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July 18, 2012

Mr. Steve Nohrstedt U.S. Army Corps of Engineers Engineering and Support Center, Huntsville Attn: CEHNC-ED-CS-P 4820 University Square Huntsville, AL 35816-1822

SUBJECT: Draft Feasibility Study Report for the Munitions Response Action at the Open Detonation (OD) Grounds at Seneca Army Depot Activity, Romulus, New York; Contract W912DY-08-D-0003, Task Order 0013

Dear Mr. Nohrstedt:

Parsons Government Services Inc. (Parsons) is pleased to provide you with the Draft Feasibility Study Report for the Munitions Response Action at the Open Denotation (OD) Grounds at the Seneca Army Depot Activity (SEDA) in Romulus, New York. This document was prepared in accordance with the Scope of Work for Task Order 0013 under Contract No. W912DY-08-D-0003.

Parsons appreciates the opportunity to provide you with this Feasibility Study Report. Should you have any questions, please do not hesitate to call me at (617) 449-1405 to discuss them.

Sincerely,

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

Enclosures

cc: S. Absolom, SEDA K. Hoddinott, CHPPM R. Battaglia, USACE, NY District T. Battaglia, USACE, NY District



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July 18, 2012

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Draft Feasibility Study Report for the Munitions Response Action at the Open SUBJECT: Detonation (OD) Grounds at Seneca Army Depot Activity, Romulus, New York; EPA Site ID# NY0213820830 and NY Site ID# 8-50-006

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

Parsons Government Services Inc. (Parsons) is pleased to provide you with the Draft Feasibility Study Report for the Munitions Response Action at the Open Denotation (OD) Grounds at the Seneca Army Depot Activity (SEDA) in Romulus, New York (EPA Site ID# NY0213820830 and NY Site ID# 8-50-006). This document was prepared in accordance with the Scope of Work for Task Order 0013 under USACE Contract No. W912DY-08-D-0003.

Parsons appreciates the opportunity to provide you with this Feasibility Study Report. Should you have any questions, please do not hesitate to call me at (617) 449-1405 to discuss them.

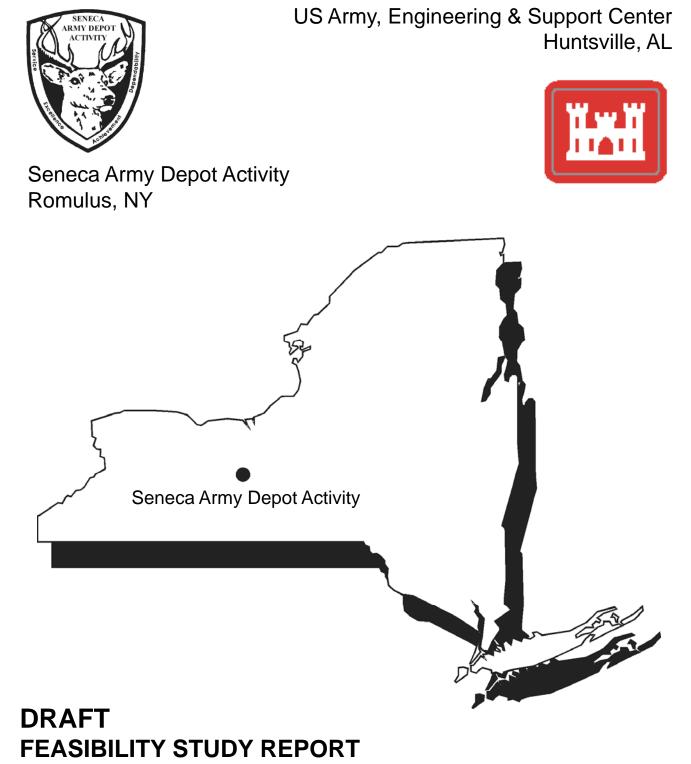
Sincerely,

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

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MUNITIONS RESPONSE ACTION OPEN DETONATION GROUNDS SENECA ARMY DEPOT ACTIVITY

Contract No. W912DY-08-D-0003 Task Order No. 0013 EPA Site ID# NY0213820830 NY Site ID# 8-50-006

JULY 2012

DRAFT

FEASIBILITY STUDY REPORT

for

OPEN DETONATION GROUNDS MUNITIONS RESPONSE ACTION

SENECA ARMY DEPOT ACTIVITY ROMULUS, SENECA COUNTY, NEW YORK

Prepared for:

U.S. Army Engineering and Support Center, Huntsville



and SENECA ARMY DEPOT ACTIVITY ROMULUS, NEW YORK

Prepared by:

PARSONS 100 High Street Boston, MA 02110

Contract Number W912DY-08-D-0003 Task Order No. 0013 EPA Site ID# NY0213820830 NY Site ID# 8-50-006

JULY 2012

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LIST OF ACRONYMS

Area of Interest
Applicable or Relevant and Appropriate Requirements
U.S. Army
Ambient Water Quality Standards
Blow in Place
Baseline Risk Assessment
Base Realignment and Closure
Comprehensive Environmental Response, Compensation, and Liability Act
Code of Federal Regulations
Chemical of Concern
Chemical of Potential Concern
Clean Water Act
Digital Geophysical Mapping
Department of Defense
Department of Energy
Department of Transportation
Environmental Conservation Law
Electromagnetic
Environmental Protection Agency
Ecological Risk Assessment
Expanded Site Inspection
Feasibility Study
Classification: The best usage of Class GA waters is as a source of potable water
supply. Class GA waters are fresh groundwaters.
Geocomposite Clay Liner
Ground Penetrating Radar
Health and Safety Plan
High Explosives of Concern
Hazard Quotient
Liter
Low Permeability Soil
Local Redevelopment Authority
Land Use Control
Multi-Agency Radiological Site and Survey Investigation Manual
Munitions Debris
Munitions and Explosives of Concern Hazard Analysis
milligrams per Liter
Material Potentially Presenting an Explosive Hazard

MSL	Mean sea level
mV	Millivolt
MW	Monitor Well
NCP	National Contingency Plan
NFA	No Further Action
NRC	Nuclear Regulatory Commission
NYCRR	New York Code of Rules and Regulations
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
O&M	Operation and Maintenance
OD	Open Detonation
OE EE/CA	Ordnance Explosive Engineering Evaluation and Cost Analysis
OSHA	Occupational Safety and Health Act
OSWER	Office of Solid Waste and Emergency Response
Parsons ES	Parsons Engineering Science, Inc.
PCB	Polychlorinated Biphenyl
POTW	Publicly Owned Treatment Work
ppm	parts per million
RAGS	EPA Risk Assessment Guidance for Superfund
RAO	Remedial Action Objectives
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
RME	Reasonable Maximum Exposure
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act
SCIDA	Seneca County Industrial Development Agency
SCO	Soil Cleanup Objective
SEAD	Seneca Army Depot (old name)
SEDA	Seneca Army Depot
SPDES	State Pollutant Discharge Elimination System
SPLP	Synthetic Precipitation Leaching Procedure
SRI	Supplemental Remedial Investigation
SVOC	Semi-Volatile Organic Compound
SW	Surface water
SWMU	Solid Waste Management Unit
TAGM	Technical and Administrative Guidance Memorandum
TBC	To Be Considered
TCLP	Toxicity Characteristics Leaching Procedure
ТР	Test Pit
TPV	Total Present Value

μg/L	Micrograms per liter
USACE	United States Army Corps of Engineers
USC	United States Code
USCS	Unified Soil Classification System
VOC	Volatile Organic Compound
WP	White Phosphorus

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- Weston Solutions, Inc., 2006. Draft Phase II Ordnance and Explosives Removal Report. March 2006.

EXECUTIVE SUMMARY

Parsons, on behalf of the US Army (Army), is submitting this Feasibility Study (FS) Report for the Open Detonation (OD) Grounds (SEAD-006-R-01 [formerly SEAD-45 and SEAD=115] located at the Seneca Army Depot Activity (SEDA) in Romulus, New York. This FS considers the nature and extent of impacts that have been characterized during previous investigations, including the Site Investigation, Ordnance Explosive Engineering Evaluation and Cost Analysis (OE EE/CA), Phase I and Phase II OE Removal and Supplemental Munitions Response. This report is part of the RI/FS process required for compliance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 and the Superfund Amendments Reauthorization Act (SARA) of 1986. SEDA has officially been closed by the Department of Defense (DoD) and the Army since its historic mission was ceased in 2000. This document has been prepared for the US Army Corps of Engineers, Huntsville District, under Contract No. W912DY-08-D-0003, DO 0013, Task Order No. 0013.

Based on the previous site investigations, it was determined that the OD Grounds requires further action. This FS presents the remedial action alternatives that were developed in accordance with the Guidance for Conducting Remedial Investigations and Feasibility Studies (RI/FS) under CERCLA (EPA/540/G-89/004, 1988). Three alternatives were developed and evaluated using the US Environmental Protection Agency (EPA)'s nine evaluation criteria for the OD Grounds. These alternatives are:

- Alternative 1: No Further Action (NFA)
- Alternative 2: Geophysical mapping, intrusive investigation, capping, and land use controls (LUCs)
- Alternative 3: Geophysical mapping, intrusive investigation, excavation, off-site disposal, and LUCs

Alternative 1, NFA, was included for comparative purposes. Alternatives 2 and 3 are similar, with the following difference: under Alternative 2, soils near the OD Hill would be capped and under Alternative 3 soils near the OD Hill would be excavated, processed, and disposed off-Site. The munitions and explosives of concern (MEC) Hazard Analysis (HA), which was completed as part of this FS Report, demonstrates that both Alternatives 2 and 3 similarly protective and limit the exposure pathway to potential material potentially presenting an explosive hazard (MPPEH). Alternative 3 rates more favorably for permanence and volume reduction and Alternative 2 rates more favorably for implementability. The cost of Alternative 3 is substantially higher than the cost of Alternative 2. The capital cost of Alternative 2 is \$7.3M, with a present worth value over 30 years of \$7.8M. The capital cost of Alternative 3 is \$27.1M, with a present worth value of \$27.3M. Based on the thorough evaluation of the seven criteria, Alternative 2 is the preferred alternative.

The implementation of Alternative 2 includes the following elements:

• Conducting digital geophysical mapping (DGM) of the Area, acquisition and removal of anomalies; all identified MPPEH will be handled and managed appropriately by trained personnel.

- Mag and dig operations with a handheld magnetometer, such as a Schonstedt, in areas that are wooded or inaccessible;
- In the metallic saturation (likely near the OD Hill), excavation of the top 6 inches of soil. Soil will be screened to remove potential MPPEH, followed by additional DGM, and intrusive investigation, (and additional excavation, if needed). The excavated overburden will be staged on-site for potential reuse and/or incorporation into the site cap
- Design and construction of an engineered cap to cover contaminated soils and be at least 18 inches thick over the OD Hill area. Excavated soil that passed through the screen will be placed on the OD Hill under the cap. The cap will comply with applicable requirements of New York State (NYS) Part 360 requirements for leaving waste in-place.
- LUCs will be placed on the site to prohibit the use of groundwater, prohibit digging, and prevent the use of the site for use as a daycare or a residential facility.
- Long-term monitoring will be conducted annually to monitor and maintain the cap.
- A five year reviews will be conducted.

Implementation of this alternative would be highly effective in achieving the Remedial Action Objectives (RAOs), long-term effectiveness, preventing exposure, and implementability. The costs for this alternative are moderate.

1.0 INTRODUCTION

1.1 PURPOSE AND ORGANIZATION OF REPORT

Parsons, on behalf of the Army, is submitting this FS Report for the OD Grounds located at the SEDA in Romulus, New York. This report is part of the RI/FS process required for compliance with CERCLA and SARA. The RI/FS at OD Grounds has been performed under the guidance of the EPA, EPA Region II, and the New York Department of Environmental Conservation (NYSDEC). This document has been prepared for the U.S. Army Corps of Engineers, Huntsville District, under Contract No. W912DY-08-D-0003, DO 0013, Task Order No. 0013.

Several characterization efforts and investigations for MPPEH and impacted soils have been conducted at the OD Grounds and are summarized in the following documents:

- Expanded Site Investigation (ESI) for Seven High Priority Solid Waste Management Units (SWMU) SEAD 1, 16, 17, 24, 25, 26, 45, Seneca Army Depot (Engineering Science, Inc, December 1995);
- Final Ordnance and Explosives Engineering Evaluation/Cost Analysis Report (OE EE/CA), Seneca Army Depot (Parsons ES, February 2004);
- Final Site Specific Project Report SEAD 45/115 Open Detonation Grounds Ordnance and Explosives Removal Phase I Geophysical Survey and Cost Estimate, Seneca Army Depot (Weston, March 2005);
- Draft Phase II Ordnance and Explosives Removal Report (Weston, March 2006); and
- Additional Munitions Response Site Investigation Report, Seneca Army Depot (Parsons ES, May 2010).

These reports serve as the basis to characterize the nature and extent of operational impacts and to assess human health and environmental risks at the OD Grounds. The MEC HA, which is part of this document, is used to evaluate the existing and residual risk at this site. This FS considers the nature and extent of impacts that were characterized in these documents, evaluates remedial action alternatives, and selects the most appropriate remedy for the OD grounds. This report is organized in accordance with the Guidance for Conducting RI/FIs under CERCLA (EPA, 1988).

Section 1.2 provides a brief overview of the characterization efforts, including background information, nature and extent of contamination, and the MEC HA. **Section 2.0** presents the remedial action objectives for each medium of concern and considers general response actions that meet the remedial objectives. **Section 3.0** evaluates the alternatives for each medium by preliminary screening to determine their relative merits for use in the remedial action. **Section 4.0** evaluates the remedial action alternatives in detail and provides the basis for selection of the remedy for the OD Grounds.

1.2 OD GROUNDS BACKGROUND

1.2.1 OD Grounds Description

The SEDA is located approximately 40 miles south of Lake Ontario, near Romulus, New York as shown in **Figure 1-1**. The facility is located in an uplands area, at an elevation of approximately 600 feet Mean Sea Level (MSL), that forms a divide separating two of the New York Finger Lakes; Cayuga Lake on the east and Seneca Lake on the west. Sparsely populated farmland covers most of the surrounding area. NYS Highways 96 and 96A adjoin SEDA on the east and west boundaries, respectively.

The SEDA previously occupied approximately 10,600 acres of land located in the Towns of Varick and Romulus in Seneca County, New York. The former military facility 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 1995, the SEDA was designated for closure under the 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 SWMUs to including the release of non-affected portions of the Depot to the surrounding community so that the land can be reused for non-military purposes (i.e., industrial, municipal, and residential). Since the inclusion of the SEDA in the BRAC program, approximately 8,000 acres have been released to the community. An additional 250 acres of land have been transferred to the U.S. Coast Guard for continued operation of a LORAN Station.

The OD Grounds located in the northwestern corner of the Depot in Seneca County, New York and is also known as SEAD-006-R-01 (formerly SEAD-45 and SEAD-115). The site, shown in **Figure 1-3**, is largely meadow with some wooded and heavily brushed areas. Reeder Creek runs through the OD Grounds. The OD Grounds consists of 365 acres and was used to perform open detonation and burning of munitions. Note that the Open Burning Grounds (also known as SEAD-23) is a separate site that has previously been addressed separately. Access into the greater OD Grounds demolition area is possible via a paved road that enters the area from the southeast and roughly parallels the path of Reeder Creek along its western bank. The unnamed access road branches off North-South Baseline Road near Building 2104, which is located in the southeastern corner of the OD Grounds.

1.2.2 Future Land Uses

CERCLA guidance, Land Use in the CERCLA Remedy Selection Process, Office of Solid Waste and Emergency Response (OSWER) Directive 9355.7-04, directs decision makers to achieve cleanup levels associated with the reasonably anticipated future land use over as much of the site as possible. As part of the 1995 BRAC process, a Local Redevelopment Authority (LRA) comprised of representatives from the local community was established. DoD policy described in Responsibility for Additional Environmental Cleanup after Transfer of Real Property also states that "For BRAC properties, the LRA's redevelopment and land use plan, will be the basis for the land use assumptions DoD will consider during the remedy selection process." A Land Reuse Plan was prepared and approved by the LRA in 1996 which designated parcels of land within the Depot for reuse into eight categories: Planned Industrial/Office Development,

Warehousing, Prison, Conservation/Recreation, Institutional, Housing, Airfield/Special Events, and Federal to Federal Transfer. The area that encompasses SEAD-12 was determined to be "Conservation/Recreation Area". In 2005, the Seneca County Industrial Development Agency (SCIDA) revised the planned future use of property within the former Depot and added Institutional Training, Residential/Resort, Green Energy, Development Reserve, Training Area, and Utility uses. Under this revised future use plan, the OD Grounds is located in the "Conservation/Recreation" parcel of the former Depot (see **Figure 1-2**). That is, the planned future use for OD Grounds is for Conservation and Recreational purposes. In addition to the consideration of future land use during the remedy selection process, NYS regulations, New York Code of Rules and Regulations (NYCRR) Title 6, Chapter IV, Subchapter B, Part 375, Subpart 375-2.8 Remedial Program, requires evaluation of remedies that will restore the site conditions to "pre-disposal conditions to the extent feasible."

1.2.3 Geological Setting

The Finger Lakes uplands area is underlain by a broad north-to-south trending series of rock terraces mantled by glacial till. As part of the Appalachian Plateau, the region is underlain by a tectonically undisturbed sequence of Paleozoic rocks consisting of shales, sandstones, conglomerates, limestones and dolostones. In the vicinity of SEDA, Devonian age (approximately 385 million years ago) rocks of the Hamilton Group are monoclinally folded and dip gently to the south. No evidence of faulting or folding is present. The Hamilton Group is a sequence of limestones, calcareous shales, siltstones, and sandstones.

SEDA geology is characterized by gray Devonian shale with a thin weathered zone where it contacts the overlying mantle of Pleistocene glacial till. This stratigraphy is consistent over the entire SEDA facility. The predominant surficial geologic unit present at the site is dense glacial till. The till is distributed across the entire facility and ranges in thickness from less than 2 feet to as much as 15 feet although it is generally only a few feet thick. The 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 ripped-up clasts removed by the active glacier.

The bedrock underlying the site is composed of the Ludlowville Formation of the Devonian age, Hamilton Group. Merin (1992) also cites three prominent vertical joint directions of northeast, northnorthwest, and east-northeast in outcrops of the Genesee Formation 30 miles southeast of SEDA near Ithaca, New York. Three predominant joint directions, N600E, N300W, and N200E are present within this unit (Mozola, 1951). These joints are primarily vertical. The Hamilton Group is a gray-black, calcareous shale that is fissile and exhibits parting (or separation) along bedding planes.

1.2.4 Hydrogeology

Regionally, four distinct hydrologic units have been identified within Seneca County (Mozola, 1951). These include two distinct shale formations, a series of limestone units, and unconsolidated beds of Pleistocene glacial drift. Overall, the groundwater in the county is very hard, and therefore, the quality is minimally acceptable for use as potable water.

Regionally, the water table aquifer of the unconsolidated surficial glacial deposits of the region would be expected to flow in a direction consistent with the ground surface elevations. Geologic cross-sections from Seneca Lake and Cayuga Lake have been constructed by NYS, (Mozola, 1951 and Crain, 1974). The geologic cross-sections suggest that a groundwater divide 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 towards Seneca Lake. Local hydrogeology is overall consistent with the regional hydrogeology.

Surface drainage from SEDA flows to five primary creeks. In the southern portion of the Depot, the surface drainage flows through man-made drainage ditches and streams into Indian and Silver Creeks. These creeks then merge and flow into Seneca Lake just south of the SEDA airfield. The central part and administration area of the SEDA drain into Kendaia Creek. Kendaia Creek flows in a predominant westerly direction, and discharges into Seneca Lake at a location north of Pontius Point and the SEDA's former Lake Shore Housing Area. The majority of the northwestern and north-central portion of the SEDA drains into Reeder Creek. Reeder Creek flows predominantly northwesterly and leaves the Depot at a point that is north of the Open Detonation Area (i.e., SEAD-45) and west of the former Weapons Storage Area or the "Q" (i.e., SEAD-12) before it turns to the west and flows into Seneca Lake. The northeastern portion of the Depot, which includes a marshy area called the Duck Pond, drains into Kendig Creek and then flows north into the Cayuga-Seneca Canal and to Cayuga Lake. Other minor creeks are also present and drain portions of the Depot.

Surface water flow from precipitation events at OD Grounds is controlled by local topography which slopes gently to the east-northeast, as there is little relief on-site other than the demolition mound. In general, surface water flows east making its way into a network of drainage swales throughout the site that eventually lead into Reeder Creek, a sustained surface water body. Reeder Creek flows to the north-northwest along the eastern border of the OD Hill.

The groundwater flow direction in the till/weathered shale aquifer on the site is to the east based on the groundwater elevations measured in nine monitoring wells on April 4, 1994. The distribution of groundwater in the till aquifer is characterized by moist soil with coarse-grained lenses of water-saturated soil and in most instances the deeper weathered shale horizons were saturated. The recharge of water to the wells during sampling in 1994 was generally poor.

1.2.5 SWMU History

The OD Grounds was used to destroy munitions. Operations at the OD Grounds began circa 1941 when the Depot was first constructed and continued at regular intervals until circa 2000 when the military mission of the Depot ceased. This facility operated under Interim Status as a Subpart X Miscellaneous Unit for open burning and open detonation of explosives, propellants and pyrotechnics and other unserviceable ammunition under 40 CFR Part 265 and NYCRR 373-1. Due to the closure of the Site, the RCRA permit was not finalized as Final Status. RCRA Closure requirements and RCRA Corrective Action requirements were deferred to the CERCLA program by the NYSDEC. Under this deferment, the Army was permitted to open burn and open detonate all MPPEH to safely dispose and demilitarize the materials in association with any remedial activities. Final Closure of the open burning tray will occur at the end of these activities.

During operations, munitions were placed in a hole created in the hill with additional demolition material, covered with a minimum of 8 feet of soil, and detonated remotely. After demolition was completed, explosively displaced portions of the mound were reconstructed by bulldozing displaced and native soils back into the central earthen mound.

The historic operations resulted in MEC, MPPEH, munitions constituents (MC), and munitions debris (MD) being expelled from the OD Hill to the surrounding area. The investigations revealed that the area 1,000 foot to 2,000 foot from the OD Hill received "kickouts" from the demolition operation.

1.2.6 Previous Investigations and Activities

1.2.6.1 1995 Expanded Site Investigation for Seven High Priority SWMUs

Engineering Science, Inc. completed an Expanded Site Investigation (ESI) at the OD Grounds. During the ESI, surface and subsurface soil samples, groundwater and surface water samples, sediment samples were collected. The nature and extent of the impacts from the sample results is discussed in section 1.3. In addition, ground penetrating radar (GPR) and Geonics Electromagnetic terrain conductivity meter (EM-31) surveys were performed in addition to anomaly removal. Five detailed GPR grids were conducted to further characterize several anomalies identified by the EM-31 survey. Ten test pits were excavated to identify the sources of various EM-31 anomalies.

Based on the ESI EM-31 surveys anomalies in test pits TP45-3, TP45-4, TP45-5, TP45-6 and TP45-10 were attributed to pipes, blasting wires, and conduit wires. The other test pits encountered a variety of material, including munitions fragments, wood, ash, wire, nails, etc., all of which may have contributed to the observed EM-31 anomalies. Parsons collected 14 soil samples and submitted them for laboratory analysis for volatile organic compounds (VOC), semivolatile organic compounds (SVOCs), Pesticides/PCBs, Metals, cyanide, explosives, herbicides, and nitrates. The results of the soil investigations are summarized in the Nature and Extent discussion in **Section 1.3.1** below.

1.2.6.2 2000 Ordnance and Explosives Engineering Evaluation and Cost Analysis

Parsons ES completed the field work for the EE/CA in 2000 and prepared the final report in 2004. The purpose of the EE/CA was to characterize the nature and extent of Ordnance and Explosives, now referred to as MEC, identify potential safety problems associated with MEC, and study risk management alternatives at the various Areas of Interest (AOI). This objective was accomplished by characterizing MEC presence and developing and analyzing risk management alternatives.

The EE/CA fieldwork used geophysical survey techniques and intrusive investigations to estimate the density of the ordnance in different areas, which was then compared with the current and future activities and anticipated users. Data collected from this characterization project were also used to develop alternatives designed to reduce the risk of possible exposure to UXO within the AOIs, which included the OD Grounds. These alternatives were then evaluated to determine their effectiveness, implementability, and cost.

As part of the OE EE/CA, fifty-seven 100-foot by 100-foot grids were surveyed at the OD Grounds using the EM61-MK2 (EM-61) Six grids in heavily wooded areas were also investigated by "mag and flag" surveys. In the majority of the grids surveyed with the EM61, a high density of buried metal was detected. Of the 1,337 anomalies identified in the EM61 surveyed grids, 86% were intrusively investigated. Two of the "mag and flag" surveyed grids were also intrusively investigated, although no statistics are available for these grids.

Approximately 3.5 acres of meandering path data were collected in the OD Grounds using the EM61. This data was all collected to the west and north of the grids surveyed in the OD Grounds. Due to extremely thick brush and forest to the east of the gridded area of the OD Grounds no meandering path data were collected in this direction. The meandering path data that was collected represented 2% of the 174-acre area outside of the 60-acre area investigated by the grid surveys. Of the 970 anomalies selected from the meandering path data, 72% were intrusively investigated. Of these, 19 (2.7%) were "false positives" as no discernable metallic debris was located.

Ordnance-related items were recovered from 666 of the 701 anomalies investigated (95%), and 21 of these were UXO items, now referred to as MEC/MPPEH. Density determinations were made using USACE's UXO Calculator, and the OD Grounds meandering path AOI was defined as 'high density' for having a density greater than 10 anomalies/acre.

1.2.6.3 2003 Phase I Geophysical Investigation

The Phase I Geophysical Investigation of the OD Hill was conducted between 2 June and 27 August 2003. An EM61towed-array system was used to perform a geophysical survey in all accessible areas between 1,000 ft. and 2,500 ft. from the OD Hill (213 acres), and a "mag and flag" approach using handheld magnetometers was used in a portion of the wooded/transect areas (9.65 acres). Results of the geophysical survey revealed that approximately 599 targets per acre exist in non-wooded areas between 1,000 ft. and 1,500 ft. of the OD Hill, approximately 139 targets per acre exist in non-wooded areas between 1,500 ft. and 2,500 ft. of the OD Hill, and approximately 208 targets per acre exist in wooded (transect) areas.

To verify the accuracy of results obtained both digitally and manually, Weston and EOTI UXO Technicians removed a total of 512 items from anomaly target locations within the non-wooded/open areas, and a total of 736 items from anomaly target locations within the transects. Of the 512 target anomalies excavated from the non-wooded/open areas, approximately 97% of the items were found at a maximum depth of 12 inches bgs. No items were excavated from a depth exceeding 20 inches bgs.

This investigation identified approximately 14,700 anomalies that are to be investigated in the open areas between 1,000 ft. and 1,500 ft. from the OD Hill under an area munitions response action.

1.2.6.4 2006 Phase II Ordnance and Explosives Removal Activities

The primary objective of Phase II was to reacquire, remove, and dispose of approximately 8,500 MEC/UXO items and ordnance related scrap now referred to as MD located in non-wooded areas, between the 1,500-ft. and 2,500-ft. radius from the OD Hill to a depth of 4 ft. In addition, potential

MEC/UXO and MD items located within 220 transects through wooded areas of the OD Grounds also required reacquisition, removal, and disposal.

Between September 2003 and March 2005, Weston removed 7,940 out of the 8,500 identified anomalies within the open area of the OD Grounds. In the wooded area, Weston investigated and removed and cleared 169 of the 220 transects.

In the open area, a total of 9,497 individual items were removed between the 1,500-ft and 2,500-ft. radius. Weston removed 6,663 individual items from the wooded areas. The percent of items recovered in both Phase I and Phase II investigations that were classified as OE (MEC or MPPEH) was 7%. Approximately 58% of the items recovered were classified as MD and 28% were classified as CD. 6% of the items recovered were no-contacts.

1.2.6.5 2010 Supplemental Work

The focused site investigation was conducted by Parsons ES in 2010 and included topographic and geophysical surveys of specific areas within the OD Grounds and the collection and analysis of soil samples from TP and surface soil locations. The objectives of the site investigation included determining MC concentrations in sub-surface and surface soils in or adjacent to the OD Hill; depth of soil and debris in saturated areas for geophysical mapping to identify individual anomalies; determine the volume of soil in the OD Hill; and estimation of the bedrock surface at the OD Grounds. The results of the MC sampling indicated that metal concentrations are generally greatest in soils closest to the OD Hill and decrease with distance from OD Hill. With one exception, concentrations of metals detected at a distance greater than 1,000 ft from the OD Hill were below the relevant criteria levels. The topographic investigation concluded that bedrock underlying the area of the OD Hill mound is estimated to vary from 10 to 20 ft. bgs.

The Army selected five test plots in order to provide a preliminary assessment of the vertical deposition of MPPEH, MD, MC, and CD located at different distances and in different directions from the OD Hill. As part of this investigation, if the initial geophysical survey at a test plot location continued to show high levels of geophysical anomalies, additional one-foot excavations and repeat EM surveys were conducted as directed by the Army.

Review of the data gathered indicates that anomaly densities generally decrease with depth of excavation, especially at distances greater than 100 to 200 feet from the mounded Hill. The overall assessment of the data suggest that there may be a directional component to the vertical deposition of anomalies, as is evidenced by the absence of anomalies to the southeast of the OD Hill and the presence of anomalies to the northeast and northwest at roughly comparable distances from the detonation site. Additionally, the results suggest that areas in close proximity to the OD Hill may have more subsurface anomalies due to the extensive amount of soil rework that was done at this Site during its operational period.

1.3 Nature and Extent of Impacts

1.3.1 Soil

As part of the development of this FS, analytical data are compared to EPA Regional Screening Levels (RSL) updated in May 2012 for soil and the NYSDEC approved Subparts 375-1 through 375-4 and Subpart 375-6 under 6 NYCRR Part 375 - Environmental Remediation Programs. 6 NYCRR Subpart 375-6, effective December, 2006, includes the soil cleanup objective (SCO) tables developed for unrestricted use and restricted use scenarios. As the OD Grounds is located in the future Conservation/Recreation area and it is a given that residential/child care activity will be restricted because this is a Munitions Response Site, the NYSDEC SCOs for the commercial use scenario are considered to be appropriate criteria for the OD Grounds. Note that the soil cleanup objectives in 6 NYCRR Subpart 375-6 had not been developed at the time of previous investigations and were not considered in the ESI. The ESI report summarized that heavy metals are contaminants of concern.

Soil sampling was performed at the OD Grounds during several previous investigations. All data gathered have been used to determine the nature and extent of impact on soil due to previous site activities. **Figure 1-4A** and **Figure 1-4B** show the approximate locations of the soil samples collected at the OD Grounds. A summary of surface and subsurface soil exceedances data are presented in **Table 1-1**. The full dataset is provided in Appendix A. A total of ninety seven soil samples were collected and analyzed for inorganic metals. Forty seven sample collected were analyzed for explosives and thirty-five samples were analyzed for SVOCs and pesticides/PCBs. Sixteen samples were analyzed for VOCs. The analytical data are compared to the Commercial SCOs. None of the VOC and SVOCs results exceed the Commercial SCOs. The concentration of one PCB, Aroclor-1254, exceed the Commercial SCO in one sample. Among the metals, cadmium, copper and mercury were the only metals to exceed their respective Commercial SCOs.

Figures 1-5A and **1-5B** illustrate that the concentrations of the metals in the soil are higher close to the OD Hill and the concentrations decrease as the distance increases into the Kickout area of the OD Grounds. The figures highlight that there were no exceedances of Commercial SCOs in the Kickout area. Samples collected for metals analysis were also sent for synthetic precipitation leaching procedure (SPLP) analysis during the 2010 Supplemental Work. The discussion of these results and samples are included in Section 1.4.1.

1.3.2 Groundwater

During the ESI, Open Burning Grounds RI Phase 1, and OB quarterly sampling, the Ambient Water Quality Standards (AWQS) for Class GA groundwater or groundwater MCL (NYSDEC, 2004) were used to evaluate groundwater conditions at the OD Grounds. A summary of groundwater exceedances is presented in **Table 1-2**.

There were no VOC exceedances in the groundwater samples collected during these studies at the OD Grounds. No pesticides or herbicides were found in the groundwater samples collected. Two explosives were each detected once below their groundwater criteria. One SVOC (Bis(2-Ethylhexyl)phthalate) was detected in four groundwater samples at concentrations above the criteria value. Ten metals (antimony,

beryllium, chromium, iron, lead, manganese, mercury, nickel, sodium, and thallium) were found in one or more the groundwater samples at concentrations above the criteria value. Most the exceedances occurred in the samples collected during ESI, and only one sample collected during the Phase 1 RI was above the criteria value. Among the sample collected during the Phase 1 RI, only one sample exceeded concentration above the comparison criteria for thallium. Thallium concentrations in all the remaining samples were below the comparison criteria. The groundwater sampling methodology used during the ESI resulted in high turbidity in the samples. The elevated metals concentrations are likely due to the turbidity levels and are associated with suspended particles rather than representative of actual conditions in the groundwater aquifer. It is not believed that the groundwater at the OD Grounds is impacted by historic site activities.

1.3.3 Surface Water

During the ESI, the NYSDEC AWQS for Class C surface water surface water were used to evaluate the OD Grounds surface water conditions. A summary of surface water data from the ESI is presented in **Table 1-3**. Four surface water samples were collected as part of the OD Grounds investigation. Three of the surface sample samples were collected from drainage ditches located downgradient of the OD Hill, and the fourth sample was collected from a low-lying area northwest of the OD Hill. No VOC, SVOC, pesticide, PCB, herbicide compounds were found in the samples collected. Seven metals aluminum, cadmium, copper, iron, lead, mercury, and zinc were found in three of the four surface water samples at concentrations above the associated criteria value. In addition, nitroaromatic compounds were found in two of the surface water sample collected. The surface water samples were collected from drainage swales that were typically dry and the water sampled likely represented surface runoff from a recent precipitation event, rather than site surface water. Surface water is not considered a media of concern.

1.3.4 Sediment

Four sediment samples were collected during the ESI. Three of the sediment samples were collected from the drainage ditches located downgradient of the OD Hill and the fourth sample was collected from a low-lying area northwest of the OD Hill. The material at the base of the drainage swales is site soil. The sediment samples collected during the ESI are located approximately 500 ft to 600 ft from the OD Hill, or within or close to the "OD Hill area". These samples were analyzed for VOCs, SVOCS, metals, PCBs, pesticides, herbicides and nitrate/nitrite nitrogen.

VOCs and herbicides were not detected in the sediment samples. Several SVOCs, nitroaromatics, pesticides, and PCBs were detected, primarily at low concentrations.

A summary of sediment (ditch soil) analytical results from the ESI is presented in **Table 1-4**, is compared to the commercial SCOs in **Table 1-4**. The results show that cadmium, copper, and mercury were detected at concentrations slightly elevated compared to their respective commercial SCOs. The single exceedence of the commercial SCOs was limited to cadmium, which was detected at the low-lying ditch soil sample location at a concentration of 25.6 mg/kg compared to the commercial SCOs in the drainage swale samples located downgradient of the OD Hill, with concentrations as follows: Cadmium 14.9 mg/kg (SCO = 9.3

mg/kg); Copper 814 mg/kg and 323 mg/kg (SCO = 270 mg/kg); Mercury 5.3 mg/kg and 4.4 mg/kg (SCO = 2.8 mg/kg). These concentrations of metals in the ditch soil are similar or lower than the levels observed at similar locations in the soil samples. The ditch soil will be grouped with the soil located in the OD Hill area.

1.3.5 Geophysics

All geophysics efforts conducted during previous investigations were followed by investigation of a select number of anomalies and target areas. The OD Grounds area has been included in various geophysical investigations in the past. The results of the geophysical investigation and the following investigation of anomalies and targets are discussed in detail in **Section 1.2** – Previous Investigation.

1.4 FATE AND TRANSPORT

This section presents an overview of the fate and transport characteristics for the contaminants detected at the OD Grounds - metals, and potential MPPEH/MD.

Understanding the fate of the various MEC and MC contaminants potentially present in or released to the environment is important to evaluate the potential hazards or risks posed by those contaminants to human health and/or the environment. For example, MEC may be found on the ground surface or be below grade; however, it is possible for natural processes to result in the movement, relocation, or unearthing of the MEC, thereby increasing the chance of its subsequent exposure to human receptors. Furthermore, MC may remain inside intact munitions or chemicals that may have been released to the environment during operational activities.

Environmental samples collected and previous geophysical investigation and anomaly investigations indicate the presence of MEC/MD, metals, nitrates and explosives at the OD Grounds. The following paragraphs discuss potential migration processes for, the persistence of, and the potential migration routes of MEC/MD and of the COPCs present at the site.

Many different environmental processes act upon MC, which may influence or alter their availability to interact with receptors. These processes depend on the media in which the source (MEC or MD) exists and the exposure of MC to the processes. These processes work through the different media: air, soil, surface water, groundwater, or biota. The following are short descriptions of these processes as described in Hewitt, et al. (2003).

- Advection the passive movement of a solute with flowing water.
- **Dispersion** the observed spreading of a solute plume, generally attributed to hydrodynamic dispersion and molecular diffusion.
- Adsorption/desorption the process by which dissolved, chemical species accumulate (adsorption) at an interface or are released from the interface (desorption) into solution.
- **Diffusion** the migration of solute molecules from regions of higher concentration to regions of lower concentration.

- **Biotic transformation** the modification of a chemical substance in the environment by a biological mechanism.
- **Oxidation/reduction** reactions in which electron(s) are transferred between reactants.
- **Covalent binding** the formation of chemical bonds with specific functional groups in soil organic solids.
- **Polymerization** the process by which the molecules of a discrete compound combine to form larger molecules with a molecular weight greater than that of the original compound, resulting in a molecule with repeated structural units.
- **Photolysis** the chemical alteration of a compound due to the direct or indirect effects of light energy.
- **Infiltration** the process by which water enters the soil at the ground surface and moves into deeper horizons.
- **Evapotranspiration** the collective processes of evaporation of water from water bodies, soil and plant surfaces, and the transport of water through plants to the atmosphere.
- **Plant root uptake** the transport of chemicals into plants through the roots.
- Sedimentation The removal from the water column of suspended particles by gravitational settling.

1.4.1 Metals

The analytical results from the soil samples collected during the 2010 OD Grounds Supplemental work indicate that metal concentrations are highest in samples collected in close proximity to the OD Hill, and generally decrease in the Kickout area as distance from the OD Hill increases.

Once all total metal concentration results were received and evaluated, eight samples were selected for leachability determinations using the SPLP (EPA SW-846 Method 1312) in combination with EPA SW-846 Method 6010 and 7471, as appropriate for the RCRA eight metals (i.e., arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) and other metals of interest (e.g., antimony, cobalt, copper, vanadium, and zinc. The SPLP method was implemented in an effort to determine the ability of a material in the soil to potentially impact the groundwater or surface water, and, therefore, is relevant to the discussion of fate and transport. These samples were representative of the conditions within 500 feet distance from the center of the OD Hill. The results of these analyses are presented in **Appendix A-5**. Total metal analysis results presented were compared to EPA's RSLs for residential soils and NYSDEC Commercial SCO values, while the SPLP results are compared to NYSDEC GA Groundwater Effluent values. A detailed evaluation of the data is provided in the Completion Report for Additional MRS Investigation at Seneca Army Depot (Parsons, 2010).

A review of the data indicates that all of the metals detected show some potential to leach to groundwater. Two metals, mercury and lead, show the highest number of samples affected (i.e., six) at levels of potential concern, while cadmium and copper are also observed to be of potential concern when total soil concentrations move up to and above the Commercial SCOs.

While metals can be described by a range of mobilities, their transport abilities can generally be characterized by the same underlying principles. The mobility of metals within a soil system is primarily associated with the movement of water through that system. This mobility is affected by the solubility of the metal and its compounds, as well as chemical parameters affecting the oxidation state of the metal in solution. Metals associated with the aqueous phase of soil are subject to movement with soil water and may be transported through the vadose zone to groundwater. However, the rate of migration of the metal usually does not equal the rate of water movement through the soil due to fixation and adsorption reactions (Dragun, 1988). Metals, unlike organic compounds, cannot be degraded (McLean and Bledsoe, 1992). Metals become immobile due to mechanisms of adsorption and precipitation. Metal-soil interactions are such that when metals are introduced at the soil surface, downward transportation does not occur to any great extent unless the metal retention capacity of the soil is overloaded, or metal interaction with the associated waste matrix enhances mobility.

1.4.2 MPPEH/MEC/MD

There are two primary natural processes that can result in the migration or exposure of MPPEH/MEC items that might be present at a site: erosion and frost heave. Natural erosion of soil over time by the wind or by water (surface water or precipitation) can result in the exposure of MEC below grade by the removal of the overlying soil. In some cases, if soil is unstable and the erosive force is sufficient to act on the size of MEC item(s) present, this process can also result in the movement of MEC from its original position to another location (typically somewhere downstream of the wash). This is not anticipated to be the case at the OD Grounds as there has been no visual indication of this occurring on site during.

In addition to erosion, below grade objects have been known to move or migrate toward the surface during freezing and thawing cycles. This occurs when cold penetrates into the ground and water below the buried objects freezes and expands, gradually pushing the items upwards. This phenomenon is often referred to as "frost heave" and is most likely to affect items buried above the frost line. Soil type influences the occurrence of frost heave. Soil type influences the occurrence of frost heave: gravel, sand, and clay are not typically susceptible to the process, whereas silty soil is susceptible.

The 2010 Supplemental Work conducted at the OD Grounds concluded that the geophysical anomalies, which were indicative of potential presence of MPPEH showed a general decrease in density from saturated levels (i.e., 600 anomalies per acre) at surface elevations to lower densities at depth at each test plot; this is especially true for the test plots that are further from the initial point of detonation. The study also concluded that directional and point-of-detonation distance variations may be related to the vertical distribution of geophysical anomalies in the soil surrounding the detonation site.

1.5 HAZARD ASSESSMENT

A MEC HA was prepared to qualitatively assess the potential explosive hazards to human receptors associated with complete MEC exposure pathways at the OD Grounds. The results of the MEC HA show that implementation of a remedy would reduce the MEC hazard potential. A detailed description of the

MEC HA conducted for the OD Grounds, including the information and assumptions used for this assessment, is included as **Appendix B** of this FS.

This MEC HA divides the OD Grounds into two areas for assessment purposes based on differing anticipated explosive hazard characteristics. Previous investigations indicate the density of potential MEC is highest at the center of the OD Grounds, in the vicinity of the OD Hill where the demolition activities took place and areas in the immediate vicinity that received most of the "kickouts" from those activities. This area is referred to as the "OD Hill area" in this MEC HA. The second assessment area includes areas further away from the OD Hill that received kickouts, but in lower densities. This second assessment area is referred to as the "Kickout area" in this MEC HA. The locations of these two assessment areas are shown on **Figure 1-3**.

The MEC HA method focuses on hazards to human receptors and does not directly address environmental or ecological concerns that might be associated with MEC. The process for conducting the MEC HA is described in the MEC HA interim guidance document (USEPA, 2008) and uses input data based on historical documentation, field observations, and the results of previous studies and removal actions. The MEC HA interim guidance was developed by the Technical Working Group for Hazard Assessment, which included representatives from the DoD, the U.S. Department of the Interior, the USEPA, and various states and tribes. NYSDEC is not a party to the MEC HA guidance. The DoD has encouraged use of this method on a trial basis (DoD 2009).

A qualitative baseline evaluation of the potential MEC hazards posed was conducted by reviewing each of the MEC HA input factors for the OD Hill and Kickout areas. Having generated baseline MEC HA scores for each assessment area, different remedial alternatives were further evaluated using the MEC HA method to compare how they might reduce the explosive hazards in each area. The remedial alternatives evaluated were (1) geophysical mapping, intrusive investigation, and installation of an 18-inch thick cap, followed by implementation of LUCs and (2) geophysical mapping, intrusive investigation, excavation, off-site soil disposal, followed by implementation of LUCs. These are referred to in this FS as Remedial Alternatives 2 and 3, respectively. Remedial Alternative 1 represents the no action alternative, which is the baseline scenario for this MEC HA.

Under the MEC HA method, the potential MEC hazards are evaluated qualitatively for each area by evaluating site conditions and assigning related "input factors" that generate a total MEC HA score between 125 and 1,000, with the upper limit representing the maximum level of explosive hazard. The MEC HA method identified the associated hazard levels for these scores, which range from 1 to 4. A Hazard Level of 1 indicates the highest potential explosive hazard conditions and a hazard level of 4 indicates low potential explosive hazard conditions. The basis for these hazard levels is detailed in the MEC HA interim guidance document (USEPA 2008).

For the OD Hill area, the baseline score (the no action alternative) results in a MEC HA score of 865. Remedial Alternative 2 (geophysical mapping, intrusive investigation, and installation of an 18-inch thick cap, followed by implementation of LUCs) results in a MEC HA score of 470. Remedial Alternative 3 (geophysical mapping, intrusive investigation, excavation, off-site disposal, and implementation of LUCs) was also evaluated for the OD Hill area, and resulted in a MEC HA score of 470, the same as Alternative 2. The reduction in MEC HA score from 865 to 470 reduces the corresponding Hazard Level rating from 1 ('highest potential explosive hazard conditions') to 4 ('low potential explosive hazard conditions'). Based on these results, there is no significant difference between these remedial alternatives with respect to reduction of explosive hazards at the OD Hill area.

For the Kickout area, the baseline score (the no action alternative) results in a MEC HA score of 715. Remedial Alternatives 2 and 3 both result in a MEC HA score of 445. This reduction in MEC HA score reduces the corresponding Hazard Level rating from 3 ('moderate potential explosive hazard conditions') to 4 ('low potential explosive hazard conditions'). Based on these results, there is no significant difference between these remedial alternatives with respect to reduction of explosive hazards at the Kickout area.

In addition to providing a technique to evaluate baseline MEC hazards, the MEC HA method establishes a process to qualitatively evaluate the hazard mitigation that would be achieved by remedial actions. This process is based on assumptions made regarding the effects of a given remedial response (e.g., LUCs, surface cleanup, subsurface cleanup), coupled with modified scores for MEC HA input factors, to evaluate how the MEC HA score might be reduced following implementation of the response. The primary purpose of this process is to support the evaluation of response alternatives conducted during an FS; i.e., this evaluation should not be used as the sole basis upon which to recommend a remedial response. As with the baseline score, these total MEC HA scores and the associated hazard levels are *qualitative references only* and should <u>not</u> be interpreted as quantitative measures of explosive hazard.

Accounting for score modifications resulting from either Remedial Alternative 2 or 3, the total Hazard Level rating is reduced to a 4, 'low potential explosive hazard conditions'' from a Hazard Level rating of 1 ('highest potential explosive hazard conditions'). Based on the scores, the evaluation indicates that implementation of Alternatives 2 or 3 would result in equivalent reduction of hazards.

Table 1-1 Summary of Surface and Subsurface Soil Samples Feasibility Study Report - OD Grounds Seneca Army Depot Activity

							Commercial		
						ι	Jse ¹	EPA RSLs I	ndustrial Soil ²
			Frequency	Number	Number	0.1	Number	0.11	Number
Parameter	Unit	Maximum Value	of Detection	of Times Detected	of Samples Analyzed	Criteria Value '	of Exceedances	Criteria Value '	of Exceedance
Volatile Organic Compounds									
Tetrachloroethene	μG/KG	19	38%	6	16	150,000	0	2,600	0
Semivolatile Organic Compounds									
2,4-Dinitrotoluene	μG/KG	14,000	37%	13	35	NA	0	5,500	1
2,6-Dinitrotoluene	μG/KG	700	6%	2	35	NA	0	620,000	0
Acenaphthylene	μG/KG	30	9%	3	35	500,000	0	NA	
Anthracene	μG/KG	18	6%	2	35	500,000	0	170,000,000	0
Benzo(a)anthracene	μG/KG	50	23%	8	35	5,600	0	2,100	0
Benzo(a)pyrene	μG/KG	82	23%	8	35	1,000	0	210	0
Benzo(b)fluoranthene	μG/KG	55	26%	9	35	5,600	0	2,100	0
Benzo(ghi)perylene	μG/KG	66	20%	7	35	500,000	0	,	
Benzo(k)fluoranthene	μG/KG	58	20%	7	35	56,000	0	21,000	0
Bis(2-Ethylhexyl)phthalate	μG/KG	740	26%	9	35	NA	0	120,000	0
Chrysene	μG/KG	130	34%	12	35	56,000	0	210,000	0
Diethyl phthalate	μG/KG	35	3%	1	35	NA	0	490,000,000	0
Di-n-butylphthalate	μG/KG	6,800	34%	12	35	NA	0	62,000,000	0
Fluoranthene	μG/KG	68	31%	11	35	500,000	0	22,000,000	0
Hexachlorobenzene	μG/KG	110	31%	11	35	6,000	0	1,100	0
Hexachloroethane	μG/KG	1,100	17%	6	35	NA	0	120,000	0
Indeno(1,2,3-cd)pyrene	μG/KG	52	11%	4	35	5,600	0	2,100	0
	μG/KG	30	14%	4 5	35	500.000	0	18,000	0
Naphthalene	μG/KG μG/KG	320	6%	2	35	500,000 NA	0		0
N-Nitrosodiphenylamine	μG/KG μG/KG			2 5		NA	0	350,000	0
N-Nitrosodipropylamine		1,600	14%		35		-		
Phenanthrene	μG/KG	46	26%	9	35	500,000	0	47.000.000	0
Pyrene	μG/KG	110	34%	12	35	500,000	0	17,000,000	0
Herbicides MCPA	μG/KG	9,400	6%	2	35	NA	0	310,000	0
Explosives	μο/ΝΟ	9,400	0 /0	2	55	NA	0	510,000	0
•		190	60%	28	47	NA	0	27,000,000	0
1,3,5-Trinitrobenzene	μG/KG μG/KG	1,400	80% 81%	20 38	47 47	NA	0	79,000	0
2,4,6-Trinitrotoluene		,					-		
2,4-Dinitrotoluene	μG/KG	1,100	77%	36	47	NA	0	5,500	0
2-amino-4,6-Dinitrotoluene	μG/KG	680 500	77%	36	47	NA	0	2,000,000	0
4-amino-2,6-Dinitrotoluene	μG/KG	500	57%	27	47	NA	0	1,900,000	0
HMX	μG/KG	470	68%	32	47	NA	0	49,000,000	0
Nitroglycerine	μG/KG	1,500	3%	1	31	NA	0	62,000	0
RDX	μG/KG	5,800	83%	39	47	NA	0	24,000	0
Tetryl	μG/KG	330	9%	4	47	NA	0	2,500,000	0

Table 1-1 Summary of Surface and Subsurface Soil Samples Feasibility Study Report - OD Grounds Seneca Army Depot Activity

							Commercial		
						ί	Jse ¹	EPA RSLs	Industrial Soil ²
			Frequency	Number	Number	.	Number		Number
Parameter	Unit	Maximum Value	of Detection	of Times Detected	of Samples Analyzed	Criteria Value '	of Exceedances	Criteria Value	of Exceedance
Parameter	Unit	value	Detection	Delected	Analyzeu	value	Exceedances	value	Exceedance
Pesticides/PCBs									
Aroclor-1254	μG/KG	2,000	6%	2	34	1,000	1	740	1
4,4'-DDD	μG/KG	2.4	6%	2	34	92,000	0	7,200	0
4,4'-DDE	μG/KG	4.2	63%	22	35	62,000	0	5,100	0
4,4'-DDT	μG/KG	3.4	50%	17	34	47,000	0	7,000	0
Alpha-Chlordane	μG/KG	2	12%	4	34	24,000	0		
Dieldrin	μG/KG	3.2	41%	14	34	1,400	0	110	0
Endosulfan I	μG/KG	55	60%	21	35	200,000	0		
Endosulfan II	μG/KG	0.88	3%	1	34	200,000	0		
Endrin	μG/KG	3.6	3%	1	34	89,000	0	180,000	0
Endrin ketone	μG/KG	0.58	3%	1	34	NA	0	,	
Gamma-Chlordane	μG/KG	1.1	9%	3	34	NA	0		
Methoxychlor	μG/KG	45	3%	1	34	NA	0	3,100,000	0
Inorganics							-	-,,	
Aluminum	MG/KG	27,900	100%	97	97	NA	0	990.000	0
Antimony	MG/KG	5.1	33%	32	97	NA	0	410	0
Arsenic	MG/KG	12.6	100%	97	97	16	0	1.6	97
Barium	MG/KG	365	100%	97	97	400	0	190,000	0
Beryllium	MG/KG	1.2	98%	95	97	590	0	2,000	0
Cadmium	MG/KG	1,100	81%	77	95	9.3	11	800	1
Calcium	MG/KG	193,000	99%	96	97	NA	0	000	•
Chromium	MG/KG	446	100%	97	97	1,500	0		
Cobalt	MG/KG	26.8	100%	97	97	NA	0	300	0
Copper	MG/KG	7,310	100%	97	97	270	52	41.000	0
Cyanide	MG/KG	0.7	13%	2	16	27	0	20,000	0
Iron	MG/KG	118,000	100%	97	97	NA	0	720,000	0
Lead	MG/KG	998	100%	97	97	1,000	0	800	1
Magnesium	MG/KG	15,000	100%	97	97	NA	0		
Manganese	MG/KG	5,040	100%	97	97	10,000	0	23,000	0
Nickel	MG/KG	59.3	100%	92	92	310	0	20,000	0
Potassium	MG/KG	4,880	100%	76	76	NA	0	,	
Selenium	MG/KG	0.92	4%	4	97	1,500	0	5,100	0
Silver	MG/KG	205	68%	66	97	1,500	0	5,100	0
Sodium	MG/KG	213	84%	81	97	NA	0	,	
Thallium	MG/KG	0.27	6%	6	97	NA	0	10	0
Vanadium	MG/KG	41.9	100%	97	97	NA	0	5,200	0
Zinc	MG/KG	1,470	100%	92	92	10,000	0	310,000	0
Mercury	MG/KG	9.1	99%	96	97	2.8	49	310	0
Net									
Notes: 1) Criteria values are the NYSDEC commeric	al SCOs (6 NYCRR Subpart)	375-6)							
 Criteria values are the EPA Indus 									

Table 1-2 Summary of Groundwater Data Feasibility Study Report - OD Grounds Seneca Army Depot Activity

Parameter	Unit	Maximum Value	Frequency of Detection	Criteria Source ¹	Criteria Level	Number of Exceedances	Number of Times Detected	Number of Samples Analyzed
Volatile Organic Compounds								
Tetrachloroethene	μG/L	1	13%	GA	5	0	1	8
Semivolatile Organic Compour	ds							
Bis(2-Ethylhexyl)phthalate	μG/L	33	50%	GA	5	4	4	8
Explosives								
1,3-Dinitrobenzene	μG/L	0.067	13%	GA	5	0	1	8
НМХ	μG/L	0.5	13%				1	8
Inorganics								
Aluminum	μG/L	63,300	75%				9	12
Antimony	μG/L	52.1	58%	GA	3	7	7	12
Arsenic	μG/L	9.5	25%	MCL	10	0	3	12
Barium	μG/L	751	100%	GA	1,000	0	12	12
Beryllium	μG/L	5	25%	MCL	4	1	3	12
Cadmium	μG/L	3.8	33%	GA	5	0	4	12
Calcium	μG/L	660,000	100%				12	12
Chromium	μG/L	106	42%	GA	50	1	5	12
Cobalt	μG/L	94.4	33%				4	12
Copper	μG/L	123	58%	GA	200	0	7	12
Iron	μG/L	113,000	83%	GA	300	5	10	12
Iron+Manganese	μG/L	117,640	100%	GA	500	6	12	12
Lead	μG/L	75.6	67%	MCL	15	2	8	12
Magnesium	μG/L	77,900	100%				12	12
Manganese	μG/L	4,640	100%	GA	300	4	12	12
Mercury	μG/L	1.8	25%	GA	0.7	1	3	12
Nickel	μG/L	209	42%	GA	100	1	5	12
Potassium	μG/L	18,700	75%				9	12
Selenium	μG/L	2.5	42%	GA	10	0	5	12
Silver	μG/L	4.6	17%	GA	50	0	2	12
Sodium	μG/L	40,000	100%	GA	20,000	1	12	12
Thallium	μG/L	3.4	8%	MCL	2	1	1	12
Vanadium	μG/L	93.1	25%				3	12
Zinc	μG/L	321	100%				12	12
Notes:								
1) Criteria action level source document and web a	ddress.							
- The NYS GA Standard and EPA MCL values wer		rom the provided I	inks.					
http://water.epa.gov/drink/contaminants/index.cfm#	List							

Table 1-3 Summary of Surface Water Data Feasibility Study Report - OD Grounds Seneca Army Depot Activity

			Frequency		Number	Number	Number
		Maximum	of	Criteria	of	of Times	of Samples
Parameter	Unit	Value	Detection	Level ¹	Exceedances	Detected	Analyzed
Explosives							
HMX	UG/L	0.49	50%			2	4
RDX	UG/L	2	50%			2	4
Inorganics							
Aluminum	UG/L	37,500	100%		0	4	4
Arsenic	UG/L	2.3	25%	360	0	1	4
Barium	UG/L	439	100%			4	4
Beryllium	UG/L	1.5	50%		0	2	4
Cadmium	UG/L	11.2	25%		0	1	4
Calcium	UG/L	194,000	100%			4	4
Chromium	UG/L	50.8	75%	4270	0	3	4
Cobalt	UG/L	18.2	50%		0	2	4
Copper	UG/L	612	100%	50	3	4	4
Cyanide	UG/L	47.7	25%	22	1	1	4
Iron	UG/L	60,400	100%	300	4	4	4
Lead	UG/L	68.7	100%	330	0	4	4
Magnesium	UG/L	24,300	100%			4	4
Manganese	UG/L	1,250	100%			4	4
Mercury	UG/L	3	100%			4	4
Nickel	UG/L	74.2	100%	4250	0	4	4
Potassium	UG/L	9,670	100%			4	4
Sodium	UG/L	4,340	100%			4	4
Vanadium	UG/L	54.9	75%	190	0	3	4
Zinc	UG/L	883	100%	800	1	4	4
Notes:							
1) Criteria source are the NYS AWQS C	lass D Values.						

