Name: SEAD 11 Additional Sampling
Project Number: 734543-01001
Date / Time Start:
Date / Time Finish:
Weather: Sunny, Warm Temps in 60s
Contractor: Arrow
Inspector(s): KKS + DD

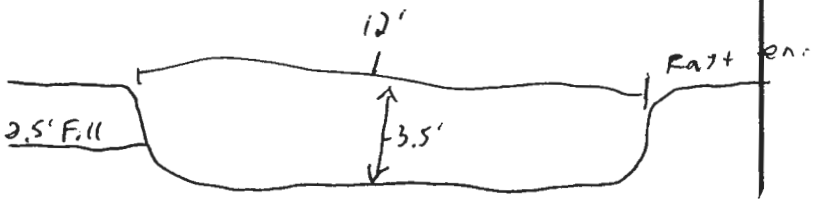
TEST PIT NO. TP-11-12
Location:

DEPTH (ft bgs)	Stratigraphy	Macro	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
0.5			Dark brown Topsoil, Large concrete chunk on surface	
2.5'			Brown to Black sandy soil with Metal debris, Asbestos? Transite roofing, Bottles, banding, wire Bottom of fill	Oppm Throughout
3.5'			Brown to Grey Sandy Clay	Oppm
			Bottom of excavation	

EXCAVATION DIMENSIONS: (Length X Width X Depth)
AIR MONITORING DATA: Background OVM Reading:
Maximum Breathing Zone OVM Reading:

TIME	SAMPLE I.D.	LOCATION
1100	TP-11-12 Deep 114019 MS/MSD	2.5' at f.11 interface Center of hole
1110	TP-11-12 Shallow 114020	0.5' Depth on East End

CROSS SECTION
(Include approximate dimensions)



PARSONS ENGINEERING SCIENCE, INC.
TEST PIT RECORD

Project Name: SEAD-11 Additional Sampling
Project Number: 734543-0001
Date / Time Start:
Date / Time Finish:
Weather: Clear, cool Temps in 50s
Contractor: Arrow
Inspector(s): KKS, DD

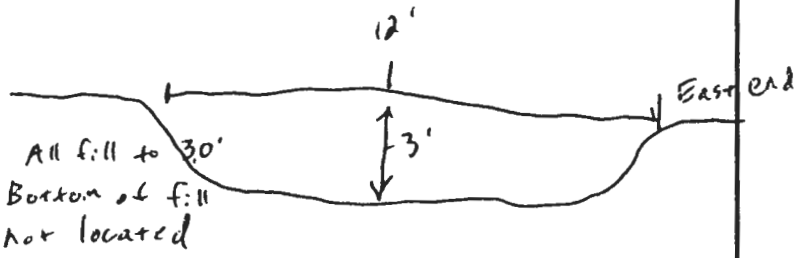
TEST PIT NO. TP-11-13
Location:

DEPTH (ft bgs)	Stratigraphy	Macro	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
0.5'			Dark Brown Topsoil	
3.0'			Brown to Black sandy soil with brick, metal debris, wire, metal rods. Crushed drum at 2' depth (37 ppm inside drum) Drum is crushed, open, not intact	37 ppm inside crushed drum. 0 ppm BZ
			Excavation Terminated 2 - 37 mm shell casings found Bottom of ~~Test Pit~~ Fill not located	

EXCAVATION DIMENSIONS: (Length X Width X Depth)
AIR MONITORING DATA: Background OVM Reading:
Maximum Breathing Zone OVM Reading:

TIME	SAMPLE I.D.	LOCATION
0825	TP-11-13 Deep 21 114017 + 114018	0835 3' Depth (Dup) middle of Test Pit
0906	TP-11-13 Shallow 114018	0.5 on East end of Test pit

CROSS SECTION
(Include approximate dimensions)



PARSONS ENGINEERING SCIENCE, INC.
TEST PIT RECORD

Project Name: SEAD-11 Additional Sampling
Project Number: 734543-01001
Date / Time Start: 10/25/00 1500
Date / Time Finish: 10/25/00
Weather: Sunny, Warm Temps in 60s
Contractor:
Inspector(s):

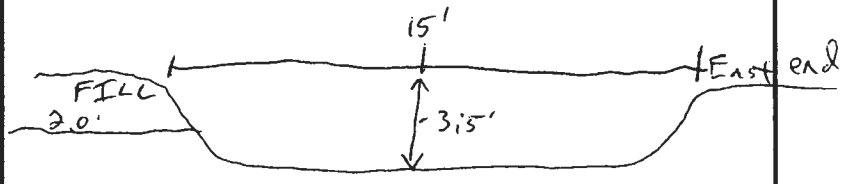
TEST PIT NO. TP11-14
Location: SEAD-11
Former Seneca Army Depot
Romulus, NY

DEPTH (ft bgs)	Stratigraphy	Macro	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
0.5'			Dark Brown Topsoil	
2.0'			Black to Brown Sandy soil with some metal debris, bottles, pipe, fencing, metal trash can on west side of pit	Oppm Throughout
3.5'			Brown sandy clay, low plast. Bottom of fill	Oppm
			Bottom of excavation	

EXCAVATION DIMENSIONS: (Length X Width X Depth) 15' x 2.5' x 3.5'
AIR MONITORING DATA: Background OVM Reading: 0.0
Maximum Breathing Zone OVM Reading: 0.0

TIME	SAMPLE I.D.	LOCATION
1515	TP-11-14 Deep 114015	2.0' depth below Trash can on west end
1520	TP-11-14 Shallow 114016	0.5' depth from east end

CROSS SECTION
(Include approximate dimensions)



24" wide