Table 1-4 Summary of Sediment Data Feasibility Study Report - OD Grounds Seneca Army Depot Activity

		N.4	Frequency	Oritaria	Number	Number	Number
Deremeter	Linita	Maximum	of Detection	Criteria Value ¹	of -vacadanaa	of Times	of Samples
Parameter	Units	Value	Detection	value	Exceedance	Detected	Analyzed
Explosives 2,4,6-Trinitrotoluene	UG/KG	120	25%		0	1	4
2,4-Dinitrotoluene	UG/KG	83	25%		0	1 1	4
2-amino-4,6-Dinitrotoluene	UG/KG	260	25%		0	1	4
RDX	UG/KG	200	25% 25%		0	1	4
Tetryl	UG/KG	140	25% 25%		0	1	4
Semivolatile Organic Comp		140	23%		0	I	4
Benzo(a)anthracene	UG/KG	32	50%	5,600	0	2	4
Benzo(a)pyrene	UG/KG	32	50%	3,000 1,000	0	2	4
Benzo(b)fluoranthene	UG/KG	37	50%	5,600	0	2	4
	UG/KG	48	25%	500,000	0	2	4
Benzo(ghi)perylene Benzo(k)fluoranthene	UG/KG	28	23 <i>%</i> 50%	56,000	0	2	4
Chrysene		20 50	50% 75%			2	
	UG/KG	50 25	75% 25%	56,000	0	3 1	4
Di-n-butylphthalate Fluoranthene	UG/KG UG/KG	25 60	25% 75%	500 000	0	3	4
			75% 50%	500,000	0	3 2	4
	UG/KG	40		6,000 5,000	0		4
Indeno(1,2,3-cd)pyrene	UG/KG	32	25%	5,600	0	1	4
Naphthalene	UG/KG UG/KG	24 34	25% 75%	500,000	0	1	4
Phenanthrene				500,000	0	3	4
Pyrene	UG/KG	110	75%	500,000	0	3	4
Pesticides/PCBs		10	F00/	<u> </u>	0	0	4
4,4'-DDE	UG/KG	12	50%	62,000	0	2	4
Aldrin	UG/KG	2.2	25%	680	0	1	4
Alpha-Chlordane	UG/KG	5.7	25%	24,000	0	1	4
Aroclor-1254	UG/KG	580	50%	1,000	0	2	4
Dieldrin	UG/KG	7.4	25%	1,400	0	1	4
Endosulfan I	UG/KG	2.7	50%	200,000	0	2	4
Endrin aldehyde	UG/KG	3.2	25%		0	1	4
Inorganics	10//	0= 000	1000/				
Aluminum	MG/KG	35,000	100%	4.0	0	4	4
Arsenic	MG/KG	16.1	100%	16	1	4	4
Barium	MG/KG	308	100%	400	0	4	4
Beryllium	MG/KG	1.4	100%	590	0	4	4
Cadmium	MG/KG	25.6	100%	9	2	4	4
Calcium	MG/KG	84,400	100%		0	4	4
Chromium	MG/KG	48.4	100%		0	4	4
Cobalt	MG/KG	19.7	100%		0	4	4
Copper	MG/KG	814	100%	270	2	4	4
Iron	MG/KG	50,500	100%		0	4	4
Lead	MG/KG	101	100%	1,000	0	4	4
Magnesium	MG/KG	10,200	100%		0	4	4
Manganese	MG/KG	935	100%	10,000	0	4	4
Mercury	MG/KG	5.3	100%	3	2	4	4
Nickel	MG/KG	67.7	100%	310	0	4	4
Potassium	MG/KG	4,680	100%		0	4	4
Silver	MG/KG	5.8	75%	1,500	0	3	4
Sodium	MG/KG	377	100%		0	4	4
Vanadium	MG/KG	53.7	100%		0	4	4
Zinc	MG/KG	755	100%	10,000	0	4	4
Notes:							
1) Criteria values are the NYSDEC commeric	al SCOs (6 NYC	RR Subpart 375-6	ö).				

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2.0 REMEDIAL ACTION OBJECTIVES

The purpose of this section is to develop remedial action objectives (RAOs) and general response actions for each medium of interest identified at the OD Grounds. Based on the RAO and the general response actions, potential remedial technologies are identified and screened in **Section 2.0** and **3.0**, and a detailed analysis of remedial action alternatives is provided in **Section 4.0**. This process follows the USEPA and NYSDEC method of identifying and screening technologies/processes and consists of the following six steps:

- Develop RAOs that specify media of interest, chemical constituents of concern, and the results of the Hazard Assessment (Section 2.0);
- Develop general response actions for each medium of interest that will satisfy each remedial action objective for the OD Grounds (**Section 2.0**);
- Identify remediation technologies/processes associated with each general response action. Screen and eliminate technologies/processes based on technical implementability (Section 2.0);
- Evaluate technologies/processes and retain processes that are representative of each technology (Section 2.0); and
- Assemble and further screen the retained technologies/processes into a range of alternatives as appropriate (Section 3.0 and 4.0).

2.1 GENERAL REMEDIAL ACTION OBJECTIVES

As discussed in **Section 1**, the ESI, OE EE/CA, the munition response actions, and the 2010 supplemental work conclude that further actions are warranted for the OD Grounds. Based on the previous investigations and the proposed future site use, soil was identified as a media of interest. RAOs address the goals for reducing the potential MPPEH and/or soil contamination hazards to ensure protection of human health, safety and the environment (USEPA, 1988). The RAOs are intended to be as specific as possible but not so specific that the range of alternatives that can be developed is unduly limited. The intent of this FS is to select RAOs that are protective of human health and the environment for evaluation and that achieve an acceptable minimum level of risk at the OD Grounds. The future use for the OD Grounds is recreation/conservation for walking and hiking activities and no intrusive soil activities such as digging, camping, camp fires, tent staking, trail construction, etc. Therefore, the presence of potential MPPEH and/or soil contamination results in the potential for human receptors to come into contact with potential MPPEH and/or soil contamination in the OD Grounds.

The overall objective of any remedial response is to protect human health and the environment. RAOs have been developed to meet this overall objective. The objectives are then used as a basis for developing remedial alternatives.

CERCLA, as amended by SARA of 1986, requires that a CERCLA remedial action:

• At minimum, attain federal and more stringent state applicable or relevant and appropriate requirements (ARARs) on completion of the remedial action for on-site remedial actions (unless an ARAR waiver becomes necessary).

- Use remedial alternatives that permanently and significantly reduce the volume, toxicity, or mobility of hazardous substances;
- Select remedial actions that protect human health and the environment, are cost effective, and involve permanent solutions, alternative solutions, and resource recovery technologies to the maximum extent possible;
- Avoid off-site transport and disposal of untreated hazardous substances or contaminated materials where practical technologies exist to treat these materials on-site.

The National Contingency Plan (NCP) regulations, which implement CERCLA, generally require ARAR compliance during remedial actions as well as at completion (40 CFR 300.435(b)(2)). However, a no-action decision does not require compliance with ARARs.

The RAOs for the OD Grounds consist of media specific objectives designed to be protective of human health and the environment. Where applicable, consideration was given to the NCP preference for permanent solutions. The general RAOs for the OD Grounds are as follows:

- Prevent public or other persons from direct contact with MEC or MPPEH, or direct contact with soil that may present a health risk due to potential contamination from MC.
- Restore the area to a condition that would comply with the SEDA LRA determination that the future use of the OD Grounds would be for recreation/conservation.

The investigation and remediation of the OD Grounds is subject to pertinent requirements of both federal environmental statutes or regulations (generally administered by EPA Region II for SEDA) and the State of New York environmental statutes and regulations (generally administered by the NYSDEC), determined in accordance with the CERCLA ARAR process. ARARs are promulgated standards that may be applicable to the site cleanup process after a remedial action has been selected for implementation.

Any standard, requirement, criterion, or limitation under any federal environmental or state environmental or facility siting law may be either applicable or relevant and appropriate to a specific action. The only state laws that may become ARARs are those promulgated such that they are legally enforceable and generally applicable and equivalent to or more stringent than federal laws. A determination of applicability is made for the requirements as a whole, whereas a determination of relevance and appropriateness may be made for only specific portions of a requirement. An action must comply with relevant and appropriate requirements to the same extent as an applicable requirement with regard to substantive conditions, but need not comply with the administrative conditions of the requirement.

Three categories of potentially applicable state and federal requirements were reviewed: (1) chemicalspecific, (2) location-specific, and (3) action-specific. Chemical-specific ARARs address certain contaminants or class of contaminants and relate to the level of contamination allowed for a specific pollutant in various environmental media. Location-specific ARARs are based on the specific setting and nature of the site. Action-specific ARARs relate to specific actions proposed for implementation at a site. Both location-specific and action-specific ARARs are independent of the media. In addition to ARARs, advisories, criteria, or guidance may be evaluated as TBCs. The NCP provides that the TBC category may include advisories, criteria, or guidance that were developed by EPA, other federal agencies, or states that may be useful in devising CERCLA remedies. These advisories, criteria, and guidance are not promulgated and, therefore, are not legally enforceable standards such as ARARs.

2.2 Potential Chemical-Specific ARARs and To Be Considered (TBCs)

Chemical-specific ARARs are usually health-based or risk-based numerical values or methodologies, established by promulgated standards, that are required to be used to determine acceptable concentrations of chemicals that may be found in or discharged to the environment. Chemical-specific ARARs may also include designated EPA, NRC, or Department of Energy (DOE) ARARs for radioactive waste. Chemical-specific TBCs can serve to indicate contaminant levels that may merit concern.

Potential federal and state chemical-specific ARARs and TBCs considered in connection with the FS at the OD Grounds are described in the following sections.

2.2.1 Soil

Cleanup levels for hazardous constituents in soil have been proposed by NYS surface and subsurface soil chemical exceedances of NYSDEC Subparts 375-1 through 375-4 and Subpart 375-6 under 6 NYCRR Part 375 - Environmental Remediation Programs. 6 NYCRR Subpart 375-6, effective December, 2006, includes the SCO tables developed for five categories of future land use (i.e., unrestricted use, residential, restricted-residential, commercial, and industrial). As the OD Grounds is located in the future recreational area, the NYSDEC SCOs for commercial use scenario are considered to be relevant and appropriate criteria for the Site. In addition, the SCOs for unrestricted use are discussed in this FS for comparison purposes.

2.3 Potential Location - Specific ARARs

Location-specific ARARs may serve to limit contaminant concentrations, or even to restrict or to require some forms of remedial action in environmentally or historically sensitive areas at a site, such as natural features (including wetlands, flood-plains, and sensitive ecosystems) and manmade features (including landfills, disposal areas, and places of historic or archaeological significance). These ARARs generally restrict the concentration of hazardous substances or the conduct of activities based solely on the particular characteristics or location of the site.

Potential federal and state location-specific ARARs considered in connection with this response action include the following:

Federal:

- Executive Orders 11593, Floodplain Management (May 24, 1977), and 11990, Protection of Wetlands (May 24, 1977).
- National Historic Preservation Act (16 USC 470) Section 106 and 110(f) and the associated regulations (i.e. 36 CFR part 800) (requires federal agencies to identify all affected properties on or eligible for the National Register of Historic Places and consult with the State Historic Preservation Office and Advisory Council on Historic Presentation)

- Resource Conservation and Recovery Act (RCRA) Location Requirements and 100-year Floodplains (40 CFR 264.18(b)).
- Clean Water Act (CWA), Section 404, and Rivers and Harbor Act, Section 10 (requirements for Dredge and Fill Activities) and the associated regulations (i.e. 40 CFR part 230).
- Wetlands Construction and Management Procedures (40 CFR part 6, Appendix A).

New York State:

- NYS Freshwater Wetlands Law (New York Environmental Conservation Law (ECL) articles 24 and 71).
- NYS Freshwater Wetlands Permit and Classification Requirements (6 NYCRR 663 and 664).
- NYS Floodplain Management Act, ECL, article 36, and Floodplain Management regulations (6 NYCRR part 500).
- Endangered and Threatened Species of Fish and Wildlife, Species of Special Concern Requirements (6 NYCRR part 182).
- NYS Flood Hazard Area Construction Standards.

Based on the OD Grounds conditions and the land use determination, further consideration of these location-specific ARARs does not appear warranted at this time.

2.3.1 Action-Specific ARARs

Action-specific ARARs are usually technology or activity-based requirements or limitations that control actions involving specific substances. Action-specific ARARs generally set performance or design standards, controls, or restrictions on particular types of activities. To develop technically feasible alternatives, applicable performance or design standards must be considered during the development of all response action alternatives. The precise action-specific ARARs to be used for the OD Grounds will be subsequently determined by the Army based upon the technology chosen.

Potential federal and state action specific ARARs considered in connection with this response action include the following:

Federal:

- RCRA Groundwater Monitoring and Protection Standards (40 CFR, Subpart F).
- RCRA Generator Requirements for Manifesting Waste for Off-site Disposal (40 CFR part 262, subpart B).
- RCRA Transporter Requirements for Off-Site Disposal (40 CFR part 263).
- RCRA, Subtitle D, Non-Hazardous Waste Management Standards (40 CFR part 257).
- RCRA Land Disposal Restrictions (40 CFR part 268) (on and off-site disposal of excavated soil).

- CWA--Discharge to Public Owned Treatment Work (POTW)—general Pretreatment regulations (40 CFR part 403).
- Department of Transportation (DOT) Rules for Hazardous Materials Transport (49 CFR part 107, and 171.1-171.500).
- Occupational Safety and Health Act (OSHA) Standards for Hazardous Waste Operations and Emergency Response, 29 CFR 1910.120, and procedures for General Construction Activities (29 CFR parts 1910 and 1926).
- RCRA Air Emission Standards for Process Vents, Equipment Leaks, and Tanks, Surface Impoundments, and Containers (40 CFR subparts AA, BB, and CC.)

New York State:

- NYS Pollution Discharge Elimination System (SPDES) Permit Requirements (Standards for Stormwater Runoff, Surface Water, and Groundwater Discharges (6 NYCRR 750-757).
- NYS Solid Waste Management and Siting Restrictions (6 NYCRR 360-361).
- NYS RCRA Generator and Transporter Requirements for Manifesting Waste for Off-Site Disposal (6 NYCRR 364 and 372).

Based on the OD Grounds conditions, further consideration of these action-specific ARARs does not appear warranted at this time.

2.4 SITE-SPECIFIC CLEANUP GOALS

Remedial action at the OD Grounds is guided by the cleanup goal of preventing direct contact by receptors with MEC and with MC. These cleanup goals will have the effect of protecting human health and the environment, complying with ARARs, and meeting all other RAOs.

Media	Contaminant of Concern	Receptor	Exposure Route	Remedial Action Objective	Applicable ARAR/TBCs ¹
Soil	MC	Human (Current and Future Site Visitors, Recreational Users)	Incidental ingestion, dermal contact, inhalation	Prevent direct contact with soil, or inhalation of MC by receptors.	Commercial SCOs
Soil	MEC	Human (Current and Future Site Visitors, Recreational Users)	Physical Access to Site	Prevent direct contact with MEC by receptors	Removal of MEC to the extent practicable.

 Table 2-1 OD Grounds Remedial Action Objectives

2.5 IDENTIFICATION AND SCREENING OF TECHNOLOGIES

Remedial action technologies and processes were identified for consideration as possible remedial options at the OD Grounds. The list of technologies and processes presented was developed from several sources including standard engineering handbooks, vendor information, and best engineering estimates.

2.5.1 MEC

2.5.1.1 Detection Technologies for MEC/MPPEH

The detection of MEC (or MPPEH) includes those methods and instruments that can be used to locate MEC. The selection of the best technology depends on the properties of the MEC to be located, including whether the ordnance is found on the surface or below the surface, and the characteristics of the area where the MEC is located, such as soil type, topography, vegetation, and geology.

Detection technologies have two basic forms. One form, visual searching, has been successfully used on a number of sites where MEC is located on the ground surface. When performing a visual search of a site, the area to be searched is divided into five-foot lanes, which are then systematically inspected for MEC. A metal detector is sometimes used to supplement the visual search in areas where ground vegetation may conceal MEC. Typically, any MEC found during these searches is flagged or marked on a grid sheet for later removal.

The other form of MEC detection, geophysics, includes a family of detection instruments designed to locate MEC. This family of instruments includes magnetic instruments, electromagnetic instruments, and ground penetrating radar. Each piece of equipment has its own inherent advantages and disadvantages based on its operating characteristics, making the selection of the type of geophysical instrument paramount to the survey success. Nevertheless, geophysics is the most cost-effective method of conducting subsurface MEC surveys. The equipment designed for MEC geophysical surveys is lightweight, easily maintained, and very effective. However, there are limitations to geophysics.

MEC can be readily detected at the site using geophysical techniques. The handheld flux-gate magnetometers (i.e., Schonstedt GA-52CX) have been successfully used to "mag and dig" around buildings and structures where the EM61 suffers more from interference. Use of the handheld magnetometers can also be indicated by terrain where the ground surface (e.g., sloped or wooded terrain) may not be conducive to use of a EM61. A high degree of confidence should be expected for successful detection with these methods. However, it should be noted that there are limitations to their detection capabilities such as the depth of detection and interference from utilities, structures, and other metal in the vicinity. Time-domain electromagnetic induction metal detectors (i.e., Geonics EM61–MK2) can also be successfully used for digital geophysical mapping at areas of the site. Although these geophysical instruments can be successful in finding MEC, only a percentage of the anomalies identified result in actual MEC.

Geophysical equipment cannot usually distinguish MEC items from other metallic objects located below the surface. "Cultural interference," such as underground utility lines, construction debris, or metal bearing rock, can produce a signature to the equipment similar to MEC. Therefore, it is necessary for the geophysical survey team to carefully document any known cultural interference prior to beginning the survey. Another limitation to the equipment is that metallic objects have to be larger when at greater depths so that the geophysical equipment can obtain a reading. The use of geophysical equipment and surveys has proven to be one of the most cost effective methods currently available to detect subsurface MEC. At the OD Grounds, it will be most effective to use handheld flux-gate magnetometers in wooded or inaccessible terrain and to use a EM61 for DGM in the open areas that require the detection of potential MPPEH.

2.5.1.2 Removal Technologies for MEC/MPPEH

Once a site has been surveyed by either visual or geophysical means, the recovery of MEC/MPPEH can begin. MEC recovery operations can take the form of a surface-only clearance, an intrusive (subsurface) clearance, or a combination of the two methods. The decision on the appropriate level of clearance operation is based on the nature and extent of the MEC contamination as well as the intended future use of the site. Removal technologies include hand excavation and mass excavation and sifting (using heavy equipment). Hand excavation is considered the industry standard for MEC recovery and can be done very thoroughly. Hand excavation was conducted during previous investigations at the OD Grounds. Construction support would include UXO personnel to provide sweeps to detect MEC prior to any planned construction.

During a surface clearance operation exposed MPPEH items are identified during the detection phase. The MEC items are then inspected, collected (if possible), and transported to a designated area for cataloging and eventual disposal. If it is determined during the MPPEH inspection that the item cannot be safely moved it may be necessary to destroy the MPPEH item in place.

During a subsurface clearance operation subsurface MPPEH identified by the geophysical survey or other detection methods require excavation for removal. The excavation of the MPPEH item then takes place with either hand tools or mechanical equipment depending on the suspected depth of the object. Once the item has been exposed, it is then inspected, collected (if possible), and transported to a designated area for cataloging and disposal. If it is determined during the inspection that the item cannot be safely moved, it will be destroyed in place.

Evacuations are sometimes necessary when conducting intrusive investigations to minimize the risk of the operation. An evacuation area is calculated by USACE based on the potential explosive force that could be encountered during an excavation. An evacuation distance is then calculated to ensure that all non-essential personnel are outside of that distance during the excavation process. Engineering controls can be developed to reduce this evacuation distance; however, evacuations may be required if excavations take place close to any inhabited areas and engineering controls cannot be developed to reduce the need to evacuate. Every possible option will be explored to minimize potential evacuations with the exception of compromising public safety. Due to the remoteness of SEDA, it is unlikely that evacuations will be necessary during MEC clearance activities.

At the OD Grounds it is anticipated that hand digging will be used to remove MPPEH in areas at most of the site. In areas of the Site where a high density of potential MPPEH/MD appear to be present, it may be

more efficient to use mechanical excavation equipment and a screening or sorting table to remove MPPEH from excavated soil.

2.5.1.3 Disposal Technologies for MEC

Disposal technologies include blow in place (BIP) and 'consolidate and blow.' For BIP, each munition is individually destroyed; whereas, the consolidated shot can be used for munitions that are "acceptable to move." The decision regarding which of these techniques to use is based on the risk involved in employing the disposal option, as determined by the specific area's characteristics and the nature of the MEC items recovered.

A countercharge can be used to destroy the MEC item or the MEC item can be thermally treated as a means of destruction. Engineering controls, such as sandbag mounds and sandbag walls over and around the MEC item, are often used to minimize the blast effects when an MEC item is destroyed in this manner.

In some instances it is determined that an MPPEH item must be destroyed in-place. This technique is typically employed when the item cannot be safely moved to a remote location. This procedure utilizes techniques similar to those described above that will detonate the MEC item or apply sufficient pressure and heat to neutralize the hazard. When this technique is employed, engineering controls such as sandbag mounds and sandbag walls over and around the MEC item are often used to minimize the blast effects.

2.5.2 Technologies for Soil Remediation

Table 2-2 shows the remedial action processes arranged according to categories for general response actions for soil/debris at the OD Grounds and provides the basis for screening out of the various technologies/processes. This table indicates which technologies/processes were retained for further evaluation in Section 3.0.

2.5.2.1 Excavation: Earthmoving/Excavation

Removal of soils can be accomplished using standard mechanical technologies. Armored heavy equipment such as backhoes, excavators, front-end loaders, scrapers, bulldozers, and draglines are commonly used for the mechanical excavation of soils. Because the soil at the OD Grounds is readily accessible and can be easily removed using standard mechanical excavation techniques, this technology was retained for further consideration. In areas with a low density of potential MC, hand digging (activity associated with the MPPEH/MD removal) may be sufficient to remove the potential MC. As needed, physical separation of MPPEH from soil will be achieved using a screening table. After the separation, the MEC/MPPEH will be disposed off-site and soil will be backfilled (as necessary) to the excavated areas. Removal of contaminated soil by excavation and/or soil sifting could be retained for consideration without the presence of MEC.

Off-site disposal involves removal of material, consolidation into containers, and transportation off-site. This technology decreases continued on-site exposure to potential MPPEH by receptors. Off-site disposal is preferable when on-site disposal is precluded or limited by site characteristics, when unimpaired future use of the site is a high priority, and when the volume for disposal is too small to warrant construction of a landfill. A permitted, off-site RCRA Subtitle D facility with the capacity and capability to handle the disposal material must be identified.

2.5.2.2 Capping and Containment Technologies

Capping involves placing a barrier over the impacted area to prevent contact (i.e. exposure to subsurface soil via direct contact and dust inhalation) with human and ecological receptors, and surface water runoff. Two single component cap options that are available to unlined landfill facilities consists of either a low permeability soil (LPS) cap or a geomembrane cap. The soil layer below the geomembrane will made free of sharp rocks and stones, to prevent damage to the overlying geomembrane to the possible extent. Remedial method may include 12-inches of sand above the geomembrane to promote drainage off of the cap, while also providing cap protection. A layer of sand could potentially be substituted by a geocomposite drainage layer and with 18 inches of select subsoil used. Six inches of topsoil would complete the protective layer to a total thickness of 18 inches. A non-woven geotextile fabric may be installed between the top soil and sand drainage layer if required. As required, surface and subsurface drainage will be controlled by swales or cap drains, respectively. These aspects are variable, depending on the relative geotechnical properties of each soil type used for the drainage layer and the top soil. This capping/containment method would be effective in reducing the potential exposure to potential metallic debris and metals contaminated soil, and therefore has been retained for further consideration.

General Response Action	Primary Remedial Technology	Process Options	Effectiveness	Implementability	Cost	Retained for Consideration?
No Action	None	None	Effectiveness at achieving RAOs would not be demonstrated. Utilized as baseline for alternative comparison.	Readily implementable	No Cost	Yes
	MEC or Soil Removal	Hand Excavation	Potentially effective in meeting RAOs.	Readily implementable in most areas of Site	Moderate	Yes
Remedial	MEC or Soil Removal	Heavy Equipment Excavation	Potentially effective in meeting RAOs.	Reasonably implementable with coordination	Moderate	Yes
Action	Soil Source Area Cover	Install soil cap	Potentially effective in meeting RAOs.	Readily implementable	Moderate	Yes
	MEC or Soil Disposal	Soil disposal off-site (after MEC risks removed)	Potentially effective in meeting RAOs.	Readily implementable in most areas of Site	High	Yes

Table 2-2 OD Grounds Feasibility Study – Technology Screening

2.5.3 Evaluation of Technologies

In the CERCLA process, the alternatives described above must be analyzed and screened against the three general categories of effectiveness, implementability, and cost to ensure that they meet the minimum standards of the criteria within each category. This screening will be performed for the alternatives chosen as possibilities at the OD Grounds. The three general categories are described below along with the specific evaluation criteria contained within each of the categories.

The effectiveness of an alternative refers to its ability to meet the clean-up objective within the scope of the response action. The effectiveness category is divided into four evaluation criteria. These include Overall Protection of Public Safety and the Human Environment; Compliance with ARARs; Long-Term Effectiveness; and Short-Term Effectiveness.

The implementability category includes the technical and administrative feasibility of implementing an alternative, the availability of various services and materials required during its implementation, and the acceptance local residents and agencies have expressed towards the various alternatives. The implementability category is divided into six evaluation criteria including: Technical Feasibility; Administrative Feasibility; Availability of Services and Materials; Property Owner Acceptance; Local Agency Acceptance; and Community Acceptance.

Finally, each alternative is evaluated to determine its projected overall implementation cost. Each of the evaluation criteria introduced above will be discussed in greater detail in Section 3.

3.0 DEVELOPMENT AND SCREENING OF ALTERNATIVES

3.1 INTRODUCTION

This section summarizes the remedial action alternatives that were developed from the technologies screened in **Section 2.0**. Prior to the development of alternatives, an evaluation of general response actions and a technology screening was performed for inclusion into proposed remedial action alternatives for the OD Grounds. Technologies were combined into alternatives considering potential waste-limiting and site-limiting factors unique to the OD Grounds and the level of technical development for each technology. This information was used to differentiate alternatives with respect to effectiveness and implementability. This FS focuses on identifying and evaluating alternatives for the OD Grounds.

3.2 DESCRIPTION OF ALTERNATIVES

The following general response actions were retained for the OD Grounds:

- Alternative 1: NFA
- Alternative 2: Geophysical mapping, intrusive investigation, capping, LUCs; and
- Alternative 3: Geophysical mapping, intrusive investigation, excavation, off-site disposal, and LUCs.

Technologies and processes associated with these actions were assembled into remedial action alternatives.

3.2.1 Alternative 1, No-Further Action

Alternative 1 is the no further action alternative. CERCLA and NYSDEC guidance for conducting feasibility studies recommends that the no-action alternative be considered against all other alternatives.

The no further action alternative would leave the OD Grounds undisturbed with the continuation of existing site security measures, such as locked gates, to prevent civilian access and direct contact with contaminated soil and possible exposure to potential MPPEH.

3.2.2 Alternative 2, Geophysical Mapping/Intrusive Investigation/Capping/LUCs

This alternative would complete the MPPEH clearance in areas that were not previously cleared. In the open and accessible areas, previously identified anomalies will be reacquired and removed. In areas that are wooded or inaccessible and were not previously cleared, mag and dig operations will be completed using a handheld magnetometer, such as a Schonstedt. In accessible areas that were not previously mapped, digital geophysical mapping (DGM) surveys will be conducted using EM61s over approximately 60 acres in the area surrounding the OD Hill. The mapped areas will be designated in two different categories:

- 1. metals saturated areas where the high density prohibits individual anomalies from being identified and manually removed
- 2. lower metals density areas where individual anomalies can be identified and manually removed

It is anticipated that metallic saturation (or a high density of potential MPPEH) will be encountered in areas located closer to the OD Hill. At locations where the DGM survey indicates that there is metallic

saturation, the top 6 inches of soil will be excavated. The soil will be screened to remove potential MPPEH, and the overburden will be staged on-site for potential reuse and/or incorporation into the site cap. The excavated area will then be resurveyed and the results of the DGM survey will be used to generate a dig list of target anomalies to be investigated. In the event that the results of the DGM survey indicate that areas are still saturated with metal, then an additional 6 inches of soil may be excavated, screened, and staged, as previously described, followed by a subsequent DGM survey of that area.

For the lower density metals areas, the anomalies on the generated dig list from the DGM surveys will be reacquired and intrusively investigated by a geophysicist and UXO dig team, in the same manner as the intrusive investigation in the Kickout area. A two-person UXO technician/ demolition team will perform any required MPPEH demolition procedures. The demolition team will dispose of any MPPEH suspected of containing explosives/spotting charges or inaccessible voids by detonation. All MD will be certified and disposed of as MDAS in accordance with current regulations.

The excavated soil that passed through the screen will be placed on the OD Hill and the resulting surface will be compacted and graded. An engineered cap will be installed over the OD Hill and the surrounding area. The cap will comply with NYS Part 360 requirements. A geomembrane layer will be selected, and the total thickness of the cap will be at least 18 inches. Any identified soil with contaminant levels exceeding the selected soil cleanup goals would be incorporated under the cap. A design work plan will be prepared and the exact limits of the cap will be determined during the design phase of the project.

Long-term monitoring would include maintenance of the cap and LUC inspections.

LUCs will be placed on the site to prohibit the use of groundwater, prohibit digging, and prevent the use of the site for use as a daycare or a residential facility.

Implementation of this alternative would be highly effective in achieving the RAOs, long-term effectiveness, preventing exposure, and implementability. The costs for this alternative are moderate.

3.2.3 Alternative 3, Geophysical Mapping/Intrusive Investigation/Excavation/Off-Site Disposal/LUCs

Alternative 3 is similar to Alternative 2 but this alternative would involve the excavation and off-site disposal of all soil containing MPPEH or contaminant concentrations that exceed cleanup goals in lieu of capping these soils. Similar to Alternative 2, reacquisition would be completed in the Kickout area. In areas outside of the OD Hill that are wooded or inaccessible and were not previously surveyed, mag and dig operations will be completed using a handheld magnetometer, such as a Schonstedt. In accessible areas that were not previously mapped, digital geophysical mapping (DGM) surveys will be conducted using EM61s over approximately 60 acres in the area surrounding the OD Hill. At locations where the DGM survey indicates that there is metallic saturation, the top 6 inches of soil will be excavated. The soil will be screened to remove MPPEH, and the overburden will be staged on-site for potential reuse and/or incorporation into the site cap. The excavated area will then be resurveyed and the results of the DGM survey indicate that areas are still saturated with metal, then an additional 6 inches of soil may be excavated, screened, and staged, as previously described, followed by a subsequent DGM

survey of that area. The anomalies on the generated dig list will be reacquired and intrusively investigated by a geophysicist and UXO dig team, in the same manner as the intrusive investigation in the Kickout area. All MD will be certified and disposed of as MDAS in accordance with current regulations.

In Alternative 3, the OD Hill and the soil immediately surrounding it will be addressed by excavation and off-site disposal. An armored excavator would be used to excavate soils, which would then be sifted using a screening table to ensure the removal of all MPPEH. Excavated soils will be sampled, and soils deemed free from MPPEH and meeting site cleanup standards will be staged on-site for potential re-use at the Depot. Upon completion of excavation, these areas would be graded and re-vegetated to promote positive drainage. The area would be restored to the natural grade. Soils not appropriate for reuse at the Site (e.g., soils intermixed with debris or above the cleanup standards) will be disposed of at an approved Subtitle D landfill. Trucks will be staged to haul the excavated soil off-site to the approved landfill. Identified MPPEH will be demolished appropriately, as described in Alternative 2.

The LTM of groundwater described as part of Alternative 2 would be a part of Alternative 3 as well.

LUCs will be placed on the site to prohibit the use of groundwater, prohibit digging, and prevent the use of the site for use as a day care or a residential facility.

Implementation of this alternative with excavation would be highly effective in reducing the toxicity, mobility, and volume of MPPEH and MC. However, costs would for excavation and off-site disposal would be considered extremely high.

3.3 SCREENING CRITERIA

The alternatives assembled above will be screened for effectiveness, implementability, and cost. This screening process is used to select the most favorable alternatives for a detailed analysis. Although this is a qualitative screening, care has been taken to ensure that screening criteria are applied consistently to each alternative and that comparisons have been made on an equal basis, at approximately the same level of detail. The screening criteria include the following:

- **Effectiveness** the degree to which an alternative reduces the toxicity, mobility, or volume through treatment; minimizes residual risks; and affords long-term protection.
- **Implementability** the technical and administrative feasibility of implementing the alternative.
- **Cost** the costs of construction and any long-term costs to operate and maintain.
- **Reduction of Toxicity, Mobility, or Volume through Treatment** the statutory preference for selecting remedial actions that employ treatment technologies that permanently and significantly reduce toxicity, mobility, or volume of the hazardous substances as their principal element.

The detailed analysis and evaluation in Section 4 compare additional criteria for each of the alternatives. Section 4 identifies the most practicable permanent solution as determined by the criteria specified in the NCP (40 CFR 300.430).

No Further Action (Alternative 1) does not provide long-term protection of human health and the environment, as it does not implement any remedy to reduce the potential risk. Implementation of this

alternative does not meet the effectiveness screening criteria. The feasibility and the cost both screen well. Although this alternative does not meet the effectiveness requirements, it is retained for further evaluation for comparative purposes.

Geophysical Mapping/Intrusive Investigation/Capping/LUCs (Alternative 2) would meet the effectiveness criteria for MEC, MPPEH, and soil. The Alternative will minimize exposure to any potential MPPEH by the completion of the intrusive investigation and the installation of the cap. The alternative is effective at reducing the exposure to MPPEH by removing any MPPEH in at the site, excavating contaminated soil, and installing a protective cap over potential metals-impacted soil near the OD Hill. In the case that MEC is identified at the Site, the volume and/or mobility of the MEC would be reduced either through intrusive investigation and removal. The implementation of the LUCs would be effective at limiting public exposure to any potential contaminants remaining at the Site below the surface. Implementation is administratively and technically feasible, and the skilled labor (e.g., UXO technicians) is readily available to perform this work. The costs to complete this alternative, which are presented in Section 4, are moderate.

Geophysical Mapping/Intrusive Investigation/Excavation/Off-Site Disposal/LUCs (Alternative 3) would meet the effectiveness criteria for MPPEH and soil. This alternative is similar to Alternative 2, with the addition of excavation and off-site disposal of soil at the OD Hill instead of placement beneath a cap. The alternative will minimize exposure to any MPPEH by the completion of intrusive investigation of anomalies outside of the OD Hill and the excavation of soil at the OD Hill. The alternative is effective at reducing the exposure to MPPEH by permanently removing any MPPEH and contaminated soil at the Site. In the case that MEC is identified at the Site, the volume of the MEC would be reduced through intrusive investigation and excavation/off-site disposal. The implementation of the LUCs would further be effective at limiting public exposure to any potential soil contamination remaining at the Site below the surface. Implementation is administratively and technically feasible, and the skilled labor (e.g., UXO technicians) are readily available to perform this work. The costs to complete this alternative, which are presented in Section 4, are high due to the excavation, screening, and off-site disposal costs.

4.0 DETAILED ANALYSIS OF RETAINED ALTERNATIVES

4.1 INTRODUCTION

The purpose of the detailed analysis is to evaluate and compare the identified alternatives and present a proposed plan for regulatory agencies and public review. The alternatives identified for the detailed analysis include the following:

- Alternative 1: No Further Action;
- Alternative 2: Geophysical mapping, intrusive investigation, capping, LUCs; and
- Alternative 3: Geophysical mapping, intrusive investigation, excavation, off-site disposal, and LUCs.

The alternatives are compared and evaluated with respect to seven evaluation criteria developed to address the statutory requirements and preferences of CERCLA. The seven criteria are as follows:

- 1. Overall protection of human health and the environment
- 2. Compliance with ARARs
- 3. Long-term effectiveness and permanence
- 4. Reduction of toxicity, mobility, or volume
- 5. Short-term effectiveness
- 6. Technical and administrative implementability
- 7. Cost

Two additional criteria, state acceptance and community acceptance of the remedy, can play a role in weighing the balance between remedies that are cost effective and meet other criteria. Public involvement activities help provide an understanding of these factors even though the Proposed Plan has not yet been issued.

The community and state acceptance criteria are based on the degree of assumed acceptance from the local public and from state agencies regarding the implementation of alternatives. These criteria cannot be fully evaluated and assessed until comments on the FS and the Proposed Plan are received.

Each of the three alternatives are analyzed individually against each criterion and then compared against one another to determine their respective strengths and weaknesses and to identify the key trade-offs. The alternative(s) identified as the most practicable solution in reducing the potential MPPEH and soil contamination exposure hazard is selected with respect to each evaluation criteria. The following sections describe each of the evaluation criteria and the evaluation process used for performing the analysis.

4.2 EVALUATION CRITERIA

Alternatives are compared and evaluated with the NCP criteria, including threshold factors, balancing factors, and modifying factors. The following sections describe the factors and each of the criteria.

4.2.1 Threshold Factors

Threshold factors (i.e., protectiveness, compliance with ARARs) are requirements that each alternative must meet or have specifically waived to be eligible for selection.

4.2.1.1 Overall Protection of Human Health and the Environment

The selected alternative must adequately protect human health and the environment from unacceptable risks posed by potential MPPEH. The overall protectiveness to human health and the environment from the threat of MPPEH/MEC was evaluated by completing a MEC HA (Appendix B) based on the impact each alternative has on the exposure hazard (MPPEH) and on the environment. Although the potential for human receptors to come into contact with potential MPPEH at the OD Grounds is currently limited, the protectiveness criterion was evaluated in terms of possible human interaction by commercial/industrial workers (e.g., SEDA employees), and/or recreational users (e.g., hunters or campers) based on the current and anticipated future land uses at the site. Exposure involves three components: the MPPEH source characteristics, the receptor, and interaction between them. All three components are required for a safety threat from MEC/MPPEH to exist. The protectiveness factor also considers the environmental impact that implementation of an alternative has on the existing environmental/ecological factors at the OD Grounds. Appendix B discusses this in more detail.

4.2.1.2 Compliance with ARARs

The NCP requires that all project sites meet ARARs (or that an ARAR waiver be obtained). The ARARs are identified in Section 2.0 of this FS Report. Chemical-specific, location-specific, and action-specific were evaluated. Compliance with the NYS SCOs have been identified as a chemical-specific ARARs. The evaluation in Section 2.0 indicates that further evaluation of location-specific and action-specific ARARs is not warranted.

4.2.2 Balancing Factors

Primary balancing criteria (i.e., long-term effectiveness, reduction, short-term effectiveness, implementability, cost) are those that form the basis for comparison among alternatives that meet the threshold criteria. CERCLA requires that alternatives be developed for treating principal threats at the project site through reductions in toxicity, mobility, or volume. In addition, remedies are required to be permanent (e.g., removal of MPPEH or soil contamination), to the maximum extent practicable, and to be cost effective. The five balancing factors described below are weighed against each other to determine which remedies are cost effective and are "permanent" to the maximum extent practicable. The NCP explains that in general, preferential weight is given to alternatives that offer advantages in terms of the reduction of toxicity, mobility, or volume through treatment, and that achieve long-term effectiveness and permanence. However, the NCP also recognizes that some contamination problems will not be suitable for treatment and permanent remedies. The balancing process takes that preference into account, and weighs the proportionality of costs to effectiveness to select one or more remedies that are cost effective. The final risk management decision in the Decision Document is one that determines which cost-effective remedy offers the best balance of all factors to achieve permanence to the maximum extent practicable.

4.2.2.1 Long-term Effectiveness and Permanence

The permanence criterion evaluates the degree to which an alternative permanently reduces or eliminates the potential for MPPEH or soil contamination exposure hazard. This criterion also evaluates the magnitude of residual risk with the alternative in place, and the effectiveness of controls to manage the residual risk.

4.2.2.2 Reduction of Toxicity, Mobility, or Volume through Treatment

This criterion addresses the statutory preference for selecting remedies that employ treatment technologies that permanently and significantly reduce toxicity, mobility, or volume of the hazardous substances. This preference is satisfied when treatment is used to reduce the principal threats at a site through destruction of toxic contaminants, irreversible reduction in contaminant mobility, or reduction of total volume of contaminated media.

4.2.2.3 Short-term Effectiveness

The short-term effectiveness criterion addresses the potential consequences and risks of an alternative during the implementation phase. Alternatives were evaluated for their effects on human health and the environment prior to the remedy being completed. Short-term risks address adverse impacts to the workers and community during the construction and implementation phases of the remedy.

4.2.2.4 Technical and Administrative Implementability

The technical and administrative implementability criterion evaluates the difficulty of implementing a specific cleanup action alternative. The evaluation includes consideration of whether the alternative is technically possible; availability of necessary on-site and off-site facilities, services, and materials; administrative and regulatory requirements; and monitoring requirements.

4.2.2.5 Cost

The cost criterion evaluates the financial cost to implement the alternative. This includes direct, indirect, and long-term operation and maintenance (O&M) costs (30-year duration). Direct costs are those costs associated with the implementation of the alternative. Indirect costs are those costs associated with administration, oversight, and contingencies. Cost estimates presented are order-of-magnitude level estimates. Based on a variety of information, including productivity estimates (based on site conditions), cost estimating guides, and prior experience at SEDA. The actual costs will depend on true labor rates, actual weather conditions, final project scope, and other variable factors. A present value analysis is used to evaluate costs (capital and operations/maintenance) which occur over different time periods. The total present value (TPV) is the amount needed to be set aside at the initial point in time (base year) to assure that funds will be available in the future as they are needed. The discount rate of 7% per the USEPA guidance, *A Guide to Developing and Documenting Cost Estimates During the Feasibility Study*, (USEPA, 2000) was used to estimate TPV.

4.2.3 Modifying Factors

Community and state acceptance of the remedy can play a role in weighing the balance between remedies that are cost effective and meet other criteria. Public involvement help to provide an understanding of

these factors even though the Proposed Plan has not yet been issued. The community and state acceptance criteria are based on the degree of assumed acceptance from the local public and from state agencies regarding the implementation of alternatives. These criteria cannot be fully evaluated and assessed until comments on the FS and the Proposed Plan are received.

4.3 Individual Analysis of Alternatives

4.3.1 Alternative 1 – No Further Action

4.3.1.1 Description

The no further-action alternative would leave the OD Grounds undisturbed with the continuation of existing site security measures, such as locked gates, to prevent civilian access and direct contact with possible exposure to potential MPPEH and soil contamination. Because no remedial activities would be implemented with the NFA alternative, long-term human health and environmental risks for the site essentially would be the same as those represented in the baseline MEC HA (**Appendix B**).

4.3.1.2 Assessment

Threshold Factors

This alternative does not provide any protectiveness. The ARARs would not be met for the OD Grounds.

Balancing Factors

The no-action alternative includes no controls for exposure and no long-term management measures. All current and potential future risks would continue under this alternative.

This alternative provides no reduction in toxicity, mobility, or volume of MPPEH.

There would be no additional risks posed to workers or the environment as a result of this alternative being implemented.

There are no implementability concerns posed by this remedy, since no action would be taken.

The present worth cost and capital cost of Alternative 1 are estimated to be \$0, since there would be no action.

Summary – Alternative 1

Alternative 1 does not reduce the potential exposure hazards. Alternative 1 does not provide overall protection to human health, as it does not implement a remedy to reduce potential MPPEH or contaminated soil exposure. In addition, there is no reduction in toxicity, mobility, or volume. No costs are associated with this alternative.

4.3.2 Alternative 2 – Geophysical Mapping, Intrusive Investigation, Capping, and LUCs

4.3.2.1 Description

This alternative includes a combination of activities to achieve a reduction in the MEC hazard. In the open and accessible areas, previously identified anomalies with a response greater than 50mV will be reacquired and removed. In areas that are wooded or inaccessible and were not previously cleared, mag

and dig operations will be completed using a handheld magnetometer, such as a Schonstedt. In areas that were not previously mapped, DGM surveys will be conducted using EM61s over approximately 60 acres in the area surround in the OD Hill. The mapped areas will be designated in two different ways:

- 1. metals saturated areas where individual anomalies cannot be identified and manually removed
- 2. lower metals density areas where individual anomalies can be identified and manually removed

At locations where the DGM survey indicates that there is metallic saturation, the top 6 inches of soil will be excavated. The soil will be screened to remove MPPEH, and the overburden will be staged on-site for potential reuse and/or incorporation into the site cap. The area will then be resurveyed and the results of the DGM survey will be used to generate a dig list of target anomalies to be investigated. In the event that the results of the DGM survey indicate that areas are still saturated with metal, then an additional 6 inches of soil may be excavated, screened, and staged, as previously described, followed by a subsequent DGM survey of that area. The DGM results will be used to generate a dig list, and the anomalies will be reacquired and intrusively investigated. For the lower density metals areas, the anomalies on the generated dig list will be reacquired and intrusively investigated by a geophysicist and UXO dig team, and a "mag and dig" survey will be completed in areas near the OD Hill that are overgrown or sloped (e.g., where a DGM survey was not completed). A two-person UXO technician/ demolition team will perform any required MPPEH demolition procedures. The demolition team will dispose of any MPPEH suspected of containing explosives/spotting charges or inaccessible voids by detonation. All MD will be certified and disposed of as MDAS in accordance with current regulations. The excavated soil that passed through the screen will be placed on the OD Hill and the resulting surface will be compacted and graded. An engineered cap at least 18-inches thick will be installed over the OD Hill and the surrounding area. The exact extent of the cap will be defined during the remedial design.

LTM would include monitoring of the cap.

LUCs would be implemented at the Site to prohibit the use of groundwater, prohibit digging, and prevent the use of the site for use as a daycare or a residential facility

4.3.2.2 Assessment

Threshold Factors

There is a high level of overall protectiveness of human health and the environment with the implementation of this remedy. Potential MPPEH would be removed from the Site and a cap would be installed to prevent contact with any metals-contaminated soil at the OD Hill. The implementation of this alternative would result in decreased human receptor interaction and reduced exposure to potential MPPEH. Although protective of human health because exposure to MPPEH is reduced through access controls, Alternative 2 cannot completely control behavior or restrict access to residual soil contamination. Alternative 2 complies with the ARARs identified for the site.

Balancing Factors

It is possible that not all MPPEH contamination would be removed; therefore, risk would be managed not by source removal but through controls to limit an exposure pathway (i.e., interaction). Controls for

exposure would include a NYS Part 360 cap, long-term management of the cap conditions, and LUC measures such as prohibition of digging or use for residential or daycare facilities. Long term management/monitoring would include annual inspections, maintenance of the cap and the LUCs, and performing five-year reviews.

This alternative provides a degree of reduction in toxicity, mobility, and volume of potential MPPEH by removing it through intrusive investigations and surface excavations in areas of metallic saturation.

There would be a potential short term impact during the demolition of any MEC items. A health and safety plan (HASP) would be prepared and all work would be conducted in accordance with the HASP and USACE UXO requirements. Mitigations strategies will be implemented during the demolition such that any potential risk to public health would be minimized.

The long-term effectiveness for the alternative is high since the intrusive investigations, surface excavations, cap, and LUC would be effective at limiting exposure pathways.

There are no implementability concerns posed by this alternative, and Alternative 2 is readily implementable from a technical perspective. Hand digging anomalies is a common and proven technique to address MPPEH.

The total capital cost for this alternative is \$7.3M. The TPV (30-year present worth) cost of this alternative is estimated to be \$7.8M. The capital costs include document preparation, implementation of the field work for the remedial action, design, etc. The total costs include \$31,500 per year for LUC inspections and cap maintenance, plus \$40,300 per five-year review over the 30 year period.

Summary – Alternative 2

The RAOs are achieved through implementation of this alternative through decreased human exposure to MPPEH; this alternative provides significant reduction in toxicity, mobility, or volume of MPPEH. This alternative provides for good long-term effectiveness and permanence and is easily implemented. The cost associated with implementing this alternative is moderate. There are minimal long-term maintenance costs.

4.3.3 Alternative 3 – Geophysical Mapping/Intrusive Investigation/Excavation/Off-Site Disposal/LUCs

4.3.3.1 Description

This Alternative is similar to Alternative 2, although it includes excavation of the soil at the OD Hill followed by off-site disposal instead of placement below a cap.

The DGM, reacquisition, mag and dig surveys, and intrusive investigations steps described in Alternative 2 are included in Alternative 3 as well. An area surrounding the OD Hill will be delineated based on the DGM survey results. Soils will be excavated to native material. Excavated soils would be sifted using a screening table to identify and remove any potential debris or MPPEH. Excavated soils will be sampled, and soils deemed free from MPPEH and meeting site cleanup standards will be staged on-site for potential re-use. The excavated area will be graded and re-vegetated to promote positive drainage and to match the natural ground contour. Soils not appropriate for reuse at the Site (e.g., soils intermixed with

debris or above the cleanup standards) will be disposed of at an approved Subtitle D landfill. Identified MPPEH will be demolished appropriately, as described in Alternative 2.

Long-term monitoring of existing and new groundwater wells would be part of the alternative.

LUCs will be placed on the site to prohibit the use of groundwater, prohibit digging, and prevent the use of the site for use as a day care or a residential facility.

Implementation of this alternative with excavation would be highly effective in reducing the toxicity, mobility, and volume of potential MPPEH and soil contamination. However, costs would for excavation and off-site disposal would be considered extremely high.

4.3.3.2 Assessment

Threshold Factors

There is a high level of overall protectiveness of human health and the environment with the implementation of this remedy. MPPEH and soil contamination would be removed from the Site through intrusive investigation and excavation. The implementation of this alternative would eliminate any potential exposure to MPPEH by permanently removing the soil and the MPPEH and minimizing concern of residual MPPEH. Alternative 3 complies with the action-specific ARAR identified for the site since the intrusive investigations, excavation, and LUCs would control exposure to soil contamination and a potential MPPEH.

Balancing Factors

Alternative 3 would meet the long-term effectiveness and permanence criteria through the removal and proper disposition of MPPEH and off-site disposal of soil contamination. There would be significant reduction of toxicity, mobility, or volume through removal of MPPEH and contaminated soil.

This alternative would have moderate implementability rating given the permitting and logistics requirements for the off-site disposal of the excavated material.

There would be a potential short term impact during the demolition of any MEC items. A HASP would be prepared and all work would be conducted in accordance with the HASP and USACE UXO requirements. Mitigations strategies will be implemented such that any potential risk to public health would be minimized.

The long-term effectiveness for the alternative is high since the intrusive investigations, excavation, offsite disposal, and LUCs would be effective at limiting exposure pathways.

There is a high cost for this alternative, with a total capital cost of \$27.1M. The TPV (30-year present worth) cost of this alternative is estimated to be \$27.3M. The capital costs include document preparation, implementation of the field work for the remedial action, design, excavation. The total costs include \$10,800 per year for LUC inspections, plus \$40,300 per five-year review over the 30 year period.

The MPPEH contamination would be removed; therefore, long-term management and permanence would be achieved by source removal.

Summary – Alternative 3

The RAOs are achieved through implementation of this alternative through decreased human exposure to potential MPPEH; this alternative provides good reduction in toxicity, mobility, or volume of MPPEH. This alternative provides for good long-term effectiveness and permanence. The alternative will require some permitting to be implemented. The cost associated with implementing this alternative is very high.

4.4 COMPARATIVE ANALYSIS OF ALTERNATIVES

In the following analysis, the alternatives are evaluated in relation to one another for each of the evaluation criteria to identify the relative advantages and disadvantages of each alternative in terms of the threshold and balancing criteria. **Table 4-1** ranks the alternatives, and **Table 4-2** summarizes the costs for these alternatives. Details regarding the comparative analysis are provided in the following sections.

4.4.1 Overall Protection of Human Health and the Environment

The protectiveness criterion was evaluated in terms of possible human interaction with potential MPPEH or soil contamination. Each alternative was evaluated in terms of whether it would reduce or remove the amount of MPPEH and/or soil contamination at the OD Grounds. Alternative 1 provides the least overall protection of human health because it does not remove or restrict access to potential MPPEH or soil contamination. Alternatives 2 and 3 both provide good protection for the OD Grounds by limiting exposure to MPPEH or soil contamination. Alternative 3 has a higher level of permanence since soil and MPPEH would be removed off-site. With both Alternatives 2 and 3, there continues to be the possibility that all MPPEH may not have been identified and there is a residual risk that some MPPEH may remain on-site. The LUCs component of the remedy makes Alternatives 2 and 3 equally protective of limiting exposure.

4.4.2 Compliance with ARARs and Issues To Be Considered

Alternatives 2 and 3 comply with the chemical-specific ARAR identified for the OD Grounds (NYSDEC Subpart 375 SCOs) since each of these alternatives provides a mechanism for either removing or controlling exposure to contaminated soil. However, Alternative 1 does not provide a mechanism for removing or controlling exposure to MPPEH contamination and does not comply with the ARAR.

4.4.3 Long-term Effectiveness and Permanence

The permanence criterion evaluates the degree to which an alternative permanently reduces or eliminates the potential for MPPEH or contaminated soil exposure hazards. Alternative 1 offers no long-term effectiveness and permanence. Alternative 2 was determined to provide good effectiveness by reducing possible receptor interaction with MPPEH or contaminated soil. Alternative 3 provides a higher degree of long-term effectiveness and permanence based on the permanence of removing metals contaminated soil from the OD Hill site.

4.4.4 Reduction of Toxicity, Mobility, or Volume through Treatment

Alternative 1 offers no reduction in toxicity, mobility, or volume of contaminants and was assigned the lowest ranking. Alternatives 2 and 3 offer a reduction in toxicity and mobility by completing the

intrusive investigations and either capping or excavating the saturated soil. Alternative 3 offers volume reduction by disposal of soil off-Site.

4.4.5 Short-term Effectiveness

Alternative 1 is determined to have the greatest risk and least short-term effectiveness due to no actions taken to remove the MPPEH and contaminated soil risk. Alternatives 2 and 3 include demolition of recovered MPPEH. Alternative 3, which includes off-site transportation and disposal, has a short-term impact of hauling materials on public roads outside of the Depot, which can impact the surrounding community.

4.4.6 Implementability

Alternative 1 is the easiest to implement since it requires no action. Alternatives 2 and 3 are both technically and administratively feasible. The DGM and intrusive investigations use standard techniques common to munitions work. Both alternatives will require long-term monitoring of the LUCs. Alternative 3 has the additional burden of satisfying local, state, and federal permitting require meetings for transportation and disposal.

4.4.7 Cost

The cost criterion evaluates the financial cost to implement the alternative. The cost criterion includes direct, indirect, and long-term maintenance (O&M) costs. Direct costs are those costs associated with the implementation of the alternative. Indirect costs are those costs associated with administration, oversight, and contingencies. These costs were adapted from costs associated with similar activities at the Depot. These costs presented do not include costs for SEDA to administer and provide oversight for the respective activities.

The actual costs will depend on true labor rates, actual site conditions, final project scope, and other variable factors. The alternative with the lowest cost to implement would be Alternative 1, which requires no action; therefore, no costs are incurred. Alternative 2 requires moderate costs compared to Alternative 3 which is the most costly to implement.

Costs range from \$0 (Alternative 1) to approximately \$27.1M (Alternative 3). Alternative 3 has the highest cost because of the costs incurred for the excavation, transportation, and off-site disposal. **Table 4-2** summarizes costs for all alternatives, and **Appendix C** provides additional cost information.

4.4.8 State Acceptance

State acceptance cannot be fully evaluated and assessed until comments on the FS and the proposed plan are received. Modifying criteria (i.e., state and community acceptance), however, are considered in remedy selection. It is anticipated that Alternative 1 would not be acceptable to the state due to its lack of long-term effectiveness.

4.4.9 Community Acceptance

Community acceptance cannot be fully evaluated and assessed until comments on the proposed plan are received.

4.4.10 MEC Hazard Assessment Results

Based on the MEC HA conducted for each assessment area (see **Appendix B**), with regards to the reduction of potential MEC hazards, Alternative 2 and Alternative 3 provide identical levels of reduction of MEC hazards compared to the baseline condition. The MEC HA is summarized in Section 1.5 and presented in full in Appendix B. Implementation of Alternative 2 or 3 would decrease the hazard level rating to a "4", "low potential explosive hazard conditions". Note that these total MEC HA scores and the associated hazard levels are *qualitative references only* and should <u>not</u> be interpreted as quantitative measures of explosive hazard.

4.4.11 Summary of Comparative Analysis

The three alternatives were evaluated in terms of seven criteria. **Table 4-1** summarizes the alternatives and identifies the most practicable solution for reducing the potential MPPEH exposure hazard at the OD Grounds. In some cases, more than one alternative was identified within the same evaluation category, indicating that those alternatives have similar compliance with the criterion.

Alternative 1 must be ruled out because it is ineffective in long-term permanence and does not achieve the RAOs. Overall, Alternatives 2 and 3 have similar levels of protectiveness, permanence, long-term effectiveness, and short-term effectiveness. They will both limit exposure to potential MPPEH or contaminated soil. Alternative 3 ranks slightly higher for reduction of toxicity, mobility, or volume due to the volume reduction of off-site disposal. Alternative 2 rates more favorably for implementability. Alternative 2 ranks better in terms of cost.

4.5 **RECOMMENDED ALTERNATIVE**

Based on a comparison of the criteria, the most effective remedy for the OD Grounds is Alternative 2, DGM Mapping, intrusive investigation, cap, and LUCs. Alternative 2 limits human exposure to potential MPPEH or soil contamination, is implementable using known techniques, and is cost effective. The capital cost for the alternative is \$7.3M. The TPV is \$7.8M. The total costs include \$31,500 per year for LUC inspections and cap maintenance, plus \$40,300 per five-year review over the 30 year period.

Table 4-1 **Ranking of Alternatives**

Alternative No.	Description	Overall Protection of Human Health and the Environment	Compliance with ARARs	Long-Term Effectiveness and Permanence	Reduction through Treatment	Short-Term Effectiveness	Implementability	Cost	Total Score	Overall Ranking
1	No Further Action	1	1	1	1	1	3	3	11	# 3
2	Geophysical Mapping/Intrusive Investigation/Capping/LUCs	3	3	2	2	3	2	2	17	# 1
3	Geophysical Mapping/Intrusive Investigation/Excavation/Off- Site Disposal/LUCs	3	3	3	3	2	1	1	16	# 2

Note:

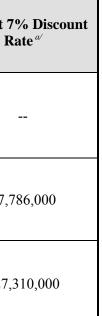
1) Alternatives were scored 1 to 3 for each screening criterion. The score of 1 represents the least favorable score and 3 represents the most favorable score.

2) The alternative with the highest total score represents the most favorable alternative. Within each screening criterion, alternatives were scored from one to three for each subcategory. 3) The total score of all subcategories is the basis for the scoring for the screening criterion.

Alternative	Description	Capital Cost	Annual LTM Cost	Five-Year Review Cost (per event)	TPV at 7 R
1	No Further Action	\$0			
2	Geophysical Mapping/Intrusive Investigation/Capping/LUCs	\$7,308,000	\$31,500	\$40,300	\$7,7
3	Geophysical Mapping/Intrusive Investigation/Excavation/Off-Site Disposal/LUCs	\$27,089,000	\$10,800	\$40,300	\$27,

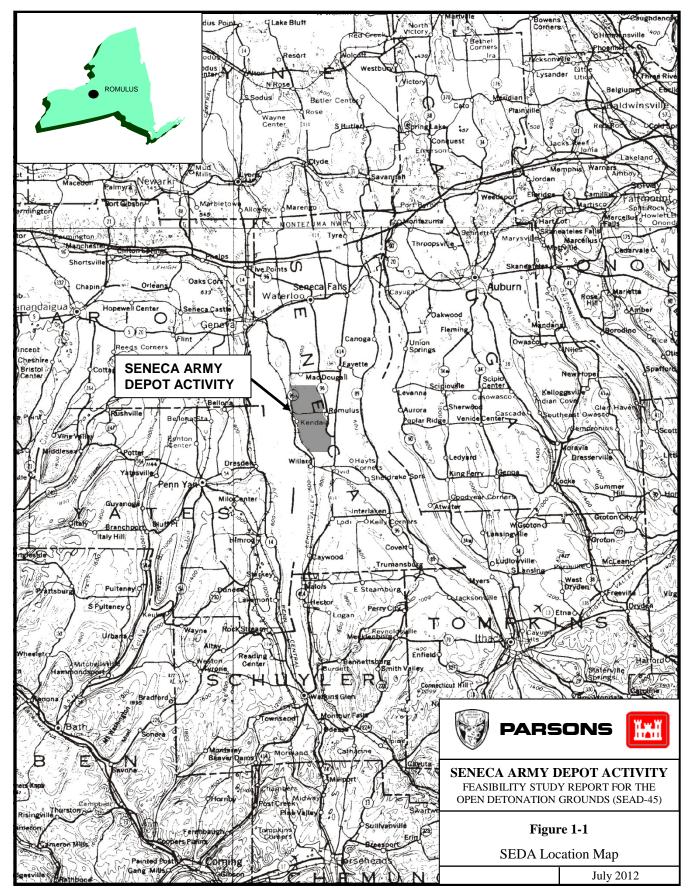
Table 4-2Remedial Alternatives Cost Summary

^{a'} Discount rate of 7% per USEPA (2000) guidance was used to estimate TPV. TPV includes six five year review events and the annual long-term monitoring.

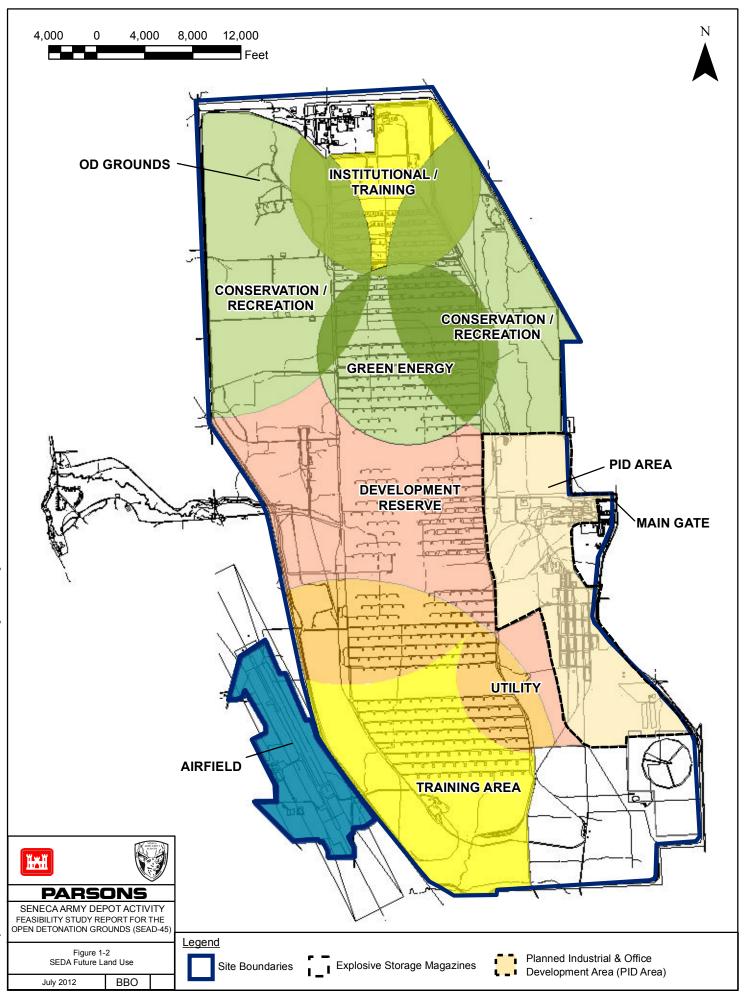


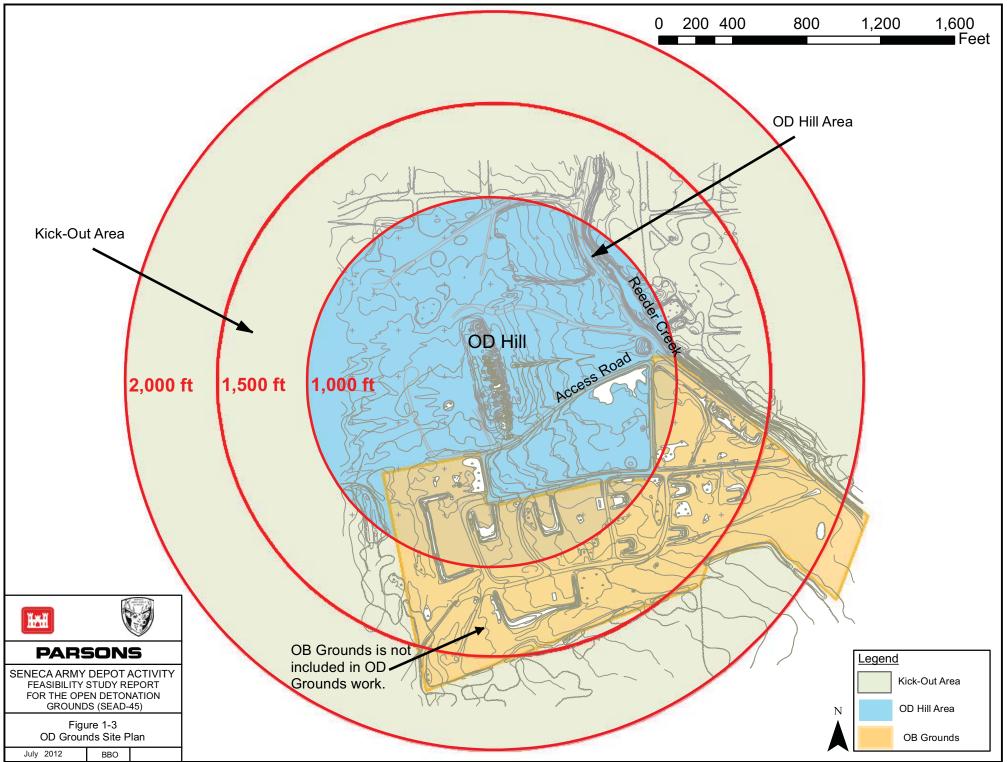
FIGURES

- Figure 1-1 SEDA Location Map
- Figure 1-2 SEDA Future Land Use Map
- Figure 1-3 OD Grounds Site Plan
- Figure 1-4A Historic Soil Sample Locations at OD Grounds
- Figure 1-4B Historic Soil Sample Locations at OD Grounds (OD Hill area)
- Figure 1-5A Metals Exceedances in Soil at the OD Grounds
- Figure 1-5B Metals Exceedances in Soil at the OD Grounds (OD Hill area)



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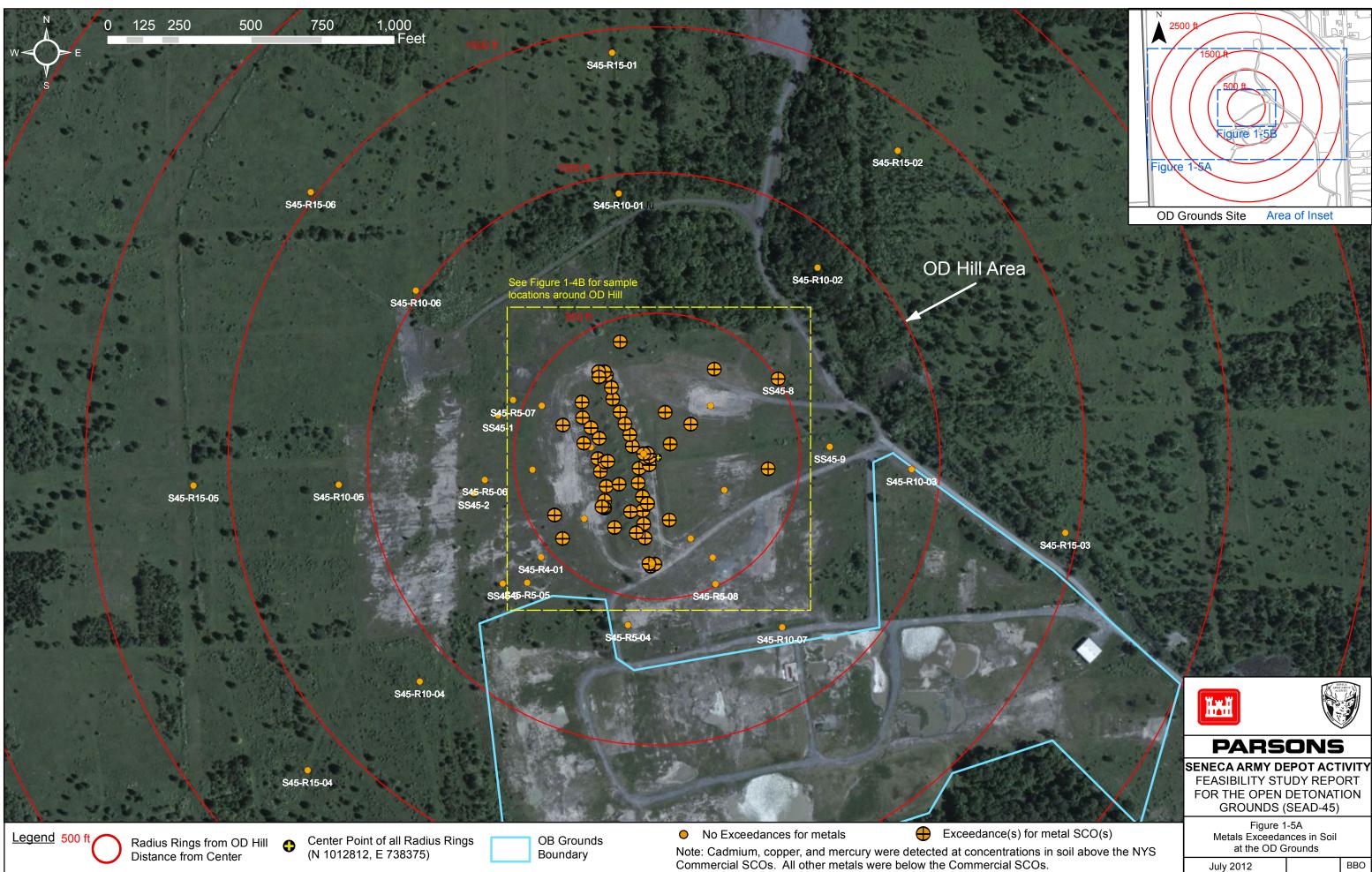


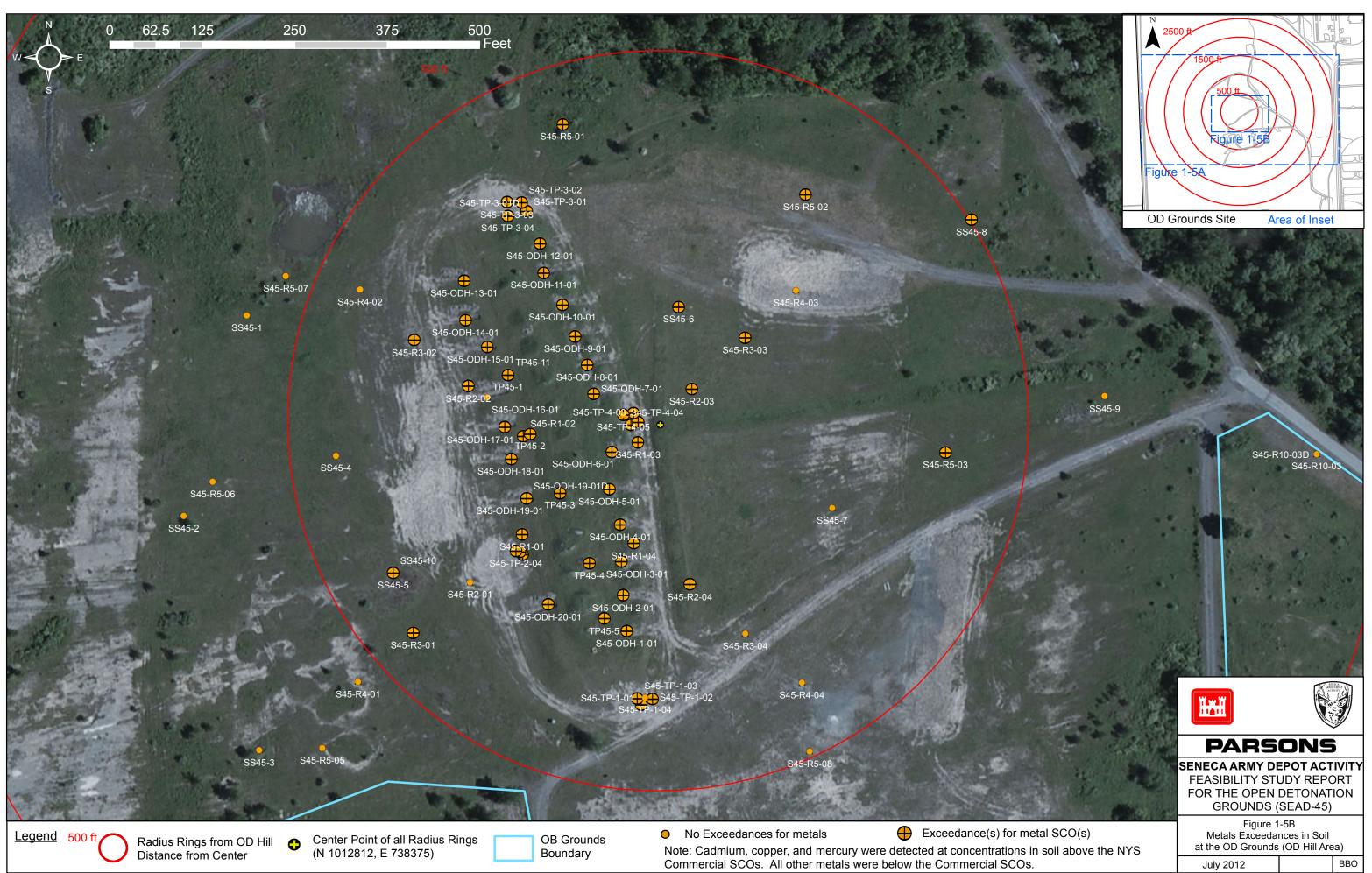


Path: P:\PIT\Projects\Huntsville Cont W912DY-08-D-0003\TO#13 - OD Grounds RI-FS\Documents\FS\Figures for FS\Figure 1-3 od grounds site plan.mxd









APPENDICES

- Appendix A OD Grounds Analytical Data
- Appendix B MEC Hazard Assessment
- Appendix C Detailed Cost Estimate

APPENDIX A

OD GROUNDS ANALYTICAL DATA

July 2012
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Area Loc ID Sample ID Matrix Sample Depth Interval (FT) Sample Date QC Type Study ID		Maximum	Frequency	Criteria	Number of		Number of Samples	SEAD-45 S45-ODH-10-01 S45-ODH-10-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-1-01 S45-ODH-1-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-11-01 S45-ODH-11-01 SOIL 0,2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-12-01 S45-ODH-12-01 SOIL 0,2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-13-01 S45-ODH-13-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-14-01 S45-ODH-14-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest
Parameter	Unit	Value	Detection	Value	Exceedances	Detected	Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/KG UG/KG	0	0% 0%	500,000	0	0	16 16						
1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane	UG/KG	0	0%			0	16						
1,1-Dichloroethane	UG/KG	Ő	0%	240,000	0	ŏ	16						
1,1-Dichloroethene	UG/KG	0	0%	500,000	0	0	16						
1,2-Dichloroethane	UG/KG	0	0%	30,000	0	0	16						
1,2-Dichloroethene (total)	UG/KG	0	0%	500,000	0	0	16 16						
1,2-Dichloropropane Acetone	UG/KG UG/KG	0	0% 0%	500,000	0	0	16						
Benzene	UG/KG	Ő	0%	44,000	0	0	16						
Bromodichloromethane	UG/KG	0	0%			0	16						
Bromoform	UG/KG	0	0%			0	16						
Carbon disulfide	UG/KG	0	0% 0%	22.000	0	0	16						
Carbon tetrachloride Chlorobenzene	UG/KG UG/KG	0	0%	22,000 500,000	0	0	16 16						
Chlorodibromomethane	UG/KG	0	0%	500,000	5	0	16						
Chloroethane	UG/KG	0	0%			0	16						
Chloroform	UG/KG	0	0%	350,000	0	0	16						
Cis-1,3-Dichloropropene	UG/KG UG/KG	0	0% 0%	390,000	0	0	16 16						
Ethyl benzene Methyl bromide	UG/KG	0	0%	390,000	0	0	16						
Methyl butyl ketone	UG/KG	õ	0%			Ő	16						
Methyl chloride	UG/KG	0	0%			0	16						
Methyl ethyl ketone	UG/KG	0	0%	500,000	0	0	16						
Methyl isobutyl ketone Methylene chloride	UG/KG UG/KG	0	0% 0%	500,000	0	0	16 16						
Styrene	UG/KG	0	0%	000,000	0	0	16						
Tetrachloroethene	UG/KG	19	38%	150,000	0	6	16						
Toluene	UG/KG	0	0%	500,000	0	0	16						
Total Xylenes	UG/KG UG/KG	0	0% 0%	500,000	0	0	16 16						
Trans-1,3-Dichloropropene Trichloroethene	UG/KG	0	0%	200,000	0	0	16						
Vinyl chloride	UG/KG	0	0%	13,000	0	0	16						
Semivolatile Organic Compounds													
1,2,4-Trichlorobenzene	UG/KG	0	0%			0	35		93 U	78 U			91 U
1,2-Dichlorobenzene	UG/KG	0	0%	500,000	0	0	35		100 U	85 U			99 U
1,3-Dichlorobenzene 1,4-Dichlorobenzene	UG/KG UG/KG	0	0% 0%	280,000 130,000	0	0	35 35		90 U 99 U	76 U 83 U			88 U 97 U
2,2'-oxybis(1-Chloropropane)	UG/KG	Ő	0%	100,000	0	0	16		33 0	00 0			51 0
2,4,5-Trichlorophenol	UG/KG	0	0%			0	35		180 U	150 U			170 U
2,4,6-Trichlorophenol	UG/KG	0	0%			0	35		180 U	150 U			170 U
2,4-Dichlorophenol 2,4-Dimethylphenol	UG/KG UG/KG	0	0% 0%			0	35 35		170 U 190 U	140 U 160 U			170 U 190 U
2,4-Dinitrophenol	UG/KG	0	0%			0	35		430 U	360 U			420 U
2,4-Dinitrotoluene	UG/KG	14,000	37%			13	35		98 U	82 U			96 U
2,6-Dinitrotoluene	UG/KG	700	6%			2	35		91 U	76 U			89 U
2-Chloronaphthalene	UG/KG UG/KG	0	0% 0%			0	35 35		100 U 190 U	84 U 160 U			98 U 180 U
2-Chlorophenol 2-Methylnaphthalene	UG/KG	0	0%			0	35		190 U	89 U			100 U
2-Methylphenol	UG/KG	õ	0%	500,000	0	0	35		230 U	190 U			220 U
2-Nitroaniline	UG/KG	0	0%			0	35		86 U	73 U			84 U
2-Nitrophenol	UG/KG	0	0%			0	35		190 U	160 U			190 U
3 or 4-Methylphenol 3,3'-Dichlorobenzidine	UG/KG UG/KG	0	0% 0%			0	19 35		210 U 130 U	180 U 110 U			210 U 130 U
3-Nitroaniline	UG/KG	õ	0%			Ő	35		110 U	91 U			100 U
4,6-Dinitro-2-methylphenol	UG/KG	0	0%			0	35		390 U	330 U			380 U
4-Bromophenyl phenyl ether 4-Chloro-3-methylphenol	UG/KG UG/KG	0	0% 0%			0	35 35		98 U 190 U	82 U 160 U			96 U 190 U
4-Chloroaniline	UG/KG	0	0%			0	35		190 U 140 U	120 U			130 U
4-Chlorophenyl phenyl ether	UG/KG	õ	0%			0	35		90 U	76 U			88 U
4-Methylphenol	UG/KG	0	0%	500,000	0	0	16						
4-Nitroaniline	UG/KG	0	0%			0	35		150 U	130 U			150 U
4-Nitrophenol Acenaphthene	UG/KG UG/KG	0	0% 0%	500,000	0	0	35 35		360 U 75 U	300 U 63 U			350 U 73 U
Acenaphthylene	UG/KG	30	9%	500,000	0	3	35		80 U	68 U			73 U 79 U
Anthracene	UG/KG	18	6%	500,000	0	2	35		96 U	81 U			95 U
Benzo(a)anthracene	UG/KG	50	23%	5,600	0	8	35		99 U	83 U			97 U
Benzo(a)pyrene Benzo(b)fluoranthene	UG/KG UG/KG	82 55	23% 26%	1,000 5,600	0	8 9	35 35		110 U 150 U	90 U 130 U			100 U 150 U
Benzo(ghi)perylene	UG/KG	66	20%	500,000	0	9	35		120 UJ	100 UJ			120 UJ
Benzo(k)fluoranthene	UG/KG	58	20%	56,000	0	7	35		95 U	80 U			94 U

Sample D	Area Loc ID Sample ID Matrix lepth Interval (FT) Sample Date QC Type Study ID			Frequency		Number	Number	Number	SEAD-45 S45-ODH-10-01 S45-ODH-10-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-1-01 S45-ODH-1-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-11-01 S45-ODH-11-01 SOLL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-12-01 S0IL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-13-01 S0L 0,2-0,6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-14-01 S45-ODH-14-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest
Parameter		Unit	Maximum Value	of Detection	Criteria Value	of Exceedances		of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Bis(2-Chloroethoxy)methane		UG/KG	0	0%			0	35		110 U	93 U			110 U
Bis(2-Chloroethyl)ether Bis(2-Chloroisopropyl)ether		UG/KG UG/KG	0	0% 0%			0	35 19		93 U 100 U	78 U 86 U			91 U 100 U
Bis(2-Ethylhexyl)phthalate		UG/KG	740	26%			9	35		110 U	95 U			110 U
Butylbenzylphthalate Carbazole		UG/KG UG/KG	0	0% 0%			0	35 35		110 U 130 U	90 U 110 U			100 U 120 U
Chrysene		UG/KG	130	34%	56,000	0	12	35		130 U	92 U			120 U
Dibenz(a,h)anthracene		UG/KG	0	0%	560	0	0	35		150 U	120 U			140 U
Dibenzofuran Diethyl phthalate		UG/KG UG/KG	0 35	0% 3%	350,000	0	0	35 35		91 U 92 U	76 U 78 U			89 U 90 U
Dimethylphthalate		UG/KG	0	0%			0	35		92 U 90 U	78 U 76 U			88 U
Di-n-butylphthalate		UG/KG	6,800	34%			12	35		120 U	98 U			110 U
Di-n-octylphthalate Fluoranthene		UG/KG UG/KG	0 68	0% 31%	500,000	0	0 11	35 35		240 U 120 U	200 U 100 U			240 U 120 U
Fluorene		UG/KG	0	0%	500,000	0	0	35		93 U	78 U			91 U
Hexachlorobenzene		UG/KG	110	31%	6,000	0	11	35		94 U	79 U			92 U
Hexachlorobutadiene Hexachlorocyclopentadiene		UG/KG UG/KG	0	0% 0%			0	35 35		95 U 94 U	80 U 79 U			94 U 92 U
Hexachloroethane		UG/KG	1,100	17%			6	35		110 U	93 U			92 U 110 U
Indeno(1,2,3-cd)pyrene		UG/KG	52	11%	5,600	0	4	35		140 U	120 U			140 U
Isophorone		UG/KG	0 30	0% 14%	500.000	0	0	35 35		86 U	73 U			84 U
Naphthalene Nitrobenzene		UG/KG UG/KG	0	0%	500,000	0	0	35		100 U 100 U	84 U 88 U			98 U 100 U
N-Nitrosodiphenylamine		UG/KG	320	6%			2	35		310 J	210 U			250 U
N-Nitrosodipropylamine		UG/KG	1,600	14%			5	35		95 U	80 U			94 U
Pentachlorophenol Phenanthrene		UG/KG UG/KG	0 46	0% 26%	6,700 500,000	0	0	35 35		270 UJ 95 U	230 UJ 80 U			270 UJ 94 U
Phenol		UG/KG	0	0%	500,000	ŏ	0	35		180 U	150 U			180 U
Pyrene		UG/KG	110	34%	500,000	0	12	35		120 U	98 U			110 U
Herbicides														
2,4,5-T 2,4,5-TP/Silvex		UG/KG UG/KG	0	0% 0%	500,000	0	0	35 35		18 U 14 U	18 U 14 U			19 U 15 U
2,4-D		UG/KG	0	0%	000,000	Ū	0	35		36 U	37 U			38 U
2,4-DB		UG/KG	0	0%			0	35		26 U	27 U			28 U
Dalapon Dicamba		UG/KG UG/KG	0	0% 0%			0	35 35		9.2 U 12 U	9.6 U 13 U			9.7 U 13 U
Dichloroprop		UG/KG	0	0%			0	35		21 U	22 U			22 U
Dinoseb		UG/KG	0	0%			0	35		2.9 U	3 U			3 U
MCPA MCPP		UG/KG UG/KG	9,400 0	6% 0%			2	35 35		2,600 U 2,500 U	2,700 U 2,600 U			2,700 U 2,600 U
Explosives		00/10	0	070			0	00		2,000 0	2,000 0			2,000 0
1,3,5-Trinitrobenzene		UG/KG	190	60%			28	47	55 J	51 JN	120 U	70 J	51 J	120 U
1,3-Dinitrobenzene		UG/KG	0	0%			0	47	7.7 U	6.7 U	7.3 U	7 U	7.2 U	7.8 U
2,4,6-Trinitrotoluene 2,4-Dinitrotoluene		UG/KG UG/KG	1,400 1,100	81% 77%			38 36	47 47	58 JN 110 J	45 JN 150	46 J 88 J	48 JN 100 J	40 J 110 J	55 JN 92 J
2,6-Dinitrotoluene		UG/KG	0	0%			0	47	34 U	29 U	32 U	30 U	31 U	92 J 34 U
2-amino-4,6-Dinitrotoluene		UG/KG	680	77%			36	47	130 J	130 J	170 JN	190 J	120	200 JN
2-Nitrotoluene 3,5-Dinitroaniline		UG/KG UG/KG	0	0% 0%			0	31 31	15 U 4.4 U	13 U 3.8 U	14 U 4.4 U	13 U 4 U	14 U 4.1 U	15 U 4.4 U
3-Nitrotoluene		UG/KG	0	0%			0	31	4.4 U 9.8 UJ	3.8 U 8.5 UJ	4.4 U 9.4 UJ	4 U 8.9 UJ	4.1 U 9.2 UJ	4.4 U 9.9 UJ
4-amino-2,6-Dinitrotoluene		UG/KG	500	57%			27	47	120 J	120	150 JN	150 J	120	190 J
4-Nitrotoluene HMX		UG/KG UG/KG	0 470	0% 68%			0 32	31 47	34 U 87 JN	29 U 72 JN	32 U 160 JN	30 U 100 J	31 U 79 J	34 U 190 JN
Nitrobenzene		UG/KG	470	08%			0	31	27 U	72 JN 24 U	26 U	25 U	79 J 26 U	28 U
Nitroglycerine		UG/KG	1,500	3%			1	31	150 U	130 U	150 U	140 U	140 U	160 U
Pentaerythritol Tetranitrate RDX		UG/KG UG/KG	0 5.800	0% 83%			0 39	31 47	300 U 190 JN	260 U 170	280 U 440 JN	270 U 290 J	280 U 130 JN	300 U 350 JN
Tetryl		UG/KG	330	83% 9%			39 4	47	6.7 U	5.8 U	440 JN 6.4 U	290 J 6.1 U	6.3 U	6.8 U

	Area Loc ID Sample ID Matrix Sample Depth Interval (FT) Sample Date QC Type Study ID			Frequency		Number	Number	Number	SEAD-45 S45-ODH-10-01 S45-ODH-10-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-1-01 S45-ODH-1-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-11-01 S45-ODH-11-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-12-01 S45-ODH-12-01 O.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-13-01 S45-ODH-13-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-14-01 S45-ODH-14-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest
Parameter		Unit	Maximum Value	of Detection	Criteria Value	of Exceedances	of Times Detected	of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Pesticides/PCBs		Onit	value	Detection	value	LACEEdances	Delected	Analyzeu	Value Quai	Value Quai	Value Quai	Value Quai	Value Quai	Value Quai
		UG/KG	0	0%	1,000	0	0	34		7.11	6.9 U			7.11
Aroclor-1016 Aroclor-1221		UG/KG	0	0%	1,000	0	0	34		7 U 16 U	6.9 U 16 U			7 U 16 U
Aroclor-1232		UG/KG	0	0%	1,000	0	0	34		10 U	10 U			10 U
Aroclor-1242		UG/KG	0	0%	1,000	õ	Ő	34		6.8 U	6.7 U			6.8 U
Aroclor-1248		UG/KG	0	0%	1,000	0	0	34		7.1 U	7 U			7.1 U
Aroclor-1254		UG/KG	2,000	6%	1,000	1	2	34		5.5 U	5.4 U			5.5 U
Aroclor-1260		UG/KG	0	0%	1,000	0	0	34		7 U	6.9 U			7 U
4,4'-DDD		UG/KG	2.4	6%	92,000	0	2	34		0.23 U	0.23 U			0.23 U
4,4'-DDE		UG/KG	4.2	63%	62,000	0	22	35		0.82 J	1.3 J			1.2 J
4,4'-DDT		UG/KG	3.4	50%	47,000	0	17 0	34		0.87 J	1.3 JN			1.2 J
Aldrin		UG/KG	0	0%	680	0	0	34 34		0.33 U	0.32 U			0.33 U
Alpha-BHC Alpha-Chlordane		UG/KG UG/KG	0 2	0% 12%	3,400 24,000	0	4	34 34		0.4 U 0.24 U	0.39 U 0.24 U			0.4 U 0.24 U
Beta-BHC		UG/KG	0	0%	3,000	0	4	34		0.24 U	0.38 U			0.24 U
Delta-BHC		UG/KG	0	0%	500,000	õ	Ő	34		0.37 U	0.37 U			0.37 U
Dieldrin		UG/KG	3.2	41%	1,400	õ	14	34		0.77 J	1 J			0.96 J
Endosulfan I		UG/KG	55	60%	200,000	0	21	35		0.79 J	32 JN			1 J
Endosulfan II		UG/KG	0.88	3%	200,000	0	1	34		0.4 UJ	0.39 UJ			0.4 UJ
Endosulfan sulfate	9	UG/KG	0	0%	200,000	0	0	34		0.68 U	0.67 U			0.68 U
Endrin		UG/KG	3.6	3%	89,000	0	1	34		0.99 U	0.98 U			0.99 U
Endrin aldehyde		UG/KG	0	0%			0	34		0.57 U	0.56 U			0.57 U
Endrin ketone	1	UG/KG UG/KG	0.58 0	3% 0%	9,200	0	1	34 34		0.46 U	0.58 J			0.47 U
Gamma-BHC/Lind Gamma-Chlordan		UG/KG	1.1	9%	9,200	0	3	34 34		0.31 U 0.27 U	0.31 U 0.26 U			0.31 U 0.27 U
Heptachlor	e	UG/KG	0	9%	15,000	0	0	34		0.34 U	0.33 U			0.27 U
Heptachlor epoxid	e	UG/KG	Ő	0%	10,000	0	0	34		0.26 U	0.25 U			0.26 U
Methoxychlor		UG/KG	45	3%			1	34		0.58 U	0.57 U			0.58 U
Toxaphene		UG/KG	0	0%			0	34		8.2 U	8 U			8.2 U
Inorganics														
Aluminum		MG/KG	27,900	100%			97	97	18.000	19,100	17,900	16,500	19,000	23,600
Antimony		MG/KG	5.1	33%			32	97	0.13 UJ	0.16 J	0.2 UJ	0.2 UJ	0.89 UJ	0.19 UJ
Arsenic		MG/KG	12.6	100%	16	0	97	97	5 J	5.1 J	8.6 J	6.2 J	4.7 J	4.6 J
Barium		MG/KG	365	100%	400	0	97	97	195	186	193	189	171	182
Beryllium		MG/KG	1.2	98%	590	0	95	97	0.8	0.85	0.79	0.73	0.85	0.8
Cadmium		MG/KG	1,100	81%	9.3	11	77	95	8.1	7	23.6	6.3	7.8	7.4
Calcium		MG/KG	193,000	99%	4 500	0	96 97	97	24,400	27,800	23,200	19,400	31,400	26,700
Chromium Cobalt		MG/KG MG/KG	446 26.8	100% 100%	1,500	0	97 97	97 97	28.1 13.5	28.5 11.2	446 13.1	30.1 10.8	27.8 11.2	30.5 12.6
Copper		MG/KG	7,310	100%	270	52	97	97	448	436	1,060	314	515	633
Cyanide		MG/KG	0.7	13%	27	0	2	16	770	400	1,000	014	010	000
Iron		MG/KG	118.000	100%			97	97	25,800	27,200	53,100	27,700	26,300	26,500
Lead		MG/KG	998	100%	1,000	0	97	97	62.6	55.6	64	43.1	51.7	56.7
Magnesium		MG/KG	15,000	100%			97	97	6,780	7,140	7,040	5,860	7,710	7,000
Manganese		MG/KG	5,040	100%	10,000	0	97	97	742	581	799	655	590	624
Nickel		MG/KG	59.3	100%	310	0	92	92	39.5	37.3	59.3	37.8	36.6	39.6
Potassium		MG/KG	4,880	100%			76	76	2,760 R	3,400 R	2,880 R	2,400 R	3,320 R	2,980 R
Selenium		MG/KG	0.92	4%	1,500	0	4	97	0.29 U	0.25 U	0.44 U	0.43 U	0.24 U	0.43 U
Silver		MG/KG MG/KG	205 213	68% 84%	1,500	0	66 81	97 97	3.6	3.8	5	3 U 103 J	3.6	3.5 135 J
Sodium Thallium		MG/KG MG/KG	0.27	84% 6%			6	97 97	106 J 0.12 U	131 J 0.23 J	112 J 0.19 U	103 J 0.18 U	128 J 0.1 J	135 J 0.18 U
Vanadium		MG/KG	41.9	100%			97	97 97	29.2	0.23 J 31.4	30.6	25.9	31.7	29.8
Zinc		MG/KG	1,470	100%	10,000	0	92	92	359	327	421	225	314	312
Mercury		MG/KG	9.1	99%	2.8	49	96	97	3.8	4	4.5	3.7	1.6	4.4
-													-	

J = estimated (detect or non-detect) value.

Notes: 1) Chemical result qualifiers are assigned by the laboratory and are evaluated and modified (if necessary) by during data validation. U = non-detect, i.e. not detected equal to or above this value. U = non-detect, i.e. not detected equal to or above this value. R = R = Rejected, data validation rejected the results. [blank] = detect, i.e. detected chemical result value. R = Rejected, data 2) Num of Analyses is the number of detected and non-detected results excluding rejected results. Sample duplicate pairs have not been averaged.

3) Chemical results greater than the action level are highlighted, bolded and boxed

Criteria action level source document and web address.
 The NYS SCO Commercial Use values were obtained from the NYSDEC Soil Cleanup Objectives.

Arr Loc I Sample Matr Sample Depth Interval (F Sample Da QC Typ Study I	D D ix T) ize ie D	Maximum	Frequency of	Criteria	Number of		Number of Samples		SEAD-45 S45-ODH-16-01 S45-ODH-16-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-17-01 S45-ODH-17-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-18-01 S45-ODH-18-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-19-01 S45-ODH-19-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-19-01 S45-ODH-19-01D SOIL 0.2-0.6 3/12/2010 DU OD Initial Invest
Parameter	Unit	Value	Detection	Value	Exceedances	Detected	Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/KG	0	0%	500,000	0	0	16						
1,1,2,2-Tetrachloroethane	UG/KG UG/KG	0	0% 0%			0 0	16 16						
1,1,2-Trichloroethane 1,1-Dichloroethane	UG/KG	0	0%	240,000	0	0	16						
1,1-Dichloroethene	UG/KG	Ő	0%	500,000	Ő	õ	16						
1,2-Dichloroethane	UG/KG	0	0%	30,000	0	0	16						
1,2-Dichloroethene (total)	UG/KG	0	0%	500,000	0	0	16						
1,2-Dichloropropane	UG/KG	0	0%			0	16						
Acetone	UG/KG UG/KG	0	0% 0%	500,000 44,000	0	0	16 16						
Benzene Bromodichloromethane	UG/KG	0	0%	44,000	0	0	16						
Bromoform	UG/KG	0	0%			õ	16						
Carbon disulfide	UG/KG	0	0%			Ō	16						
Carbon tetrachloride	UG/KG	0	0%	22,000	0	0	16						
Chlorobenzene	UG/KG	0	0%	500,000	0	0	16						
Chlorodibromomethane Chloroethane	UG/KG UG/KG	0	0% 0%			0	16 16						
Chloroform	UG/KG	0	0%	350,000	0	0	16						
Cis-1,3-Dichloropropene	UG/KG	Ő	0%	000,000	0	õ	16						
Ethyl benzene	UG/KG	0	0%	390,000	0	0	16						
Methyl bromide	UG/KG	0	0%			0	16						
Methyl butyl ketone	UG/KG UG/KG	0	0% 0%			0	16 16						
Methyl chloride Methyl ethyl ketone	UG/KG	0	0%	500,000	0	0	16						
Methyl isobutyl ketone	UG/KG	Ő	0%	000,000	0	õ	16						
Methylene chloride	UG/KG	0	0%	500,000	0	0	16						
Styrene	UG/KG	0	0%			0	16						
Tetrachloroethene	UG/KG UG/KG	19 0	38% 0%	150,000 500,000	0	6 0	16 16						
Toluene Total Xylenes	UG/KG	0	0%	500,000	0	0	16						
Trans-1,3-Dichloropropene	UG/KG	Ő	0%	000,000	0	õ	16						
Trichloroethene	UG/KG	0	0%	200,000	0	0	16						
Vinyl chloride	UG/KG	0	0%	13,000	0	0	16						
Semivolatile Organic Compounds													
1,2,4-Trichlorobenzene	UG/KG	0	0%	500.000	0	0	35			89 U		94 U	87 U
1,2-Dichlorobenzene 1,3-Dichlorobenzene	UG/KG UG/KG	0 0	0% 0%	500,000 280,000	0	0	35 35			97 U 86 U		100 U 91 U	94 U 84 U
1,4-Dichlorobenzene	UG/KG	0	0%	130,000	0	õ	35			94 U		100 U	92 U
2,2'-oxybis(1-Chloropropane)	UG/KG	0	0%	,	-	Ō	16						
2,4,5-Trichlorophenol	UG/KG	0	0%			0	35			170 U		180 U	170 U
2,4,6-Trichlorophenol	UG/KG	0	0%			0	35			170 U		180 U	170 U
2,4-Dichlorophenol 2,4-Dimethylphenol	UG/KG UG/KG	0 0	0% 0%			0	35 35			160 U 180 U		180 U 190 U	160 U 180 U
2,4-Dinitrophenol	UG/KG	0	0%			0	35			410 U		440 U	400 U
2,4-Dinitrotoluene	UG/KG	14,000	37%			13	35			260 J		280 J	91 U
2,6-Dinitrotoluene	UG/KG	700	6%			2	35			87 U		92 U	85 U
2-Chloronaphthalene	UG/KG	0	0%			0	35			96 U		100 U	93 U
2-Chlorophenol 2-Methylnaphthalene	UG/KG UG/KG	0 0	0% 0%			0	35 35			180 U 100 U		190 U 110 U	180 U 99 U
2-Methylphenol	UG/KG	0	0%	500,000	0	0	35			220 U		230 U	210 U
2-Nitroaniline	UG/KG	0	0%			0	35			82 U		88 U	80 U
2-Nitrophenol	UG/KG	0	0%			0	35			180 U		190 U	180 U
3 or 4-Methylphenol 3,3'-Dichlorobenzidine	UG/KG UG/KG	0	0% 0%			0	19 35			200 U 120 U		220 U 130 U	200 U 120 U
3-Nitroaniline	UG/KG	0	0%			0	35			120 U		130 U	100 U
4,6-Dinitro-2-methylphenol	UG/KG	0	0%			0	35			370 U		390 U	360 U
4-Bromophenyl phenyl ether	UG/KG	0	0%			0	35			93 U		99 U	91 U
4-Chloro-3-methylphenol	UG/KG	0	0%			0	35 35			180 U		190 U	180 U
4-Chloroaniline 4-Chlorophenyl phenyl ether	UG/KG UG/KG	0	0% 0%			0	35 35			130 U 86 U		140 U 91 U	130 U 84 U
4-Methylphenol	UG/KG	0	0%	500,000	0	0	16			00 0		510	07 0
4-Nitroaniline	UG/KG	0	0%			0	35			150 U		160 U	140 U
4-Nitrophenol	UG/KG	0	0%	500.000	2	0	35			340 U		360 U	330 U
Acenaphthene Acenaphthylene	UG/KG UG/KG	0 30	0% 9%	500,000 500,000	0	0 3	35 35 35			71 U 77 U		76 U 82 U	70 U 75 U
Acenaphinylene	UG/KG	18	9% 6%	500,000	0	2	35			92 U		82 U 98 U	90 U
Benzo(a)anthracene	UG/KG	50	23%	5,600	0	8	35			94 U		100 U	92 U
Benzo(a)pyrene	UG/KG	82	23%	1,000	0	8	35			100 U		110 U	100 U
Benzo(b)fluoranthene	UG/KG UG/KG	55 66	26% 20%	5,600 500,000	0	9 7	35 35			150 U 110 UJ		160 U 120 UJ	140 U 110 UJ
Benzo(ghi)perylene Benzo(k)fluoranthene	UG/KG	66 58	20%	500,000 56,000	0	7	35 35			91 U		120 UJ 97 U	110 UJ 89 U
	2 5/110	55		,000	2		50			51.0		51 0	00.0

Sample Dep	Area Loc ID Sample ID Matrix th Interval (FT) Sample Date QC Type Study ID			Frequency		Number	Number	Number	SEAD-45 S45-ODH-15-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-16-01 S45-ODH-16-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-17-01 S45-ODH-17-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-18-01 S45-ODH-18-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-19-01 SOL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-19-01 S45-ODH-19-01D SOIL 0.2-0.6 3/12/2010 DU OD Initial Invest
Parameter		Unit	Maximum Value	of	Criteria Value	of Exceedances		of Samples Analyzed	value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Bis(2-Chloroethoxy)methane		UG/KG	0	0%			0	35			100 U		110 U	100 U
Bis(2-Chloroethyl)ether		UG/KG	0	0%			0	35			89 U		94 U	87 U
Bis(2-Chloroisopropyl)ether		UG/KG	0	0%			0	19			98 U		100 U	96 U
Bis(2-Ethylhexyl)phthalate Butylbenzylphthalate		UG/KG UG/KG	740 0	26% 0%			9 0	35 35			110 U 100 U		110 U 110 U	100 U 100 U
Carbazole		UG/KG	0	0%			0	35			120 U		130 U	120 U
Chrysene		UG/KG	130	34%	56,000	0	12	35			100 U		110 U	100 U
Dibenz(a,h)anthracene		UG/KG	0	0%	560	0	0	35			140 U		150 U	140 U
Dibenzofuran		UG/KG	0	0%	350,000	0	0	35			87 U		92 U	85 U
Diethyl phthalate		UG/KG	35	3%			1	35			88 U		93 U	86 U
Dimethylphthalate		UG/KG	0	0%			0	35			86 U		91 U	84 U
Di-n-butylphthalate		UG/KG	6,800	34%			12	35			330 J		120 U	110 U
Di-n-octylphthalate		UG/KG	0 68	0%	500.000	0	0 11	35			230 U		250 U	230 U
Fluoranthene Fluorene		UG/KG UG/KG	0	31% 0%	500,000 500,000	0	0	35 35			120 U 89 U		120 U 94 U	110 U 87 U
Hexachlorobenzene		UG/KG	110	31%	6,000	õ	11	35			90 U		96 U	88 U
Hexachlorobutadiene		UG/KG	0	0%	-,		0	35			91 U		97 U	89 U
Hexachlorocyclopentadiene		UG/KG	0	0%			0	35			90 U		96 U	88 U
Hexachloroethane		UG/KG	1,100	17%			6	35			100 U		110 U	100 U
Indeno(1,2,3-cd)pyrene		UG/KG	52	11%	5,600	0	4	35			130 U		140 U	130 U
Isophorone		UG/KG	0	0%			0	35			82 U		88 U	80 U
Naphthalene		UG/KG UG/KG	30 0	14% 0%	500,000	0	5 0	35			96 U		100 U 110 U	93 U 98 U
Nitrobenzene N-Nitrosodiphenylamine		UG/KG	320	0% 6%			2	35 35			100 U 240 U		260 U	240 U
N-Nitrosodipropylamine		UG/KG	1,600	14%			5	35			240 U 91 U		200 U	240 U
Pentachlorophenol		UG/KG	0	0%	6,700	0	0	35			260 UJ		280 UJ	250 UJ
Phenanthrene		UG/KG	46	26%	500,000	0	9	35			91 U		97 U	89 U
Phenol		UG/KG	0	0%	500,000	0	0	35			170 U		180 U	170 U
Pyrene		UG/KG	110	34%	500,000	0	12	35			110 U		120 U	110 U
Herbicides														
2,4,5-T		UG/KG	0	0%			0	35			18 U		18 U	18 U
2,4,5-TP/Silvex		UG/KG	0	0%	500,000	0	0	35			14 U		14 U	14 U
2,4-D		UG/KG	0	0%			0	35			36 U		36 U	35 U
2,4-DB		UG/KG	0	0%			0	35			26 U		26 U	26 U
Dalapon		UG/KG	0 0	0%			0	35 35			9.4 U 12 U		9.2 U 12 U	9.1 U
Dicamba Dichloroprop		UG/KG UG/KG	0	0% 0%			0	35			12 U 21 U		12 U 21 U	12 U 21 U
Dinoseb		UG/KG	0	0%			0	35			2.9 U		21 U 2.9 U	2.8 U
MCPA		UG/KG	9.400	6%			2	35			2.600 U		2.600 U	2.600 U
MCPP		UG/KG	0	0%			0	35			2,500 U		2,500 U	2,400 U
Explosives														
1,3,5-Trinitrobenzene		UG/KG	190	60%			28	47	54 JN	53 JN	64 JN	120 U	56 J	60 JN
1,3-Dinitrobenzene		UG/KG	0	0%			0	47	7.1 U	6.5 U	6.7 U	7.4 U	7.3 U	6.5 U
2,4,6-Trinitrotoluene		UG/KG	1,400	81%			38	47	44 JN	41 JN	42 JN	62 J	59 J	50 JN
2,4-Dinitrotoluene		UG/KG	1,100	77%			36	47	220	110	96 J	1,100	150	100 J
2,6-Dinitrotoluene		UG/KG	0	0%			0	47	31 U	28 U	29 U	32 U	32 U	28 U
2-amino-4,6-Dinitrotoluene		UG/KG	680	77%			36	47	150 J	160 J	150 J	160	190 J	220
2-Nitrotoluene 3,5-Dinitroaniline		UG/KG UG/KG	0	0% 0%			0	31 31	14 U 4 U	12 U 3.7 U	13 U 3.8 U	14 U 4.2 U	14 U 4.2 U	13 U 3.7 U
3-Nitrotoluene		UG/KG	0	0%			0	31	4 U 9 UJ	8.2 UJ	8.6 UJ	4.2 U 9.4 UJ	4.2 U 9.3 UJ	8.3 UJ
4-amino-2,6-Dinitrotoluene		UG/KG	500	57%			27	47	160 J	180	160	120	180	220
4-Nitrotoluene		UG/KG	0	0%			0	31	31 U	28 U	29 U	32 U	32 U	28 U
HMX		UG/KG	470	68%			32	47	98 JN	100 J	100 J	87 JN	180 J	92 J
Nitrobenzene		UG/KG	0	0%			0	31	25 U	23 U	24 U	26 U	26 U	23 U
Nitroglycerine		UG/KG	1,500	3%			1	31	140 U	130 U	130 U	150 U	1,500 J	130 U
Pentaerythritol Tetranitrate		UG/KG	0	0%			0	31	270 U	250 U	260 U	280 U	280 U	250 U
RDX Tetryl		UG/KG UG/KG	5,800 330	83% 9%			39 4	47 47	180 6.2 U	230 5.6 U	180 5.9 U	160 6.5 U	540 J 6.4 U	200 J 5.7 U
reuyi		00/80	330	3%			4	41	0.2 U	0.0 U	5.9 U	0.5 U	0.4 U	5.7 U

	Area Loc ID Sample ID Matrix Sample Depth Interval (FT Sample Date QC Type Study ID			Frequency		Number	Number	Number	SEAD-45 S45-ODH-15-01 S45-ODH-15-01 O.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-16-01 S0IL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-17-01 S45-ODH-17-01 O.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-18-01 S45-ODH-18-01 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-19-01 S45-ODH-19-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-19-01 S45-ODH-19-01D SOIL 0.2-0.6 3/12/2010 DU OD Initial Invest
D		11.24	Maximum	of	Criteria	of		of Samples		N/-1 - 0 - 1	No. 1		V/-1 - 0 - 1	
Parameter		Unit	Value	Detection	Value	Exceedances	Detected	Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Pesticides/PCBs														
Aroclor-1016		UG/KG	0	0%	1,000	0	0	34			6 U		7 U	6.7 U
Aroclor-1221		UG/KG UG/KG	0	0% 0%	1,000	0	0	34 34			14 U 9.2 U		16 U 11 U	16 U
Aroclor-1232 Aroclor-1242		UG/KG	0	0%	1,000 1.000	0	0	34 34			9.2 U 5.8 U		6.8 U	10 U 6.5 U
Aroclor-1242 Aroclor-1248		UG/KG	0	0%	1,000	0	0	34			6.1 U		7.1 U	6.8 U
Aroclor-1254		UG/KG	2,000	6%	1,000	1	2	34			4.7 U		5.5 U	5.3 U
Aroclor-1260		UG/KG	0	0%	1,000	o o	0	34			6 U		7 U	6.7 U
4.4'-DDD		UG/KG	2.4	6%	92,000	0	2	34			0.2 U		1.4 J	0.22 U
4,4'-DDE		UG/KG	4.2	63%	62,000	0	22	35			0.95 J		2 J	1.6 J
4,4'-DDT		UG/KG	3.4	50%	47,000	0	17	34			1.1 J		1.9 J	1.2 J
Aldrin		UG/KG	0	0%	680	0	0	34			0.28 U		0.33 U	0.31 U
Alpha-BHC		UG/KG	0	0%	3,400	0	0	34			0.34 U		0.4 U	0.38 U
Alpha-Chlordane		UG/KG	2	12%	24,000	0	4	34			0.21 U		0.24 U	0.24 U
Beta-BHC		UG/KG	0	0%	3,000	0	0	34 34			0.33 U		0.39 U	0.37 U
Delta-BHC Dieldrin		UG/KG UG/KG	3.2	0% 41%	500,000 1,400	0	0 14	34 34			0.32 U 0.22 U		0.37 U 0.26 U	0.36 U 0.25 U
Endosulfan I		UG/KG	55	60%	200,000	0	21	34			0.22 U 0.24 UJ		0.26 U 1.6 J	0.25 U 1.2 J
Endosulfan II		UG/KG	0.88	3%	200,000	ő	1	34			0.34 UJ		0.4 UJ	0.88 JN
Endosulfan sulfate	1	UG/KG	0	0%	200,000	ŏ	0 0	34			0.58 U		0.68 U	0.65 U
Endrin		UG/KG	3.6	3%	89,000	0	1	34			0.84 U		1 U	0.95 U
Endrin aldehyde		UG/KG	0	0%			0	34			0.49 U		0.57 U	0.55 U
Endrin ketone		UG/KG	0.58	3%			1	34			0.4 U		0.47 U	0.45 U
Gamma-BHC/Lind		UG/KG	0	0%	9,200	0	0	34			0.27 U		0.32 U	0.3 U
Gamma-Chlordane	e	UG/KG	1.1	9%			3	34			0.75 J		0.27 U	0.26 U
Heptachlor		UG/KG	0	0%	15,000	0	0	34			0.29 U		0.34 U	0.32 U
Heptachlor epoxide	e	UG/KG	0	0%			0	34			0.22 U		0.26 U	0.25 U
Methoxychlor Toxaphene		UG/KG UG/KG	45 0	3% 0%			1	34 34			0.5 U 7 U		0.58 U 8.2 U	0.56 U 7.8 U
		00/KG	0	0%			0	34			70		0.2 0	7.8 0
Inorganics		MONO	07.000	40000			07	07						
Aluminum		MG/KG	27,900	100%			97	97	19,400	17,100	16,000	14,400	17,500	16,600
Antimony Arsenic		MG/KG MG/KG	5.1 12.6	33% 100%	16	0	32 97	97 97	0.19 UJ 4.7 J	0.18 UJ 4.9 J	0.15 UJ 4.9 J	0.76 UJ 4 J	0.21 UJ 5.6 J	1.6 J 7.3 J
Barium		MG/KG	365	100%	400	0	97	97	222	4.9 5	4.9 5	138	176	203
Beryllium		MG/KG	1.2	98%	590	0	95	97	0.83	0.78	0.71	0.65	0.8	0.79
Cadmium		MG/KG	1,100	81%	9.3	11	77	95	8.6	5	4.7	4.8	10.1	10.6
Calcium		MG/KG	193,000	99%			96	97	25,300	22,200	26,000	27,600	24,400 J	18,600
Chromium		MG/KG	446	100%	1,500	0	97	97	32.4	25.9	25.3	22	28.8	32
Cobalt		MG/KG	26.8	100%			97	97	12.3	12.6	11.2	9	14.2	14.9
Copper		MG/KG	7,310	100%	270	52	97	97	537	209	393	323	411 J	536
Cyanide		MG/KG	0.7	13%	27	0	2	16						
Iron		MG/KG	118,000	100%	4 000	0	97	97	27,200	24,200	24,700	21,800	35,100	44,700
Lead		MG/KG MG/KG	998 15,000	100% 100%	1,000	0	97 97	97 97	67.8 6.760	38.4 6,260	54.8 6,220	41.5 6,830	81.4 J 6,430	74.9 6,180
Magnesium Manganese		MG/KG	5.040	100%	10.000	0	97 97	97 97	627	653	6,220	6,830	6,430 581 J	6,180 1.080 J
Nickel		MG/KG	59.3	100%	310	0	92	92	41.8	35	35.1	31.4	41.9	49.6
Potassium		MG/KG	4,880	100%	0.0	0	76	76	2.960 R	2.550 R	2.460 R	2.310 R	2.720 R	2.430 R
Selenium		MG/KG	0.92	4%	1,500	0	4	97	0.42 U	0.4 U	0.32 U	0.21 U	0.56 J	0.36 U
Silver		MG/KG	205	68%	1,500	0	66	97	3.5	2.8 U	2.6	2.6	3.3	4
Sodium		MG/KG	213	84%			81	97	125 J	115 J	106 J	116 J	114 J	103 J
Thallium		MG/KG	0.27	6%			6	97	0.18 U	0.17 U	0.14 U	0.2 J	0.2 U	0.15 U
Vanadium		MG/KG	41.9	100%			97	97	29.6	27.6	27.7	23.7	27.4	26.9
Zinc		MG/KG	1,470	100%	10,000	0	92	92	321	291	356	290	369	330
Mercury		MG/KG	9.1	99%	2.8	49	96	97	2	1.4	6.8	3.4	3.3	3.6

Notes: 1) Chemical result qualifiers are assigned by the laboratory and are evaluated and modified (if necessary) by during data validation. U = non-detect, i.e. not detected equal to or above this value. R = Rejected, data validation rejected the re R = Rejected, data validation rejected the results.

2) Num of Analyses is the number of detected and non-detected results excluding rejected results. Sample duplicate pairs have not been averaged.

3) Chemical results greater than the action level are highlighted, bolded and boxed

4) Criteria action level source document and web address. - The NYS SCO Commercial Use values were obtained from the NYSDEC Soil Cleanup Objectives.

LC Sampi M Sample Depth Interval Sample I QC T Stud	latrix (FT) Date Type dy ID	Maximum	Frequency	Criteria	Number of		Number of Samples	SEAD-45 S45-ODH-20-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-2-01 S45-ODH-2-01 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-3-01 S45-ODH-3-01 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-4-01 S45-ODH-4-01 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-5-01 S45-ODH-5-01 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-6-01 S45-ODH-6-01 0.2-0.6 3/12/2010 SA OD Initial Invest
Parameter	Unit	Value	Detection	Value	Exceedances	Detected	Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/KG	0	0%	500,000	0	0	16						
1,1,2,2-Tetrachloroethane	UG/KG	0	0%			0	16						
1,1,2-Trichloroethane	UG/KG	0	0%	0.40.000	0	0	16						
1,1-Dichloroethane 1,1-Dichloroethene	UG/KG UG/KG	0	0% 0%	240,000 500,000	0 0	0	16 16						
1,2-Dichloroethane	UG/KG	0	0%	30,000	0	0	16						
1,2-Dichloroethene (total)	UG/KG	Ō	0%	500,000	0	ō	16						
1,2-Dichloropropane	UG/KG	0	0%			0	16						
Acetone	UG/KG	0	0%	500,000	0	0	16						
Benzene Bromodichloromethane	UG/KG UG/KG	0	0% 0%	44,000	0	0	16 16						
Bromoform	UG/KG	0	0%			0	16						
Carbon disulfide	UG/KG	õ	0%			Ő	16						
Carbon tetrachloride	UG/KG	0	0%	22,000	0	0	16						
Chlorobenzene	UG/KG	0	0%	500,000	0	0	16						
Chlorodibromomethane	UG/KG	0	0%			0	16						
Chloroethane Chloroform	UG/KG UG/KG	0	0% 0%	350,000	0	0	16 16						
Cis-1,3-Dichloropropene	UG/KG	0	0%	330,000	0	0	16						
Ethyl benzene	UG/KG	0	0%	390,000	0	0	16						
Methyl bromide	UG/KG	0	0%			0	16						
Methyl butyl ketone	UG/KG	0	0%			0	16						
Methyl chloride Methyl ethyl ketone	UG/KG UG/KG	0	0% 0%	500,000	0	0	16 16						
Methyl isobutyl ketone	UG/KG	0	0%	500,000	0	0	16						
Methylene chloride	UG/KG	ō	0%	500,000	0	ō	16						
Styrene	UG/KG	0	0%			0	16						
Tetrachloroethene	UG/KG	19 0	38%	150,000	0	6	16						
Toluene Total Xylenes	UG/KG UG/KG	0	0% 0%	500,000 500,000	0 0	0	16 16						
Trans-1,3-Dichloropropene	UG/KG	0	0%	300,000	0	0	16						
Trichloroethene	UG/KG	ō	0%	200,000	0	ō	16						
Vinyl chloride	UG/KG	0	0%	13,000	0	0	16						
Semivolatile Organic Compounds													
1,2,4-Trichlorobenzene	UG/KG	0	0%			0	35				93 U		98 U
1,2-Dichlorobenzene 1,3-Dichlorobenzene	UG/KG UG/KG	0	0% 0%	500,000 280,000	0 0	0	35 35				100 U 89 U		100 U 94 U
1,4-Dichlorobenzene	UG/KG	0	0%	130,000	0	0	35				98 U		100 U
2,2'-oxybis(1-Chloropropane)	UG/KG	Ō	0%	,	-	Ō	16						
2,4,5-Trichlorophenol	UG/KG	0	0%			0	35				180 U		190 U
2,4,6-Trichlorophenol	UG/KG	0	0%			0	35				180 U		190 U
2,4-Dichlorophenol 2,4-Dimethylphenol	UG/KG UG/KG	0	0% 0%			0	35 35				170 U 190 U		180 U 200 U
2,4-Dinitrophenol	UG/KG	0	0%			0	35				430 U		450 U
2,4-Dinitrotoluene	UG/KG	14,000	37%			13	35				97 U		100 U
2,6-Dinitrotoluene	UG/KG	700	6%			2	35				90 U		95 U
2-Chloronaphthalene 2-Chlorophenol	UG/KG UG/KG	0	0% 0%			0	35 35				100 U 190 U		100 U 200 U
2-Onlorophenol 2-Methylnaphthalene	UG/KG	0	0%			0	35				190 U		200 U 110 U
2-Methylphenol	UG/KG	õ	0%	500,000	0	Ő	35				230 U		240 U
2-Nitroaniline	UG/KG	0	0%			0	35				86 U		90 U
2-Nitrophenol	UG/KG	0	0%			0	35				190 U		200 U
3 or 4-Methylphenol 3.3'-Dichlorobenzidine	UG/KG UG/KG	0	0% 0%			0	19 35				210 U 130 U		220 U 140 U
3-Nitroaniline	UG/KG	ő	0%			Ő	35				100 U		140 U
4,6-Dinitro-2-methylphenol	UG/KG	0	0%			0	35				390 U		400 U
4-Bromophenyl phenyl ether	UG/KG	0	0%			0	35				97 U		100 U
4-Chloro-3-methylphenol	UG/KG UG/KG	0	0% 0%			0	35 35				190 U 140 U		200 U 140 U
4-Chloroaniline 4-Chlorophenyl phenyl ether	UG/KG	0	0%			0	35				89 U		94 U
4-Methylphenol	UG/KG	0	0%	500,000	0	0	16						
4-Nitroaniline	UG/KG	0	0%			0	35				150 U		160 U
4-Nitrophenol	UG/KG	0	0%	500.000	0	0	35 35 35				350 U		370 U
Acenaphthene Acenaphthylene	UG/KG UG/KG	0 30	0% 9%	500,000 500,000	0	0 3	35				74 U 80 U		78 U 84 U
Acenaphiliyene	UG/KG	18	6%	500,000	0	2	35				96 U		100 U
Benzo(a)anthracene	UG/KG	50	23%	5,600	0	8	35				98 U		100 U
Benzo(a)pyrene	UG/KG	82	23%	1,000	0	8	35				110 U		110 U
Benzo(b)fluoranthene	UG/KG UG/KG	55 66	26% 20%	5,600 500,000	0 0	9 7	35 35				150 U 120 UJ		160 U 120 UJ
Benzo(ghi)perylene Benzo(k)fluoranthene	UG/KG	58	20%	56,000	0	7	35				95 U		120 UJ 100 U
					-	·							

Sample Dep	Area Loc ID Sample ID Matrix oth Interval (FT) Sample Date QC Type Study ID			Frequency		Number	Number	Number	SEAD-45 S45-ODH-20-01 S0L 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-2-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-3-01 S45-ODH-3-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-4-01 S45-ODH-4-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-5-01 S0L 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-6-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest
Parameter		Unit	Maximum Value	of Detection	Criteria Value	of Exceedances		of Samples Analyzed	s Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Bis(2-Chloroethoxy)methane Bis(2-Chloroethy)ether Bis(2-Chloroethy)ether Bis(2-Chloroisopropyl)ether Bis(2-Chloroisopropyl)ether Bis(2-Ethy)hexyl)phthalate Carbazole Chrysene Dibenzofuran Dibenzofuran Diethyl phthalate Din-totylphthalate Di-n-octylphthalate Di-n-octylphthalate Fluoranthene Fluorene Hexachlorobutadiene Hexachlorobutadiene Hexachlorobutadiene Hexachlorobutadiene Hexachlorobutadiene Hexachlorobutadiene Hexachlorobutadiene Hexachlorobutadiene Hexachlorobutadiene Hexachlorobutadiene Hexachlorobutadiene Hexachlorobutadiene Hexachlorobutadiene Neghorone Naphthalene Nitrobenzene		UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG	0 0 740 0 1300 0 35 0 6,800 0 6,800 0 6,800 0 1,100 52 0 30 0 0	0% 0% 26% 0% 0% 34% 0% 33% 0% 31% 0% 31% 0% 17% 11% 11% 14% 0%	56,000 560 350,000 500,000 6,000 5,600 500,000	0 0 0 0 0 0 0	0 0 9 0 12 0 12 0 12 0 12 0 11 0 11 0 0 4 0 5 0	35 319 35 35 35 35 35 35 35 35 35 35 35 35 35				110 U 93 U 100 U 110 U 110 U 130 U 150 U 90 U 92 U 92 U 89 U 220 U 240 U 240 U 93 U 93 U 94 U 95 U 94 U 110 U 140 U 86 U 100 U		120 U 98 U 110 U 120 U 110 U 130 U 150 U 96 U 96 U 94 U 250 U 250 U 250 U 250 U 98 U 99 U 100 U 99 U 150 U 99 U 150 U 99 U 150 U
N-Nitrosodiphenylamine N-Nitrosodipropylamine Pentachlorophenol Phenanthrene Phenol Pyrene Herbicides		UG/KG UG/KG UG/KG UG/KG UG/KG	320 1,600 0 46 0 110	6% 14% 0% 26% 0% 34%	6,700 500,000 500,000 500,000	0 0 0 0	2 5 0 9 0 12	35 35 35 35 35 35 35				250 U 95 U 270 UJ 95 U 180 U 120 U		260 U 100 U 280 UJ 100 U 190 U 120 U
2,4,5-T 2,4,5-TP/Silvex 2,4-D Dalapon Dicamba Dichloroprop Dinoseb MCPA MCPP		UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG	0 0 0 0 0 0 0 9,400 0	0% 0% 0% 0% 0% 0% 6% 0%	500,000	0	0 0 0 0 0 0 0 2 0	35 35 35 35 35 35 35 35 35 35 35				17 U 13 U 34 U 25 U 8.7 U 12 U 20 U 2.7 U 2,400 U 2,300 U		19 U 15 U 28 U 9.7 U 13 U 22 U 3 U 2,700 U 2,600 U
Explosives 1,3,5-Trinitrobenzene 1,3-Dinitrobenzene 2,4,6-Trinitrotoluene 2,4-Dinitrotoluene 2,4-Dinitrotoluene 2,4-Dinitrotoluene 3,5-Dinitroaniline 4,5-Dinitroaniline 4,5-Dini		UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG	190 0 1,400 680 0 680 0 0 500 470 0 1,500 0 5,800 330	60% 0% 81% 77% 0% 0% 0% 57% 0% 68% 0% 3% 0% 83% 9%			28 0 38 36 0 36 0 0 27 0 32 0 1 0 39 4	47 47 47 47 31 31 31 47 31 47 31 31 31 31 31 31 47 47 47	100 U 6.5 U 220 28 U 130 J 13 U 3.7 U 8.3 U 120 28 U 68 JN 23 U 130 U 130 U 130 U 140 5.7 U	79 JN 6 U 29 JN 99 26 U 130 J 12 U 3.4 U 7.7 UJ 130 26 U 100 J 21 U 21 U 230 U 120 U 230 U 180 5.3 U	49 JN 6.1 U 36 JN 120 26 U 140 12 U 3.5 U 7.8 UJ 140 26 U 120 J 22 U 22 U 220 240 U 240 U 220 5.3 U	62 JN 7.5 U 83 J 160 J 14 U 9.6 UJ 150 J 10 JN 27 U 150 U 290 U 210 6.6 U	57 JN 6.8 U 40 JN 100 J 29 U 160 J 3.8 U 8.6 UJ 160 J 29 U 120 J 24 U 140 U 260 U 210 5.9 U	46 J 7.2 U 39 JN 64 J 31 U 99 J 14 U 4.1 U 9.1 UJ 94 J 31 U 120 U 25 U 25 U 140 U 280 U 120 J 6.2 U

Jennete Material Other of these of Samples Presenterial Using Case Value Case Valu		Area Loc ID Sample ID Matrix Sample Depth Interval (FT) Sample Date QC Type Study ID			Frequency		Number	Number	Number	SEAD-45 S45-ODH-20-01 SOL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-2-01 S45-ODH-2-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-3-01 S45-ODH-3-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-4-01 S45-ODH-4-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-5-01 S45-ODH-5-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-6-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest
Implicit of the second					of		of	of Times	of Samples						
Ander-1010 UKR 0 0 0 3 C 2 U 7 2 U 7 2 U 7 1 7 1 7 1 7 1 7 1 7 1 7 1 7 1 7 1 7 1 7 1 7 1 7 1 7 1 7 1 7 1			Unit	Value	Detection	Value	Exceedances	Detected	Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Arcon Luck 0 0 0 3 1<	Pesticides/PCBs	5													
Arcsoci-122 UGRK 0 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 0 1 0 0 1 0 0 1 0 0 0 1 0 1 0															
Andor: 122 UDKG 0 <															
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Andor. 1254 UGK 2.000 95 1.000 1 2 2 34 Andor. 1200 UGK 2.2 000 0 2 2 35 0 56 0 72 1 4.4.00T UGK 2.4 2.5 0.2 2 35 0.2 0.2 35 0.2 0.2 1 34 0.0 0.2 2 35 0.2 0.31 0 0.2 0.2 0.31 0.2 0.31 0.23															
Ardcon UGKG 0 0 0 34 55.0 7.2.0 65.0 7.2.0 7.2.0 7.2.0 7.2.0 7.2.0 7.2.0 7.2.0 7.2.0 7.2.0 7.2.0 7.2.0 7.2.0 7.2.0 7.2.0 7.2.0 7.2.0 7.2.0 7.							-							-	
44-00D UGKG 2.4 6% 92,000 0 2.2 94 44-00T UGKG 3.4 6% 92,000 0 2.2 94 4.4-00T UGKG 3.4 6% 47,000 0 72 34 33.40 0.34.40 0.33.40 0.34.40 0.33.40 0.34.40 0.33.40 0.34.40 0.34.40														_	
4.4-DDE UGKG 4.2 5% 62,00 0 22 35															
4.4-DDT UGKG 3.4 6% 4% 689 0 17 34 3.4 0.34 0.44 0.34 0.44 0.35 0.44 0.35 0.44 0.35 0.44 0.35 0.44 0.35 0.44 0.35 0.44 0.34 0.44 </td <td></td>															
Aldin UGKG 0 0% 680 0 0 4 Alpha BHC UGKG 0 1% 4000 0 4 3 0 0.34 0.35 </td <td></td>															
Alpha ShC UGKG 0 0/h 3.400 0 0 3.400 0 0.410 0.410 0.410 0.410 0.410 0.410 0.250				0	0%		0	0	34						
Beins-BHC UGKK 0 0% 3.000 0 0 34 0.4 U 0.38 U 0.38 U Deltis-BHC UGKK 3.2 41% 1.400 0 1.4 34 0.35 U 0.38	Alpha-BHC					3,400	0	0							
Dela Dela UCKS 0 <th0< th=""> 0 0 0</th0<>	Alpha-Chlordane														0.25 U
Diekin'n UGKG 3.2 41% 1.400 0 14 34															
Endoculani I UGAKG 55 60% 200.000 0 21 34 0.28 U 0.28 U 0.79 J Endoculani sullate UGAKG 0.8 0 % 200.000 0 1 34 0.64 U 0.71 U Endor UGAKG 3.6 % 80.000 0 1 34 0.64 U 0.64 U 0.71 U Endor UGAKG 3.6 % 80.000 0 1 34 0.64 U 0.64 U 0.54 U 0.54 U 0.54 U 0.54 U 0.54 U 0.53 U 0.53 U 0.53 U 0.53 U 0.53 U 0.53 U 0.52 U 0.															
Endoculan II UG/KG 0.8 3% 200,000 0 1 34 0.38 0.37 0.38 0.41 UJ Endoculan Isatile UG/KG 3.6 3% 80,000 0 1 34 0.384 0.394 U 1 1 Endmatketine UG/KG 0.8 3% 1 34 0.34 0.34 U 0.35 U 0.35 U 0.32 U Endmatketine UG/KG 0.8 3% 1 34 0.34 U 0.32 U															
Endoxulfan sulfate UGKG 0 0 0 0 1 34						/	-								
Endrin UGKG 3.6 3% 9.000 0 1 34 9.54 1.0 1.0 1.0 Endrin Metone UGKG 0.58 3% 1 34 0.54 0.44 0.44 0.44 0.44 0.44 0.44 0.44 0.44 0.44 0.44 0.44 0.44 0.42 0.32 0.32 0.32 0.32 0.33 0.34 0.25 0.32 0.32 0.32 0.34 0.25 0.32 0.32 0.34 0.32 0.34 0.22 0.34 0.22 0.34 0.34 0.32 0.34 0.32 0.34															
Endrin aldehyde UGKG 0.5 0.64 0.54 U 0.54 U 0.59 U Endrin Klundane UGKG 0.5 3% 1 34 0.3 U		e						-							
Endrinketone UGKG 0.58 3% 1 34 0.44 U 0.44 U 0.32 U <th0< td=""><td></td><td></td><td></td><td></td><td></td><td>03,000</td><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th0<>						03,000	0								
Gamma-BHC/Lindane UGKG 0.1 9% 9.20 0 34 0.3 U 0.23 U 0.23 U 0.23 U Gamma-BHC/Lindane UGKG 0 0% 15.00 0 34 0.23 U 0.23 U </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								-							
Gamma-Chlordane UG/KG 1.1 9% 5.500 0 0 3.4		dane				9,200	0	0							
	Gamma-Chlordan	1e	UG/KG	1.1	9%			3	34				0.25 U		
Methodychic UG/KG 45 3% 1 34 45 7.7 U 8.4 U Toxaphene UG/KG 0 0% 0 34 7.7 U 8.4 U Aluminum MG/KG 27,900 100% 57 97 97 1.8,000 17,500 17,200 15,000 19,400 18,000 Antimory MG/KG 12.6 100% 16 0 97 97 5.3 J 12.4 J 11 J 12.6 J 5.6 J 4.6 J Barium MG/KG 1.2 98% 590 0 97 97 0.78 0.77 0.67 0.86 0.8 Cadnium MG/KG 12.8 98% 590 0 97 97 0.78 0.77 0.67 0.86 0.8 0.8 Cadnium MG/KG 100 97 97 30 29.9 2.86 11 9 11.9 1.9 1.9 1.9 1.9 1.9 1.9	Heptachlor					15,000	0						0.32 U		0.35 U
Toragnine UG & 0 0% 0 34 7.7 U 8.4 U Inorganics 1 Aluminum MG/KG 27,90 100% 97 97 18,000 17,500 17,200 15,000 19,400 18,000 Artenic MG/KG 5.1 33% 32 97 5.3 J 12.4 J 11 J J J 2.6 J 0.6 J 4.6 J Barium MG/KG 36.2 100% 16 0 97 97 15.0 J 19.0 17.9 2.0 D 12.4 J 11 J J 2.6 J 0.6 J 4.6 J Barium MG/KG 38.0 1.9 S 97 0.78 0.77 0.78 0.77 0.67 0.67 0.60 0.8 J 0.60 0.8 J Cadmium MG/KG 446 100% 1.500 97 97 2.00 2.6600 43.900 2.3200 2.400 2.500 2.600 2.600 3.78 2.97 2.80 2.400 2.900 2.460 4.33 4.77 4.12 1.19		de						-							
Inorganics Aluminum MGKG 27,900 10% 97 97 18,000 17,200 15,000 19,400 18,000 Antimony MGKG 5.1 33% 32 97 1.3,UJ 0.19 UJ 0.2 UJ 0.47 UJ 0.2 UJ 0.44 L3 1.19 UJ 1.12,6 J 5.6 J 4.6 J Barium MGKG 1.10 81% 9.3 11 77 9.6 7.4 8.7 8.6 1.100 7.5 6.9 Cadnium MGKG 193,00 9% 97 97 3.0 2.9.90 2.8.60 43,900 23,400 2.8,400 2.5.00 Cobalt MGKG 7.310 10.0% 2.7 0 2 1 1 4.14 1.2.3 11.9 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>															
AluminumMGKG27,900100%979718,00017,50017,20015,00019,40018,000AntenicMGKG12,6100%16097975,312,41112,65,64,60,9BarlumMGKG366100%4000979715,019017,90,20,470,214163BarlumMGKG1,2100%4000979715,01901792,20194163BarlumMGKG1,1081%9.3177957,48,78,61,1007,56,9CalciumMGKG19,30099%9797973,029.929.837,829,728CobaltMGKG2,610100%1,500097973,029.929.837,829,728CoperMGKG7,310100%2705297977,21012,71212,901412,311CoperMGKG15,0000979750.856,359.957,26,924,700LeadMGKG15,000100%1,0000979750.856,359.957,26,19217MagnesiumMGKG50,40100%1,0000979758.061064.264.8618582			UG/KG	0	0%			0	34				7.7 U		8.4 U
Animony MG/KG 5.1 33% 32 97 1.3 UJ 0.19 UJ 0.2 UJ 0.47 UJ 0.2 UJ 0.19 UJ Arsenic MG/KG 12.6 100% 16 0 97 97 5.3 J 12.4 J 11 J 12.6 J 5.6 J 4.6 J Barlum MG/KG 3.2 98 97 0.75 190 17 0.67 0.86 0.8 Cadmium MG/KG 1.2 98% 590 0 95 97 0.79 0.78 0.77 0.67 0.86 0.8 Cadmium MG/KG 13.00 98% 93 11 77 95 7.4 8.7 8.6 1.100 7.5 6.9 Cadmium MG/KG 446 100% 1.50 97 7 30 2.99 2.8 37.8 2.400 2.500 Chromium MG/KG 7.10 100% 270 52 97 97 12.7 12 <td>Inorganics</td> <td></td>	Inorganics														
ArsenicMG/KG12.6100%16097975.3 J12.4 J11 J12.6 J5.6 J4.6 JBarlumMG/KG365100%40009797150190179220194163BeryllumMG/KG1.298%590095970.790.780.770.670.860.86CalciumMG/KG193,0099%-969722,90026,60043,90023,20023,40025,500ChomiumMG/KG1,6099%-97973029.929.837.829.728CobaltMG/KG2,710100%1,50097979712.71212.91412.311.9CoparMG/KG7,310100%270216979727,90034,20029,600118,00027,20024,700LeadMG/KG118,000100%7.0979750.856.359.957.261.9217MagneseMG/KG55.00100%1,00009797580610642648618582MagneseMG/KG59.00100%1,00009797580610642648618582NickelMG/KG59.00100%1,00009797580610642															
Barum MG/KG 365 100% 400 0 97 97 150 190 179 220 194 163 Beryllium MG/KG 1.2 98% 590 0 95 97 0.79 0.78 0.77 0.67 0.67 0.68 0.8 Cadmium MG/KG 1.100 81% 9.3 11 77 95 7.4 8.7 8.6 1.100 7.5 6.9 Calcium MG/KG 193,000 99% - 96 97 97 30 29.9 29.8 23.20 23.400 25.500 Chornium MG/KG 76.8 100% - 97 97 12.7 12 12.9 14 12.3 11.9 Coper MG/KG 0.7 13% 27 0 2 16 - 17 434 433 477 1.780 411 4.180 Cyanide MG/KG 10.00															
Beryllium MG/KG 1.2 98% 590 0 95 97 0.79 0.78 0.77 0.67 0.86 0.8 Cadimium MG/KG 1,100 9% 97 0.79 0.78 0.77 0.67 0.86 0.8 Calcium MG/KG 13,000 9% 97 22,900 26,600 43,900 23,200 23,400 25,500 Chomium MG/KG 446 100% 1,500 0 97 97 30 29.9 29.8 37.8 29.7 28 Cobalt MG/KG 7,310 100% 27 0 2 12.7 12 12.97 14 12.3 11 4180 Coper MG/KG 0.711 100% 27 0 2 16 7 434 433 477 1,780 411 4,180 Coper MG/KG 10,000 100% 7 97 50.8 56.3 59.9															
Cadmium MG/KG 1.100 81% 9.3 11 77 95 7.4 8.7 8.6 1.100 7.5 6.9 Calcium MG/KG 193,000 99% 96 97 22,900 26,600 43,900 23,200 23,400 25,500 Chromium MG/KG 46 100% 1,500 97 97 30 29.9 22.80 37.8 29.7 28 Cobalt MG/KG 7.1 100% 270 2 97 97 12.7 12 12.9 14 12.3 11.9 Cyanide MG/KG 0.7 13% 27 0 2 16 100 10.00 100% 97 97 50.8 56.3 59.9 57.2 61.9 21.7 Lead MG/KG 10.00 100% 97 97 7.310 6.72.0 6.410 5.680 7.010 7.190 Magnesium MG/KG 59.3 10															
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Cobalt MG/KG 26.8 100% 270 52 97 97 12.7 12 12.9 14 12.3 11.9 Copping MG/KG 0.7 13% 270 52 97 97 433 433 477 1,780 411 4,180 Cyanide MG/KG 0.7 13% 27 0 2 16 17 17.80 411 4,180 Iron MG/KG 118,000 100% 27 0 2 16 17 17.80 411 4,180 Lead MG/KG 18,000 100% 77 97 50.8 56.3 59.9 57.2 61.9 21.7 Magnesium MG/KG 50.01 100% 97 97 53.0 64.0 6410 5.680 7.190 Magnesium MG/KG 59.3 100% 310 0 92 92 413 41.2 39.5 46.2 41.2 37<						1.500	0								
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Lead MG/KG 998 100% 1,000 0 97 97 50.8 56.3 59.9 57.2 61.9 217 Magnesium MG/KG 15,000 100% 97 97 7,310 6,720 6,410 5,680 7,010 7,190 Manganese MG/KG 5,040 100% 10,000 97 97 580 610 642 648 618 582 Nickel MG/KG 59.3 100% 0 92 92 41.3 41.2 39.5 46.2 41.2 37 Potassium MG/KG 0.92 44 97 0.35 U 0.42 U 0.45 U 1.03 U 0.44 U 0.41 U Silver MG/KG 205 68% 1.500 0 4 97 0.35 U 0.42 U 0.45 U 1.03 U 0.44 U 0.41 U Silver MG/KG 215 68% 1.500 6 97 3.8 3.4 4	Cyanide					27	0								
Magnesium MG/KG 15,000 100% 97 97 7,310 6,720 6,410 5,680 7,010 7,190 Manganese MG/KG 5,040 100% 10,000 0 97 97 580 610 642 648 618 582 Nickel MG/KG 59.3 100% 310 0 92 92 41.3 41.2 39.5 46.2 41.2 37 Potassium MG/KG 4,880 100% 7.60 76 2,850 R 2,850 R 2,850 R 2,160 R 3,410 R 3,190 R Selenium MG/KG 20.2 4% 1,500 0 66 97 0.35 U 0.42 U 0.45 U 1.03 U 0.44 U 0.41 U Silver MG/KG 20.2 6% 1.500 0 66 97 3.8 3.4 4 205 3.2 2.8 U Solum MG/KG 0.27 6% 1.6 97															
Marganese MG/KG 5,040 100% 10,000 0 97 97 580 610 642 648 618 582 Nickel MG/KG 59.3 100% 31 0 92 92 41.3 41.2 39.5 46.2 41.2 37 Potassium MG/KG 4.80 100% 76 76 2,580 R 2,80 R 2,80 R 2,160 R 3,410 R 3,190 R Selenium MG/KG 0.92 4% 1,500 0 4 97 0.35 U 0.42 U 0.45 U 1.03 U 0.44 U 0.41 U Silver MG/KG 213 84% 81 97 107 J 110 J 103 J 116 J 121 J Thallium MG/KG 0.27 6% 6 97 0.15 U 0.18 U 0.19 U 0.44 U 0.19 U 0.17 U Vanadium MG/KG 41.9 100% 97 97 28.7 28.5 28.7						1,000	0								
Nickel MG/KG 59.3 100% 310 9 92 92 41.3 41.2 39.5 46.2 41.2 37 Potassium MG/KG 4.880 100% 76 76 2,580 R 2,850 R 2,850 R 2,850 R 2,850 R 2,800 R 3,410 R 3,410 R 3,190 R Selenium MG/KG 0.92 4% 1,500 0 4 97 0.35 U 0.42 U 0.45 U 1.03 U 0.44 U 0.41 U Silver MG/KG 205 68% 1,500 0 66 97 3.8 3.4 4 205 3.2 2.8 U Sodium MG/KG 203 84% 7 107 J 110 J 103 J 116 J 121 J Thallium MG/KG 0.27 6% 97 97 28.7 28.7 28.7 24.4 31.7 29.4 Vandium MG/KG 41.97 100% 0.15 U 0.18 U 0.19 U </td <td></td> <td></td> <td></td> <td></td> <td></td> <td>40.000</td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						40.000	0								
Potassium MG/KG 4,880 100% 76 76 2,580 R 2,850 R 2,850 R 2,160 R 3,410 R 3,190 R Selenium MG/KG 0.92 4% 1,500 0 4 97 0.35 U 0.42 U 0.45 U 1.03 U 0.44 U 0.41 U Silver MG/KG 205 68% 1,500 0 66 97 3.8 3.4 4 205 3.2 2.80 U Sodium MG/KG 213 84% 81 97 107 J 110 J 110 J 103 J 116 J 121 J Thallium MG/KG 0.27 6% 6 97 0.15 U 0.18 U 0.19 U 0.44 U 0.19 U 0.17 U Vanadium MG/KG 41.9 1000 97 97 28.7 28.5 28.7 24.4 31.7 29.4 Zinc MG/KG 1.09 10.000 0 92 299 327 368 1.270															
Selenium MG/KG 0.92 4% 1,500 0 4 97 0.35 U 0.42 U 0.45 U 1.03 U 0.44 U 0.41 U Silver MG/KG 205 68% 1,500 0 66 97 3.8 3.4 4 205 3.2 2.8 U Sodium MG/KG 213 84% 81 97 107 J 110 J 103 J 116 J 121 J Thallium MG/KG 0.27 6% 6 97 0.15 U 0.18 U 0.19 U 0.44 U 0.19 U 0.17 U Vanadium MG/KG 41.9 100% 97 97 28.7 28.5 28.7 24.4 31.7 29.4 Zinc MG/KG 1.000% 0 92 292 287 386 1.270 337 319						310	U								
Silver MG/KG 205 68% 1,500 0 66 97 3.8 3.4 4 205 3.2 2.8 U Sodium MG/KG 213 84% 81 97 107 J 110 J 110 J 103 J 116 J 121 J Thallium MG/KG 0.27 6% 6 97 0.15 U 0.18 U 0.19 U 0.44 U 0.19 U 0.17 U Vanadium MG/KG 1,470 100% 97 97 28.7 28.5 28.7 24.4 31.7 29.4 Zinc MG/KG 1,470 100% 0 92 299 327 368 1,270 337 319						1 500	0								
Sodium MG/KG 213 84% 81 97 107 J 110 J 110 J 103 J 116 J 121 J Thallium MG/KG 0.27 6% 6 97 0.15 U 0.18 U 0.19 U 0.44 U 0.19 U 0.17 U Vanadium MG/KG 14.9 100% 97 97 28.7 28.5 28.7 24.4 31.7 29.4 Zinc MG/KG 14.70 100% 0 92 92 299 327 386 1.270 337 319															
Thallium MG/KG 0.27 6% 6 97 0.15 0.18 0.19 0.44 0.19 0.17 Vanadium MG/KG 41.9 100% 97 97 28.7 28.5 28.7 24.4 31.7 29.4 Zinc MG/KG 1.470 100% 0.92 92 299 327 368 1.270 337 319						.,	-								
Vanadium MG/KG 41.9 100% 97 97 28.7 28.5 28.7 24.4 31.7 29.4 Zinc MG/KG 1,470 100% 0 92 92 299 327 368 1,270 337 319				0.27	6%			6	97						
												28.7			
Mercury MG/KG 9.1 99% 2.8 49 96 97 3.5 4.3 4.3 3.1 4.3 3.6															
	Mercury		MG/KG	9.1	99%	2.8	49	96	97	3.5	4.3	4.3	3.1	4.3	3.6

Notes: 1) Chemical result qualifiers are assigned by the laboratory and are evaluated and modified (if necessary) by during data validation. U = non-detect, Le. not detected equal to a tabove this value. U = non-detect, Le. not detected equal to a tabove this value. R = Rejected, data validation rejected the results. [blank] = detect, i.e. detected chemical result value. R = Rejected, data 2) Num of Analyses is the number of detected and non-detected results excluding rejected results. Sample duplicate pairs have not been averaged.

2) Chernical results greater than the action level are highlighted, builded and boxed
4) Criteria action level source document and web address.
- The NYS SCO Commercial Use values were obtained from the NYSDEC Soil Cleanup Objectives.

Lo Sample	atrix (FT) Date Type y ID	Maximum	Frequency	Criteria	Number of		Number of Samples	SEAD-45 S45-ODH-7-01 S45-ODH-7-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-8-01 S45-ODH-8-01 O.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-9-01 S45-ODH-9-01 O.2-0.6 3/12/2010 SA OD Initial Invest		SEAD-45 S45-R10-02 S45-R10-02 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-R10-03 S45-R10-03 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest
Parameter	Unit	Value	Detection	Value	Exceedances	Detected	Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/KG	0	0%	500,000	0	0	16						
1,1,2,2-Tetrachloroethane	UG/KG	0	0%			0	16						
1,1,2-Trichloroethane 1,1-Dichloroethane	UG/KG UG/KG	0	0% 0%	240,000	0	0	16 16						
1,1-Dichloroethene	UG/KG	0	0%	500,000	0	0	16						
1,2-Dichloroethane	UG/KG	Ő	0%	30,000	õ	ő	16						
1,2-Dichloroethene (total)	UG/KG	ō	0%	500,000	0	ō	16						
1,2-Dichloropropane	UG/KG	0	0%			0	16						
Acetone	UG/KG	0	0%	500,000	0	0	16						
Benzene Bromodichloromethane	UG/KG UG/KG	0	0% 0%	44,000	0	0	16 16						
Bromoform	UG/KG	0	0%			0	16						
Carbon disulfide	UG/KG	Ő	0%			õ	16						
Carbon tetrachloride	UG/KG	0	0%	22,000	0	0	16						
Chlorobenzene	UG/KG	0	0%	500,000	0	0	16						
Chlorodibromomethane	UG/KG UG/KG	0	0% 0%			0	16 16						
Chloroethane Chloroform	UG/KG UG/KG	0	0%	350,000	0	0	16 16						
Cis-1,3-Dichloropropene	UG/KG	0	0%	330,000	0	0	16						
Ethyl benzene	UG/KG	0	0%	390,000	0	0	16						
Methyl bromide	UG/KG	0	0%			0	16						
Methyl butyl ketone Methyl chloride	UG/KG UG/KG	0	0% 0%			0	16						
Methyl ethyl ketone	UG/KG	0	0%	500,000	0	0	16 16						
Methyl isobutyl ketone	UG/KG	Ő	0%	000,000	0	Ő	16						
Methylene chloride	UG/KG	0	0%	500,000	0	0	16						
Styrene	UG/KG	0	0%			0	16						
Tetrachloroethene Toluene	UG/KG UG/KG	19 0	38% 0%	150,000 500,000	0	6 0	16 16						
Total Xylenes	UG/KG	0	0%	500,000	0	0	16						
Trans-1,3-Dichloropropene	UG/KG	0	0%	000,000	Ŭ	õ	16						
Trichloroethene	UG/KG	0	0%	200,000	0	0	16						
Vinyl chloride	UG/KG	0	0%	13,000	0	0	16						
Semivolatile Organic Compounds													
1,2,4-Trichlorobenzene	UG/KG UG/KG	0	0% 0%	500.000	0	0	35 35		93 U 100 U				
1,2-Dichlorobenzene 1,3-Dichlorobenzene	UG/KG	0	0%	500,000 280,000	0	0	35		89 U				
1,4-Dichlorobenzene	UG/KG	0	0%	130,000	õ	õ	35		98 U				
2,2'-oxybis(1-Chloropropane)	UG/KG	0	0%			0	16						
2,4,5-Trichlorophenol	UG/KG	0	0%			0	35		180 U				
2,4,6-Trichlorophenol 2,4-Dichlorophenol	UG/KG UG/KG	0	0% 0%			0	35 35		180 U 170 U				
2,4-Dimethylphenol	UG/KG	0	0%			0	35		190 U				
2,4-Dinitrophenol	UG/KG	ō	0%			0	35		430 U				
2,4-Dinitrotoluene	UG/KG	14,000	37%			13	35		97 U				
2,6-Dinitrotoluene	UG/KG	700	6%			2	35		90 U				
2-Chloronaphthalene 2-Chlorophenol	UG/KG UG/KG	0	0% 0%			0	35 35		99 U 190 U				
2-Methylnaphthalene	UG/KG	Ő	0%			õ	35		100 U				
2-Methylphenol	UG/KG	0	0%	500,000	0	0	35		230 U				
2-Nitroaniline	UG/KG	0	0%			0	35		86 U				
2-Nitrophenol	UG/KG	0	0%			0	35		190 U				
3 or 4-Methylphenol 3,3'-Dichlorobenzidine	UG/KG UG/KG	0	0% 0%			0	19 35		210 U 130 U				
3-Nitroaniline	UG/KG	Ő	0%			Ő	35		100 U				
4,6-Dinitro-2-methylphenol	UG/KG	0	0%			0	35		380 U				
4-Bromophenyl phenyl ether	UG/KG	0	0%			0	35		97 U				
4-Chloro-3-methylphenol 4-Chloroaniline	UG/KG UG/KG	0	0% 0%			0	35 35		190 U 140 U				
4-Chlorophenyl phenyl ether	UG/KG	0	0%			0	35		89 U				
4-Methylphenol	UG/KG	ō	0%	500,000	0	0	16						
4-Nitroaniline	UG/KG	0	0%			0	35		150 U				
4-Nitrophenol	UG/KG	0	0%	500.000	0	0	35		350 U				
Acenaphthene Acenaphthylene	UG/KG UG/KG	0 30	0% 9%	500,000 500,000	0	0 3	35 35		74 U 80 U				
Anthracene	UG/KG	18	6%	500,000	0	2	35		96 U				
Benzo(a)anthracene	UG/KG	50	23%	5,600	0	8	35		98 U				
Benzo(a)pyrene	UG/KG	82	23%	1,000	0	8	35		110 U				
Benzo(b)fluoranthene	UG/KG UG/KG	55 66	26% 20%	5,600 500,000	0 0	9 7	35		150 U 120 UJ				
Benzo(ghi)perylene Benzo(k)fluoranthene	UG/KG	58	20%	56,000	0	7	35 35		95 U				
	20,110	50		,000	č	•	50		55 0				

Sample Dept	Area Loc ID Sample ID Matrix th Interval (FT) Sample Date QC Type Study ID			Frequency		Number	Number	Number	SEAD-45 S45-ODH-7-01 S45-ODH-7-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-8-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-9-01 S45-ODH-9-01 SOLL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-R10-01 S45-R10-01 SOIL 0,2-0.6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-R10-02 S45-R10-02 SOIL 0,2-0.6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-R10-03 S45-R10-03 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest
Parameter		Unit	Maximum Value	of Detection	Criteria Value	of Exceedances		of Samples Analyzed	s Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Bis(2-Chloroethoxy)methane		JG/KG	0	0%			0	35		110 U				
Bis(2-Chloroethyl)ether Bis(2-Chloroisopropyl)ether		JG/KG JG/KG	0	0% 0%			0	35 19		93 U 100 U				
Bis(2-Ethylhexyl)phthalate		JG/KG	740	26%			9	35		110 U				
Butylbenzylphthalate		JG/KG	0	0%			0	35		110 U				
Carbazole		JG/KG	0	0%			0	35		130 U				
Chrysene		JG/KG JG/KG	130 0	34% 0%	56,000 560	0	12 0	35 35		130 J 150 U				
Dibenz(a,h)anthracene Dibenzofuran		JG/KG JG/KG	0	0%	350,000	0	0	35		90 U				
Diethyl phthalate		JG/KG	35	3%	000,000	0	1	35		91 U				
Dimethylphthalate	ι	JG/KG	0	0%			0	35		89 U				
Di-n-butylphthalate		JG/KG	6,800	34%			12	35		120 U				
Di-n-octylphthalate		JG/KG	0	0% 31%	500,000	0	0 11	35		240 U				
Fluoranthene Fluorene		JG/KG JG/KG	68 0	0%	500,000	0	0	35 35		120 U 93 U				
Hexachlorobenzene		JG/KG	110	31%	6,000	Ő	11	35		94 U				
Hexachlorobutadiene		JG/KG	0	0%			0	35		95 U				
Hexachlorocyclopentadiene		JG/KG	0	0%			0	35		94 U				
Hexachloroethane		JG/KG	1,100	17% 11%	F 000	0	6	35 35		110 U 140 U				
Indeno(1,2,3-cd)pyrene Isophorone		JG/KG JG/KG	52 0	0%	5,600	0	4	35		86 U				
Naphthalene		JG/KG	30	14%	500,000	0	5	35		99 U				
Nitrobenzene	ι	JG/KG	0	0%			0	35		100 U				
N-Nitrosodiphenylamine		JG/KG	320	6%			2	35		250 U				
N-Nitrosodipropylamine		JG/KG	1,600	14%	0 700	2	5 0	35		95 U				
Pentachlorophenol Phenanthrene		JG/KG JG/KG	0 46	0% 26%	6,700 500,000	0	9	35 35		270 UJ 95 U				
Phenol		JG/KG	40	0%	500,000	0	0	35		180 U				
Pyrene		JG/KG	110	34%	500,000	ō	12	35		120 U				
Herbicides														
2,4,5-T	ι	JG/KG	0	0%			0	35		17 U				
2,4,5-TP/Silvex		JG/KG	0	0%	500,000	0	0	35		14 U				
2,4-D		JG/KG	0	0%			0	35		35 U				
2,4-DB Dalapon		JG/KG JG/KG	0 0	0% 0%			0	35 35		25 U 9 U				
Dicamba		JG/KG	0	0%			0	35		9 U 12 U				
Dichloroprop		JG/KG	õ	0%			õ	35		20 U				
Dinoseb		JG/KG	0	0%			0	35		2.8 UJ				
MCPA		JG/KG	9,400 0	6%			2 0	35		2,500 U				
MCPP	L. L.	JG/KG	0	0%			0	35		2,400 U				
Explosives 1,3,5-Trinitrobenzene		JG/KG	190	60%			28	47	65 JN	60 JN	68 J			
1,3,5-1 Inntrobenzene		JG/KG JG/KG	0	0%			28	47	7.7 U	5.7 U	7.1 U			
2,4,6-Trinitrotoluene		JG/KG	1,400	81%			38	47	49 JN	51 J	47 J			
2,4-Dinitrotoluene	ι	JG/KG	1,100	77%			36	47	91 J	86 J	110 J			
2,6-Dinitrotoluene		JG/KG	0	0%			0	47	34 U	25 U	31 U			
2-amino-4,6-Dinitrotoluene		JG/KG	680	77%			36	47	190 J	180	220			
2-Nitrotoluene 3,5-Dinitroaniline		JG/KG JG/KG	0	0% 0%			0	31 31	15 U 4.4 U	11 U 3.2 U	14 U 4 U			
3-Nitrotoluene		JG/KG	Ő	0%			0	31	9.8 UJ	7.2 UJ	9 UJ			
4-amino-2,6-Dinitrotoluene	ι	JG/KG	500	57%			27	47	160 J	160	220			
4-Nitrotoluene		JG/KG	0	0%			0	31	34 U	25 U	31 U			
HMX		JG/KG	470	68%			32	47	150 J	150	190			
Nitrobenzene		JG/KG JG/KG	0 1,500	0% 3%			0	31 31	27 U 150 U	20 U 110 U	25 U 140 U			
Nitroglycerine Pentaerythritol Tetranitrate		JG/KG JG/KG	0	3% 0%			0	31	300 U	220 U	270 U			
RDX		JG/KG	5,800	83%			39	47	310	340	420			
Tetryl	i	JG/KG	330	9%			4	47	6.7 U	5 U	6.2 U			

	Area Loc ID Sample ID Matrix Sample Depth Interval (FT) Sample Date QC Type Study ID		Maximum	Frequency	Criteria	Number of	Number of Times	Number of Samples	SEAD-45 S45-ODH-7-01 S45-ODH-7-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-8-01 S45-ODH-8-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-ODH-9-01 S45-ODH-9-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-R10-01 S45-R10-01 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-R10-02 S45-R10-02 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-R10-03 S45-R10-03 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest
Parameter		Unit	Value	Detection	Value	Exceedances	Detected	Analyzed	, Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Pesticides/PCBs		-												
Aroclor-1016		UG/KG	0	0%	1,000	0	0	34		7 U				
Aroclor-1221		UG/KG	0	0%	1,000	0	0	34		7 U 16 U				
Aroclor-1221 Aroclor-1232		UG/KG	0	0%	1,000	0	0	34		10 U				
Aroclor-1242		UG/KG	0	0%	1,000	ő	0	34		6.8 U				
Aroclor-1248		UG/KG	õ	0%	1,000	ŏ	õ	34		7.2 U				
Aroclor-1254		UG/KG	2,000	6%	1,000	1	2	34		5.5 U				
Aroclor-1260		UG/KG	0	0%	1,000	0	0	34		7 U				
4,4'-DDD		UG/KG	2.4	6%	92,000	0	2	34		0.23 U				
4,4'-DDE		UG/KG	4.2	63%	62,000	0	22	35		1.1 J				
4,4'-DDT		UG/KG	3.4	50%	47,000	0	17	34		1.1 J				
Aldrin		UG/KG	0	0%	680	0	0	34		0.33 U				
Alpha-BHC		UG/KG	0	0%	3,400	0	0	34		0.4 U				
Alpha-Chlordane		UG/KG	2 0	12%	24,000	0	4	34 34		0.25 U				
Beta-BHC Delta-BHC		UG/KG UG/KG	0	0% 0%	3,000 500.000	0	0	34 34		0.39 U 0.38 U				
Dieldrin		UG/KG	3.2	41%	1,400	0	14	34 34		0.38 U 0.87 J				
Endosulfan I		UG/KG	55	60%	200,000	0	21	35		0.07 J 1 J				
Endosulfan II		UG/KG	0.88	3%	200,000	õ	1	34		0.4 UJ				
Endosulfan sulfate		UG/KG	0	0%	200,000	ŏ	o o	34		0.68 U				
Endrin		UG/KG	3.6	3%	89,000	0	1	34		1 U				
Endrin aldehyde		UG/KG	0	0%			0	34		0.57 U				
Endrin ketone		UG/KG	0.58	3%			1	34		0.47 U				
Gamma-BHC/Lind		UG/KG	0	0%	9,200	0	0	34		0.32 U				
Gamma-Chlordan		UG/KG	1.1	9%			3	34		0.27 U				
Heptachlor		UG/KG	0	0%	15,000	0	0	34		0.34 U				
Heptachlor epoxid		UG/KG	0	0%			0	34		0.26 U				
Methoxychlor Toxaphene		UG/KG UG/KG	45 0	3% 0%			1	34 34		0.59 U 8.2 U				
		06/KG	0	0%			0	34		0.2 0				
Inorganics		Norko	07.000	1000/			07	07						
Aluminum		MG/KG	27,900	100%			97	97	22,200	17,700	20,300	20,700	22,100	18,100
Antimony Arsenic		MG/KG MG/KG	5.1 12.6	33% 100%	16	0	32 97	97 97	0.28 J 4.8 J	0.2 UJ 4.9 J	0.22 UJ 5.5 J	0.12 UJ 5.3	0.13 UJ 5.1	0.88 J 5.1
Barium		MG/KG	365	100%	400	0	97	97	4.8 5	4.9 J	266	5.5 141 J	109 J	167 J
Beryllium		MG/KG	1.2	98%	590	õ	95	97	0.82	0.81	0.88	0.87 J	0.88 J	0.8 J
Cadmium		MG/KG	1,100	81%	9.3	11	77	95	8	8.9	8	0.07 0 1 J	1.3 U	1.8
Calcium		MG/KG	193,000	99%			96	97	24,500	23,300	22,800	3,790 J	2,750 J	27,800 J
Chromium		MG/KG	446	100%	1,500	0	97	97	40.8	30.9	30.8	24.1 J	29.6 J	31.4 J
Cobalt		MG/KG	26.8	100%			97	97	10.6	14	12.4	8.9 J	9.9 J	12.4 J
Copper		MG/KG	7,310	100%	270	52	97	97	648	442	490	32.8	47.2 J	92.6 J
Cyanide		MG/KG	0.7	13%	27	0	2	16					·	
Iron		MG/KG	118,000	100%	4 000	0	97	97	25,900	28,000	27,700	22,500 J	24,900 J	28,300 J
Lead		MG/KG MG/KG	998 15,000	100% 100%	1,000	0	97 97	97 97	59.3	61.2	62.5	19.4 J 4,320 J	46.4 4.480 J	123 7.560 J
Magnesium		MG/KG MG/KG	15,000 5,040	100%	10,000	0	97 97	97 97	6,420 557	6,870 710	7,090 601	4,320 J 682 J	4,480 J 256 J	7,560 J 437 J
Manganese Nickel		MG/KG	5,040	100%	310	0	97 92	97 92	36.1	43.4	40.9	23.5 J	256 J 32.2 J	437 J 49.7 J
Potassium		MG/KG	4,880	100%	010	0	76	76	3.200 R	2.700 R	3.440 R	2.920 J	3.400 J	2.950 J
Selenium		MG/KG	0.92	4%	1,500	0	4	97	0.23 U	0.45 U	0.73 J	0.26 U	0.28 U	0.38 U
Silver		MG/KG	205	68%	1,500	ŏ	66	97	3.8	3.4	4	0.08 U	0.18 J	0.11 U
Sodium		MG/KG	213	84%			81	97	120 J	110 J	135 J	138	130 U	126
Thallium		MG/KG	0.27	6%			6	97	0.1 U	0.19 U	0.2 U	0.11 U	1.9 U	2.6 U
Vanadium		MG/KG	41.9	100%			97	97	28.4	27.8	32.5	33.3 J	37.8 J	26.9 J
Zinc		MG/KG	1,470	100%	10,000	0	92	92	433	356	357	85.6 J	140 J	185 J
Mercury		MG/KG	9.1	99%	2.8	49	96	97	6	3	3.6	0.38	0.28	0.79

Notes: 1) Chemical result qualifiers are assigned by the laboratory and are evaluated and modified (if necessary) by during data validation. U = non-detect, i.e. not detected equal to or above this value. R = Rejected, data validation rejected the re-R = Rejected, data validation rejected the results.

2) Num of Analyses is the number of detected and non-detected results excluding rejected results. Sample duplicate pairs have not been averaged.

3) Chemical results greater than the action level are highlighted, bolded and boxed

4) Criteria action level source document and web address. - The NYS SCO Commercial Use values were obtained from the NYSDEC Soil Cleanup Objectives.

Sample Depth Inte Sam	Area Loc ID ample ID Matrix rval (FT) ple Date QC Type Study ID	Maximum	Frequency	Criteria	Number of	Number of Times	Number of Samples	SEAD-45 S45-R10-03 S45-R10-03D SOIL 0.2-0.6 3/16/2010 DU OD Initial Invest	SEAD-45 S45-R10-04 S45-R10-04 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-R10-05 S45-R10-05 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-R10-06 S45-R10-06 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-R10-07 S45-R10-07 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-R1-01 S45-R1-01 O.2-0.6 4/1/2010 SA OD Initial Invest
Parameter	Unit	Value	Detection	Value	Exceedances			Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/K	G 0	0%	500,000	0	0	16						
1,1,2,2-Tetrachloroethane	UG/K		0%			0	16						
1,1,2-Trichloroethane	UG/K		0%			0	16						
1,1-Dichloroethane	UG/K		0%	240,000	0	0	16						
1,1-Dichloroethene	UG/K		0%	500,000	0	0	16						
1,2-Dichloroethane 1,2-Dichloroethene (total)	UG/K UG/K		0% 0%	30,000 500,000	0	0	16 16						
1,2-Dichloropropane	UG/K		0%	300,000	0	0	16						
Acetone	UG/K		0%	500,000	0	0	16						
Benzene	UG/K	G 0	0%	44,000	0	0	16						
Bromodichloromethane	UG/K		0%			0	16						
Bromoform	UG/K		0%			0	16						
Carbon disulfide	UG/K		0%	00.000	0	0	16						
Carbon tetrachloride	UG/K		0% 0%	22,000		0	16						
Chlorobenzene Chlorodibromomethane	UG/K UG/K		0%	500,000	0	0	16 16						
Chloroethane	UG/K		0%			0	16						
Chloroform	UG/K		0%	350,000	0	0	16						
Cis-1,3-Dichloropropene	UG/K		0%			0	16						
Ethyl benzene	UG/K		0%	390,000	0	0	16						
Methyl bromide	UG/K		0%			0	16						
Methyl butyl ketone	UG/K UG/K		0% 0%			0	16 16						
Methyl chloride Methyl ethyl ketone	UG/K		0%	500,000	0	0	16						
Methyl isobutyl ketone	UG/K		0%	000,000	0	ő	16						
Methylene chloride	UG/K		0%	500,000	0	0	16						
Styrene	UG/K		0%			0	16						
Tetrachloroethene	UG/K		38%	150,000	0	6	16						
Toluene	UG/K		0%	500,000	0	0	16						
Total Xylenes Trans-1,3-Dichloropropene	UG/K		0% 0%	500,000	0	0	16 16						
Trichloroethene	UG/K		0%	200,000	0	0	16						
Vinyl chloride	UG/K		0%	13,000	õ	õ	16						
Semivolatile Organic Compounds													
1,2,4-Trichlorobenzene	UG/K	G 0	0%			0	35						
1,2-Dichlorobenzene	UG/K		0%	500,000	0	0	35						
1,3-Dichlorobenzene	UG/K		0%	280,000	0	0	35						
1,4-Dichlorobenzene	UG/K		0%	130,000	0	0	35						
2,2'-oxybis(1-Chloropropane)	UG/K UG/K		0% 0%			0	16 35						
2,4,5-Trichlorophenol 2,4,6-Trichlorophenol	UG/K		0%			0	35						
2,4-Dichlorophenol	UG/K		0%			õ	35						
2,4-Dimethylphenol	UG/K		0%			0	35						
2,4-Dinitrophenol	UG/K		0%			0	35						
2,4-Dinitrotoluene	UG/K		37%			13	35						
2,6-Dinitrotoluene	UG/K		6%			2	35 35						
2-Chloronaphthalene 2-Chlorophenol	UG/K UG/K		0% 0%			0	35 35						
2-Methylnaphthalene	UG/K		0%			õ	35						
2-Methylphenol	UG/K	G 0	0%	500,000	0	0	35						
2-Nitroaniline	UG/K		0%			0	35						
2-Nitrophenol	UG/K		0%			0	35						
3 or 4-Methylphenol 3,3'-Dichlorobenzidine	UG/K UG/K		0% 0%			0	19 35						
3-Nitroaniline	UG/K		0%			0	35						
4,6-Dinitro-2-methylphenol	UG/K		0%			õ	35						
4-Bromophenyl phenyl ether	UG/K		0%			Ő	35						
4-Chloro-3-methylphenol	UG/K		0%			0	35						
4-Chloroaniline	UG/K		0%			0	35						
4-Chlorophenyl phenyl ether 4-Methylphenol	UG/K		0% 0%	500,000	0	0	35 16						
4-Memorphenon 4-Nitroaniline	UG/K		0%	500,000	0	0	35						
4-Nitrophenol	UG/K		0%			0	35						
Acenaphthene	UG/K	G 0	0%	500,000	0	õ	35						
Acenaphthylene	UG/K	G 30	9%	500,000	0	3	35						
Anthracene	UG/K		6%	500,000	0	2	35						
Benzo(a)anthracene	UG/K		23%	5,600	0	8	35						
Benzo(a)pyrene Benzo(b)fluoranthene	UG/K UG/K		23% 26%	1,000 5,600	0	8 9	35 35						
Benzo(b)fluoranthene Benzo(ghi)perylene	UG/K		20%	5,600	0	9	35						
Benzo(k)fluoranthene	UG/K		20%	56,000	õ	7	35						

Sample Depth	Area Loc ID Sample ID Matrix Interval (FT) Sample Date QC Type Study ID			Frequency		Number	Number	Number	SEAD-45 S45-R10-03 S45-R10-03D SOIL 0.2-0.6 3/16/2010 DU OD Initial Invest	SEAD-45 S45-R10-04 S45-R10-04 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-R10-05 S45-R10-05 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-R10-06 S45-R10-06 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-R10-07 S45-R10-07 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-R1-01 S45-R1-01 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest
Parameter		Unit	Maximum Value	of Detection	Criteria Value	of Exceedances	of Times	of Samples Analyzed	s Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Bis(2-Chloroethoxy)methane		UG/KG	0	0%			0	35						
Bis(2-Chloroethyl)ether Bis(2-Chloroisopropyl)ether		UG/KG UG/KG	0	0% 0%			0	35 19						
Bis(2-Ethylhexyl)phthalate		UG/KG	740	26%			9	35						
Butylbenzylphthalate		UG/KG	0	0%			0	35						
Carbazole		UG/KG	0	0%			0	35						
Chrysene		UG/KG	130	34%	56,000	0	12	35						
Dibenz(a,h)anthracene Dibenzofuran		UG/KG UG/KG	0 0	0% 0%	560 350,000	0	0	35 35						
Diethyl phthalate		UG/KG	35	3%	350,000	0	1	35						
Dimethylphthalate		UG/KG	0	0%			0	35						
Di-n-butylphthalate		UG/KG	6,800	34%			12	35						
Di-n-octylphthalate		UG/KG	0	0%			0	35						
Fluoranthene Fluorene		UG/KG UG/KG	68 0	31% 0%	500,000 500,000	0	11 0	35 35						
Hexachlorobenzene		UG/KG	110	31%	6,000	0	11	35						
Hexachlorobutadiene		UG/KG	0	0%	-,		0	35						
Hexachlorocyclopentadiene		UG/KG	0	0%			0	35						
Hexachloroethane		UG/KG	1,100	17%			6	35						
Indeno(1,2,3-cd)pyrene Isophorone		UG/KG UG/KG	52 0	11% 0%	5,600	0	4 0	35 35						
Naphthalene		UG/KG	30	14%	500,000	0	5	35						
Nitrobenzene		UG/KG	0	0%	,		0	35						
N-Nitrosodiphenylamine		UG/KG	320	6%			2	35						
N-Nitrosodipropylamine		UG/KG	1,600	14%			5	35						
Pentachlorophenol Phenanthrene		UG/KG UG/KG	0 46	0% 26%	6,700 500,000	0	0 9	35 35						
Phenol		UG/KG	40	20%	500,000	0	0	35						
Pyrene		UG/KG	110	34%	500,000	õ	12	35						
Herbicides														
2,4,5-T		UG/KG	0	0%			0	35						
2,4,5-TP/Silvex		UG/KG	0	0%	500,000	0	0	35						
2,4-D		UG/KG	0	0%			0	35						
2,4-DB Dalapon		UG/KG UG/KG	0	0% 0%			0	35 35						
Dalapon Dicamba		UG/KG UG/KG	0 0	0%			0	35						
Dichloroprop		UG/KG	0	0%			Ő	35						
Dinoseb		UG/KG	0	0%			0	35						
MCPA		UG/KG	9,400	6%			2	35						
MCPP		UG/KG	0	0%			0	35						
Explosives														
1,3,5-Trinitrobenzene 1,3-Dinitrobenzene		UG/KG UG/KG	190 0	60% 0%			28 0	47 47						
2,4,6-Trinitrotoluene		UG/KG	1,400	81%			38	47						
2,4-Dinitrotoluene		UG/KG	1,100	77%			36	47						
2,6-Dinitrotoluene		UG/KG	0	0%			0	47						
2-amino-4,6-Dinitrotoluene		UG/KG	680	77%			36	47						
2-Nitrotoluene 3,5-Dinitroaniline		UG/KG UG/KG	0	0% 0%			0 0	31 31						
3-Nitrotoluene		UG/KG	0	0%			0	31						
4-amino-2,6-Dinitrotoluene		UG/KG	500	57%			27	47						
4-Nitrotoluene		UG/KG	0	0%			0	31						
HMX		UG/KG UG/KG	470 0	68% 0%			32 0	47 31						
Nitrobenzene Nitroglycerine		UG/KG UG/KG	0 1,500	0% 3%			0	31 31						
Pentaerythritol Tetranitrate		UG/KG	0	0%			0	31						
RDX		UG/KG	5,800	83%			39	47						
Tetryl		UG/KG	330	9%			4	47						

	Area Loc ID Sample ID Matrix Sample Depth Interval (FT) Sample Date QC Type Study ID		Maximum	Frequency	Criteria	Number of	Number of Times	Number of Samples	SEAD-45 S45-R10-03 S45-R10-03D SOIL 0.2-0.6 3/16/2010 DU OD Initial Invest	SEAD-45 S45-R10-04 S45-R10-04 S0IL 0.2-0.6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-R10-05 S45-R10-05 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-R10-06 S45-R10-06 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-R10-07 S45-R10-07 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-R1-01 S45-R1-01 O.2-0.6 4/1/2010 SA OD Initial Invest
Parameter		Unit	Value	Detection	Value	Exceedances	Detected	Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Pesticides/PCBs														
Aroclor-1016		UG/KG	0	0%	1,000	0	0	34						
Aroclor-1221		UG/KG	0	0%	1,000	0	0	34						
Aroclor-1232		UG/KG	0	0%	1,000	0	0	34						
Aroclor-1242		UG/KG	0	0%	1,000	0	0	34						
Aroclor-1248		UG/KG	0	0%	1,000	0	0	34						
Aroclor-1254		UG/KG	2,000	6%	1,000	1	2	34						
Aroclor-1260		UG/KG	0	0%	1,000	0	0	34						
4,4'-DDD		UG/KG	2.4	6%	92,000	0	2	34						
4,4'-DDE		UG/KG UG/KG	4.2	63%	62,000	0	22 17	35 34						
4,4'-DDT Aldrin		UG/KG UG/KG	3.4 0	50% 0%	47,000 680	0	17	34 34						
Alpha-BHC		UG/KG	0	0%	3,400	0	0	34 34						
Alpha-Chlordane		UG/KG	2	12%	24.000	0	4	34						
Beta-BHC		UG/KG	0	0%	3,000	ŏ	0 0	34						
Delta-BHC		UG/KG	0	0%	500.000	0	0	34						
Dieldrin		UG/KG	3.2	41%	1,400	0	14	34						
Endosulfan I		UG/KG	55	60%	200,000	0	21	35						
Endosulfan II		UG/KG	0.88	3%	200,000	0	1	34						
Endosulfan sulfate		UG/KG	0	0%	200,000	0	0	34						
Endrin		UG/KG	3.6	3%	89,000	0	1	34						
Endrin aldehyde		UG/KG UG/KG	0 0.58	0% 3%			0 1	34 34						
Endrin ketone Gamma-BHC/Linda	222	UG/KG	0.58	3% 0%	9,200	0	0	34 34						
Gamma-Chlordane		UG/KG	1.1	9%	5,200	0	3	34						
Heptachlor		UG/KG	0	0%	15,000	0	õ	34						
Heptachlor epoxide	9	UG/KG	0	0%	.,		0	34						
Methoxychlor		UG/KG	45	3%			1	34						
Toxaphene		UG/KG	0	0%			0	34						
Inorganics														
Aluminum		MG/KG	27,900	100%			97	97	16,700	19,100	19,900	17,400	16,500	17,200
Antimony		MG/KG	5.1	33%			32	97	2.4	0.09 UJ	0.14 UJ	0.11 UJ	1.8 J	0.52 J
Arsenic		MG/KG	12.6	100%	16	0	97	97	5	4.8	4.6	4	4.5	5.9
Barium		MG/KG	365	100%	400	0	97	97	256 J	108 J	134 J	107 J	263 J	259
Beryllium		MG/KG	1.2	98%	590	0	95	97	0.76 J	0.77 J	0.86 J	0.68 J	0.76 J	0.75
Cadmium Calcium		MG/KG MG/KG	1,100 193,000	81% 99%	9.3	11	77 96	95 97	1.6 U 28,500 J	0.96 U 2,840 J	1.4 U 4,100 J	1.2 U 3,700 J	1.6 U 14,500 J	7.6 23,200
Chromium		MG/KG	446	100%	1,500	0	90 97	97	28,500 J 29.2 J	2,840 J 23.9 J	4,100 J 25.5 J	22.4 J	29.2 J	35.3
Cobalt		MG/KG	26.8	100%	1,000	0	97	97	29.2 J 12.5 J	23.9 J 10.5 J	25.5 J 9.6 J	22.4 J 7.7 J	29.2 J 12.1 J	12.2
Copper		MG/KG	7,310	100%	270	52	97	97	132	24.9 J	44.7 J	64 J	129 J	475
Cyanide		MG/KG	0.7	13%	27	0	2	16						· · · · · · · · · · · · · · · · · · ·
Iron		MG/KG	118,000	100%			97	97	28,800 J	21,900 J	22,700 J	20,500 J	27,500 J	31,400
Lead		MG/KG	998	100%	1,000	0	97	97	189	21.7	25.2	35.4	198	54.7
Magnesium		MG/KG	15,000	100%			97	97	6,880 J	3,630 J	4,050 J	3,650 J	6,640 J	6,460
Manganese		MG/KG	5,040	100%	10,000	0	97	97	436 J	999 J	627 J	446 J	393 J	657
Nickel		MG/KG MG/KG	59.3 4,880	100% 100%	310	0	92 76	92 76	46.9 J	21.6 J	27.1 J	21.4 J	47.4 J	43
Potassium Selenium		MG/KG MG/KG	4,880 0.92	4%	1,500	0	76 4	76 97	2,610 J 0.34 U	2,580 J 0.21 U	3,250 J 0.3 U	2,320 J 0.25 U	2,400 J 0.92 J	2,590 1.7 U
Silver		MG/KG	205	4% 68%	1,500	0	4 66	97 97	0.34 U 0.1 U	0.21 U 0.06 U	0.09 U	0.25 U 0.08 U	0.92 J 0.11 U	4.4
Sodium		MG/KG	203	84%	1,000	0	81	97	110	96 U	140 U	120 U	97.1	4.4 86 U
Thallium		MG/KG	0.27	6%			6	97	0.14 U	0.09 U	0.13 U	0.11 U	2.4 U	0.28 U
Vanadium		MG/KG	41.9	100%			97	97	25.3 J	32.4 J	33 J	29.6 J	24.5 J	28.5
Zinc		MG/KG	1,470	100%	10,000	0	92	92	298	85.7 J	130 J	136 J	237 J	319
Mercury		MG/KG	9.1	99%	2.8	49	96	97	1	0.17	0.45	0.71	0.38	5.5

Notes:
1) Chemical result qualifiers are assigned by the laboratory and are evaluated and modified (if necessary) by during data validation.
U = non-detect, i.e. not detected equal to or above this value.
L = non-detect, i.e. not detected equal to or above this value.
R = Rejected, data validation rejected the re R = Rejected, data validation rejected the results.

2) Num of Analyses is the number of detected and non-detected results excluding rejected results. Sample duplicate pairs have not been averaged.

3) Chemical results greater than the action level are highlighted, bolded and boxed

4) Criteria action level source document and web address. - The NYS SCO Commercial Use values were obtained from the NYSDEC Soil Cleanup Objectives.

	Sample Depth Int	Area Loc ID Sample ID Matrix terval (FT) imple Date QC Type Study ID			Frequency	Oritoria	Number	Number	Number	SEAD-45 S45-R1-02 S45-R1-02 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R1-03 S0IL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R1-04 S0L 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R1-04D S45-R1-04D SOIL 0.2-0.6 4/1/2010 DU OD Initial Invest	SEAD-45 S45-R15-01 S0IL 0.2-0.6 3/15/2010 SA OD Initial Invest	SEAD-45 S45-R15-02 S45-R15-02 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest
Work Subscription Units Subscription Units Subscription Subsc	Parameter		Unit	Maximum Value	of Detection	Criteria Value	of Exceedances			Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
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	Benzo(k)fluoranthene	ı	UG/KG	58	20%	56,000	0	7	35						

	Lo Samp M Sample Depth Interval Sample QC	fatrix (FT)		Frequency		Number	Number	Number	SEAD-45 S45-R1-02 S45-R1-02 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R1-03 S45-R1-03 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R1-04 S45-R1-04 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R1-04D S45-R1-04D SOIL 0.2-0.6 4/1/2010 DU OD Initial Invest	SEAD-45 S45-R15-01 S45-R15-01 SOIL 0.2-0.6 3/15/2010 SA OD Initial Invest	SEAD-45 S45-R15-02 S45-R15-02 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest
Parameter		Unit	Maximum Value	of Detection	Criteria Value	of Exceedances	of Times	of Samples Analyzed	s Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Bis(2-Chloroetho:		UG/KG	0	0%			0	35						
Bis(2-Chloroethyl Bis(2-Chloroisopr		UG/KG UG/KG	0	0% 0%			0	35 19						
Bis(2-Ethylhexyl)		UG/KG	740	26%			9	35						
Butylbenzylphtha		UG/KG	0	0%			0	35						
Carbazole		UG/KG	0	0%			0	35						
Chrysene Dibenz(a,h)anthra		UG/KG UG/KG	130 0	34% 0%	56,000 560	0	12 0	35 35						
Dibenz(a,ri)antria	acene	UG/KG	0	0%	350,000	0	0	35						
Diethyl phthalate		UG/KG	35	3%	000,000	0	1	35						
Dimethylphthalate	e	UG/KG	0	0%			0	35						
Di-n-butylphthala		UG/KG	6,800	34%			12	35						
Di-n-octylphthalat	te	UG/KG UG/KG	0 68	0% 31%	500.000	0	0 11	35 35						
Fluoranthene Fluorene		UG/KG	0	0%	500,000	0 0	0	35						
Hexachlorobenze	ene	UG/KG	110	31%	6,000	õ	11	35						
Hexachlorobutad		UG/KG	0	0%			0	35						
Hexachlorocyclop		UG/KG	0	0%			0	35						
Hexachloroethan Indeno(1,2,3-cd)		UG/KG UG/KG	1,100 52	17% 11%	5,600	0	6 4	35 35						
Isophorone	byrene	UG/KG	0	0%	5,600	0	4	35						
Naphthalene		UG/KG	30	14%	500,000	0	5	35						
Nitrobenzene		UG/KG	0	0%			0	35						
N-Nitrosodipheny		UG/KG	320	6% 14%			2	35						
N-Nitrosodipropyl Pentachlorophen		UG/KG UG/KG	1,600 0	14%	6,700	0	5 0	35 35						
Phenanthrene	0	UG/KG	46	26%	500,000	0	9	35						
Phenol		UG/KG	0	0%	500,000	0	0	35						
Pyrene		UG/KG	110	34%	500,000	0	12	35						
Herbicides														
2,4,5-T		UG/KG	0	0%			0	35						
2,4,5-TP/Silvex		UG/KG	0 0	0%	500,000	0	0	35 35						
2,4-D 2,4-DB		UG/KG UG/KG	0	0% 0%			0	35						
Dalapon		UG/KG	õ	0%			õ	35						
Dicamba		UG/KG	0	0%			0	35						
Dichloroprop		UG/KG	0	0%			0	35						
Dinoseb MCPA		UG/KG	0	0%			0	35 35						
MCPA		UG/KG UG/KG	9,400 0	6% 0%			2 0	35						
Explosives			-				-							
1.3.5-Trinitrobenz	zene	UG/KG	190	60%			28	47						
1,3-Dinitrobenzer		UG/KG	0	0%			0	47						
2,4,6-Trinitrotolue		UG/KG	1,400	81%			38	47						
2,4-Dinitrotoluene		UG/KG	1,100	77%			36 0	47 47						
2,6-Dinitrotoluene 2-amino-4,6-Dinit		UG/KG UG/KG	0 680	0% 77%			36	47						
2-Nitrotoluene	lioloidene	UG/KG	0	0%			0	31						
3,5-Dinitroaniline		UG/KG	0	0%			0	31						
3-Nitrotoluene		UG/KG	0	0%			0	31						
4-amino-2,6-Dinit 4-Nitrotoluene	trotoluene	UG/KG UG/KG	500 0	57% 0%			27 0	47 31						
4-INITOIOIUENE HMX		UG/KG	470	68%			32	47						
Nitrobenzene		UG/KG	0	0%			0	31						
Nitroglycerine		UG/KG	1,500	3%			1	31						
Pentaerythritol Te	etranitrate	UG/KG	0	0%			0	31						
RDX Tetryl		UG/KG UG/KG	5,800 330	83% 9%			39 4	47 47						
renyi		00/10	550	370			-	47						

	Area Loc ID Sample ID Matrix Sample Depth Interval (FT) Sample Date QC Type Study ID		Maximum	Frequency	Criteria	Number of	Number of Times	Number of Samples	SEAD-45 S45-R1-02 S45-R1-02 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R1-03 S45-R1-03 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R1-04 S45-R1-04 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R1-04D S45-R1-04D S0IL 0.2-0.6 4/1/2010 DU OD Initial Invest	SEAD-45 S45-R15-01 S45-R15-01 0.2-0.6 3/15/2010 SA OD Initial Invest	SEAD-45 S45-R15-02 S45-R15-02 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest
Parameter		Unit	Value	Detection	Value	Exceedances	Detected	Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Pesticides/PCBs														
Aroclor-1016		UG/KG	0	0%	1,000	0	0	34						
Aroclor-1221		UG/KG	0	0%	1,000	0	0	34						
Aroclor-1232		UG/KG	ō	0%	1.000	ō	Ō	34						
Aroclor-1242		UG/KG	0	0%	1,000	0	0	34						
Aroclor-1248		UG/KG	0	0%	1,000	0	0	34						
Aroclor-1254		UG/KG	2,000	6%	1,000	1	2	34						
Aroclor-1260		UG/KG	0	0%	1,000	0	0	34						
4,4'-DDD		UG/KG	2.4	6%	92,000	0	2	34						
4,4'-DDE		UG/KG	4.2	63%	62,000	0	22	35						
4,4'-DDT		UG/KG	3.4	50%	47,000	0	17	34						
Aldrin		UG/KG	0	0%	680	0	0	34						
Alpha-BHC		UG/KG	0	0%	3,400	0	0	34						
Alpha-Chlordane		UG/KG	2	12%	24,000	0	4	34						
Beta-BHC		UG/KG	0	0%	3,000	0	0	34						
Delta-BHC		UG/KG	0	0%	500,000	0	0 14	34						
Dieldrin		UG/KG UG/KG	3.2 55	41% 60%	1,400 200,000	0 0	21	34 35						
Endosulfan I Endosulfan II		UG/KG	0.88	3%	200,000	0	1	33						
Endosulfan sulfat	9	UG/KG	0.88	0%	200,000	0	0	34						
Endrin		UG/KG	3.6	3%	89,000	õ	1	34						
Endrin aldehyde		UG/KG	0	0%	00,000	Ū	0	34						
Endrin ketone		UG/KG	0.58	3%			1	34						
Gamma-BHC/Line		UG/KG	0	0%	9,200	0	0	34						
Gamma-Chlordar	ie	UG/KG	1.1	9%			3	34						
Heptachlor		UG/KG	0	0%	15,000	0	0	34						
Heptachlor epoxic		UG/KG	0	0%			0	34						
Methoxychlor		UG/KG	45	3%			1	34						
Toxaphene		UG/KG	0	0%			0	34						
Inorganics														
Aluminum		MG/KG	27,900	100%			97	97	16,200	18,200	16,800	20,200	19,900	25,000
Antimony		MG/KG	5.1	33%			32	97	0.64 J	0.65 J	0.81 J	0.37 J	0.25 UJ	0.12 UJ
Arsenic		MG/KG	12.6	100%	16	0	97	97	5.1	5.5	4.9	5.5	7.6	5.4
Barium		MG/KG MG/KG	365	100%	400 590	0	97 95	97 97	150	168	161	182	287 J	175 J
Beryllium			1.2	98%		-	95 77		0.72	0.81	0.89 U	0.85	1 J	1 J
Cadmium Calcium		MG/KG MG/KG	1,100 193,000	81% 99%	9.3	11	96	95 97	7.7 26,900	8.2 21,700	7.9 40,600 U	8.1 22,000	2.6 U 3,630 J	1.2 U 4,370 J
Chromium		MG/KG	446	100%	1,500	0	90	97	20,900	30.3	40,000 0	30.7	24.6 J	4,370 J 30.8 J
Cobalt		MG/KG	26.8	100%	1,000	Ū	97	97	12.3	12.7	11.4	12.2	24.0 J	10 J
Copper		MG/KG	7,310	100%	270	52	97	97	794	478	467	433	22.8 J	25.6 J
Cyanide		MG/KG	0.7	13%	27	0	2	16				•	-	
Iron		MG/KG	118,000	100%			97	97	25,200	25,800	26,700	28,100	35,300 J	26,200 J
Lead		MG/KG	998	100%	1,000	0	97	97	69.2	62.2	63.8	58	22	26.6
Magnesium		MG/KG	15,000	100%			97	97	7,910	6,520	6,890	6,920	4,080 J	4,460 J
Manganese		MG/KG	5,040	100%	10,000	0	97	97	676	664	557	561	5,040 J	552 J
Nickel		MG/KG	59.3	100%	310	0	92	92	39.6	41.8	37	40.5	29.8 J	27.1 J
Potassium		MG/KG	4,880	100%			76	76	2,450	2,690	2,600	3,370	2,780 J	3,850 J
Selenium		MG/KG	0.92	4%	1,500	0	4	97	0.7 U	0.75 U	0.7 U	0.85 U	0.56 U	0.27 U
Silver		MG/KG	205	68%	1,500	0	66	97 97	3.2	4	3.9	3.2 J	0.17 U	0.08 U
Sodium		MG/KG	213	84%			81	97 97	89 U	95.6	93.3	86.8 J	130 U	120 U
Thallium Vanadium		MG/KG MG/KG	0.27 41.9	6% 100%			6 97	97 97	0.29 U 27.3	0.32 U 29.8	0.3 U 28.3	0.36 U 32.8	0.24 U 30.7 J	0.12 U 41.9 J
Zinc		MG/KG	1,470	100%	10,000	0	97	97	1,350	29.8	28.3	32.8	30.7 J 101 J	41.9 J 104 J
Mercury		MG/KG	9.1	99%	2.8	49	96	97	3.5	3.5	3.1	4.4	0.21	0.1
			0	0070	2.0			0.	0.0	0.0				0.1

Notes: 1) Chemical result qualifiers are assigned by the laboratory and are evaluated and modified (if necessary) by during data validation. U = non-detect, i.e. not detected equal to or above this value. R = Rejected, data validation rejected the re-R = Rejected, data validation rejected the results.

2) Num of Analyses is the number of detected and non-detected results excluding rejected results. Sample duplicate pairs have not been averaged.

3) Chemical results greater than the action level are highlighted, bolded and boxed

4) Criteria action level source document and web address. - The NYS SCO Commercial Use values were obtained from the NYSDEC Soil Cleanup Objectives.

Sample Depth Inten Samp Q	Area Loc ID mple ID Matrix val (FT) ble Date QC Type Study ID			Frequency		Number	Number	Number	SEAD-45 S45-R15-03 S0L 0.2-0.6 3/17/2010 SA OD Initial Invest	SEAD-45 S45-R15-04 S45-R15-04 SOIL 0.2-0.6 3/15/2010 SA OD Initial Invest	SEAD-45 S45-R15-05 S45-R15-05 SOIL 0.2-0.6 3/15/2010 SA OD Initial Invest	SEAD-45 S45-R15-06 S45-R15-06 SOIL 0.2-0.6 3/15/2010 SA OD Initial Invest	SEAD-45 S45-R2-01 S45-R2-01 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R2-02 S45-R2-02 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest
Parameter		nit N	Aaximum Value	of Detection	Criteria Value	of Exceedances		of Samples	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds	ŭ		Value	Botootion	Value	Exceedancee	Dotootod	741017200		raido adai	Taido Quar	Value adai	Value Qual	Value Qual
	LIG	/KG	0	0%	500,000	0	0	16						
1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane		/KG	0	0%	300,000	0	0	16						
1,1,2-Trichloroethane		/KG	Ő	0%			õ	16						
1,1-Dichloroethane		/KG	0	0%	240,000	0	0	16						
1,1-Dichloroethene		/KG	0	0%	500,000	0	0	16						
1,2-Dichloroethane		KG	0	0%	30,000	0	0	16						
1,2-Dichloroethene (total) 1,2-Dichloropropane		i/KG i/KG	0 0	0% 0%	500,000	0	0	16 16						
Acetone		/KG	0	0%	500,000	0	0	16						
Benzene		/KG	ō	0%	44,000	0	Ō	16						
Bromodichloromethane		/KG	0	0%			0	16						
Bromoform		/KG	0	0%			0	16						
Carbon disulfide		KG	0	0%	22,000	0	0	16 16						
Carbon tetrachloride Chlorobenzene		/KG /KG	0 0	0% 0%	22,000 500,000	0	0	16 16						
Chlorodibromomethane		KG	0	0%	300,000	5	0	16						
Chloroethane	UG	/KG	0	0%			0	16						
Chloroform		i/KG	0	0%	350,000	0	0	16						
Cis-1,3-Dichloropropene		KG	0	0%	000 000	0	0	16						
Ethyl benzene Methyl bromide		i/KG i/KG	0	0% 0%	390,000	0	0	16 16						
Methyl butyl ketone		KG	0	0%			0	16						
Methyl chloride		/KG	ō	0%			Ō	16						
Methyl ethyl ketone		/KG	0	0%	500,000	0	0	16						
Methyl isobutyl ketone		/KG	0	0%			0	16						
Methylene chloride		/KG /KG	0 0	0% 0%	500,000	0	0	16 16						
Styrene Tetrachloroethene		KG	19	38%	150,000	0	6	16						
Toluene		/KG	0	0%	500,000	ŏ	Ő	16						
Total Xylenes	UG	/KG	0	0%	500,000	0	0	16						
Trans-1,3-Dichloropropene		/KG	0	0%			0	16						
Trichloroethene		i/KG i/KG	0 0	0% 0%	200,000 13,000	0	0	16 16						
Vinyl chloride Semivolatile Organic Compounds	00	///////////////////////////////////////	0	078	13,000	0	0	10						
1,2,4-Trichlorobenzene	UG	/KG	0	0%			0	35						
1,2-Dichlorobenzene		KG	0	0%	500,000	0	0	35						
1,3-Dichlorobenzene		/KG	Ő	0%	280,000	ŏ	Ő	35						
1,4-Dichlorobenzene		/KG	0	0%	130,000	0	0	35						
2,2'-oxybis(1-Chloropropane)		KG	0	0%			0	16						
2,4,5-Trichlorophenol 2,4,6-Trichlorophenol		/KG /KG	0 0	0% 0%			0	35 35						
2,4,0- Inchiorophenol		KG	0	0%			0	35						
2,4-Dimethylphenol		/KG	ō	0%			Ō	35						
2,4-Dinitrophenol		/KG	0	0%			0	35						
2,4-Dinitrotoluene			14,000	37%			13	35						
2,6-Dinitrotoluene 2-Chloronaphthalene		i/KG i/KG	700 0	6% 0%			2 0	35 35						
2-Chlorophenol		KG	õ	0%			0	35						
2-Methylnaphthalene	UG	/KG	0	0%			0	35						
2-Methylphenol		/KG	0	0%	500,000	0	0	35						
2-Nitroaniline		KG	0	0% 0%			0	35 35						
2-Nitrophenol 3 or 4-Methylphenol		i/KG i/KG	0	0%			0	35 19						
3,3'-Dichlorobenzidine		/KG	õ	0%			0	35						
3-Nitroaniline		/KG	ō	0%			ō	35						
4,6-Dinitro-2-methylphenol		/KG	0	0%			0	35						
4-Bromophenyl phenyl ether		KG	0	0%			0	35						
4-Chloro-3-methylphenol 4-Chloroaniline		i/KG i/KG	0	0% 0%			0	35 35						
4-Chlorophenyl phenyl ether		/KG	0	0%			0	35						
4-Methylphenol	UG	/KG	0	0%	500,000	0	0	16						
4-Nitroaniline		/KG	0	0%			0	35						
4-Nitrophenol		/KG /KG	0 0	0%	500,000	0	0	35						
Acenaphthene Acenaphthylene		/KG /KG	30	0% 9%	500,000	0	3	35 35						
Anthracene		/KG	18	6%	500,000	õ	2	35						
Benzo(a)anthracene	UG	/KG	50	23%	5,600	0	8	35						
Benzo(a)pyrene		KG	82	23%	1,000	0	8	35						
Benzo(b)fluoranthene Benzo(ghi)perylene		/KG /KG	55 66	26% 20%	5,600 500,000	0	9 7	35 35						
Benzo(k)fluoranthene		/KG	58	20%	56,000	0	7	35						
	50				,500	2	•							

Sample Deptr	Area Loc ID Sample ID Matrix Interval (FT) Sample Date QC Type Study ID			Frequency		Number	Number	Number	SEAD-45 S45-R15-03 S45-R15-03 SOIL 0.2-0.6 3/17/2010 SA OD Initial Invest	SEAD-45 S45-R15-04 S45-R15-04 SOIL 0.2-0.6 3/15/2010 SA OD Initial Invest	SEAD-45 S45-R15-05 S45-R15-05 SOIL 0.2-0.6 3/15/2010 SA OD Initial Invest	SEAD-45 S45-R15-06 S45-R15-06 SOIL 0.2-0.6 3/15/2010 SA OD Initial Invest	SEAD-45 S45-R2-01 S45-R2-01 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R2-02 S45-R2-02 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest
Parameter		Unit	Maximum Value	of Detection	Criteria Value	of Exceedances	of Times Detected	of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Bis(2-Chloroethoxy)methane		UG/KG	0	0%			0	35						
Bis(2-Chloroethyl)ether Bis(2-Chloroisopropyl)ether		UG/KG UG/KG	0	0% 0%			0	35 19						
Bis(2-Ethylhexyl)phthalate		UG/KG	740	26%			9	35						
Butylbenzylphthalate		UG/KG	0	0%			0	35						
Carbazole		UG/KG	0	0%			0	35						
Chrysene		UG/KG	130	34%	56,000	0	12	35						
Dibenz(a,h)anthracene		UG/KG	0	0%	560	0	0	35 35						
Dibenzofuran Diethyl phthalate		UG/KG UG/KG	35	0% 3%	350,000	0	0	35 35						
Dimethylphthalate		UG/KG	0	0%			0	35						
Di-n-butylphthalate		UG/KG	6,800	34%			12	35						
Di-n-octylphthalate		UG/KG	0	0%			0	35						
Fluoranthene		UG/KG	68	31%	500,000	0	11	35						
Fluorene		UG/KG	0	0%	500,000	0	0	35						
Hexachlorobenzene Hexachlorobutadiene		UG/KG UG/KG	110 0	31% 0%	6,000	0	11 0	35 35						
Hexachlorocyclopentadiene		UG/KG	0	0%			0	35						
Hexachloroethane		UG/KG	1,100	17%			6	35						
Indeno(1,2,3-cd)pyrene		UG/KG	52	11%	5,600	0	4	35						
Isophorone		UG/KG	0	0%			0	35						
Naphthalene		UG/KG	30	14%	500,000	0	5	35						
Nitrobenzene N-Nitrosodiphenylamine		UG/KG UG/KG	0 320	0% 6%			0	35 35						
N-Nitrosodipropylamine		UG/KG	1,600	14%			5	35						
Pentachlorophenol		UG/KG	0	0%	6,700	0	0	35						
Phenanthrene		UG/KG	46	26%	500,000	0	9	35						
Phenol		UG/KG	0	0%	500,000	0	0	35						
Pyrene		UG/KG	110	34%	500,000	0	12	35						
Herbicides														
2,4,5-T		UG/KG	0	0%	500.000	0	0	35						
2,4,5-TP/Silvex 2,4-D		UG/KG UG/KG	0	0% 0%	500,000	0	0	35 35						
2,4-DB		UG/KG	õ	0%			ŏ	35						
Dalapon		UG/KG	0	0%			0	35						
Dicamba		UG/KG	0	0%			0	35						
Dichloroprop		UG/KG	0	0%			0	35						
Dinoseb MCPA		UG/KG UG/KG	0 9,400	0%			0	35 35						
MCPA		UG/KG	9,400	6% 0%			2 0	35						
Explosives		00,0	Ū	070			0	00						
1.3.5-Trinitrobenzene		UG/KG	190	60%			28	47						
1,3-Dinitrobenzene		UG/KG	0	0%			0	47						
2,4,6-Trinitrotoluene		UG/KG	1,400	81%			38	47						
2,4-Dinitrotoluene		UG/KG	1,100	77%			36	47						
2,6-Dinitrotoluene		UG/KG	0 680	0% 77%			0	47 47						
2-amino-4,6-Dinitrotoluene 2-Nitrotoluene		UG/KG UG/KG	0	0%			36 0	47 31						
3,5-Dinitroaniline		UG/KG	0	0%			0	31						
3-Nitrotoluene		UG/KG	0	0%			0	31						
4-amino-2,6-Dinitrotoluene		UG/KG	500	57%			27	47						
4-Nitrotoluene		UG/KG	0	0%			0	31						
HMX Nitrobenzene		UG/KG UG/KG	470 0	68% 0%			32 0	47 31						
Nitroglycerine		UG/KG	1,500	3%			1	31						
Pentaerythritol Tetranitrate		UG/KG	0	0%			0	31						
RDX		UG/KG	5,800	83%			39	47						
Tetryl		UG/KG	330	9%			4	47						

	Area Loc ID Sample ID Matrix Sample Depth Interval (FT) Sample Date QC Type Study ID		Maximum	Frequency	Criteria	Number of	Number of Times	Number of Samples	SEAD-45 S45-R15-03 S45-R15-03 SOIL 0.2-0.6 3/17/2010 SA OD Initial Invest	SEAD-45 S45-R15-04 S45-R15-04 SOIL 0.2-0.6 3/15/2010 SA OD Initial Invest	SEAD-45 S45-R15-05 S45-R15-05 SOIL 0.2-0.6 3/15/2010 SA OD Initial Invest	SEAD-45 S45-R15-06 S45-R15-06 SOIL 0.2-0.6 3/15/2010 SA OD Initial Invest	SEAD-45 S45-R2-01 S45-R2-01 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R2-02 S45-R2-02 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest
Parameter		Unit	Value	Detection	Value	Exceedances	Detected	Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Pesticides/PCBs														
Aroclor-1016		UG/KG	0	0%	1,000	0	0	34						
Aroclor-1221		UG/KG	0	0%	1,000	0	0	34						
Aroclor-1232		UG/KG	0	0%	1,000	0	0	34						
Aroclor-1242		UG/KG	0	0%	1,000	0	0	34						
Aroclor-1248		UG/KG	0	0%	1,000	0	0	34						
Aroclor-1254		UG/KG	2,000	6%	1,000	1	2	34						
Aroclor-1260		UG/KG	0	0%	1,000	0	0	34						
4,4'-DDD		UG/KG	2.4	6%	92,000	0	2	34						
4,4'-DDE		UG/KG	4.2	63%	62,000	0	22	35						
4,4'-DDT		UG/KG UG/KG	3.4 0	50% 0%	47,000 680	0	17 0	34 34						
Aldrin Alpha-BHC		UG/KG	0	0%	3,400	0	0	34 34						
Alpha-Chlordane		UG/KG	2	12%	24.000	0	4	34						
Beta-BHC		UG/KG	0	0%	3,000	ő	0	34						
Delta-BHC		UG/KG	0	0%	500.000	0	0	34						
Dieldrin		UG/KG	3.2	41%	1,400	0	14	34						
Endosulfan I		UG/KG	55	60%	200,000	0	21	35						
Endosulfan II		UG/KG	0.88	3%	200,000	0	1	34						
Endosulfan sulfate		UG/KG	0	0%	200,000	0	0	34						
Endrin		UG/KG	3.6	3%	89,000	0	1	34						
Endrin aldehyde		UG/KG	0	0%			0	34						
Endrin ketone Gamma-BHC/Linda		UG/KG UG/KG	0.58 0	3% 0%	9,200	0	1	34 34						
Gamma-BHC/Linda Gamma-Chlordane		UG/KG	1.1	0% 9%	9,200	0	3	34 34						
Heptachlor		UG/KG	0	9%	15,000	0	0	34						
Heptachlor epoxide	2	UG/KG	õ	0%	10,000	0	ő	34						
Methoxychlor		UG/KG	45	3%			1	34						
Toxaphene		UG/KG	0	0%			0	34						
Inorganics														
Aluminum		MG/KG	27,900	100%			97	97	14,200 J	18,700	17,000	20,700	17,800	17,700
Antimony		MG/KG	5.1	33%			32	97	0.41 UJ	0.1 UJ	0.09 UJ	0.12 UJ	0.26 J	0.62 J
Arsenic		MG/KG	12.6	100%	16	0	97	97	4.9 J	4.8	3.9	5.1	6.3	5.4
Barium		MG/KG	365	100%	400	0	97	97	55.4 J	108 J	107 J	135 J	144	164
Beryllium		MG/KG	1.2	98%	590	0	95	97	0.65 J	0.85 J	0.77 J	1 J	0.77	0.86
Cadmium		MG/KG	1,100	81%	9.3	11	77	95	4.1 UJ	0.98 U	0.94 U	1.2 U	4.2	9.1
Calcium		MG/KG MG/KG	193,000 446	99% 100%	1,500	0	96 97	97 97	9,010 J	2,150 J	3,560 J	2,340 J	28,100	20,800
Chromium Cobalt		MG/KG	26.8	100%	1,500	U	97 97	97 97	26.6 J 12.1 J	24.2 J 10.1 J	23.3 J 9.1 J	27.5 J 12.9 J	27.2 12	27.7 11.8
Copper		MG/KG	26.8 7,310	100%	270	52	97 97	97 97	43.1 J	20 J	23.4 J	23.3 J	192	462
Cyanide		MG/KG	0.7	13%	27	0	2	16		200	20.10	20.0 0		
Iron		MG/KG	118,000	100%			97	97	26,000 J	22,500 J	20,400 J	24,000 J	24,400	27,600
Lead		MG/KG	998	100%	1,000	0	97	97	53.2 J	20.6	22.8	27.9	50	72.3
Magnesium		MG/KG	15,000	100%			97	97	6,180 J	3,770 J	3,800 J	4,210 J	7,290	6,560
Manganese		MG/KG	5,040	100%	10,000	0	97	97	328 J	735 J	466 J	1,080 J	581	618
Nickel		MG/KG	59.3	100%	310	0	92	92	52.1 J	24.8 J	29.4 J	32.7 J	39.9	39.8
Potassium		MG/KG	4,880	100%	4 500	0	76	76	2,140 J	2,740 J	2,780 J	3,410 J	2,540	2,920
Selenium Silver		MG/KG MG/KG	0.92 205	4% 68%	1,500 1,500	0	4 66	97 97	0.9 UJ 0.27 UJ	0.21 U 0.06 U	0.21 U 0.06 U	0.26 U 0.08 U	0.59 U 1.4 J	0.72 U 3.6
		MG/KG MG/KG	205	68% 84%	1,500	U	66 81	97 97	0.27 UJ 82 UJ	0.06 U 98 U	0.06 U 94 U	0.08 U 120 U	1.4 J 99.2	3.6 92 U
Sodium Thallium		MG/KG	0.27	84% 6%			6	97 97	82 UJ 0.38 UJ	0.09 U	94 U 0.09 U	0.11 U	99.2 0.25 U	92 U 0.3 U
Vanadium		MG/KG	41.9	100%			97	97 97	22.5 J	31.3 J	27.1 J	33.8 J	29.7	30.9
Zinc		MG/KG	1,470	100%	10,000	0	92	92	114 J	76 J	27.1 J 80 J	114 J	382	321
Mercury		MG/KG	9.1	99%	2.8	49	96	97	0.1 J	0.06	0.09	0.1	1.2	3
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Notes:
1) Chemical result qualifiers are assigned by the laboratory and are evaluated and modified (if necessary) by during data validation.
U = non-detect, i.e. not detected equal to or above this value.
L = non-detect, i.e. not detected equal to or above this value.
R = Rejected, data validation rejected the re R = Rejected, data validation rejected the results.

2) Num of Analyses is the number of detected and non-detected results excluding rejected results. Sample duplicate pairs have not been averaged.

3) Chemical results greater than the action level are highlighted, bolded and boxed

4) Criteria action level source document and web address. - The NYS SCO Commercial Use values were obtained from the NYSDEC Soil Cleanup Objectives.

L Samj N Sample Depth Interval Sample QC	/latrix I (FT)	Maximum	Frequency	Criteria	Number of	Number	Number	SEAD-45 S45-R2-03 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R2-04 S01L 0,2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R3-01 S01L 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R3-02 S45-R3-02 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R3-03 S45-R3-03 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R3-04 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest
Parameter	Unit	Value	Detection	Value	Exceedances			Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/KG	0	0%	500,000	0	0	16						
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	,	-	0	16						
1,1,2-Trichloroethane	UG/KG	0	0%			0	16						
1,1-Dichloroethane	UG/KG	0	0%	240,000	0	0	16						
1,1-Dichloroethene	UG/KG	0	0%	500,000	0	0	16						
1,2-Dichloroethane 1,2-Dichloroethene (total)	UG/KG UG/KG	0	0% 0%	30,000 500,000	0	0 0	16 16						
1,2-Dichloropropane	UG/KG	0	0%	500,000	0	0	16						
Acetone	UG/KG	õ	0%	500,000	0	Ő	16						
Benzene	UG/KG	0	0%	44,000	0	0	16						
Bromodichloromethane	UG/KG	0	0%			0	16						
Bromoform	UG/KG	0	0%			0	16						
Carbon disulfide Carbon tetrachloride	UG/KG UG/KG	0	0% 0%	22,000	0	0	16 16						
Chlorobenzene	UG/KG	0	0%	500,000	0	0	16						
Chlorodibromomethane	UG/KG	0	0%	300,000	5	0	16						
Chloroethane	UG/KG	0	0%			0	16						
Chloroform	UG/KG	0	0%	350,000	0	0	16						
Cis-1,3-Dichloropropene Ethyl benzene	UG/KG UG/KG	0	0% 0%	390,000	0	0 0	16 16						
Methyl bromide	UG/KG	0	0%	330,000	0	0	16						
Methyl butyl ketone	UG/KG	õ	0%			õ	16						
Methyl chloride	UG/KG	0	0%			0	16						
Methyl ethyl ketone	UG/KG	0	0%	500,000	0	0	16						
Methyl isobutyl ketone	UG/KG UG/KG	0	0% 0%	500,000	0	0 0	16 16						
Methylene chloride Styrene	UG/KG	0	0%	500,000	0	0	16						
Tetrachloroethene	UG/KG	19	38%	150,000	0	6	16						
Toluene	UG/KG	0	0%	500,000	0	0	16						
Total Xylenes	UG/KG	0	0%	500,000	0	0	16						
Trans-1,3-Dichloropropene	UG/KG	0	0%	200.000	0	0	16						
Trichloroethene Vinyl chloride	UG/KG UG/KG	0	0% 0%	200,000 13,000	0	0 0	16 16						
Semivolatile Organic Compounds	00,110	Ũ	0,0	10,000	Ū	0							
1,2,4-Trichlorobenzene	UG/KG	0	0%			0	35						
1,2-Dichlorobenzene	UG/KG	ō	0%	500,000	0	0	35						
1,3-Dichlorobenzene	UG/KG	0	0%	280,000	0	0	35						
1,4-Dichlorobenzene	UG/KG	0	0%	130,000	0	0	35						
2,2'-oxybis(1-Chloropropane) 2,4,5-Trichlorophenol	UG/KG UG/KG	0	0% 0%			0 0	16 35						
2,4,6-Trichlorophenol	UG/KG	Ő	0%			0	35						
2,4-Dichlorophenol	UG/KG	0	0%			0	35						
2,4-Dimethylphenol	UG/KG	0	0%			0	35						
2,4-Dinitrophenol	UG/KG	0	0%			0	35						
2,4-Dinitrotoluene 2,6-Dinitrotoluene	UG/KG UG/KG	14,000 700	37% 6%			13 2	35 35						
2-Chloronaphthalene	UG/KG	0	0%			0	35						
2-Chlorophenol	UG/KG	0	0%			0	35						
2-Methylnaphthalene	UG/KG	0	0%			0	35						
2-Methylphenol	UG/KG UG/KG	0	0% 0%	500,000	0	0	35 35						
2-Nitroaniline 2-Nitrophenol	UG/KG	0	0%			0	35						
3 or 4-Methylphenol	UG/KG	õ	0%			Ő	19						
3,3'-Dichlorobenzidine	UG/KG	0	0%			0	35						
3-Nitroaniline	UG/KG	0	0%			0	35						
4,6-Dinitro-2-methylphenol	UG/KG UG/KG	0	0% 0%			0	35 35						
4-Bromophenyl phenyl ether 4-Chloro-3-methylphenol	UG/KG	0	0%			0	35						
4-Chloroaniline	UG/KG	õ	0%			0	35						
4-Chlorophenyl phenyl ether	UG/KG	0	0%			0	35						
4-Methylphenol	UG/KG	0	0%	500,000	0	0	16						
4-Nitroaniline 4-Nitrophenol	UG/KG UG/KG	0	0% 0%			0 0	35 35						
Acenaphthene	UG/KG	0	0%	500,000	0	0	35						
Acenaphthylene	UG/KG	30	9%	500,000	õ	3	35						
Anthracene	UG/KG	18	6%	500,000	0	2	35						
Benzo(a)anthracene	UG/KG	50	23%	5,600	0	8	35						
Benzo(a)pyrene Benzo(b)fluoranthene	UG/KG UG/KG	82 55	23% 26%	1,000 5,600	0	8 9	35 35						
Benzo(ghi)perylene	UG/KG	66	20%	500,000	0	9	35						
Benzo(k)fluoranthene	UG/KG	58	20%	56,000	0	7	35						

A Loc Sample Ma Sample Depth Interval (f Sample D QC Ty Study	ID trix T) ate rpe		Frequency		Number	Number	Number	SEAD-45 S45-R2-03 S45-R2-03 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R2-04 S45-R2-04 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R3-01 S45-R3-01 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R3-02 S45-R3-02 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R3-03 S45-R3-03 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R3-04 S45-R3-04 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest
Parameter	Unit	Maximum Value	of Detection	Criteria Value	of Exceedances	of Times Detected	of Samples Analyzed	Value Qual					
Bis(2-Chloroethoxy)methane	UG/KG	0	0%			0	35						
Bis(2-Chloroethyl)ether	UG/KG	0	0%			0	35						
Bis(2-Chloroisopropyl)ether	UG/KG UG/KG	0 740	0% 26%			0 9	19 35						
Bis(2-Ethylhexyl)phthalate Butylbenzylphthalate	UG/KG	0	20%			0	35						
Carbazole	UG/KG	0	0%			0	35						
Chrysene	UG/KG	130	34%	56,000	0	12	35						
Dibenz(a,h)anthracene	UG/KG	0	0%	560	õ	0	35						
Dibenzofuran	UG/KG	0	0%	350,000	ō	0	35						
Diethyl phthalate	UG/KG	35	3%			1	35						
Dimethylphthalate	UG/KG	0	0%			0	35						
Di-n-butylphthalate	UG/KG	6,800	34%			12	35						
Di-n-octylphthalate	UG/KG	0	0%			0	35						
Fluoranthene	UG/KG UG/KG	68 0	31% 0%	500,000 500,000	0	11 0	35 35						
Fluorene Hexachlorobenzene	UG/KG	110	31%	6,000	0	11	35						
Hexachlorobutadiene	UG/KG	0	0%	0,000	0	0	35						
Hexachlorocyclopentadiene	UG/KG	Ő	0%			õ	35						
Hexachloroethane	UG/KG	1,100	17%			6	35						
Indeno(1,2,3-cd)pyrene	UG/KG	52	11%	5,600	0	4	35						
Isophorone	UG/KG	0	0%			0	35						
Naphthalene	UG/KG	30	14%	500,000	0	5	35						
Nitrobenzene	UG/KG	0	0%			0	35						
N-Nitrosodiphenylamine	UG/KG	320 1,600	6% 14%			2	35 35						
N-Nitrosodipropylamine Pentachlorophenol	UG/KG UG/KG	1,600	0%	6.700	0	5	35						
Phenanthrene	UG/KG	46	26%	500.000	0	9	35						
Phenol	UG/KG	0	0%	500,000	0 0	ő	35						
Pyrene	UG/KG	110	34%	500,000	ō	12	35						
Herbicides													
2,4,5-T	UG/KG	0	0%			0	35						
2,4,5-TP/Silvex	UG/KG	Ő	0%	500,000	0	õ	35						
2,4-D	UG/KG	0	0%	,		0	35						
2,4-DB	UG/KG	0	0%			0	35						
Dalapon	UG/KG	0	0%			0	35						
Dicamba	UG/KG	0	0%			0	35						
Dichloroprop	UG/KG	0	0%			0	35						
Dinoseb MCPA	UG/KG UG/KG	0 9,400	0% 6%			0 2	35 35						
MCPP	UG/KG	0	0%			0	35						
Explosives	00/110	0	0,0			0	00						
1,3,5-Trinitrobenzene	UG/KG	190	60%			28	47						
1,3-Dinitrobenzene	UG/KG	0	0%			0	47						
2,4,6-Trinitrotoluene	UG/KG	1,400	81%			38	47						
2,4-Dinitrotoluene	UG/KG	1,100	77%			36	47						
2,6-Dinitrotoluene	UG/KG	0	0%			0	47						
2-amino-4,6-Dinitrotoluene	UG/KG	680	77%			36	47						
2-Nitrotoluene	UG/KG	0	0%			0	31						
3,5-Dinitroaniline	UG/KG UG/KG	0	0%			0	31 31						
3-Nitrotoluene 4-amino-2,6-Dinitrotoluene	UG/KG	0 500	0% 57%			0 27	31 47						
4-amino-2,o-Dintrotoluene 4-Nitrotoluene	UG/KG	0	0%			0	47 31						
HMX	UG/KG	470	68%			32	47						
Nitrobenzene	UG/KG	0	0%			0	31						
Nitroglycerine	UG/KG	1,500	3%			1	31						
Pentaerythritol Tetranitrate	UG/KG	0	0%			0	31						
RDX	UG/KG	5,800	83%			39	47						
Tetryl	UG/KG	330	9%			4	47						

	Area Loc ID Sample ID Matrix Sample Depth Interval (FT Sample Date QC Type Study ID		Maximum	Frequency	Criteria	Number of	Number of Times	Number of Sample:	SEAD-45 S45-R2-03 S0IL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R2-04 SOLL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R3-01 S45-R3-01 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R3-02 S45-R3-02 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R3-03 S45-R3-03 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R3-04 S45-R3-04 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest
Parameter		Unit	Value	Detection	Value	Exceedances	Detected	Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Pesticides/PCBs														
Aroclor-1016		UG/KG	0	0%	1,000	0	0	34						
Aroclor-1221		UG/KG	0	0%	1,000	0	0	34						
Aroclor-1232		UG/KG	0	0%	1,000	0	0	34						
Aroclor-1242		UG/KG	0	0%	1,000	0	0	34						
Aroclor-1248 Aroclor-1254		UG/KG UG/KG	0 2,000	0% 6%	1,000 1,000	0 1	0 2	34 34						
Aroclor-1254 Aroclor-1260		UG/KG	2,000	0%	1,000	0	2	34 34						
4,4'-DDD		UG/KG	2.4	6%	92,000	ő	2	34						
4,4'-DDE		UG/KG	4.2	63%	62,000	0	22	35						
4,4'-DDT		UG/KG	3.4	50%	47,000	0	17	34						
Aldrin		UG/KG	0	0%	680	0	0	34						
Alpha-BHC		UG/KG	0	0%	3,400	0	0	34						
Alpha-Chlordane		UG/KG UG/KG	2 0	12% 0%	24,000 3.000	0	4	34 34						
Beta-BHC Delta-BHC		UG/KG	0	0%	500,000	0	0	34 34						
Dieldrin		UG/KG	3.2	41%	1.400	0	14	34						
Endosulfan I		UG/KG	55	60%	200,000	Ő	21	35						
Endosulfan II		UG/KG	0.88	3%	200,000	0	1	34						
Endosulfan sulfate		UG/KG	0	0%	200,000	0	0	34						
Endrin		UG/KG	3.6	3%	89,000	0	1	34						
Endrin aldehyde		UG/KG	0	0%			0	34						
Endrin ketone Gamma-BHC/Linda		UG/KG UG/KG	0.58 0	3% 0%	9.200	0	1	34 34						
Gamma-Chlordane		UG/KG	1.1	9%	3,200	0	3	34						
Heptachlor		UG/KG	0	0%	15,000	0	õ	34						
Heptachlor epoxide	e	UG/KG	0	0%			0	34						
Methoxychlor		UG/KG	45	3%			1	34						
Toxaphene		UG/KG	0	0%			0	34						
Inorganics														
Aluminum		MG/KG	27,900	100%			97	97	19,000	17,900	20,800	16,800	24,600	18,500
Antimony		MG/KG	5.1	33%			32	97	0.98 J	0.32 J	0.24 J	0.87 J	0.68 J	0.13 U
Arsenic Barium		MG/KG MG/KG	12.6 365	100% 100%	16 400	0	97 97	97 97	5.1 166	5.2 150	5.7 140	5.2 194	5.1 205	4.2 122
Beryllium		MG/KG	1.2	98%	590	0	97	97	0.83	0.78	0.78	0.72	203	0.78
Cadmium		MG/KG	1,100	81%	9.3	11	77	95	6.6	6.4	6	8.3	8.2	1.1 U
Calcium		MG/KG	193,000	99%			96	97	16,900	22,300	32,600	36,400	18,400	8,950
Chromium		MG/KG	446	100%	1,500	0	97	97	28.6	29.3	27.9	27.4	35.4	24.7
Cobalt		MG/KG	26.8	100%			97	97	12.3	11.7	12	10.8	12.6	9.8
Copper		MG/KG	7,310	100%	270	52	97	97	217	364	284	233	429	41.3
Cyanide Iron		MG/KG MG/KG	0.7 118.000	13% 100%	27	0	2 97	16 97	26,600	26,500	25,300	25,400	29.100	22,900
Lead		MG/KG	998	100%	1,000	0	97	97 97	26,600	26,500	25,300 48.9	25,400 70.3	29,100	22,900
Magnesium		MG/KG	15,000	100%	1,000	0	97	97	6,530	7,100	7,260	9,130	7,340	4,720
Manganese		MG/KG	5,040	100%	10,000	0	97	97	676	518	651	530	470	549
Nickel		MG/KG	59.3	100%	310	ō	92	92	40.1	41.4	37.4	38.3	46.6	28.9
Potassium		MG/KG	4,880	100%			76	76	3,240	2,920	2,980	2,550	4,020	2,260
Selenium		MG/KG	0.92	4%	1,500	0	4	97	0.81 U	0.69 U	1.7 U	0.76 U	0.9 U	0.45 U
Silver		MG/KG	205	68%	1,500	0	66	97	2.5 J	3	0.82 J	1.9 J	3 J	0.29 J
Sodium Thallium		MG/KG MG/KG	213 0.27	84%			81 6	97 97	77 J 0.34 U	90.2 0.29 U	92.2 0.28 U	120 0.32 U	93.7 J 0.38 U	66.2 J 0.19 U
Vanadium		MG/KG MG/KG	0.27 41.9	6% 100%			6 97	97 97	0.34 0	28.6	0.28 U 30.2	0.32 0	0.38 U 38.9	30.8
Zinc		MG/KG	1,470	100%	10,000	0	92	92	274	324	392	588	421	91.2
Mercury		MG/KG	9.1	99%	2.8	49	96	97	3.1	5.3	1.7	6.4	4.2	2.2
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Notes: 1) Chemical result qualifiers are assigned by the laboratory and are evaluated and modified (if necessary) by during data validation. U = non-detect, i.e. not detected equal to or above this value. R = Rejected, data validation rejected the re-R = Rejected, data validation rejected the results.

2) Num of Analyses is the number of detected and non-detected results excluding rejected results. Sample duplicate pairs have not been averaged.

3) Chemical results greater than the action level are highlighted, bolded and boxed

4) Criteria action level source document and web address. - The NYS SCO Commercial Use values were obtained from the NYSDEC Soil Cleanup Objectives.

Sample Depth Interv Samp Q	Area Loc ID mple ID Matrix val (FT) le Date C Type tudy ID	Maximum	Frequency of	Criteria	Number of	Number	Number of Samples	SEAD-45 S45-R4-01 S45-R4-01 SOL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R4-02 S45-R4-02 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R4-03 S45-R4-03 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R4-04 S45-R4-04 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R5-01 S45-R5-01 0.2-0.6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-R5-02 S45-R5-02 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest
Parameter	Unit		Detection		Exceedances		Analyzed		Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/K	G 0	0%	500,000	0	0	16						
1,1,2,2-Tetrachloroethane	UG/K	G 0	0%			0	16						
1,1,2-Trichloroethane	UG/K		0%			0	16						
1,1-Dichloroethane	UG/K		0%	240,000	0	0	16						
1,1-Dichloroethene 1,2-Dichloroethane	UG/K UG/K		0% 0%	500,000 30,000	0	0	16 16						
1,2-Dichloroethene (total)	UG/K		0%	500,000	0	0	16						
1,2-Dichloropropane	UG/K		0%	,	-	Ō	16						
Acetone	UG/K		0%	500,000	0	0	16						
Benzene	UG/K		0%	44,000	0	0	16						
Bromodichloromethane	UG/K		0%			0	16						
Bromoform Carbon disulfide	UG/K UG/K		0% 0%			0	16 16						
Carbon tetrachloride	UG/K		0%	22,000	0	0	16						
Chlorobenzene	UG/K		0%	500,000	õ	0	16						
Chlorodibromomethane	UG/K	G 0	0%			0	16						
Chloroethane	UG/K		0%	050	<i>c</i>	0	16						
Chloroform Cis-1,3-Dichloropropene	UG/K UG/K		0% 0%	350,000	0	0	16 16						
Ethyl benzene	UG/K		0%	390,000	0	0	16						
Methyl bromide	UG/K		0%			0	16						
Methyl butyl ketone	UG/K		0%			0	16						
Methyl chloride	UG/K		0%			0	16						
Methyl ethyl ketone Methyl isobutyl ketone	UG/K UG/K		0% 0%	500,000	0	0	16 16						
Methylene chloride	UG/K		0%	500,000	0	0	16						
Styrene	UG/K		0%			0	16						
Tetrachloroethene	UG/K		38%	150,000	0	6	16						
Toluene	UG/K		0%	500,000	0	0	16						
Total Xylenes Trans-1,3-Dichloropropene	UG/K UG/K		0% 0%	500,000	0	0	16 16						
Trichloroethene	UG/K		0%	200,000	0	0	16						
Vinyl chloride	UG/K		0%	13,000	0	0	16						
Semivolatile Organic Compounds													
1,2,4-Trichlorobenzene	UG/K		0%			0	35					100 U	
1,2-Dichlorobenzene	UG/K		0%	500,000	0	0	35					110 U	
1,3-Dichlorobenzene	UG/K UG/K		0% 0%	280,000	0	0 0	35 35					98 U	
1,4-Dichlorobenzene 2,2'-oxybis(1-Chloropropane)	UG/K UG/K		0%	130,000	0	0	35 16					110 U	
2,4,5-Trichlorophenol	UG/K		0%			0	35					200 U	
2,4,6-Trichlorophenol	UG/K		0%			0	35					200 UJ	
2,4-Dichlorophenol	UG/K		0%			0	35					190 UJ	
2,4-Dimethylphenol 2,4-Dinitrophenol	UG/K UG/K		0% 0%			0	35 35					210 UJ 470 UJ	
2,4-Dinitrophenol	UG/K		37%			13	35					470 UJ 110 U	
2,6-Dinitrotoluene	UG/K	G 700	6%			2	35					99 U	
2-Chloronaphthalene	UG/K		0%			0	35					110 UJ	
2-Chlorophenol	UG/K		0% 0%			0	35 35					210 UJ	
2-Methylnaphthalene 2-Methylphenol	UG/K UG/K		0% 0%	500,000	0	0	35 35					120 U 250 UJ	
2-Nitroaniline	UG/K		0%	300,000	0	0	35					230 U3 94 U	
2-Nitrophenol	UG/K		0%			0	35					210 UJ	
3 or 4-Methylphenol	UG/K		0%			0	19					240 UJ	
3,3'-Dichlorobenzidine	UG/K		0%			0	35 35					140 UJ	
3-Nitroaniline 4.6-Dinitro-2-methylphenol	UG/K UG/K		0% 0%			0	35					120 UJ 420 U	
4-Bromophenyl phenyl ether	UG/K		0%			0	35					110 U	
4-Chloro-3-methylphenol	UG/K		0%			0	35					210 U	
4-Chloroaniline	UG/K		0%			0	35					150 UJ	
4-Chlorophenyl phenyl ether	UG/K UG/K		0% 0%	500,000	0	0	35 16					98 U	
4-Methylphenol 4-Nitroaniline	UG/K UG/K		0%	300,000	U	0	35					170 UJ	
4-Nitrophenol	UG/K		0%			0	35					390 U	
Acenaphthene	UG/K	G 0	0%	500,000	0	0	35					82 U	
Acenaphthylene	UG/K		9%	500,000	0	3	35					88 U	
Anthracene Benzo(a)anthracene	UG/K UG/K		6% 23%	500,000 5,600	0	2 8	35 35					100 U 110 U	
Benzo(a)pyrene	UG/K UG/K		23%	1,000	0	8	35					120 U	
Benzo(b)fluoranthene	UG/K	G 55	26%	5,600	Ő	9	35					170 U	
Benzo(ghi)perylene	UG/K		20%	500,000	0	7	35					130 U	
Benzo(k)fluoranthene	UG/K	G 58	20%	56,000	0	7	35					100 U	

Sample Dept	Area Loc ID Sample ID Matrix th Interval (FT) Sample Date QC Type Study ID			Frequency		Number	Number	Number	SEAD-45 S45-R4-01 S45-R4-01 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R4-02 S45-R4-02 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R4-03 S45-R4-03 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R4-04 S45-R4-04 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R5-01 S45-R5-01 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-R5-02 S45-R5-02 SOIL 0,2-0.6 3/16/2010 SA OD Initial Invest
Parameter		Unit	Maximum Value	of Detection	Criteria Value	of Exceedances	of Times Detected	of Sample Analyzed		Value Qual	Value Qual	Value Qua	Value Qual	Value Qual
Bis(2-Chloroethoxy)methane		UG/KG	0	0%			0	35					120 UJ	
Bis(2-Chloroethyl)ether Bis(2-Chloroisopropyl)ether		UG/KG UG/KG	0	0% 0%			0	35 19					100 U 110 U	
Bis(2-Ethylhexyl)phthalate		UG/KG	740	26%			9	35					120 U	
Butylbenzylphthalate		UG/KG	0	0%			0	35					120 U	
Carbazole		UG/KG UG/KG	0 130	0% 34%	56,000	0	0 12	35 35					140 U	
Chrysene Dibenz(a,h)anthracene		UG/KG	0	34% 0%	56,000	0	0	35					120 U 160 U	
Dibenzofuran		UG/KG	0	0%	350,000	õ	0	35					99 U	
Diethyl phthalate		UG/KG	35	3%			1	35					100 U	
Dimethylphthalate Di-n-butylphthalate		UG/KG UG/KG	0 6.800	0% 34%			0 12	35 35					98 U 130 U	
Di-n-octylphthalate		UG/KG	0,800	0%			0	35					260 U	
Fluoranthene		UG/KG	68	31%	500,000	0	11	35					130 U	
Fluorene		UG/KG	0	0%	500,000	0	0	35					100 U	
Hexachlorobenzene Hexachlorobutadiene		UG/KG UG/KG	110 0	31% 0%	6,000	0	11 0	35 35					100 U 100 U	
Hexachlorocyclopentadiene		UG/KG	0	0%			0	35					100 UJ	
Hexachloroethane		UG/KG	1,100	17%			6	35					120 U	
Indeno(1,2,3-cd)pyrene Isophorone		UG/KG UG/KG	52 0	11% 0%	5,600	0	4 0	35 35					150 U 94 U	
Naphthalene		UG/KG	30	14%	500,000	0	5	35					110 U	
Nitrobenzene		UG/KG	0	0%			0	35					110 U	
N-Nitrosodiphenylamine		UG/KG	320	6%			2	35					280 UJ	
N-Nitrosodipropylamine Pentachlorophenol		UG/KG UG/KG	1,600 0	14% 0%	6.700	0	5 0	35 35					100 U 300 UJ	
Phenanthrene		UG/KG	46	26%	500,000	0	9	35					100 U	
Phenol		UG/KG	0	0%	500,000	0	0	35					200 U	
Pyrene		UG/KG	110	34%	500,000	0	12	35					130 U	
Herbicides														
2,4,5-T 2,4,5-TP/Silvex		UG/KG UG/KG	0	0% 0%	500,000	0	0	35 35					20 U 16 U	
2,4-D		UG/KG	0	0%	300,000	0	0	35					40 U	
2,4-DB		UG/KG	0	0%			0	35					29 U	
Dalapon		UG/KG UG/KG	0	0% 0%			0	35 35					10 U 14 U	
Dicamba Dichloroprop		UG/KG UG/KG	0	0%			0	35					14 U 23 U	
Dinoseb		UG/KG	0	0%			0	35					3.2 UJ	
MCPA		UG/KG	9,400	6%			2	35					2,900 U	
MCPP		UG/KG	0	0%			0	35					2,800 U	
Explosives		110/1/0	100	0001				47					0.5.11	
1,3,5-Trinitrobenzene 1,3-Dinitrobenzene		UG/KG UG/KG	190 0	60% 0%			28 0	47 47					8.5 U 7.9 U	
2,4,6-Trinitrotoluene		UG/KG	1,400	81%			38	47					8.5 U	
2,4-Dinitrotoluene		UG/KG	1,100	77%			36	47					19 U	
2,6-Dinitrotoluene		UG/KG UG/KG	0 680	0% 77%			0 36	47 47					34 U	
2-amino-4,6-Dinitrotoluene 2-Nitrotoluene		UG/KG	080	0%			0	47 31					27 U 15 U	
3,5-Dinitroaniline		UG/KG	0	0%			0	31					4.5 U	
3-Nitrotoluene		UG/KG	0	0%			0	31					10 UJ	
4-amino-2,6-Dinitrotoluene 4-Nitrotoluene		UG/KG UG/KG	500 0	57% 0%			27 0	47 31					22 U 34 U	
HMX		UG/KG	470	68%			32	47					34 U 11 U	
Nitrobenzene		UG/KG	0	0%			0	31					28 U	
Nitroglycerine		UG/KG	1,500	3%			1	31					160 U	
Pentaerythritol Tetranitrate RDX		UG/KG UG/KG	0 5.800	0% 83%			0 39	31 47					300 U 8.6 U	
Tetryl		UG/KG	330	9%			4	47					6.9 UJ	
-														

	Area Loc ID Sample ID Matrix Sample Depth Interval (FT) Sample Date QC Type Study ID		Maximum	Frequency	Criteria	Number of	Number of Times	Number of Samples	SEAD-45 S45-R4-01 S45-R4-01 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R4-02 S45-R4-02 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R4-03 S45-R4-03 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R4-04 S45-R4-04 SOIL 0.2-0.6 4/1/2010 SA OD Initial Invest	SEAD-45 S45-R5-01 S45-R5-01 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-R5-02 S45-R5-02 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest
Parameter		Unit	Value	Detection	Value	Exceedances	Detected	Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Pesticides/PCBs														
Aroclor-1016		UG/KG	0	0%	1.000	0	0	34					7.4 U	
Aroclor-1221		UG/KG	0	0%	1,000	0	ō	34					17 U	
Aroclor-1232		UG/KG	0	0%	1,000	0	0	34					11 U	
Aroclor-1242		UG/KG	0	0%	1,000	0	0	34					7.1 U	
Aroclor-1248		UG/KG	0	0%	1,000	0	0	34					7.5 U	
Aroclor-1254		UG/KG	2,000	6%	1,000	1	2	34					5.8 U	
Aroclor-1260		UG/KG	0	0%	1,000	0	0	34					7.4 U	
4,4'-DDD		UG/KG	2.4	6%	92,000	0	2	34					0.24 U	
4,4'-DDE		UG/KG	4.2	63%	62,000	0	22	35					1.6 J	
4,4'-DDT		UG/KG	3.4	50%	47,000	0	17	34					0.38 U	
Aldrin		UG/KG	0	0%	680	0	0	34					0.34 U	
Alpha-BHC		UG/KG	0	0%	3,400	0	0	34					0.42 U	
Alpha-Chlordane		UG/KG	2 0	12%	24,000	0	4	34 34					0.26 U	
Beta-BHC		UG/KG		0%	3,000	0	0						0.4 U	
Delta-BHC Dieldrin		UG/KG UG/KG	0 3.2	0% 41%	500,000 1,400	0	14	34 34					0.39 U 0.96 J	
Endosulfan I		UG/KG	55	60%	200,000	0	21	34					0.90 J 23 J	
Endosulfan II		UG/KG	0.88	3%	200,000	0	1	34					0.42 UJ	
Endosulfan sulfate		UG/KG	0.00	0%	200,000	0 0	0	34					0.42 00 0.71 U	
Endrin		UG/KG	3.6	3%	89,000	ő	1	34					1 U	
Endrin aldehyde		UG/KG	0	0%	,		0	34					0.6 UJ	
Endrin ketone		UG/KG	0.58	3%			1	34					0.49 U	
Gamma-BHC/Linda	ane	UG/KG	0	0%	9,200	0	0	34					0.33 U	
Gamma-Chlordane	9	UG/KG	1.1	9%			3	34					0.28 U	
Heptachlor		UG/KG	0	0%	15,000	0	0	34					0.36 U	
Heptachlor epoxide	e	UG/KG	0	0%			0	34					0.27 U	
Methoxychlor		UG/KG	45	3%			1	34					0.61 U	
Toxaphene		UG/KG	0	0%			0	34					8.6 U	
Inorganics														
Aluminum		MG/KG	27,900	100%			97	97	19,000	21,300	19,400	5,910	17,200	16,700
Antimony		MG/KG	5.1	33%			32	97	0.18 U	0.42 J	0.11 U	2.2	0.14 J	3.1
Arsenic		MG/KG	12.6	100%	16	0	97	97	5.7	5	4.6	4	5	5.1
Barium		MG/KG	365	100%	400	0	97	97	140	299	89.7	27.9	152 J	257 J
Beryllium		MG/KG	1.2	98%	590	0	95	97	0.88	0.81	0.69	0.43 U	0.74 J	0.71 J
Cadmium		MG/KG	1,100 193.000	81% 99%	9.3	11	77	95 97	1.6 U	4.1	1 U	0.86 U	6 21 200 J	3.3
Calcium		MG/KG MG/KG	193,000 446	99% 100%	1,500	0	96 97	97 97	13,200 28.4	40,500 29.7	2,900 25.1	193,000	31,200 J	17,100 J 25.6 J
Chromium Cobalt		MG/KG	26.8	100%	1,500	U	97 97	97 97	28.4	29.7 11.4	25.1 9.4	10.6 9.5	26.1 J 11.1 J	25.6 J 10 J
Copper		MG/KG	7,310	100%	270	52	97	97	82.6	263	39.1	38.9	221	289
Cyanide		MG/KG	0.7	13%	270	0	2	16	02.0	200	00.1	00.0	221	205
Iron		MG/KG	118,000	100%		-	97	97	24,000	26,500	23,100	7,600	26,000 J	24,300 J
Lead		MG/KG	998	100%	1,000	0	97	97	22.5	28.3	21	29.7	86.2	352
Magnesium		MG/KG	15,000	100%			97	97	6,750	7,880	4,460	15,000	7,210 J	6,870 J
Manganese		MG/KG	5,040	100%	10,000	0	97	97	428	606	361	363	583 J	438 J
Nickel		MG/KG	59.3	100%	310	0	92	92	37	42.5	26.2	23.8	38.1 J	32.5 J
Potassium		MG/KG	4,880	100%			76	76	2,970	2,880	2,610	2,620	2,780 J	2,470 J
Selenium		MG/KG	0.92	4%	1,500	0	4	97	0.63 U	0.82 U	0.4 U	0.34 U	0.23 U	0.23 U
Silver		MG/KG	205	68%	1,500	0	66	97	0.42 J	0.47 J	0.23 J	0.04 U	1.6 U	1.6 U
Sodium		MG/KG	213	84%			81	97	81 U	112	59.1 J	179	135	110
Thallium		MG/KG	0.27	6%			6	97	0.27 U	0.35 U	0.17 U	0.14 U	0.1 U	0.1 U
Vanadium		MG/KG	41.9	100%	10.000	0	97	97	33.6	29.5	32.2	16.6	26.7 J	27.5 J
Zinc		MG/KG MG/KG	1,470 9.1	100% 99%	10,000 2.8	0 49	92 96	92 97	160 1.4	938 0.9	99.2 0.48	66.8 0.15	284 J 3.7	335 J 1.6
Mercury		WG/NG	9.1	3370	2.0	49	90	91	1.4	0.9	0.40	0.15	3.1	1.0

Notes:

reaces: 1) Chemical result qualifiers are assigned by the laboratory and are evaluated and modified (if necessary) by during data validation. U = non-detect, i.e. not detected equals for above this value. Detection detection of the detection of the constraints of the detection of the detecti

[blank] = detect, i.e. detected chemical result value. R = Rejected, data validation rejected the results.

2) Num of Analyses is the number of detected and non-detected results excluding rejected results. Sample duplicate pairs have not been averaged.

3) Chemical results greater than the action level are highlighted, bolded and boxed

4) Criteria action level source document and web address. - The NYS SCO Commercial Use values were obtained from the NYSDEC Soil Cleanup Objectives.

Sample Depth	Area Loc ID Sample ID Matrix Interval (FT) Sample Date QC Type Study ID		Maximum	Frequency	Criteria	Number of	Number	Number of Samples	SEAD-45 S45-R5-03 S45-R5-03 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-R5-04 S01L 0.2-0.6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-R5-04 S0IL 0.2-0.6 3/16/2010 DU OD Initial Invest	SEAD-45 S45-R5-05 S45-R5-05 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-R5-06 S45-R5-06 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-R5-07 S45-R5-07 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest
Parameter		Unit	Value	Detection		Exceedances		Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds														
1,1,1-Trichloroethane		JG/KG	0	0%	500,000	0	0	16						
1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane		JG/KG JG/KG	0	0% 0%			0	16 16						
1,1-Dichloroethane		JG/KG JG/KG	0	0%	240,000	0	0	16						
1,1-Dichloroethene	ı	JG/KG	0	0%	500,000	0	0	16						
1,2-Dichloroethane		JG/KG	0	0%	30,000	0	0	16						
1,2-Dichloroethene (total) 1,2-Dichloropropane		JG/KG JG/KG	0	0% 0%	500,000	0	0	16 16						
Acetone		JG/KG	0	0%	500,000	0	0	16						
Benzene		JG/KG	0	0%	44,000	0	0	16						
Bromodichloromethane Bromoform		JG/KG JG/KG	0	0% 0%			0	16 16						
Carbon disulfide		JG/KG	0	0%			Ő	16						
Carbon tetrachloride		JG/KG	0	0%	22,000	0	0	16						
Chlorobenzene Chlorodibromomethane		JG/KG JG/KG	0	0% 0%	500,000	0	0	16 16						
Chloroethane		JG/KG	0	0%			0	16						
Chloroform		JG/KG	0	0%	350,000	0	0	16						
Cis-1,3-Dichloropropene Ethyl benzene		JG/KG JG/KG	0	0% 0%	390,000	0	0	16 16						
Methyl bromide		JG/KG	0	0%	000,000	0	0	16						
Methyl butyl ketone	ı	JG/KG	0	0%			0	16						
Methyl chloride Methyl ethyl ketone		JG/KG JG/KG	0	0% 0%	500,000	0	0	16 16						
Methyl isobutyl ketone		JG/KG	0	0%	300,000	0	0	16						
Methylene chloride		JG/KG	0	0%	500,000	0	0	16						
Styrene Tetrachloroethene		JG/KG JG/KG	0 19	0% 38%	150,000	0	0 6	16 16						
Toluene		JG/KG	0	0%	500,000	0	0	16						
Total Xylenes		JG/KG	0	0%	500,000	0	0	16						
Trans-1,3-Dichloropropene Trichloroethene		JG/KG JG/KG	0	0% 0%	200,000	0	0	16 16						
Vinyl chloride		JG/KG	0	0%	13,000	õ	0	16						
Semivolatile Organic Compound	ds													
1,2,4-Trichlorobenzene		JG/KG	0	0%			0	35	100 U	98 U	100 U	97 U		
1,2-Dichlorobenzene 1,3-Dichlorobenzene		JG/KG JG/KG	0	0% 0%	500,000 280,000	0 0	0	35 35	110 U 100 U	110 U 94 U	110 U 97 U	100 U 93 U		
1,4-Dichlorobenzene		JG/KG	0	0%	130,000	0	0	35	110 U	100 U	110 U	100 U		
2,2'-oxybis(1-Chloropropane)		JG/KG	0	0%			0	16						
2,4,5-Trichlorophenol 2,4,6-Trichlorophenol		JG/KG JG/KG	0	0% 0%			0	35 35	200 U 200 UJ	190 U 190 UJ	190 U 190 UJ	180 U 180 UJ		
2,4-Dichlorophenol		JG/KG	0	0%			0	35	190 UJ	180 UJ	190 UJ	180 UJ		
2,4-Dimethylphenol		JG/KG	0	0%			0	35	210 UJ	200 UJ	200 UJ	200 UJ		
2,4-Dinitrophenol 2,4-Dinitrotoluene		JG/KG JG/KG	0 14,000	0% 37%			0 13	35 35	490 UJ 110 U	450 UJ 100 U	470 UJ 110 U	450 UJ 100 U		
2,6-Dinitrotoluene		JG/KG	700	6%			2	35	100 U	95 U	99 U	95 U		
2-Chloronaphthalene		JG/KG	0	0%			0	35	110 UJ	100 UJ	110 UJ	100 UJ		
2-Chlorophenol 2-Methylnaphthalene		JG/KG JG/KG	0	0% 0%			0	35 35	210 UJ 120 U	200 UJ 110 U	200 UJ 110 U	200 UJ 110 U		
2-Methylphenol	ı	JG/KG	0	0%	500,000	0	0	35	260 UJ	240 UJ	250 UJ	240 UJ		
2-Nitroaniline		JG/KG	0	0%			0	35 35	97 U	90 U	94 U	90 U		
2-Nitrophenol 3 or 4-Methylphenol		JG/KG JG/KG	0	0% 0%			0	35 19	220 UJ 240 UJ	200 UJ 220 UJ	210 UJ 230 UJ	200 UJ 220 UJ		
3,3'-Dichlorobenzidine	ı	JG/KG	0	0%			0	35	150 UJ	140 UJ	140 UJ	140 UJ		
3-Nitroaniline		JG/KG	0	0%			0	35	120 UJ	110 UJ	120 UJ	110 UJ		
4,6-Dinitro-2-methylphenol 4-Bromophenyl phenyl ether		JG/KG JG/KG	0	0% 0%			0	35 35	440 U 110 U	410 U 100 U	420 U 110 U	400 U 100 U		
4-Chloro-3-methylphenol	ı	JG/KG	0	0%			ō	35	220 U	200 U	210 U	200 U		
4-Chloroaniline		JG/KG	0	0%			0	35	150 UJ	140 UJ	150 UJ	140 UJ		
4-Chlorophenyl phenyl ether 4-Methylphenol		JG/KG JG/KG	0	0% 0%	500,000	0	0	35 16	100 U	94 U	97 U	93 U		
4-Nitroaniline	I	JG/KG	0	0%	,		0	35	170 UJ	160 UJ	170 UJ	160 UJ		
4-Nitrophenol		JG/KG	0	0%	500.000	0	0	35	400 U	370 U	380 U	370 U		
Acenaphthene Acenaphthylene		JG/KG JG/KG	0 30	0% 9%	500,000 500,000	0	0 3	35 35	84 U 91 U	78 U 84 U	81 U 87 U	78 U 84 U		
Anthracene	ı	JG/KG	18	6%	500,000	0	2	35	110 U	100 U	100 U	100 U		
Benzo(a)anthracene		JG/KG JG/KG	50 82	23% 23%	5,600 1,000	0	8 8	35 35	110 U 120 U	100 U 110 U	110 U	100 U 110 U		
Benzo(a)pyrene Benzo(b)fluoranthene		JG/KG JG/KG	82 55	23% 26%	1,000	0	8	35	120 U 170 U	110 U 160 U	120 U 170 U	110 U 160 U		
Benzo(ghi)perylene	l	JG/KG	66	20%	500,000	0	7	35	130 U	120 U	130 U	120 U		
Benzo(k)fluoranthene	l	JG/KG	58	20%	56,000	0	7	35	110 U	100 U	100 U	99 U		

Sample Dep	Area Loc ID Sample ID Matrix hth Interval (FT) Sample Date QC Type Study ID			Frequency		Number	Number	Number	SEAD-45 S45-R5-03 S45-R5-03 SOIL 0,2-0.6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-R5-04 S45-R5-04 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-R5-04 S0IL 0.2-0.6 3/16/2010 DU OD Initial Invest	SEAD-45 S45-R5-05 S45-R5-05 SOIL 0,2-0,6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-R5-06 S0L 0,2-0,6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-R5-07 S0IL 0.2-0.6 3/16/2010 SA OD Initial Invest
Parameter		Unit	Maximum Value	of Detection	Criteria Value	of Exceedances	of Times Detected	of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Bis(2-Chloroethoxy)methane		UG/KG	0	0%			0	35	120 UJ	120 UJ	120 UJ	120 UJ		
Bis(2-Chloroethyl)ether Bis(2-Chloroisopropyl)ether		UG/KG UG/KG	0	0% 0%			0	35 19	100 U 120 U	98 U 110 U	100 U 110 U	97 U 110 U		
Bis(2-Ethylhexyl)phthalate		UG/KG	740	26%			9	35	130 U	120 U	120 U	120 U		
Butylbenzylphthalate		UG/KG	0	0%			0	35	120 U	110 U	120 U	110 U		
Carbazole Chrysene		UG/KG UG/KG	0 130	0% 34%	56.000	0	0 12	35 35	140 U 120 U	130 U 110 U	140 U 120 U	130 U 110 U		
Dibenz(a,h)anthracene		UG/KG	0	0%	560	0	0	35	120 U	150 U	120 U	150 U		
Dibenzofuran		UG/KG	0	0%	350,000	0	ō	35	100 U	95 U	99 U	95 U		
Diethyl phthalate		UG/KG	35	3%			1	35	100 U	96 U	100 U	96 U		
Dimethylphthalate Di-n-butylphthalate		UG/KG UG/KG	0 6.800	0% 34%			0 12	35 35	100 U 130 U	94 U 120 U	97 U 130 U	93 U 120 U		
Di-n-octylphthalate		UG/KG	0,000	0%			0	35	270 U	250 U	260 U	250 U		
Fluoranthene		UG/KG	68	31%	500,000	0	11	35	140 U	130 U	130 U	130 U		
Fluorene		UG/KG	0	0%	500,000	0	0	35	100 U	98 U	100 U	97 U		
Hexachlorobenzene Hexachlorobutadiene		UG/KG UG/KG	110 0	31% 0%	6,000	0	11 0	35 35	110 U 110 U	99 U 100 U	100 U 100 U	98 U 99 U		
Hexachlorocyclopentadiene		UG/KG	õ	0%			Ő	35	110 UJ	99 UJ	100 UJ	98 UJ		
Hexachloroethane		UG/KG	1,100	17%			6	35	120 U	120 U	120 U	120 U		
Indeno(1,2,3-cd)pyrene		UG/KG UG/KG	52 0	11% 0%	5,600	0	4	35 35	160 U 97 U	150 U 90 U	150 U 94 U	150 U 90 U		
Isophorone Naphthalene		UG/KG	30	14%	500,000	0	5	35	110 U	90 U 100 U	94 U 110 U	100 U		
Nitrobenzene		UG/KG	0	0%		-	0	35	120 U	110 U	110 U	110 U		
N-Nitrosodiphenylamine		UG/KG	320	6%			2	35	280 UJ	260 UJ	270 UJ	260 UJ		
N-Nitrosodipropylamine Pentachlorophenol		UG/KG UG/KG	1,600 0	14% 0%	6,700	0	5	35 35	110 U 310 UJ	100 U 280 UJ	100 U 300 UJ	99 U 280 UJ		
Phenanthrene		UG/KG	46	26%	500,000	0	9	35	110 U	280 UJ 100 U	100 U	280 UJ 99 U		
Phenol		UG/KG	0	0%	500,000	0	ō	35	200 U	190 U	190 U	190 U		
Pyrene		UG/KG	110	34%	500,000	0	12	35	130 U	120 U	130 U	120 U		
Herbicides														
2,4,5-T		UG/KG UG/KG	0	0% 0%	500.000	0	0	35 35	21 U	20 U	19 U 15 U	18 U		
2,4,5-TP/Silvex 2,4-D		UG/KG	0	0%	500,000	0	0	35	17 U 43 U	16 U 41 U	15 U 38 U	14 U 37 U		
2,4-DB		UG/KG	õ	0%			Ő	35	31 U	30 U	28 U	27 U		
Dalapon		UG/KG	0	0%			0	35	11 U	10 U	9.8 U	9.5 U		
Dicamba Dichloroprop		UG/KG UG/KG	0 0	0% 0%			0	35 35	15 U 25 U	14 U 24 U	13 U 22 U	13 U 22 U		
Dinoseb		UG/KG	0	0%			0	35	3.4 UJ	3.3 UJ	22 U 3 UJ	22 U 3 UJ		
MCPA		UG/KG	9,400	6%			2	35	3,100 U	3,000 U	2,800 U	2,700 U		
MCPP		UG/KG	0	0%			0	35	2,900 U	2,800 U	2,600 U	2,500 U		
Explosives														
1,3,5-Trinitrobenzene 1,3-Dinitrobenzene		UG/KG UG/KG	190 0	60% 0%			28 0	47 47	8 U 7.4 U	7.4 U 6.8 U	7.5 U 6.9 U	7.3 U 6.7 U		
2,4,6-Trinitrotoluene		UG/KG	1,400	81%			38	47	8 U	7.4 U	7.5 U	470		
2,4-Dinitrotoluene		UG/KG	1,100	77%			36	47	18 U	16 U	17 U	840		
2,6-Dinitrotoluene		UG/KG	0	0%			0	47	32 U	30 U	30 U	29 U		
2-amino-4,6-Dinitrotoluene 2-Nitrotoluene		UG/KG UG/KG	680 0	77% 0%			36 0	47 31	25 U 14 U	23 U 13 U	23 U 13 U	23 U 13 U		
3,5-Dinitroaniline		UG/KG	0	0%			0	31	4.2 U	3.9 U	3.9 U	3.8 U		
3-Nitrotoluene		UG/KG	0	0%			ō	31	9.5 UJ	8.7 UJ	8.8 UJ	8.6 UJ		
4-amino-2,6-Dinitrotoluene		UG/KG	500	57%			27	47	20 U	19 U	19 U	18 U		
4-Nitrotoluene HMX		UG/KG UG/KG	0 470	0% 68%			0 32	31 47	32 U 10 U	30 U 9.5 U	30 U 9.6 U	29 U 9.3 U		
Nitrobenzene		UG/KG	0	0%			0	31	26 U	9.5 U 24 U	9.8 U 24 U	9.3 U 24 U		
Nitroglycerine		UG/KG	1,500	3%			1	31	150 U	140 U	140 U	130 U		
Pentaerythritol Tetranitrate RDX		UG/KG UG/KG	0 5.800	0% 83%			0 39	31 47	290 U	260 U 7.5 U	270 U 7.6 U	260 U 7.4 U		
RDX Tetryl		UG/KG UG/KG	5,800 330	83% 9%			39	47 47	8.2 U 6.5 UJ	7.5 U 6 UJ	7.6 U 6 UJ	7.4 U 5.9 UJ		
		2 0/110	000	0.0			•		0.0 00	0.00	0.00	0.0 00		

	Area Loc ID Sample ID Matrix Sample Depth Interval (FT) Sample Date QC Type Study ID		Maximum	Frequency	Criteria	Number	Number of Times	Number of Samples	SEAD-45 S45-R5-03 S45-R5-03 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-R5-04 S45-R5-04 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-R5-04 S45-R5-04D SOIL 0.2-0.6 3/16/2010 DU OD Initial Invest	SEAD-45 S45-R5-05 S45-R5-05 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-R5-06 S45-R5-06 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-R5-07 S45-R5-07 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest
Parameter		Unit	Value	Detection	Value	Exceedances	Detected	Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Pesticides/PCBs		Onic	value	Detection	Value	Exceduarioes	Deletica	7 analyzeu	Value Quai		Value Qual	Value Qual	Value Qual	Value Qual
			0	00/	1 000	0	0	24	0.0.11	74.11		7.0.11		
Aroclor-1016 Aroclor-1221		UG/KG UG/KG	0	0% 0%	1,000 1,000	0	0	34 34	8.3 U 19 U	7.1 U 17 U	7.7 U 18 U	7.2 U 17 U		
Aroclor-1221 Aroclor-1232		UG/KG	0	0%	1,000	0	0	34	13 U	17 U	18 U	17 U		
Aroclor-1242		UG/KG	õ	0%	1.000	0	0	34	8 U	6.9 U	7.4 U	6.9 U		
Aroclor-1248		UG/KG	0	0%	1,000	ō	0	34	8.4 U	7.3 U	7.8 U	7.3 U		
Aroclor-1254		UG/KG	2,000	6%	1,000	1	2	34	6.5 U	5.6 U	6 U	5.6 U		
Aroclor-1260		UG/KG	0	0%	1,000	0	0	34	8.3 U	7.1 U	7.7 U	7.2 U		
4,4'-DDD		UG/KG	2.4	6%	92,000	0	2	34	0.28 U	0.24 U	0.26 U	0.24 U		
4,4'-DDE		UG/KG	4.2	63%	62,000	0	22	35	1.7 J	0.23 U	0.24 U	0.85 J		
4,4'-DDT		UG/KG	3.4	50%	47,000	0	17	34	1.2 J	0.37 U	0.4 U	0.37 U		
Aldrin		UG/KG	0	0%	680	0	0	34	0.38 U	0.33 U	0.36 U	0.34 U		
Alpha-BHC		UG/KG UG/KG	0 2	0% 12%	3,400	0	0	34 34	0.47 U 0.29 U	0.4 U 0.25 U	0.44 U 0.27 U	0.41 U 0.25 U		
Alpha-Chlordane Beta-BHC		UG/KG	2	0%	24,000 3.000	0	4	34 34	0.29 U 0.45 U	0.25 U 0.39 U	0.27 U 0.42 U	0.25 U 0.4 U		
Delta-BHC		UG/KG	0	0%	500.000	0	0	34	0.45 U 0.44 U	0.38 U	0.42 U 0.41 U	0.38 U		
Dieldrin		UG/KG	3.2	41%	1.400	0	14	34	1.1 J	0.26 U	0.28 U	0.79 J		
Endosulfan I		UG/KG	55	60%	200,000	ō	21	35	1.3 JN	0.28 UJ	55 J	0.29 UJ		
Endosulfan II		UG/KG	0.88	3%	200,000	0	1	34	0.47 UJ	0.4 UJ	0.44 UJ	0.41 UJ		
Endosulfan sulfate		UG/KG	0	0%	200,000	0	0	34	0.8 U	0.69 U	0.74 U	0.69 U		
Endrin		UG/KG	3.6	3%	89,000	0	1	34	1.2 U	1 U	1.1 U	1 U		
Endrin aldehyde		UG/KG	0	0%			0	34	0.68 UJ	0.58 UJ	0.63 UJ	0.59 UJ		
Endrin ketone		UG/KG	0.58	3%			1	34	0.55 U	0.48 U	0.51 U	0.48 U		
Gamma-BHC/Lind		UG/KG	0	0%	9,200	0	0	34	0.37 U	0.32 U	0.35 U	0.32 U		
Gamma-Chlordane Heptachlor		UG/KG UG/KG	1.1 0	9% 0%	15,000	0	3	34 34	0.32 U 0.4 U	0.27 U 0.34 U	0.3 U 0.37 U	0.28 U 0.35 U		
Heptachlor epoxide		UG/KG	0	0%	15,000	0	0	34	0.4 U 0.3 U	0.34 U 0.26 U	0.28 U	0.35 U 0.26 U		
Methoxychlor		UG/KG	45	3%			1	34	0.69 U	0.6 U	0.64 U	0.6 U		
Toxaphene		UG/KG	0	0%			ò	34	9.6 U	8.3 U	9 U	8.4 U		
Inorganics														
Aluminum		MG/KG	27,900	100%			97	97	18,900	18,100	18,800	18,700	21,600	16,100
Antimony		MG/KG	5.1	33%			32	97	0.15 U	0.09 UJ	0.12 UJ	0.11 U	0.11 U	0.18 J
Arsenic		MG/KG	12.6	100%	16	0	97	97	5.4	5.5	7	5.2	5.2	5.1
Barium		MG/KG	365	100%	400	0	97	97	177 J	106 J	114 J	165 J	148 J	111 J
Beryllium		MG/KG	1.2	98%	590	0	95	97	0.85 J	0.9 J	0.95 J	0.79 J	0.86 J	0.75 J
Cadmium		MG/KG	1,100	81%	9.3	11	77	95	6.4	0.86 U	0.46 J	5.1	0.62 J	8.3
Calcium		MG/KG	193,000	99%	4 500	0	96	97	20,600 J	3,290 J	3,490 J	29,300 J	5,100 J	41,300 J
Chromium		MG/KG	446	100%	1,500	0	97 97	97 97	29.7 J	26.4 J	28 J	26.7 J	28.8 J	25.6 J
Cobalt Copper		MG/KG MG/KG	26.8 7.310	100% 100%	270	52	97 97	97 97	13.4 J 350	11 J 31.5	16.4 J 33.6	10 J 219	9.2 J 44.4	11.8 J 210
Cyanide		MG/KG	0.7	13%	270	0	2	16		31.5	33.0	219	44.4	210
Iron		MG/KG	118.000	100%	21	0	97	97	25,400 J	25.800 J	30.400 J	25.400 J	25.200 J	26.800 J
Lead		MG/KG	998	100%	1,000	0	97	97	60	11.9 J	15.4 J	42.9	12.9	44.6
Magnesium		MG/KG	15,000	100%			97	97	7,260 J	4,980 J	5,330 J	7,140 J	5,740 J	8,440 J
Manganese		MG/KG	5,040	100%	10,000	0	97	97	662 J	336 J	787 J	489 J	395 J	591 J
Nickel		MG/KG	59.3	100%	310	0	92	92	40.1 J	43 J	56 J	33.4 J	29.8 J	38.9 J
Potassium		MG/KG	4,880	100%			76	76	3,060 J	2,670 J	2,960 J	3,220 J	4,140 J	2,640 J
Selenium		MG/KG	0.92	4%	1,500	0	4	97	0.33 U	0.19 U	0.26 U	0.24 U	0.25 U	0.25 U
Silver		MG/KG	205	68%	1,500	0	66	97	2.6	0.06 U	0.08 U	1.7 U	1.7 U	1.7 U
Sodium Thallium		MG/KG MG/KG	213 0.27	84%			81 6	97 97	103 0.14 U	86 U 0.08 U	70.2 J 0.11 U	127 0.1 U	110 U 0.11 U	132 0.1 U
Vanadium		MG/KG MG/KG	0.27 41.9	6% 100%			6 97	97 97	0.14 U 31.8 J	0.08 U 29.7 J	0.11 U 31.2 J	0.1 U 30.1 J	0.11 U 37.3 J	0.1 U 25 J
Zinc		MG/KG	1,470	100%	10.000	0	92	92	304 J	29.7 J 80.2 J	83.9 J	360 J	89.5 J	230 J
Mercury		MG/KG	9.1	99%	2.8	49	96	97	4.7	0.03 J	0.039 U	1.3	0.23	230 3
				2070	2.0		50	5.		- 0.00 0	0.000 0		0.20	

Notes:

reaces: 1) Chemical result qualifiers are assigned by the laboratory and are evaluated and modified (if necessary) by during data validation. U = non-detect, i.e. not detected equals for above this value. Detection detection of the detection of the constraints of the detection of the detecti

[blank] = detect, i.e. detected chemical result value. R = Rejected, data validation rejected the results.

2) Num of Analyses is the number of detected and non-detected results excluding rejected results. Sample duplicate pairs have not been averaged.

3) Chemical results greater than the action level are highlighted, bolded and boxed

4) Criteria action level source document and web address. - The NYS SCO Commercial Use values were obtained from the NYSDEC Soil Cleanup Objectives.

	Sample Depth Int	Area Loc ID Sample ID Matrix terval (FT) mple Date QC Type Study ID		Maximum	Frequency	Criteria	Number of	Number of Times	Number of Samples	SEAD-45 S45-R5-08 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-TP-1-01 S45-TP-1-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-TP-1-02 S45-TP-1-02 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-TP-1-03 S45-TP-1-03 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-TP-1-04 S45-TP-1-04 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-TP-2-01 S45-TP-2-01 O.2-0.6 3/12/2010 SA OD Initial Invest
Param	neter		Unit	Value	Detection		Exceedances	Detected	Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volati	ile Organic Compounds														
	Trichloroethane		UG/KG	0	0%	500,000	0	0	16						
	2-Tetrachloroethane		UG/KG	0	0%			0	16						
	Trichloroethane		UG/KG	0 0	0%	0.40,000	0	0	16 16						
	ichloroethane ichloroethene		UG/KG UG/KG	0	0% 0%	240,000 500,000	0	0	16						
	ichloroethane		UG/KG	0	0%	30,000	õ	Ő	16						
	ichloroethene (total)		UG/KG	0	0%	500,000	0	0	16						
	ichloropropane		UG/KG	0	0%			0	16						
Aceto			UG/KG	0	0%	500,000	0	0	16						
Benze			UG/KG UG/KG	0	0% 0%	44,000	0	0	16 16						
Bromo	odichloromethane		UG/KG	0	0%			0	16						
	on disulfide		UG/KG	Ő	0%			Ő	16						
Carbo	on tetrachloride		UG/KG	0	0%	22,000	0	0	16						
	obenzene		UG/KG	0	0%	500,000	0	0	16						
	odibromomethane		UG/KG UG/KG	0	0%			0	16						
Chlore	oethane		UG/KG	0	0% 0%	350,000	0	0	16 16						
	3-Dichloropropene		UG/KG	Ő	0%	000,000	0	Ő	16						
Ethyl I	benzene		UG/KG	0	0%	390,000	0	0	16						
	/l bromide		UG/KG	0	0%			0	16						
	/l butyl ketone		UG/KG UG/KG	0	0% 0%			0	16 16						
	/l chloride /l ethyl ketone		UG/KG	0	0%	500,000	0	0	16						
	/l isobutyl ketone		UG/KG	Ő	0%	000,000	Ū	Ő	16						
	/lene chloride		UG/KG	0	0%	500,000	0	0	16						
Styrer			UG/KG	0	0%	150.000	0	0	16						
Toluer	chloroethene		UG/KG UG/KG	19 0	38% 0%	150,000 500,000	0	6 0	16 16						
	Xylenes		UG/KG	0	0%	500,000	0	0	16						
	-1,3-Dichloropropene		UG/KG	0	0%	,		0	16						
	oroethene		UG/KG	0	0%	200,000	0	0	16						
-	chloride		UG/KG	0	0%	13,000	0	0	16						
	volatile Organic Compounds														
	Trichlorobenzene ichlorobenzene		UG/KG UG/KG	0	0% 0%	500,000	0	0	35 35		92 U 100 U				90 U 98 U
	ichlorobenzene		UG/KG	0	0%	280,000	0	0	35		88 U				98 U 87 U
	ichlorobenzene		UG/KG	ō	0%	130,000	0	ō	35		97 U				96 U
	xybis(1-Chloropropane)		UG/KG	0	0%			0	16						
	Trichlorophenol		UG/KG	0	0%			0	35		180 U				170 U
	Trichlorophenol ichlorophenol		UG/KG UG/KG	0 0	0% 0%			0	35 35		180 U 170 U				170 U 170 U
	imethylphenol		UG/KG	0	0%			Ő	35		190 U				180 U
	initrophenol	1	UG/KG	0	0%			0	35		430 U				420 U
	initrotoluene		UG/KG	14,000	37%			13	35		380				94 U
	initrotoluene oronaphthalene		UG/KG UG/KG	700 0	6% 0%			2 0	35 35		90 U 99 U				88 U 97 U
	orophenol		UG/KG	0	0%			0	35		180 U				180 U
	hylnaphthalene	1	UG/KG	0	0%			0	35		100 U				100 U
	hylphenol		UG/KG	0	0%	500,000	0	0	35		230 U				220 U
	oaniline		UG/KG	0	0%			0	35 35		85 U				83 U
	ophenol -Methylphenol		UG/KG UG/KG	0 0	0% 0%			0	35 19		190 U 210 U				180 U 210 U
	Vichlorobenzidine		UG/KG	Ő	0%			Ő	35		130 U				130 U
	oaniline	1	UG/KG	0	0%			0	35		110 U				100 U
	initro-2-methylphenol		UG/KG	0	0%			0	35		380 U				370 U
	mophenyl phenyl ether oro-3-methylphenol		UG/KG UG/KG	0	0% 0%			0	35 35		96 U 190 U				94 U 180 U
	oroaniline		UG/KG	0	0%			0	35		130 U				130 U
4-Chlo	orophenyl phenyl ether	1	UG/KG	0	0%			0	35		88 U				87 U
4-Met	thylphenol		UG/KG	0	0%	500,000	0	0	16						
	oaniline		UG/KG UG/KG	0	0%			0	35		150 U 350 U				150 U 340 U
	ophenol aphthene		UG/KG UG/KG	0 0	0% 0%	500,000	0	0	35 35		350 U 74 U				340 U 72 U
	aphthylene		UG/KG	30	9%	500,000	õ	3	35		79 U				78 U
Anthra	acene	1	UG/KG	18	6%	500,000	0	2	35		95 U				93 U
	p(a)anthracene		UG/KG	50	23%	5,600	0	8	35		97 U				96 U
	p(a)pyrene p(b)fluoranthene		UG/KG UG/KG	82 55	23% 26%	1,000 5,600	0	8 9	35 35		100 U 150 U				100 U 150 U
	p(ghi)perylene		UG/KG	66	20%	500,000	0	9 7	35		120 UJ				120 UJ
	p(k)fluoranthene		UG/KG	58	20%	56,000	0	7	35		94 U				92 U

Sample Dep	Area Loc ID Sample ID Matrix oth Interval (FT) Sample Date QC Type Study ID			Frequency		Number	Number	Number	SEAD-45 S45-R5-08 S45-R5-08 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-TP-1-01 S45-TP-1-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-TP-1-02 S45-TP-1-02 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-TP-1-03 S45-TP-1-03 SOIL 0,2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-TP-1-04 S45-TP-1-04 SOIL 0,2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-TP-2-01 S45-TP-2-01 0.2-0.6 3/12/2010 SA OD Initial Invest
Parameter		Unit	Maximum Value	of Detection	Criteria Value	of Exceedances	of Times Detected		s Value Qua		Value Qual	Value Qual	Value Qual	Value Qual
Bis(2-Chloroethoxy)methane Bis(2-Chloroethyl)ether		UG/KG UG/KG	0	0% 0%			0	35 35		110 U 92 U				110 U 90 U
Bis(2-Chloroisopropyl)ether		UG/KG	0	0%			0	19		100 U				99 U
Bis(2-Ethylhexyl)phthalate Butylbenzylphthalate		UG/KG UG/KG	740 0	26% 0%			9 0	35 35		110 U 100 U				110 U 100 U
Carbazole		UG/KG	0	0%			0	35		120 U				120 U
Chrysene		UG/KG	130	34%	56,000	0	12	35		110 U				100 U
Dibenz(a,h)anthracene Dibenzofuran		UG/KG UG/KG	0	0% 0%	560 350.000	0	0	35 35		140 U 90 U				140 U 88 U
Diethyl phthalate		UG/KG	35	3%	,		1	35		91 U				89 U
Dimethylphthalate Di-n-butylphthalate		UG/KG UG/KG	0 6,800	0% 34%			0 12	35 35		88 U 410				87 U 110 U
Di-n-octylphthalate		UG/KG	0,000	0%			0	35		240 U				230 U
Fluoranthene		UG/KG	68	31%	500,000	0	11	35		120 U				120 U
Fluorene Hexachlorobenzene		UG/KG UG/KG	0 110	0% 31%	500,000 6,000	0	0 11	35 35		92 U 93 U				90 U 91 U
Hexachlorobutadiene		UG/KG	0	0%	- ,		0	35		94 U				92 U
Hexachlorocyclopentadiene Hexachloroethane		UG/KG UG/KG	0 1,100	0% 17%			0 6	35 35		93 U 110 U				91 U 110 U
Indeno(1,2,3-cd)pyrene		UG/KG	52	11%	5,600	0	4	35		140 U				140 U
Isophorone		UG/KG	0	0%			0	35		85 U				83 U
Naphthalene Nitrobenzene		UG/KG UG/KG	30 0	14% 0%	500,000	0	5	35 35		99 U 100 U				97 U 100 U
N-Nitrosodiphenylamine		UG/KG	320	6%			2	35		250 U				240 U
N-Nitrosodipropylamine		UG/KG UG/KG	1,600	14% 0%	6.700	0	5 0	35 35		94 U 270 U				92 U 260 U
Pentachlorophenol Phenanthrene		UG/KG	0 46	26%	500,000	0	9	35		270 U 94 U				260 U 92 U
Phenol		UG/KG	0	0%	500,000	0	0	35		180 U				170 U
Pyrene Herbicides		UG/KG	110	34%	500,000	0	12	35		110 U				110 U
2,4,5-T		UG/KG	0	0%			0	35		17 U				17 U
2,4,5-TP/Silvex		UG/KG	0	0%	500,000	0	0	35		14 U				14 U
2,4-D		UG/KG	0	0%			0	35		35 U				35 U
2,4-DB Dalapon		UG/KG UG/KG	0	0% 0%			0	35 35		25 U 9 U				26 U 9.1 U
Dicamba		UG/KG	0	0%			0	35		12 U				12 U
Dichloroprop Dinoseb		UG/KG UG/KG	0	0% 0%			0	35 35		20 U 2.8 U				21 U 2.8 U
MCPA		UG/KG	9,400	6%			2	35		2,500 U				2,600 U
MCPP		UG/KG	0	0%			0	35		2,400 U				2,400 U
Explosives			100	C00/			20	47						50 1
1,3,5-Trinitrobenzene 1,3-Dinitrobenzene		UG/KG UG/KG	190 0	60% 0%			28 0	47 47		55 NJ 7.1 U				59 J 6.6 U
2,4,6-Trinitrotoluene		UG/KG	1,400	81%			38	47		44 J				50 J
2,4-Dinitrotoluene 2,6-Dinitrotoluene		UG/KG UG/KG	1,100 0	77% 0%			36 0	47 47		98 J 31 U				91 J 29 U
2-amino-4,6-Dinitrotoluene		UG/KG	680	77%			36	47		170 J				190 J
2-Nitrotoluene		UG/KG	0	0%			0	31		14 U				13 U
3,5-Dinitroaniline 3-Nitrotoluene		UG/KG UG/KG	0	0% 0%			0	31 31		4 U 9.1 UJ				3.8 U 8.5 UJ
4-amino-2,6-Dinitrotoluene		UG/KG	500	57%			27	47		180				200
4-Nitrotoluene HMX		UG/KG UG/KG	0 470	0% 68%			0 32	31 47		31 U 97 J				29 U 160
Nitrobenzene		UG/KG UG/KG	470	0%			32 0	47 31		97 J 25 U				160 24 U
Nitroglycerine		UG/KG	1,500	3%			1	31		140 U				130 U
Pentaerythritol Tetranitrate RDX		UG/KG UG/KG	0 5.800	0% 83%			0 39	31 47		280 U 190				260 U 220
Tetryl		UG/KG	330	9%			4	47		6.2 U				5.8 U

Periodic services		Area Loc ID Sample ID Matrix Sample Depth Interval (FT) Sample Date QC Type Study ID		Maximum	Frequency	Criteria	Number of	Number of Times	Number of Samples	SEAD-45 S45-R5-08 S45-R5-08 SOIL 0.2-0.6 3/16/2010 SA OD Initial Invest	SEAD-45 S45-TP-1-01 S45-TP-1-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-TP-1-02 S45-TP-1-02 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-TP-1-03 S45-TP-1-03 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-TP-1-04 S45-TP-1-04 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-TP-2-01 S45-TP-2-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest
Ander-1916 UGKS 0 0 0 34 6.9 U 57.0 57.	Parameter		Unit	Value	Detection	Value	Exceedances	Detected	Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Arder: 121 UGKG 0 0 34 16 U 16 U 16 U Arder: 122 UGKG 0 0% 1.000 0 0 34 67 U 66 U Arder: 122 UGKG 0 0% 1.000 0 0 34 67 U 66 U Arder: 122 UGKG 0.0 0 0 34 67 U 66 U Arder: 120 UGKG 0.0 0 2.34 68 U 7.1 6.5 U Arder: 120 UGKG 0.0 0.0 2.34 6.8 U 7.1 5.1 U 4.5 U Arder: 120 UGKG 0.0 0.0 1.34 1.1 1 2.2 J 4.4 DD Arder: 120 UGKG 0.0 0.0 4.34 0.69 U 0.0 0.34 0.32 U 0.31 U 0.37 U 0.37 U Arder: 120 UGKG 0.2 0.74 50.000 0 1.34 0.32 U 0.32 U 0.32 U 0.32 U	Pesticides/PCBs														
Aracherit22 USKS 0 0 N 1.00 0 0 34 11 U 100 Aracherit22 USKS 0 0 0 34 64.0 1 U 65.0 1 Aracherit22 USKS 0.00 0 0 34 64.0 1 1 65.0 1 <th1< th=""> <th1< td="" th<=""><td>Aroclor-1016</td><td></td><td></td><td></td><td>0%</td><td>1,000</td><td></td><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td>6.7 U</td></th1<></th1<>	Aroclor-1016				0%	1,000		0							6.7 U
Ander-122 LGKG 0 <th0< th=""> 0 0 <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<></th0<>															
Arcock-128 UAKG 0 <															
Aracker 3264 UBKG 2,000 6% 1,000 1 2 34 54 U 6,3 U Aracker 3200 UBKG 4,4 000 0 2,4 3 0,0 U 1,1 J 2,1 J 2,1 J 4,4 000 UBKG 4,4 6,0 T 1,4 0,0 U 1,1 J 1,1 J 2,1 J 2,1 J 4,4 000 UBKG 0,4 5% 6,0 U 1,4 3 3,1 J 1,1 J 2,2 JN Advin UBKG 0,7 % 6,0 U 1,4 3 3,4 U 3,0 U 3,0 J 3								0							
Arden 280 UGKG 0 0% 1,000 0 34 6.9 U 6.7 U 6.7 U 4.4 -007 UGKG 4.3 6.9% 6.2000 0 2.2 35 1								0							
44-00C UGKG 2.4 6% 62.000 0 2.2 34 0.23 U 2.4.1% 2.4.1% 44-20C UGKG 3.2 6% 47.00 0 17 34 1 1 1 1 2.3.1% 2.3.1% 4.4-20C UGKG 3.2 6% 47.00 0 17 34 1 1 1 1 2.3.1% 2.3.3% Apha-BHC UGKG 2.2 4.00 0 4 34 0.59.1 0.3.3% 0.2.4% 0.3.4% 0.2.4%															
4.4-OT UGKG 3.4 1,1								-							
Alam UGKG 0 0% 80 0 0 34 0.32 U U 0.31 U 0.31 U Alpha BHC UGKG 2 0% 34.00 0 4 34 0.32 U 0.32 U 0.34 U 0.34 U Alpha Chethine UGKG 2 1% 2.00 0 4 34 0.53 U 0.34 U Delmis BHC UGKG 3.2 1% 1.40 0 1.4 34 0.53 U 0.35 U 1.2 J Endesufan UGKG 0.3.8 200.000 0 1 34 0.35 U 0.35	4,4'-DDE				63%	62,000					1.2 J				1.5 J
Apha-BHC UGKG 0 0 0 34 0.39 U 0.32 U 0.33 U 0.32 U 0.33 U 0.32 U 0.45 U <td></td>															
Ajha Chlordane UGKG 2 12% A A00 0 4 3.4 0.55 J 0.21 0.23 U 0.23 U Delta HC UGKG 0 7.4 5.0000 0 1.4 0.55 0.77 U 0.36 U 1.3 J Delta HC UGKG 0.5 6.74 20000 0 1.4 3.4 0.37 U 0.36 U 1.3 J Endosulfan II UGKG 0.8 3% 20000 0 1.4 3.4 0.37 U 0.38 U 0.								-							
Belle BHC UGXG 0 0 9 4 0.38 U 0.37 U 0.36 U Delet BHC UGXG 3.2 41% 1.400 0 14 34 0.33 U 1.2 J Diedman UGXG 55 60% 200.000 0 1 34 0.23 U 1.2 J Endersitian I UGXG 0.8 3% 200.000 0 1 34 0.35 U 0.36 J Endersitian I UGXG 0.8 3% 200.000 0 1 34 0.35 U 0.36 J Endin kone UGXG 0.8 9.200 0 0 34 0.56 U 0.35 U 0.35 U 0.35 U 0.35 U 0.35 U 0.31 U 0.21 U 0.13 U 0.21 U 0.31 U 0.21 U 0															
DelashiC UGKG 0 % 50,000 0 0 4 0.37 U 50,000 0.36 U 1.2 J Endexulan I UGKG 5.2 4.% 1.40 U 0.35 U 1.2 J Endexulan I UGKG 6.6 6.9% 20,000 0 1 34 0.35 U 1.3 J Endexulan I UGKG 6.8 9% 20,000 0 1 34 0.35 U 0.35 U 36 J Enderulan I UGKG 0.8 3% 200 34 0.67 U 0.55 U 0.65 U 0.65 U Enderulan I UGKG 0.8 3% 2 1 34 0.46 U 0.31 U 0.31 U 0.31 U 0.31 U 0.31 U 0.31 U 0.32 U </td <td></td>															
Diektin UGKG 3.2 41% 1.400 0 14 34 0.25 U 1.2 J Endoculan I UGKG 55 60% 200,000 0 1 34 0.39 U 0.38 U Endoculan I UGKG 0 80,000 0 1 34 0.38 U 0.38 U Endoculan subte UGKG 0 9% 200,000 0 34 0.36 U 0.35 U 0.35 U Endoculan subte UGKG 0.8 9% - 1 34 0.36 U 0.35 U 0.35 U Garma-ShPGLindane UGKG 0.1 9% - 3 34 0.31 U 0.32 U 0.32 U Heptachine reputide UGKG 0 0% - 0 34 0.32 U								0	• •						
Endosullari II UGKG 65 60% 200.00 0 21 35 0.8 J 1.3 J Endosullari sultate UGKG 0.8 0 0% 200.00 0 1 34 0.37 U 0.66 U 0.8 J Endin matchyae UGKG 0.8 0% 9.000 0 1 34 0.67 U 0.65 U 0.8 J Endin matchyae UGKG 0.8 0% 9.200 0 1 34 0.67 U 0.8 J															
EndoxIIIn sulfate UGKG 0 0 0 0 4 0.66 U 0.66 U 0.65 U 0.65 U 0.65 U Endrin aldehyde UGKG 0.6 0 0 34 0.65 U 0.65 U 0.65 U Endrin Aldenyde UGKG 0.8 3% 8.0 0 34 0.65 U 0.65 U 0.65 U Gamma-BhCLindane UGKG 0.0 0% 2.00 0 34 0.63 U 1.1 J Heptachtor UGKG 0 0% 1.500 0 0 34 0.33 U 0.33 U 0.32 U 0.32 U 0.32 U 0.32 U 0.32 U 0.32 U 0.55 U 0.	Endosulfan I		UG/KG		60%		0	21	35		0.8 J				
Endmi UGKG 3.6 3% 89,000 0 1 34 0.97 U															
Endin ladelyde UGAG 0 % man 0 34 0.58 U 0.58 U 0.58 U Endin ladelyde UGAG 0.58 3% 1 34 0.31 U 0.31 U 0.31 U Garmac-BhCUlindane UGAG 0.58 0 0.34 0.31 U 0.33 U 0.33 U Heptachlor epoxide UGAG 0.76 0 0% 15.000 0 34 0.32 U 0.32 U Methovychior UGAG 0.76 15.000 0 34 0.32 U 0.32 U Toxaphene UGAG 0.76 13.37 0.34 0.57 U 0.32 U 0.32 U Inorganics NGAG 27.900 14.400 14.400 17.800 13.000 16.700 Auminum MGAG 27.900 14.400 14.400 17.800 13.000 16.700 Ausinum MGAG 27.900 14.400 14.400 17.800 13.000 16.700 Ausinum MGAG 2.1 37 6.4 8.7 7.9 4.2 5.5								-							
Endinktorine UGKG 0.58 3%						89,000	0	-							
Gamma-BHC/Lindane UG/KG 0 % 9.200 0 34 0.31 U								-							
Gamma-Chiordane UG/KG 1.1 9% 3 34 0.68 J 1.1 J Heptachior poxide UG/KG 0 9% 0 34 0.33 U 0.33 U 0.32 U Heptachior poxide UG/KG 6 9% 0 34 0.25 U 0.31 U 0.22 U U 0.31 U 0.2 U U 0.31 U		ane				9 200	0	•							
Heptachlor UG/KG 0 % 15,000 0 34 0.33 U 0.32 U 0.32 U Methoxychlor UG/KG 45 3% 1 34 0.57 U 0.57 U 0.56 U 0.57 U 0.76 U 0.76 U 0.76 U 0.57 U 0.56 U 0.55 U						-,	-	3							
Methogychic UGKG 45 3% 1 34 0.57 U 0.77 U Toxaphene UGKG 0 0% 0 34 8U 7.8 U Inorganics Aluminum MGKG 27,900 14,400 14,400 17,800 13,000 16,700 Antimony MGKG 1.2 0.0% 16 0 97 97 2.8 J 0.14 UU 0.65 J 0.2 UJ 0.13 UU 0.21 UJ 0.33 UZ 0.21 UJ 0.31 UU 0.21 UJ 0.31 UJ 0.21 UJ 0.31 UJ 0.21 UJ 0.31 UJ 0.32 UJ 0.32 UJ						15,000	0	0							
Toxaphene UGKG 0 0% 0 34 8 U 7.8 U Inorganics		e						0							
Inorganics Aluminum MG/KG 5.1 33% 97 27.900 14.400 14.400 17.800 13.000 16.700 Antimony MG/KG 5.1 33% 32 97 2.8 J 0.14 UJ 0.63 J 0.2 UJ 0.13 UJ 0.21 UJ Arsenic MG/KG 12.6 100% 16 0 97 97 2.8 J 0.14 UJ 0.63 J 0.2 UJ 0.13 UJ 0.21 UJ Arsenic MG/KG 1.2 98% 590 0 95 97 1.2 J 0.67 0.62 0.78 0.63 0.79 Cadinum MG/KG 193,000 99% 97 7 1.4.80 34.600 62.400 25,700 53.200 25,								1							
Aluminum MG/KG 27.90 100% 97 97 97 27.90 14.400 14.400 17.800 13.000 16.700 Antimony MG/KG 12.6 100% 16 0 97 97 2.8 J 0.14 UJ 0.63 J 0.2 UJ 0.13 UJ 0.21 UJ Arsenic MG/KG 12.6 100% 16 0 97 97 2.8 J 0.14 UJ 0.63 J 0.2 UJ 0.13 UJ 0.13 UJ 0.14 UJ 0.13 UJ 0.13 UJ <t< td=""><td>-</td><td></td><td>UG/KG</td><td>0</td><td>0%</td><td></td><td></td><td>0</td><td>34</td><td></td><td>8 U</td><td></td><td></td><td></td><td>7.8 U</td></t<>	-		UG/KG	0	0%			0	34		8 U				7.8 U
Antimony MG/KG 5.1 33% 32 97 2.8 J 0.14 UJ 0.83 J 0.2 UJ 0.13 UJ 0.21 UJ Arsenic MG/KG 1.2.5 100% 16 0 97 97 6.4 5.4 8.7 7.9 4.2 5.5 Barlum MG/KG 3.2 987 97 6.4 5.4 8.7 7.9 4.2 5.5 Barlum MG/KG 1.2 98% 590 0 95 97 1.2 J 0.67 0.62 0.78 0.63 0.79 Cadmium MG/KG 1.30.00 98% 9.3 11 77 95 1.1 9 13.4 0.62 0.78 0.63 0.63 0.79 Cadmium MG/KG 13.00 93.00 97 97 33.3 2.64 35 30.2 2.500 2.500 2.500 2.500 2.500 2.500 2.500 2.500 2.500 2.500 2.500	-														
Arsenic MG/KG 1.2.6 100% 16 0 97 97 6.4 5.4 8.7 7.9 4.2 5.5 Barlum MG/KG 365 100% 400 0 97 97 229 J 134 101 171 171.2 146 Beryllium MG/KG 1.2 98% 590 0 95 97 1.2 J 0.67 0.62 0.78 0.63 0.79 Calcium MG/KG 193.00 99% 97 14.80 J 34,600 62,400 25,700 52,002 25,200 25,200 25,200 25,200 25,79 20,91 11.8 12,9 13.6 13.3 12.3 12.3 11.8 12,9 13.6 13.3 12.3 13.3 12.3 11.8 12,9 13.6 13.8 12.3 14.2 853 7.310 882 44.4 385 Coparid MG/KG 15.00 100% 7 97 97.42															
Barum MG/KG 365 100% 400 0 97 97 229 134 101 171 71.2 146 Beryllium MG/KG 1.2 98% 590 0 95 97 1.2 J 0.67 0.62 0.78 0.63 0.79 Cadmium MG/KG 1.10 81% 9.3 11 77 95 1.1 9 0.67 0.62.400 25.700 53.200 25.200 Chromium MG/KG 446 100% 1.500 0 97 97 33.3 J 25.4 33.9 39.2 2.2.5 27.9 Cobalt MG/KG 7.30 100% 270 52 97 97 11.8 12.9 13.6 13.3 12.3 Coper MG/KG 18,000 100% 270 52 97 97 30.600 J 24,800 60.900 37.600 22,100 30.200 Lead MG/KG 18,00 <t< td=""><td></td><td></td><td></td><td></td><td></td><td>10</td><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>						10	0								
Beryllium MG/KG 1.2 98% 590 0 95 97 1.2 0.67 0.62 0.78 0.63 0.79 Calcium MG/KG 11,00 81% 9.3 11 77 95 1.1 9 13.4 8.7 0.04 J 6.8 Calcium MG/KG 14000 81% 9.7 97 93.3 J 25.4 35 39.2 23.5 27.9 Cobalt MG/KG 7.310 100% 270 52 97 97 14.2 853 7.310 882 44.4 365 Cyanide MG/KG 15.00 100% 27 0 2 16 97 97 30.600 J 24.800 60.900 37.600 22.100 30.200 Lead MG/KG 15.00 10.00 0 97 97 87.40 J 8.140 9.200 7.030 10.800 6.780 Manganese MG/KG 15.00 10.00															
Cadmium MG/KG 1,100 81% 9.3 11 77 95 1.1 9 13.4 8.7 0.04 J 6.8 Calcium MG/KG 193,000 99% 97 14,800 J 34,600 62,400 25,700 53,200 25,200 25,200 Chromium MG/KG 444 100% 1,500 97 97 12,5 J 11.8 12.9 13.6 13.3 12.3 Copper MG/KG 7,310 100% 270 52 97 97 142 853 7,310 882 44.4 365 Cyanide MG/KG 11,000 100% 27 0 2 16 100 100% 10,000 97 97 30,600 J 24,800 60,900 37,600 22,100 30,200 Lead MG/KG 15,00 100% 97 97 8740 J 8,140 9,200 7,030 10,800 6,72 Maganesium MG/KG															
Chromium MG/KG 446 100% 1,500 0 97 97 33.3 J 25.4 35 39.2 23.5 27.9 Cobalt MG/KG 26.8 100% 7 97 97 12.5 J 11.8 12.9 13.6 13.3 12.3 Copper MG/KG 7,310 100% 270 52 97 97 142 853 7,310 882 44.4 365 Cyanide MG/KG 10.7 13% 27 0 2 16							11		95						
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Notes:
1) Chemical result qualifiers are assigned by the laboratory and are evaluated and modified (if necessary) by during data validation.
U = non-detect, i.e. not detected equal to or above this value.
L = non-detect, i.e. not detected equal to or above this value.
R = Rejected, data validation rejected the re R = Rejected, data validation rejected the results.

2) Num of Analyses is the number of detected and non-detected results excluding rejected results. Sample duplicate pairs have not been averaged.

3) Chemical results greater than the action level are highlighted, bolded and boxed

4) Criteria action level source document and web address. - The NYS SCO Commercial Use values were obtained from the NYSDEC Soil Cleanup Objectives.

Partner Unit Unit Partner Partner Value Date	Area Loc ID Sample ID Matrix Sample Depth Interval (FT) Sample Date OC Type Study ID		Maximum	Frequency	Criteria	Number	Number of Times	C Number of Samples	SEAD-45 S45-TP-2-02 SOIL 0.2-0.6 3/12/2010 SA DD Initial Invest	SEAD-45 S45-TP-2-03 S45-TP-2-03 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-TP-2-04 S45-TP-2-04 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-TP-2-05 S45-TP-2-05 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-TP-3-01 S45-TP-3-01 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-TP-3-01 S45-TP-3-01D SOIL 0.2-0.6 3/12/2010 DU OD Initial Invest
11.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1	Parameter	Unit							Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
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2-Methy/aphthalene UG/KG 0 0% 0 35 200 U 200 U 220 U 2-Mitrophenol UG/KG 0 0% 500,000 35 70 U 82 U 2-Nitrophenol UG/KG 0 0% 0 35 70 U 82 U 2-Nitrophenol UG/KG 0 0% 0 35 170 U 180 U 3 or 4-Methylphenol UG/KG 0 0% 0 95 120 U 120							-							
2-Nitrophenol UGKG 0 0% 500,000 0 35 200 220 2-Nitrophenol UGKG 0 0% 0 35 770 820 3 or 4-Methylphenol UGKG 0 0% 0 35 1700 1800 3,3'-Dichlorobenzidine UGKG 0 0% 0 96 1000 2000 3,3'-Dichlorobenzidine UGKG 0 0% 0 35 2000 2							-							
2-Nitroaniline UG/KG 0 0% 0 35 77 U 82 U 2-Nitroaniline UG/KG 0 0% 0 35 170 U 180 U 3 or 4-Methylphenol UG/KG 0 0% 0 19 19 U 200 U 3.7-Dichlorobenzidine UG/KG 0 0% 0 35 120 U 120 U 120 U 4-Nitroaniline UG/KG 0 0% 0 35 340 U 370 U 4-Shitorabenzi line UG/KG 0 0% 0 35 340 U 370 U 4-Chitora-smethylphenol UG/KG 0 0% 0 35 340 U 340 U 370 U 4-Chitora-smethylphenol UG/KG 0 0% 0 35 170 U 180 U 450 U 4-Chitorabenzi line UG/KG 0 0% 0 35 140 U 150 U 4-Nitroaniline UG/KG 0 0% 0 35 320 U 340 U 4-Nitroaniline UG/KG 0 0% 0					500.000	0								
3 or 4-Methylphenol UG/KG 0 0% 0 19 100 U 200 U 3,3'-Dichlorobenzidine UG/KG 0 0% 0 35 120 U 120 U <t< td=""><td></td><td></td><td></td><td></td><td>000,000</td><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>					000,000	0								
3.3-Dichlorobenzidine UG/KG 0 0% 0 35 3-Nitroaniline UG/KG 0 0% 0 35 4.6-Dinitro-2-methylphenol UG/KG 0 0% 0 35 4-Bromophenyl phenyl ether UG/KG 0 0% 0 35 340 U 370 U 4-Entoro-3-methylphenol UG/KG 0 0% 0 35 87 U 94 U 4-Chloro-3-methylphenol UG/KG 0 0% 0 35 170 U 180 U 4-Chloro-3-methylphenol UG/KG 0 0% 0 35 120 U 130 U 4-Chloro-Anethylphenol UG/KG 0 0% 0 35 120 U 130 U 4-Chloro-Anethylphenol UG/KG 0 0% 0 35 120 U 130 U 4-Nitroaniline UG/KG 0 0% 500,000 16 140 U 150 U 4-Nitroaniline UG/KG 0 0% 500,000 35 140 U 140 U 150 U Acenaphthene UG/KG<							-							
3-Nitroaniline UG/KG 0 0% 0 35 96 U 100 U 4,6-Dinitro-2-methylphenyl ether UG/KG 0 0% 0 35 370 U 340 U 370 U 4-Bromophenyl phenyl ether UG/KG 0 0% 0 35 370 U 180 U 4-Choro-3-methylphenol UG/KG 0 0% 0 35 170 U 180 U 4-Choro-aniline UG/KG 0 0% 0 35 120 U 130 U 4-Choro-aniline UG/KG 0 0% 0 35 80 U 86 U 4-Mitroaniline UG/KG 0 0% 0 16 140 U 150 U 4-Nitroaniline UG/KG 0 0% 0 35 320 U 340 U 320 U 340 U Acenaphthylene UG/KG 0 0% 500,000 0 35 320 U 320 U 320 U 320 U 340 U Acenaphthylene UG/KG 10% 500,000 0 35 35 320 U 320 U 320 U 320 U							0							
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4-Chloro-3-methylphenolUG/KG00%035170 U180 U4-Chloro-anilineUG/KG00%03520 U3630 U4-Chloro-anilineUG/KG00%03540 U16 U4-MethylphenolUG/KG00%016140 U150 U4-NitrophenolUG/KG00%035320 U340 U4-NitrophenolUG/KG00%035320 U340 UAcenaphtheneUG/KG00%500,000 035320 U340 UAcenaphthyleneUG/KG00%500,000 035320 U340 UAcenaphthyleneUG/KG186%500,000 033572 U77 UAntraceneUG/KG186%500,000 023586 U92 UBenzo(a)phraeneUG/KG5223%5,600 083586 U95 UBenzo(a)phraeneUG/KG5523%5,600 083595 U100 UBenzo(a)phraeneUG/KG5526%5,600 0935353535 UBenzo(a)phraeneUG/KG5526%5,600 09353535 U35 UBenzo(a)phraeneUG/KG5526%5,600 09353535 U35 UBenzo(a)phraeneUG/KG5526%5,600 093535 U							0							
4-Chloropaniline UG/KG 0 0% 0 35 120 U 130 U 4-Chlorophenyl phenyl ether UG/KG 0 0% 0 35 80 U 80 U 80 U 4-Methylphenol UG/KG 0 0% 500,000 0 16 140 U 150 U 4-Nitrophenol UG/KG 0 0% 500,000 0 35 320 U 340 U Acenaphthene UG/KG 0 0% 500,000 0 35 320 U 340 U Acenaphthylene UG/KG 30 9% 500,000 0 35 72 U 77 U Acenaphthylene UG/KG 18 6% 500,000 2 35 86 U 92 U Benzo(a)anthracene UG/KG 18 6% 500,000 2 35 86 U 92 U Benzo(a)pyrene UG/KG 82 23% 1,000 8 35 86 U 95 U 100 U Benzo(a)pyrene UG/KG 55,600 8 35 95 U 100 U 150 U </th <th></th>														
4-Chlorophenyl phenyl ether UG/KG 0 0% 500,000 35 4-Methylphenol UG/KG 0 0% 500,000 16 140 U 150 U 4-Nitrophenol UG/KG 0 0% 50 35 140 U 150 U 4-Nitrophenol UG/KG 0 0% 500,000 35 320 U 340 U Acenaphthylene UG/KG 0 9% 500,000 0 35 72 U 77 U Acenaphthylene UG/KG 18 6% 500,000 0 35 72 U 77 U Antrazene UG/KG 18 6% 500,000 0 2 35 86 U 92 U Benzo(a)phrtwacehe UG/KG 50 23% 5,600 2 35 86 U 95 U Benzo(a)phrtwacehe UG/KG 55 23% 5,600 8 35 86 U 95 U Benzo(a)pyrene UG/KG 55 23% 5,600 8 35 95 U 100 U Benzo(g/ip)perylene UG/KG 55														
4-Methylphenol UG/KG 0 0% 50,000 0 16 4-Nitronalline UG/KG 0 0% 50 35 140 U 150 U 4-Nitrophenol UG/KG 0 0% 0 35 320 U 340 U Acenaphthene UG/KG 0 0% 500,000 0 35 67 U 72 U Acenaphthylene UG/KG 18 6% 500,000 0 35 72 U 77 U Antracene UG/KG 18 6% 500,000 0 2 35 86 U 92 U Benzo(a)pyrene UG/KG 5 23% 5,600 0 8 35 88 U 95 U Benzo(a)pyrene UG/KG 52 23% 1,000 8 35 88 U 95 U Benzo(a)pyrene UG/KG 52 23% 1,000 8 35 95 U 100 U 100 U Benzo(a)pyrene UG/KG 50,000 9 35 140 U 150 U 150 U 150 U 150 U 140 U <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							-							
4-Nitrophenol UG/KG 0 0% 0 35 320 U 340 U Acenaphthene UG/KG 0 0% 500,000 0 35 67 U 72 U Acenaphthylene UG/KG 18 6% 500,000 0 35 72 U 77 U Antracene UG/KG 18 6% 500,000 0 2 35 86 U 92 U Benzo(a)phrtacene UG/KG 50 23% 5,600 0 8 35 86 U 95 U Benzo(a)pyrene UG/KG 52 23% 1,000 8 35 80 U 95 U 100 U Benzo(a)pyrene UG/KG 52 23% 1,000 8 35 95 U 100 U Benzo(h)perylene UG/KG 52 23% 1,000 8 35 95 U 100 U Benzo(h)perylene UG/KG 52 26% 5,000 9 35 100 U 100 U Benzo(a)piperylene UG/KG 500,000 7 35 100 U 100 U	4-Methylphenol	UG/KG	0	0%	500,000	0	0	16						
Acenaphthene UG/KG 0 % 500,000 0 35 67 U 72 U Acenaphthylene UG/KG 30 9% 500,000 0 3 35 72 U 77 U 77 U Anthracene UG/KG 18 6% 500,000 0 2 35 86 U 92 U Benzo(a)anthracene UG/KG 50 23% 5,600 0 8 35 88 U 95 U Benzo(a)pyrene UG/KG 55 26% 5,600 0 8 35 100 U Benzo(b)fluoranthene UG/KG 55 26% 5,600 9 35 100 U 100 U Benzo(b)fluoranthene UG/KG 50 500,000 7 35 110 UJ 110 UJ 110 UJ														
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Benzo(a)pyrene UG/KG 82 23% 1,00 0 8 35 95 U 100 U Benzo(b)fluoranthene UG/KG 55 26% 5,600 0 9 35 140 U 150 U Benzo(a)fluoranthene UG/KG 66 20% 500,000 0 7 35 110 UJ 110 UJ	Anthracene	UG/KG	18	6%	500,000	0		35					86 U	92 U
Benzo(b)fluoranthene UG/KG 55 26% 5,600 0 9 35 140 U 150 U Benzo(phi)perylene UG/KG 66 20% 500,000 0 7 35 110 UJ 110 UJ 110 UJ														
Benzo(ghi)perylene UG/KG 66 20% 500,000 0 7 35 110 UJ 110 UJ 110 UJ														
	Benzo(ghi)perylene	UG/KG	66	20%	500,000	0	7	35					110 UJ	110 UJ
	Benzo(k)fluoranthene	UG/KG	58	20%	56,000	0	7	35					85 U	91 U

Sam I Sample Depth Interva Sample QC			Frequency		Number	Number	Number	SEAD-45 S45-TP-2-02 S45-TP-2-02 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-TP-2-03 S45-TP-2-03 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-TP-2-04 S45-TP-2-04 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-TP-2-05 S45-TP-2-05 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-TP-3-01 S45-TP-3-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-TP-3-01 S45-TP-3-01D SOIL 0.2-0.6 3/12/2010 DU OD Initial Invest
Parameter	Unit	Maximum Value	of Detection	Criteria Value	of Exceedances		of Sample Analyzed	s Value Qua	al Value Qua	I Value Qual	Value Qual	Value Qual	Value Qual
Bis(2-Chloroethoxy)methane	UG/KG	0	0%			0	35					98 U	100 U
Bis(2-Chloroethyl)ether	UG/KG	0	0%			0	35					83 U	89 U
Bis(2-Chloroisopropyl)ether Bis(2-Ethylhexyl)phthalate	UG/KG UG/KG	0 740	0% 26%			0 9	19 35					91 U 100 U	98 U 110 U
Butylbenzylphthalate	UG/KG	0	0%			0	35					95 U	100 U
Carbazole	UG/KG	0	0%			0	35					110 U	120 U
Chrysene	UG/KG	130	34%	56,000	0	12	35					97 U	100 U
Dibenz(a,h)anthracene	UG/KG UG/KG	0	0% 0%	560 350,000	0	0	35 35					130 U 81 U	140 U 87 U
Dibenzofuran Diethyl phthalate	UG/KG	35	3%	350,000	0	1	35					81 U 82 U	87 U 88 U
Dimethylphthalate	UG/KG	0	0%			0	35					80 U	86 U
Di-n-butylphthalate	UG/KG	6,800	34%			12	35					100 U	110 U
Di-n-octylphthalate	UG/KG	0	0%			0	35					220 U	230 U
Fluoranthene	UG/KG UG/KG	68 0	31% 0%	500,000 500,000	0 0	11 0	35 35					110 U 83 U	120 U 89 U
Fluorene Hexachlorobenzene	UG/KG	110	31%	6,000	0	11	35					110 J	90 UJ
Hexachlorobutadiene	UG/KG	0	0%	0,000	0	0	35					85 U	91 U
Hexachlorocyclopentadiene	UG/KG	0	0%			0	35					84 U	90 U
Hexachloroethane	UG/KG	1,100	17%			6	35					98 U	100 U
Indeno(1,2,3-cd)pyrene	UG/KG	52	11%	5,600	0	4	35					120 U	130 U
Isophorone Naphthalene	UG/KG UG/KG	0 30	0% 14%	500,000	0	0 5	35 35					77 U 89 U	82 U 96 U
Nitrobenzene	UG/KG	0	0%	500,000	0	0	35					93 U	100 U
N-Nitrosodiphenylamine	UG/KG	320	6%			2	35					220 U	240 U
N-Nitrosodipropylamine	UG/KG	1,600	14%			5	35					85 U	91 U
Pentachlorophenol	UG/KG	0	0%	6,700	0	0	35					240 U	260 U
Phenanthrene	UG/KG	46	26%	500,000	0	9	35					85 U	91 U
Phenol	UG/KG UG/KG	0 110	0% 34%	500,000 500,000	0 0	0 12	35 35					160 U 100 U	170 U 110 U
Pyrene Herbicides	00/KG	110	34%	500,000	0	12	30					100 0	110 0
	UG/KG	0	0%			0	35					40.11	40.11
2,4,5-T 2,4,5-TP/Silvex	UG/KG	0	0%	500,000	0	0	35 35					16 U 13 U	18 U 14 U
2.4-D	UG/KG	0	0%	300,000	0	0	35					33 U	37 U
2,4-DB	UG/KG	ō	0%			Ō	35					24 U	27 U
Dalapon	UG/KG	0	0%			0	35					8.6 U	9.5 U
Dicamba	UG/KG	0	0%			0	35					11 U	13 U
Dichloroprop	UG/KG	0	0%			0	35					19 U	22 U
Dinoseb MCPA	UG/KG UG/KG	0 9.400	0% 6%			0 2	35 35					2.7 U 2,400 U	3 U 2,700 U
MCPP	UG/KG	0	0%			0	35					2,300 U	2,500 U
Explosives		-										_,	_,
1,3,5-Trinitrobenzene	UG/KG	190	60%			28	47					7.1 UJ	50 NJ
1,3-Dinitrobenzene	UG/KG	0	0%			0	47					6.5 U	6 U
2,4,6-Trinitrotoluene	UG/KG	1,400	81%			38	47					68 J	49 J
2,4-Dinitrotoluene	UG/KG	1,100	77%			36	47					120	57 J
2,6-Dinitrotoluene	UG/KG UG/KG	0 680	0% 77%			0 36	47 47					28 U 330	26 U 110 J
2-amino-4,6-Dinitrotoluene 2-Nitrotoluene	UG/KG	0	0%			30	47 31					330 13 U	110 J 12 U
3,5-Dinitroaniline	UG/KG	0	0%			0	31					3.7 U	3.4 U
3-Nitrotoluene	UG/KG	0	0%			0	31					8.3 UJ	7.6 UJ
4-amino-2,6-Dinitrotoluene	UG/KG	500	57%			27	47					500	150
4-Nitrotoluene	UG/KG	0	0%			0	31					28 U	26 U
HMX Nitrobenzene	UG/KG UG/KG	470 0	68% 0%			32 0	47 31					9.1 UJ 23 U	43 J 21 U
Nitropenzene Nitroglycerine	UG/KG	1,500	0% 3%			0	31					130 U	120 U
Pentaerythritol Tetranitrate	UG/KG	0	0%			0	31					250 U	230 U
RDX	UG/KG	5,800	83%			39	47					230 NJ	75 J
Tetryl	UG/KG	330	9%			4	47					5.7 U	5.2 U

	Area Loc ID Sample ID Matrix Sample Depth Interval (FT) Sample Date QC Type Study ID		Maximum	Frequency	Criteria	Number of	Number of Times	Number of Samples	SEAD-45 S45-TP-2-02 S45-TP-2-02 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-TP-2-03 S45-TP-2-03 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-TP-2-04 S45-TP-2-04 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-TP-2-05 S45-TP-2-05 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-TP-3-01 S45-TP-3-01 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-TP-3-01 S45-TP-3-01D SOIL 0.2-0.6 3/12/2010 DU OD Initial Invest
Parameter		Unit	Value	Detection	Value	Exceedances	Detected	Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Pesticides/PCBs														
Aroclor-1016		UG/KG	0	0%	1.000	0	0	34					5.9 U	6.9 U
Aroclor-1221		UG/KG	0	0%	1,000	0	0	34					14 U	16 U
Aroclor-1232		UG/KG	0	0%	1,000	0	0	34					9.2 U	11 U
Aroclor-1242		UG/KG	0	0%	1,000	0	0	34					5.7 U	6.7 U
Aroclor-1248		UG/KG	0	0%	1,000	0	0	34					6 U	7 U
Aroclor-1254		UG/KG	2,000	6%	1,000	1	2	34					4.6 U	5.4 U
Aroclor-1260		UG/KG	0	0%	1,000	0	0	34					5.9 U	6.9 U
4,4'-DDD		UG/KG	2.4	6%	92,000	0	2	34					0.2 U	0.23 U
4,4'-DDE		UG/KG	4.2	63%	62,000	0	22	35					1.1 J	0.67 J
4,4'-DDT		UG/KG	3.4	50%	47,000	0	17	34					0.31 U	0.68 J
Aldrin		UG/KG UG/KG	0	0%	680	0	0	34 34					0.28 U	0.32 U
Alpha-BHC Alpha-Chlordane		UG/KG UG/KG	2	0% 12%	3,400 24.000	0	0	34 34					0.34 U 0.21 U	0.39 U 0.24 U
Beta-BHC		UG/KG UG/KG	2	0%	24,000	0	4	34 34					0.21 U 0.33 U	0.24 U
Delta-BHC		UG/KG	0	0%	500.000	0	0	34					0.33 U 0.32 U	0.38 U 0.37 U
Dieldrin		UG/KG	3.2	41%	1,400	0	14	34					0.32 U	0.81 J
Endosulfan I		UG/KG	55	60%	200.000	ő	21	35					1.2 J	0.77 J
Endosulfan II		UG/KG	0.88	3%	200,000	Ő	1	34					0.34 U	0.39 U
Endosulfan sulfate		UG/KG	0	0%	200,000	õ	0	34					0.57 U	0.67 U
Endrin		UG/KG	3.6	3%	89,000	0	1	34					0.84 U	0.98 U
Endrin aldehyde		UG/KG	0	0%			0	34					0.48 U	0.56 U
Endrin ketone		UG/KG	0.58	3%			1	34					0.4 U	0.46 U
Gamma-BHC/Linda	ane	UG/KG	0	0%	9,200	0	0	34					0.27 U	0.31 U
Gamma-Chlordane	9	UG/KG	1.1	9%			3	34					0.23 U	0.26 U
Heptachlor		UG/KG	0	0%	15,000	0	0	34					0.29 U	0.33 U
Heptachlor epoxide	e	UG/KG	0	0%			0	34					0.22 U	0.25 U
Methoxychlor		UG/KG	45	3%			1	34					0.5 U	0.58 U
Toxaphene		UG/KG	0	0%			0	34					6.9 U	8 U
Inorganics														
Aluminum		MG/KG	27,900	100%			97	97	16,400	12,500	16,500	12,500	11,900	17,100
Antimony		MG/KG	5.1	33%			32	97	0.2 UJ	1.5 J	0.29 J	0.38 J	0.15 UJ	0.2 UJ
Arsenic		MG/KG	12.6	100%	16	0	97	97	5.5	4.2	4.8	5.8	4.3	5.1
Barium		MG/KG	365	100%	400	0	97	97	126	190	227	191	159	187
Beryllium		MG/KG	1.2	98%	590	0	95	97	0.79	0.55	0.73	0.6	0.53	0.76
Cadmium		MG/KG	1,100	81%	9.3	11	77	95	3.5	4.6	7.6	6.1	5.6	7.7
Calcium Chromium		MG/KG MG/KG	193,000 446	99% 100%	1,500	0	96 97	97 97	28,900 26.2	101,000 21.3	29,500 26.7	30,900 19.7	24,400 20.9	28,100 27.3
Cobalt		MG/KG	26.8	100%	1,500	U	97 97	97 97	26.2	21.3	26.7	19.7	20.9	27.3
Copper		MG/KG	26.8 7,310	100%	270	52	97 97	97 97	12.5	165	2.490	9.6	9.3	330
Cyanide		MG/KG	0.7	13%	270	0	2	16	102	100	2,750		140	000
Iron		MG/KG	118,000	100%		0	97	97	27,800	20,300	25,600	23,000	22,200	25,600
Lead		MG/KG	998	100%	1,000	0	97	97	33.4	62.8	20,000	83.6	86.3	70.9
Magnesium		MG/KG	15,000	100%	,,	-	97	97	7,010	7,450	7,380	6,020	6,170	7,980
Manganese		MG/KG	5,040	100%	10,000	0	97	97	616	727	407	389	423	515
Nickel		MG/KG	59.3	100%	310	0	92	92	37.1	31	38.2	30	30.6	37.7
Potassium		MG/KG	4,880	100%			76	76	2,140 J	1,780 J	2,400 J	1,780 J	1,700 J	2,680 J
Selenium		MG/KG	0.92	4%	1,500	0	4	97	0.43 U	0.32 U	0.4 U	0.23 U	0.33 U	0.45 U
Silver		MG/KG	205	68%	1,500	0	66	97	0.72 J	0.31 J	0.63 J	0.78 J	0.56 J	2.2 J
Sodium		MG/KG	213	84%			81	97	199	213	189	199	146	211
Thallium		MG/KG	0.27	6%			6	97	0.18 U	0.14 U	0.17 U	0.25 J	0.14 U	0.19 U
Vanadium		MG/KG	41.9	100%			97	97	26.5	20.8	26.9	20.6	20.8	28.5
Zinc		MG/KG	1,470	100%	10,000	0	92	92	198	463	1,470	535	387	434
Mercury		MG/KG	9.1	99%	2.8	49	96	97	1.1	6	9.1	7.6	7	6.8

Notes: 1) Chemical result qualifiers are assigned by the laboratory and are evaluated and modified (if necessary) by during data validation. U = non-detect, i.e. not detected equal to or above this value. R = Rejected, data validation rejected the re-R = Rejected, data validation rejected the results.

2) Num of Analyses is the number of detected and non-detected results excluding rejected results. Sample duplicate pairs have not been averaged.

3) Chemical results greater than the action level are highlighted, bolded and boxed

4) Criteria action level source document and web address. - The NYS SCO Commercial Use values were obtained from the NYSDEC Soil Cleanup Objectives.

	Sample Depth Inte San	Area Loc ID Sample ID Matrix erval (FT) mple Date QC Type Study ID		Maximum	Frequency	Criteria	Number of		Number of Samples	SEAD-45 S45-TP-3-02 S45-TP-3-02 SOIL 0.2-0.6 3/15/2010 SA OD Initial Invest	SEAD-45 S45-TP-3-03 S45-TP-3-03 SOIL 0.2-0.6 3/15/2010 SA OD Initial Invest				SEAD-45 S45-TP-4-02 S45-TP-4-02 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest
_	Parameter		Unit	Value	Detection	Value	Exceedances	Detected	Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
	Volatile Organic Compounds														
	1,1,1-Trichloroethane	1	UG/KG	0	0%	500,000	0	0	16						
	1,1,2,2-Tetrachloroethane		UG/KG	0	0%			0	16						
	1,1,2-Trichloroethane		UG/KG	0	0%			0	16						
	1,1-Dichloroethane		UG/KG	0	0%	240,000	0	0	16						
	1,1-Dichloroethene		UG/KG	0	0%	500,000	0	0	16						
	1,2-Dichloroethane 1,2-Dichloroethene (total)		UG/KG UG/KG	0	0% 0%	30,000 500,000	0	0	16 16						
	1,2-Dichloropropane		UG/KG	0	0%	300,000	0	0	16						
	Acetone		UG/KG	0	0%	500,000	0	0	16						
	Benzene	1	UG/KG	0	0%	44,000	0	0	16						
	Bromodichloromethane		UG/KG	0	0%			0	16						
	Bromoform		UG/KG	0	0%			0	16						
	Carbon disulfide		UG/KG	0	0% 0%	22,000	0	0	16 16						
	Carbon tetrachloride Chlorobenzene		UG/KG UG/KG	0	0%	22,000 500,000	0	0	16						
	Chlorodibromomethane		UG/KG	0	0%	500,000	0	0	16						
	Chloroethane		UG/KG	0	0%			õ	16						
	Chloroform	1	UG/KG	0	0%	350,000	0	0	16						
	Cis-1,3-Dichloropropene		UG/KG	0	0%			0	16						
	Ethyl benzene		UG/KG	0	0% 0%	390,000	0	0	16						
	Methyl bromide Methyl butyl ketone		UG/KG UG/KG	0	0%			0	16 16						
	Methyl chloride		UG/KG	0	0%			0	16						
	Methyl ethyl ketone		UG/KG	0	0%	500,000	0	0	16						
	Methyl isobutyl ketone		UG/KG	0	0%			0	16						
	Methylene chloride		UG/KG	0	0%	500,000	0	0	16						
	Styrene		UG/KG	0 19	0% 38%	150.000	0	0 6	16 16						
	Tetrachloroethene Toluene		UG/KG UG/KG	0	0%	150,000 500,000	0	0	16						
	Total Xylenes		UG/KG	õ	0%	500,000	õ	õ	16						
	Trans-1,3-Dichloropropene		UG/KG	0	0%			0	16						
	Trichloroethene		UG/KG	0	0%	200,000	0	0	16						
	/inyl chloride		UG/KG	0	0%	13,000	0	0	16						
	Semivolatile Organic Compounds														
	1,2,4-Trichlorobenzene 1,2-Dichlorobenzene		UG/KG UG/KG	0	0% 0%	500,000	0	0	35 35					94 U 100 U	
	1,3-Dichlorobenzene		UG/KG	0	0%	280,000	0	0	35					90 U	
	1,4-Dichlorobenzene		UG/KG	0	0%	130,000	0	0	35					100 U	
	2,2'-oxybis(1-Chloropropane)		UG/KG	0	0%			0	16						
	2,4,5-Trichlorophenol		UG/KG	0	0%			0	35					180 U	
	2,4,6-Trichlorophenol		UG/KG UG/KG	0	0% 0%			0	35 35					180 U	
	2,4-Dichlorophenol 2,4-Dimethylphenol		UG/KG	0	0%			0	35					170 U 190 U	
	2,4-Dinitrophenol		UG/KG	0	0%			õ	35					440 U	
	2,4-Dinitrotoluene		UG/KG	14,000	37%			13	35					2,500	
	2,6-Dinitrotoluene		UG/KG	700	6%			2	35					92 U	
	2-Chloronaphthalene 2-Chlorophenol		UG/KG UG/KG	0	0% 0%			0	35 35					100 U 190 U	
	2-Chlorophenol 2-Methylnaphthalene		UG/KG	0	0%			0	35					190 U 110 U	
	2-Methylphenol		UG/KG	0	0%	500,000	0	õ	35					230 U	
	2-Nitroaniline	1	UG/KG	0	0%			Ō	35					87 U	
	2-Nitrophenol		UG/KG	0	0%			0	35					190 U	
	3 or 4-Methylphenol		UG/KG UG/KG	0	0% 0%			0	19 35					220 U	
	3,3'-Dichlorobenzidine 3-Nitroaniline		UG/KG UG/KG	0	0%			0	35 35					130 U 110 U	
	4,6-Dinitro-2-methylphenol		UG/KG	0	0%			õ	35					390 U	
	4-Bromophenyl phenyl ether		UG/KG	0	0%			Ő	35					99 U	
	4-Chloro-3-methylphenol		UG/KG	0	0%			0	35					190 U	
	4-Chloroaniline		UG/KG	0	0%			0	35					140 U	
	4-Chlorophenyl phenyl ether		UG/KG UG/KG	0	0% 0%	500.000	0	0	35					90 U	
	4-Methylphenol 4-Nitroaniline		UG/KG UG/KG	0	0%	500,000	U	0	16 35					160 U	
	4-Nitrophenol		UG/KG	0	0%			0	35					360 U	
	Acenaphthene	1	UG/KG	0	0%	500,000	0	0	35					75 U	
	Acenaphthylene		UG/KG	30	9%	500,000	0	3	35					81 U	
	Anthracene		UG/KG	18	6%	500,000	0	2	35					97 U	
	Benzo(a)anthracene		UG/KG UG/KG	50 82	23%	5,600	0	8	35 35					100 U	
	Benzo(a)pyrene Benzo(b)fluoranthene		UG/KG UG/KG	82 55	23% 26%	1,000 5,600	0	8 9	35 35					110 U 160 U	
	Benzo(ghi)perylene		UG/KG	66	20%	500,000	0	7	35					120 UJ	
	Benzo(k)fluoranthene		UG/KG	58	20%	56,000	0	7	35					96 U	

metry uban of bit of bit<	Sample Dep	Area Loc ID Sample ID Matrix th Interval (FT) Sample Date QC Type Study ID			Frequency		Number	Number	Number	SEAD-45 S45-TP-3-02 S45-TP-3-02 SOIL 0.2-0.6 3/15/2010 SA OD Initial Invest	SEAD-45 S45-TP-3-03 S45-TP-3-03 SOIL 0.2-0.6 3/15/2010 SA OD Initial Invest	SEAD-45 S45-TP-3-04 S45-TP-3-04 SOIL 0.2-0.6 3/15/2010 SA OD Initial Invest	SEAD-45 S45-TP-3-05 S45-TP-3-05 SOIL 0.2-0.6 3/15/2010 SA OD Initial Invest	SEAD-45 S45-TP-4-01 S45-TP-4-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-TP-4-02 S45-TP-4-02 SOIL 0,2-0.6 3/12/2010 SA OD Initial Invest
Bis/2UKAN000<	Parameter		Unit	Maximum Value	of Detection	Criteria Value	of Exceedances				I Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Bid-Contrologicality Bid-Contrologicality Bid-Contrologicality Bid-Contrologicality Bid-Contrologicality Bid-Bid-Bid-Bid-Bid-Bid-Bid-Bid-Bid-Bid-	Bis(2-Chloroethoxy)methane		UG/KG	0	0%			0	35					110 U	
Bit C functionBit C functionV C C C C C C C C C C C C C C C C C C C															
Biologenergy ContensionUKR Contension <td></td>															
Choose Densch (Marson)USK 0 (MS 0 (MS 0 (MS 0)001235110 UDiethy (Marson)USK 0 (MS 0)00 <td>Butylbenzylphthalate</td> <td></td> <td>UG/KG</td> <td>0</td> <td>0%</td> <td></td> <td></td> <td>0</td> <td>35</td> <td></td> <td></td> <td></td> <td></td> <td>110 U</td> <td></td>	Butylbenzylphthalate		UG/KG	0	0%			0	35					110 U	
Disk 															
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Dim-cryphinaline UKKS 0 %	Dimethylphthalate		UG/KG											90 U	
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Pyrene UG/KG 10 34% 500,000 0 12 35 Herbicides U <th< td=""><td>Phenanthrene</td><td></td><td>UG/KG</td><td>46</td><td>26%</td><td>500,000</td><td>0</td><td></td><td>35</td><td></td><td></td><td></td><td></td><td>96 U</td><td></td></th<>	Phenanthrene		UG/KG	46	26%	500,000	0		35					96 U	
Hericides Sector Sector 2.4,5.T UGKC 0 0% 500,000 0 35 2.4,5.T UGKC 0 0% 500,000 0 36 2.4,5.T UGKC 0 0% 500,000 0 36 2.4,5.T UGKC 0 0% 0 36 36 2.4,5.T UGKC 0 0% 0 36 36 Diapon UGKC 0 0% 0 36 21 Dichoroprop UGKC 0 0% 0 36 21 Dichoroprop UGKC 0 0% 0 36 20 MCPA UGKC 0 0% 2 35 2600 U MCPA UGKC 10 0% 2 36 47 45.1 1.3.Drintroburgen UGKC 10 0% 36 47 45.1 2.4.Drintroburgen UGKC 10															
2.4.5-T UGKG 0 0% 0 0 36 18 U 2.4.5-T/Silvex UGKG 0 0% 00 36 30 2.4-DB UGKG 0 0% 0 36 30 Dalapon UGKG 0 0% 0 36 32 Dicamba UGKG 0 0% 0 36 32 Dicamba UGKG 0 0% 0 36 32 Dicamba UGKG 0 0% 0 36 22 32 Dicamba UGKG 0.0 0% 0 36 23 20 MCPA UGKG 1.90 0% 2 35 2.60 2.40 MCPA UGKG 1.90 6% 2 35 2.40 2.40 1.3-Diritobarezene UGKG 1.90 8% 47 45 3 2.4-Diritoblene UGKG 1.90 7% 36 47 45 3 2.4-Diritoblene UGKG 1.90			UG/KG	110	34%	500,000	0	12	35					120 U	
2.4-5 TPS/Nex UG/KG 0 0% 500,000 0 0.35 40 2.4-DB UG/KG 0 0% 0 35 26 20 Dalagon UG/KG 0 0% 0 35 20 20 Dicamba UG/KG 0 0% 0 35 20 20 Dichtoroprop UG/KG 0 0% 0 35 21 20 Dichtoroprop UG/KG 0 0% 0 35 21 20 MCPA UG/KG 0 0% 2 35 2400 U 2400 U Forester UG/KG 0 0% 2 35 2400 U 2400 U 1.3.5 Trinitobenzene UG/KG 0 0% 38 47 64 U 34 2.4.9 Trinitobenzene UG/KG 100 7% 36 47 65 J 35 35 35 35 35 35 35 35 35 35 35 35 35 35 35 35 35 </td <td></td>															
2.4-D UG/KG 0 0% 0 35 Dalapon UG/KG 0 0% 0 35 Dicamba UG/KG 0 0% 0 35 Dicamba UG/KG 0 0% 0 35 Dicamba UG/KG 0 0% 0 35 21 U Dichorsorop UG/KG 0 0% 0 35 2,00 U MCPA UG/KG 9,400 6% 2 35 2,600 U MCPA UG/KG 9,400 6% 2 35 2,400 U 1,3-Dinitobenzene UG/KG 1,400 7/% 36 47 45 J 1,3-Dinitobluene UG/KG 1,400 7/% 36 47 24-Dinitobluene 28 U 2,4-Dinitobluene UG/KG 0 0% 0 47 35 35 35 2,4-Dinitobluene UG/KG 0 0% 0 47 35 35 35 35 35 35 35 36 31 36						500.000	0								
24.0B UG/KG 0 % 0 35 26.0 Diapon UG/KG 0 % 0 35 21.0 Dichloroprop UG/KG 0 % 0 35 21.0 Dichloroprop UG/KG 0 % 0 35 2.9 U MCPA UG/KG 9,400 % 0 35 2.40 U MCPA UG/KG 9,400 % 0 35 2.400 U Tisposives UG/KG 9,400 % 0 47 45.1 1.3.5-Tinitrobenzene UG/KG 1,400 81% 36 47 37.1 2.4-Gr-Tinitrobuene UG/KG 1,400 7% 36 47 36 2.4-Dinitrobuene UG/KG 1,00 7% 36 47 36 31 2.4-Dinitrobuene UG/KG 10 % 0 31 36 31 36 2.4-Dinitrobuene UG/KG 10 % 0 31 36 31 36 31 36 <t< td=""><td></td><td></td><td></td><td></td><td></td><td>500,000</td><td>U</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>						500,000	U								
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MCPA UG/KG 9,400 6% 2 35 2,600 U MCPP UG/KG 0 0% 0 35 2,600 U Explosives 45 J 35 36 45 J 1,3.5 Trinitrobenzene UG/KG 190 60% 28 47 64 U 2,4.6 Trinitrobluene UG/KG 1,100 77% 36 47 68 J 2,4.6 Trinitrobluene UG/KG 1,00 77% 36 47 80 U 2,4.9 Trinitrobluene UG/KG 0 0% 0 47 80 U 2,4.9 Trinitrobluene UG/KG 0 0% 0 31 80 U 2,4.9 Trinitrobluene UG/KG 0 0% 0 31 80 U 2,4.9 Trinitrobluene UG/KG 0 0% 0 31 80 U 2,4.9 Trinitrobluene UG/KG 0 0% 0 31 80 U 3,4 Tritrobluene <thug kg<="" th=""> 0</thug>															
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1,3.5-Trinitrobenzene UG/KG 190 60% 28 47 1,3.5-Trinitrobenzene UG/KG 0 0% 0 47 6.4 1,4.6-Trinitrobunene UG/KG 1,00 87% 38 47 37 2,4.6-Trinitrobunene UG/KG 1,10 77% 36 47 86 2,6-Dinitrotoluene UG/KG 680 77% 36 47 82 12 2-arrino-4,6-Dinitrotoluene UG/KG 680 77% 36 47 150 12 2-arrino-4,6-Dinitrotoluene UG/KG 680 77% 36 47 150 12 2-hitrotoluene UG/KG 680 77% 36 47 150 12 12 3-brinitroalinen UG/KG 0 0% 31 36 12 12 12 3-brinitroalinen UG/KG 0 0% 0 31 32 150 150 150 150 150 150 150 150 150 150 150 150 150 150<								0							
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2.4.6-Trinitrotoluene UG/KG 1.400 81% 38 47 36 37 2.4-Dinitrotoluene UG/KG 1.100 77% 36 47 86 36 2.6-Dinitrotoluene UG/KG 680 77% 36 47 150 36 37 2.e-Dinitrotoluene UG/KG 680 77% 36 47 150 36 37 2Nitrotoluene UG/KG 680 77% 36 47 150 36 37 3.futrotoluene UG/KG 0 7% 36 47 36 31 36.U 3.futrotoluene UG/KG 0 0% 0 31 36.U 36.U 4-amino-2.6-Dinitrotoluene UG/KG 0 76 7 47 150 32.U HMX UG/KG 0 0% 31 28.U 30.U															
2.4-Dinitrotoluene UG/KG 1,100 77% 36 47 26 2.6-Dinitrotoluene UG/KG 60 77% 36 47 52 2-Amino-4,6-Dinitrotoluene UG/KG 60 77% 36 47 150 2-Mitrotoluene UG/KG 0 0% 0 31 3.6 12 3-Nitrotoluene UG/KG 0 0% 0 31 8.2 100 3-Nitrotoluene UG/KG 0 0% 0 31 8.2 100 4-mino-2,6-Dinitrotoluene UG/KG 57% 27 47 8.2 100 4-mino-2,6-Dinitrotoluene UG/KG 47% 0 31 28 28 HMX UG/KG 68% 32 47 28 23 HMX UG/KG 468% 32 47 23 23 Nitroblene UG/KG 47% 36 31 23 23 Nitroblenzene UG/KG 1,500 3% 32 47 30 30															
2,6-Dinitrotoluene UG/KG 6 0 47 28 U 2-amino-4,6-Dinitrotoluene UG/KG 680 77% 36 47 150 J 2-Ahitrotoluene UG/KG 0 0 31 12 U 3,5-Dinitroaniline UG/KG 0 0% 0 31 3.6 U 3-britrotoluene UG/KG 0 0% 0 31 3.6 U 3-britrotoluene UG/KG 0 0% 0 31 3.6 U 3-britrotoluene UG/KG 0 0% 0 31 3.6 U 4-amino-2,e-Dinitrotoluene UG/KG 500 57% 27 47 150 J 4-Nitrotoluene UG/KG 470 68% 32 47 180 Nitrodycerine UG/KG 1,500 3% 1 31 30 U Pentaerythritol Tetranitrate UG/KG 0 0% 3 31 30 U RDX UG/KG 5,600 8%															
2-Nitrobluene UG/KG 0 0% 0 31 12 U 3,5-Dinitroaniline UG/KG 0 0% 0 31 3.6 U 3,5-Dinitroaniline UG/KG 0 0% 0 31 3.6 U 4-anino-2,6-Dinitroaniline UG/KG 500 57% 27 47 150 J 4-anino-2,6-Dinitrobuene UG/KG 500 57% 27 47 28 U HMX UG/KG 470 68% 32 47 28 U HMX UG/KG 1,500 3% 3 31 23 U Nitrobuene UG/KG 1,500 3% 1 31 30 U Nitrobuene UG/KG 1,500 3% 39 47 30 U Pentaerythritol Tetranitrate UG/KG 5,00 8% 39 47 310															
3,5-Dinitroaniline UG/KG 0 0% 0 31 3.6 U 3-Mitrotoluene UG/KG 0 0% 0 31 8.2 UJ 4-amino-2,6-Dinitrotoluene UG/KG 50 57% 27 47 150 J 4-Nitrotoluene UG/KG 0 0% 0 31 28 U HMX UG/KG 470 180 28 U 180 Nitrobenzene UG/KG 470 31 23 U 180 Nitrodycerine UG/KG 1,500 3% 1 31 23 U Pentaerythritol Tetranitrate UG/KG 1,500 3% 1 31 30 U RDX UG/KG 5,800 8% 39 47 310 310	2-amino-4,6-Dinitrotoluene		UG/KG	680	77%			36	47					150 J	
3-Nitrobluene UG/KG 0 0% 0 31 8.2 UJ 4-amino-2,6-Dinitrobluene UG/KG 500 57% 27 47 150 J 4-Nitrobluene UG/KG 40 31 28 U HMX UG/KG 47 68% 32 47 180 Nitroburene UG/KG 4.0 31 23 U 20 Nitroburene UG/KG 1.00 34 23 U 20 Nitroburene UG/KG 1.500 3% 1 31 23 U Pentarythritol Tetranitrate UG/KG 0.0% 0 31 30 U RDX UG/KG 5.00 8% 39 47 310															
4-amino-2,6-Dinitrotoluene UG/KG 500 57% 27 47 150 J 4-Nitrotoluene UG/KG 0 0% 0 31 28 U HMX UG/KG 10 0% 32 47 180 Nitrodycerine UG/KG 1,500 3% 1 31 23 U Nitrodycerine UG/KG 1,500 3% 1 31 30 U Pentaerythritol Tetranitrate UG/KG 5,800 83% 39 47 310															
4-Nitrobluene UG/KG 0 0% 0 31 28 U HMX UG/KG 470 68% 32 47 180 Nitrobenzene UG/KG 0 0% 0 31 23 U Nitrobjveznine UG/KG 1,500 3% 1 31 23 U Pentaerythritol Tetranitrate UG/KG 1,500 3% 1 31 30 U RDX UG/KG 5,800 8% 39 47 310 310															
Nitrobenzene UG/KG 0 0 31 23 U Nitroglycerine UG/KG 1,500 3% 1 31 130 U Pentaerythritol Tetranitrate UG/KG 0 0% 0 31 250 U RDX UG/KG 5,800 83% 39 47 310	4-Nitrotoluene		UG/KG	0	0%			0	31					28 U	
Niroglycerine UG/KG 1,500 3% 1 31 130 U Pentaerythritol Tetranitrate UG/KG 0 0% 0 31 250 U RDX UG/KG 5,800 83% 39 47 310															
Pentaerythritol Tetranitrate UG/KG 0 0 31 250 U RDX UG/KG 5,800 83% 39 47 310															
RDX UG/KG 5,800 83% 39 47 310															
Tetryl UG/KG 330 9% 4 47 5.6 U			UG/KG	5,800	83%				47					310	
	Tetryl		UG/KG	330	9%			4	47					5.6 U	

	Area Loc ID Sample ID Matrix Sample Depth Interval (FT) Sample Date QC Type Study ID			Frequency		Number	Number	Number	SEAD-45 S45-TP-3-02 S45-TP-3-02 SOIL 0.2-0.6 3/15/2010 SA OD Initial Invest	SEAD-45 S45-TP-3-03 S45-TP-3-03 SOIL 0.2-0.6 3/15/2010 SA OD Initial Invest	SEAD-45 S45-TP-3-04 S45-TP-3-04 SOIL 0.2-0.6 3/15/2010 SA OD Initial Invest	SEAD-45 S45-TP-3-05 S45-TP-3-05 SOIL 0.2-0.6 3/15/2010 SA OD Initial Invest	SEAD-45 S45-TP-4-01 S45-TP-4-01 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-TP-4-02 S45-TP-4-02 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest
D		11.21	Maximum	of	Criteria	of		of Samples		N/-1 - 0 - 1	N/-1 - 0 - 1			
Parameter		Unit	Value	Detection	Value	Exceedances	Detected	Analyzed	Value Qual					
Pesticides/PC	CBs													
Aroclor-1016		UG/KG	0	0%	1,000	0	0	34					7.1 U	
Aroclor-1221		UG/KG	0	0%	1,000	0	0	34					16 U	
Aroclor-1232 Aroclor-1242		UG/KG UG/KG	0	0% 0%	1,000 1.000	0	0	34 34					11 U 6.8 U	
Aroclor-1242 Aroclor-1248		UG/KG	0	0%	1,000	0	0	34					7.2 U	
Aroclor-1240		UG/KG	2.000	6%	1,000	1	2	34					5.5 U	
Aroclor-1260		UG/KG	0	0%	1,000	0 0	0	34					7.1 U	
4,4'-DDD		UG/KG	2.4	6%	92,000	0	2	34					0.24 U	
4,4'-DDE		UG/KG	4.2	63%	62,000	0	22	35					0.9 J	
4,4'-DDT		UG/KG	3.4	50%	47,000	0	17	34					0.77 J	
Aldrin		UG/KG	0	0%	680	0	0	34					0.33 U	
Alpha-BHC		UG/KG	0	0%	3,400	0	0	34					0.4 U	
Alpha-Chlorda	ine	UG/KG UG/KG	2 0	12% 0%	24,000	0	4	34 34					0.25 U	
Beta-BHC Delta-BHC		UG/KG	0	0%	3,000	0	0	34 34					0.39 U 0.38 U	
Dieldrin		UG/KG	3.2	41%	500,000 1,400	0	14	34 34					0.38 U 0.79 J	
Endosulfan I		UG/KG	55	60%	200,000	ő	21	35					0.74 J	
Endosulfan II		UG/KG	0.88	3%	200,000	Ő	1	34					0.4 U	
Endosulfan su	lfate	UG/KG	0	0%	200,000	ō	0	34					0.68 U	
Endrin		UG/KG	3.6	3%	89,000	0	1	34					1 U	
Endrin aldehy		UG/KG	0	0%			0	34					0.58 U	
Endrin ketone		UG/KG	0.58	3%			1	34					0.47 U	
Gamma-BHC/		UG/KG	0	0%	9,200	0	0	34					0.32 U	
Gamma-Chlor Heptachlor	dane	UG/KG UG/KG	1.1 0	9% 0%	15.000	0	3	34 34					0.27 U 0.34 U	
Heptachlor ep	oxido	UG/KG	0	0%	15,000	0	0	34					0.34 U 0.26 U	
Methoxychlor	UNICE .	UG/KG	45	3%			1	34					0.59 U	
Toxaphene		UG/KG	0	0%			0	34					8.2 U	
Inorganics														
Aluminum		MG/KG	27,900	100%			97	97	16.500 J	21.700 J	17.400 J	14.400 J	17,800	15.000
Antimony		MG/KG	5.1	33%			32	97	0.2 UJ	5.1 J	0.38 J	0.69 U	0.12 UJ	0.58 J
Arsenic		MG/KG	12.6	100%	16	0	97	97	4.7 J	4.6 J	4.6 J	3.9 J	5	5.7
Barium		MG/KG	365	100%	400	0	97	97	158 J	173 J	154 J	126 J	170	153
Beryllium		MG/KG	1.2	98%	590	0	95	97	0.75 J	0.7 J	0.74 J	0.62 J	0.79	0.7
Cadmium		MG/KG	1,100	81%	9.3	11	77	95	7.9 J	6.9 J	6.1 J	2.8 J	7.3	8.1
Calcium Chromium		MG/KG MG/KG	193,000 446	99% 100%	1,500	0	96 97	97 97	23,000 J 28.1 J	34,100 J 26.7 J	28,800 J 26 J	37,700 J 22.8 J	27,600 27,4	30,900 25
Cobalt		MG/KG	26.8	100%	1,500	U	97 97	97 97	28.1 J 12.1 J	26.7 J 9.2 J	26 J 9.4 J	22.8 J 10 J	27.4	25 11.3
Copper		MG/KG	7,310	100%	270	52	97	97	378 J	716 J	3.4 J	266 J	343	416
Cyanide		MG/KG	0.7	13%	27	0	2	16						
Iron		MG/KG	118,000	100%			97	97	26,900 J	23,400 J	24,300 J	21,500 J	27,500	24,800
Lead		MG/KG	998	100%	1,000	0	97	97	58.3 J	153 J	45.7 J	42.7 J	64.9	57.4
Magnesium		MG/KG	15,000	100%			97	97	7,310 J	7,810 J	9,350 J	8,470 J	7,170	12,100
Manganese		MG/KG	5,040	100%	10,000	0	97	97	580 J	566 J	502 J	420 J	531	577
Nickel Potassium		MG/KG MG/KG	59.3 4,880	100% 100%	310	0	92 76	92 76	40.8 J 2.310 J	39 J 3.220 J	33.9 J 3.510 J	34.8 J 2.590 J	37.9 2.710 J	35.8 2.010 J
Selenium		MG/KG	4,880	4%	1,500	0	4	76 97	2,310 J 0.44 UJ	3,220 J 0.22 UJ	3,510 J 0.21 UJ	2,590 J 0.19 UJ	2,710 J 0.26 U	2,010 J 0.41 U
Silver		MG/KG	205	4% 68%	1,500	0	4 66	97 97	0.44 UJ 2.5 J	0.22 UJ 1.5 U	2.9 J	1.3 U	2.4	3.6
Sodium		MG/KG	213	84%	1,000	0	81	97	101 J	149 J	101 J	137 J	198	195
Thallium		MG/KG	0.27	6%			6	97	0.18 UJ	0.09 UJ	0.09 UJ	0.08 UJ	0.11 U	0.17 U
Vanadium		MG/KG	41.9	100%			97	97	27.6 J	29 J	28.3 J	23 J	28.1	25.7
Zinc		MG/KG	1,470	100%	10,000	0	92	92	315 J	585 J	294 J	241 J	317	304
Mercury		MG/KG	9.1	99%	2.8	49	96	97	2.6 J	8 J	3.2 J	3.2 J	2.4	4.4

Notes: 1) Chemical result qualifiers are assigned by the laboratory and are evaluated and modified (if necessary) by during data validation. U = non-detect, i.e. not detected equal to or above this value. R = Rejected, data validation rejected the re-R = Rejected, data validation rejected the results.

2) Num of Analyses is the number of detected and non-detected results excluding rejected results. Sample duplicate pairs have not been averaged.

3) Chemical results greater than the action level are highlighted, bolded and boxed

4) Criteria action level source document and web address. - The NYS SCO Commercial Use values were obtained from the NYSDEC Soil Cleanup Objectives.

Area Loc IC Sample IC Matri Sample Depth Interval (FT Sample Date QC Type Study IC) k) e	Maximum Value	Frequency of Detection	Criteria Value	Number of Exceedances		Number of Samples	SEAD-45 S45-TP-4-03 S01L 0.2-0.6 3/12/2010 SA OD Initial Invest Value Qual	SEAD-45 S45-TP-4-04 S45-TP-4-04 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest Value Qua	SEAD-45 S45-TP-4-05 S45-TP-4-05 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 SS45-1 SS45-1 SOIL 0-0.2 10/25/1993 SA ESI Value Qual	SEAD-45 SS45-2 SS45-2 SOIL 0-0.2 10/25/1993 SA ESI Value Qual	SEAD-45 SS45-3 SS45-3 SOIL 0-0.2 10/25/1993 SA ESI Value Qual
Volatile Organic Compounds	Unit	Value	Detection	value	Exceedances	Delected	Analyzeu	Value Quai	Value Qua		Value Quai	Value Quai	Value Quai
	UG/KG	0	0%	500,000	0	0	16				40.11	44.11	40.11
1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane	UG/KG	0	0%	500,000	0	0	16				12 U 12 U	11 U 11 U	12 U 12 U
1,1,2-Trichloroethane	UG/KG	õ	0%			õ	16				12 U	11 U	12 U
1,1-Dichloroethane	UG/KG	0	0%	240,000	0	0	16				12 U	11 U	12 U
1,1-Dichloroethene	UG/KG	0	0%	500,000	0	0	16				12 U	11 U	12 U
1,2-Dichloroethane 1,2-Dichloroethene (total)	UG/KG UG/KG	0	0% 0%	30,000 500,000	0	0	16 16				12 U 12 U	11 U 11 U	12 U 12 U
1,2-Dichloropropane	UG/KG	õ	0%	000,000	Ū	õ	16				12 U	11 U	12 U
Acetone	UG/KG	0	0%	500,000	0	0	16				12 U	11 U	12 U
Benzene	UG/KG UG/KG	0	0% 0%	44,000	0	0	16 16				12 U	11 U 11 U	12 U
Bromodichloromethane Bromoform	UG/KG	0	0%			0	16				12 U 12 U	11 U	12 U 12 U
Carbon disulfide	UG/KG	õ	0%			õ	16				12 U	11 U	12 U
Carbon tetrachloride	UG/KG	0	0%	22,000	0	0	16				12 U	11 U	12 U
Chlorobenzene	UG/KG	0	0% 0%	500,000	0	0	16				12 U	11 U	12 U
Chlorodibromomethane Chloroethane	UG/KG UG/KG	0	0% 0%			0	16 16				12 U 12 U	11 U 11 U	12 U 12 U
Chloroform	UG/KG	õ	0%	350,000	0	õ	16				12 U	11 U	12 U
Cis-1,3-Dichloropropene	UG/KG	0	0%			0	16				12 U	11 U	12 U
Ethyl benzene Methyl bromide	UG/KG UG/KG	0	0% 0%	390,000	0	0	16 16				12 U 12 U	11 U 11 U	12 U 12 U
Methyl butyl ketone	UG/KG	0	0%			0	16				12 U 12 U	11 U	12 U 12 U
Methyl chloride	UG/KG	0	0%			0	16				12 U	11 U	12 U
Methyl ethyl ketone	UG/KG	0	0%	500,000	0	0	16				12 U	11 U	12 U
Methyl isobutyl ketone Methylene chloride	UG/KG UG/KG	0	0% 0%	500,000	0	0	16 16				12 U 12 U	11 U 11 U	12 U 12 U
Styrene	UG/KG	0	0%	000,000	0	0	16				12 U	11 U	12 U
Tetrachloroethene	UG/KG	19	38%	150,000	0	6	16				12 U	11 U	12 U
Toluene	UG/KG	0	0% 0%	500,000	0	0	16				12 U	11 U	12 U
Total Xylenes Trans-1,3-Dichloropropene	UG/KG UG/KG	0	0%	500,000	0	0	16 16				12 U 12 U	11 U 11 U	12 U 12 U
Trichloroethene	UG/KG	0	0%	200,000	0	õ	16				12 U	11 U	12 U
Vinyl chloride	UG/KG	0	0%	13,000	0	0	16				12 U	11 U	12 U
Semivolatile Organic Compounds													
1,2,4-Trichlorobenzene 1,2-Dichlorobenzene	UG/KG UG/KG	0 0	0% 0%	500,000	0	0	35 35				410 U 410 U	380 U 380 U	400 U 400 U
1,3-Dichlorobenzene	UG/KG	0	0%	280,000	0	0	35				410 U	380 U	400 U
1,4-Dichlorobenzene	UG/KG	0	0%	130,000	0	0	35				410 U	380 U	400 U
2,2'-oxybis(1-Chloropropane)	UG/KG	0	0%			0	16				410 U	380 U	400 U
2,4,5-Trichlorophenol 2,4,6-Trichlorophenol	UG/KG UG/KG	0	0% 0%			0	35 35				1,000 U 410 U	930 U 380 U	960 U 400 U
2,4-Dichlorophenol	UG/KG	õ	0%			õ	35				410 U	380 U	400 U
2,4-Dimethylphenol	UG/KG	0	0%			0	35				410 U	380 U	400 U
2,4-Dinitrophenol 2,4-Dinitrotoluene	UG/KG UG/KG	0 14,000	0% 37%			0 13	35 35				1,000 U 410 U	930 U 380 U	960 U 400 U
2,6-Dinitrotoluene	UG/KG	700	6%			2	35				410 U	380 U	400 U
2-Chloronaphthalene	UG/KG	0	0%			0	35				410 U	380 U	400 U
2-Chlorophenol	UG/KG	0	0% 0%			0	35				410 U	380 U	400 U
2-Methylnaphthalene 2-Methylphenol	UG/KG UG/KG	0	0%	500,000	0	0	35 35				410 U 410 U	380 U 380 U	400 U 400 U
2-Nitroaniline	UG/KG	0	0%	,	-	ō	35				1,000 U	930 U	960 U
2-Nitrophenol	UG/KG	0	0%			0	35				410 U	380 U	400 U
3 or 4-Methylphenol 3,3'-Dichlorobenzidine	UG/KG UG/KG	0	0% 0%			0	19 35				410 U	380 U	400 U
3-Nitroaniline	UG/KG	0	0%			0	35				1,000 U	930 U	960 U
4,6-Dinitro-2-methylphenol	UG/KG	0	0%			0	35				1,000 U	930 U	960 U
4-Bromophenyl phenyl ether	UG/KG UG/KG	0	0% 0%			0	35 35				410 U 410 U	380 U 380 U	400 U 400 U
4-Chloro-3-methylphenol 4-Chloroaniline	UG/KG	0	0%			0	35 35				410 U	380 U	400 U
4-Chlorophenyl phenyl ether	UG/KG	0	0%			0	35				410 U	380 U	400 U
4-Methylphenol	UG/KG	0	0%	500,000	0	0	16				410 U	380 U	400 U
4-Nitroaniline 4-Nitrophenol	UG/KG UG/KG	0	0% 0%			0	35 35				1,000 U 1,000 U	930 U 930 U	960 U 960 U
Acenaphthene	UG/KG	0	0%	500,000	0	0	35				410 U	380 U	400 U
Acenaphthylene	UG/KG	30	9%	500,000	0	3	35				410 U	380 U	400 U
Anthracene	UG/KG UG/KG	18	6%	500,000 5,600	0	2 8	35				410 U 410 U	380 U	400 U
Benzo(a)anthracene Benzo(a)pyrene	UG/KG UG/KG	50 82	23% 23%	5,600	0 0	8	35 35				410 U 410 U	380 U 380 U	400 U 400 U
Benzo(b)fluoranthene	UG/KG	55	26%	5,600	0	9	35				410 U	380 U	400 U
Benzo(ghi)perylene	UG/KG	66	20%	500,000	0	7 7	35				410 U	380 U	400 U
Benzo(k)fluoranthene	UG/KG	58	20%	56,000	0	1	35				410 U	380 U	400 U

Sample Depth	Area Loc ID Sample ID Matrix h Interval (FT) Sample Date QC Type Study ID		Frequency		Number	Number	Number	SEAD-45 S45-TP-4-03 S45-TP-4-03 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-TP-4-04 S45-TP-4-04 SOIL 0,2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-TP-4-05 S45-TP-4-05 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 SS45-1 SOIL 0-0.2 10/25/1993 SA ESI	SEAD-45 SS45-2 SOIL 0-0.2 10/25/1993 SA ESI	SEAD-45 SS45-3 SS45-3 SOIL 0-0.2 10/25/1993 SA ESI
Parameter	Unit	Maximum Value	of Detection	Criteria Value	of Exceedances		of Samples Analyzed	value Qual	Value Qua	I Value Qual	Value Qual	Value Qual	Value Qual
Bis(2-Chloroethoxy)methane	UG/KG	0	0%			0	35				410 U	380 U	400 U
Bis(2-Chloroethyl)ether	UG/KG	0	0%			0	35				410 U	380 U	400 U
Bis(2-Chloroisopropyl)ether	UG/KG	0	0%			0	19						
Bis(2-Ethylhexyl)phthalate Butylbenzylphthalate	UG/KG UG/KG	740 0	26% 0%			9	35 35				410 U 410 U	380 U 380 U	700 400 U
Carbazole	UG/KG	0	0%			0	35				410 U	380 U	400 U
Chrysene	UG/KG	130	34%	56,000	0	12	35				410 U	380 U	400 U
Dibenz(a,h)anthracene	UG/KG	0	0%	560	0	0	35				410 U	380 U	400 U
Dibenzofuran	UG/KG	0	0%	350,000	0	0	35				410 U	380 U	400 U
Diethyl phthalate	UG/KG	35	3%			1	35				410 U	380 U	400 U
Dimethylphthalate	UG/KG	0	0%			0	35				410 U	380 U	400 U
Di-n-butylphthalate Di-n-octylphthalate	UG/KG UG/KG	6,800 0	34% 0%			12 0	35 35				410 U 410 U	380 U 380 U	400 U 400 U
Fluoranthene	UG/KG	68	31%	500.000	0	11	35				410 U 410 U	380 U 380 U	400 U
Fluorene	UG/KG	0	0%	500,000	õ	0	35				410 U	380 U	400 U
Hexachlorobenzene	UG/KG	110	31%	6,000	0	11	35				410 U	380 U	400 U
Hexachlorobutadiene	UG/KG	0	0%			0	35				410 U	380 U	400 U
Hexachlorocyclopentadiene	UG/KG	0	0%			0	35				410 U	380 U	400 U
Hexachloroethane	UG/KG	1,100	17%			6	35				410 U	380 U	400 U
Indeno(1,2,3-cd)pyrene Isophorone	UG/KG UG/KG	52 0	11% 0%	5,600	0	4	35 35				410 U 410 U	380 U 380 U	400 U 400 U
Naphthalene	UG/KG	30	14%	500,000	0	5	35				410 U	380 U	400 U
Nitrobenzene	UG/KG	0	0%	000,000	0	0	35				410 U	380 U	400 U
N-Nitrosodiphenylamine	UG/KG	320	6%			2	35				410 U	380 U	400 U
N-Nitrosodipropylamine	UG/KG	1,600	14%			5	35				410 U	380 U	400 U
Pentachlorophenol	UG/KG	0	0%	6,700	0	0	35				1,000 U	930 U	960 U
Phenanthrene	UG/KG	46	26%	500,000	0	9	35				410 U	380 U	400 U
Phenol	UG/KG UG/KG	0 110	0% 34%	500,000 500,000	0	0 12	35 35				410 U	380 U	400 U
Pyrene	UG/KG	110	34%	500,000	0	12	30				410 U	380 U	400 U
Herbicides													
2,4,5-T	UG/KG	0	0%	500.000	0	0	35				6.3 U	5.8 U	6 U
2,4,5-TP/Silvex 2,4-D	UG/KG UG/KG	0	0% 0%	500,000	0	0	35 35				6.3 U 63 U	5.8 U 58 U	6 U 60 U
2,4-D 2.4-DB	UG/KG	0	0%			0	35				63 U	58 U	60 U
Dalapon	UG/KG	Ő	0%			0	35				150 U	140 U	150 U
Dicamba	UG/KG	0	0%			0	35				6.3 U	5.8 U	6 U
Dichloroprop	UG/KG	0	0%			0	35				63 U	58 U	60 U
Dinoseb	UG/KG	0	0%			0	35				32 U	29 U	30 U
MCPA	UG/KG	9,400	6%			2	35				9,400	6,300	6,000 U
MCPP	UG/KG	0	0%			0	35				6,300 U	5,800 U	6,000 U
Explosives													
1,3,5-Trinitrobenzene	UG/KG	190	60%			28	47				130 U	130 U	100 J
1,3-Dinitrobenzene 2,4,6-Trinitrotoluene	UG/KG UG/KG	0 1.400	0% 81%			0 38	47 47				130 U 130 U	130 U 130 U	130 U 96 J
2,4,8-Trinitrotoluene	UG/KG	1,400	77%			36	47				130 U	130 U	96 J 130 U
2,6-Dinitrotoluene	UG/KG	0	0%			0	47				130 U	130 U	130 U
2-amino-4,6-Dinitrotoluene	UG/KG	680	77%			36	47				130 U	130 U	99 J
2-Nitrotoluene	UG/KG	0	0%			0	31						
3,5-Dinitroaniline	UG/KG	0	0%			0	31						
3-Nitrotoluene	UG/KG	0	0%			0	31						
4-amino-2,6-Dinitrotoluene	UG/KG	500 0	57%			27 0	47 31				130 U	130 U	130 U
4-Nitrotoluene	UG/KG UG/KG	0 470	0% 68%			0 32	31 47				120 11	130 U	130 U
HMX Nitrobenzene	UG/KG UG/KG	470	0%			32 0	47 31				130 U	130 0	130 0
Nitroglycerine	UG/KG	1,500	3%			1	31						
Pentaerythritol Tetranitrate	UG/KG	0	0%			0 0	31						
RDX	UG/KG	5,800	83%			39	47				130 U	130 U	100 J
Tetryl	UG/KG	330	9%			4	47				130 U	130 U	130 U

	Area Loc ID Sample ID Matrix Sample Depth Interval (FT) Sample Date QC Type Study ID			Frequency		Number	Number	Number	SEAD-45 S45-TP-4-03 S45-TP-4-03 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-TP-4-04 S45-TP-4-04 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 S45-TP-4-05 S45-TP-4-05 SOIL 0.2-0.6 3/12/2010 SA OD Initial Invest	SEAD-45 SS45-1 SOIL 0-0.2 10/25/1993 SA ESI	SEAD-45 SS45-2 SOIL 0-0.2 10/25/1993 SA ESI	SEAD-45 SS45-3 SS45-3 SOIL 0-0.2 10/25/1993 SA ESI
_			Maximum	of	Criteria	of	of Times							
Parameter		Unit	Value	Detection	Value	Exceedances	Detected	Analyzed	Value Qual	Value Qua	I Value Qual	Value Qual	Value Qual	Value Qual
Pesticides/PCBs														
Aroclor-1016		UG/KG	0	0%	1,000	0	0	34				41 U	38 U	40 U
Aroclor-1221		UG/KG	0	0%	1,000	0	0	34				84 U	78 U	81 U
Aroclor-1232		UG/KG	0	0%	1,000	0	0	34				41 U	38 U	40 U
Aroclor-1242		UG/KG	0	0%	1,000	0	0	34				41 U	38 U	40 U
Aroclor-1248		UG/KG	0	0%	1,000	0	0	34				41 U	38 U	40 U
Aroclor-1254		UG/KG	2,000	6%	1,000	1	2	34				41 U	38 U	40 U
Aroclor-1260		UG/KG	0	0%	1,000	0	0	34				41 U	38 U	40 U
4,4'-DDD		UG/KG	2.4	6%	92,000	0	2	34				4.1 U	3.8 U	4 U
4,4'-DDE		UG/KG	4.2	63%	62,000	0	22	35				4.1 U	3.8 U	4 U
4,4'-DDT		UG/KG	3.4	50%	47,000	0	17	34				4.1 U	3.8 U	4 U
Aldrin		UG/KG	0	0%	680	0	0	34				2.1 U	2 U	2 U
Alpha-BHC		UG/KG	0	0%	3,400	0	0	34				2.1 U	2 U	2 U
Alpha-Chlordane		UG/KG UG/KG	2	12% 0%	24,000	0	4	34 34				2.1 U	2 U	2 U
Beta-BHC Delta-BHC		UG/KG	0	0%	3,000 500,000	0	0	34 34				2.1 U 2.1 U	2 U 2 U	2 U 2 U
Dieldrin		UG/KG	3.2	41%	1,400	0	14	34 34				4.1 U	3.8 U	2 U 4 U
Endosulfan I		UG/KG	3.2 55	60%	200,000	0	21	34				4.1 U 2.1 U	3.8 U 2 U	4 U 2 U
Endosulfan II		UG/KG	0.88	3%	200,000	0	1	33				2.1 U 4.1 U	3.8 U	2 U 4 U
Endosulfan sulfate		UG/KG	0.00	0%	200,000	0	ò	34				4.1 U	3.8 U	4 U
Endrin		UG/KG	3.6	3%	89,000	0	1	34				4.1 U	3.8 U	4 U
Endrin aldehyde		UG/KG	0	0%	00,000	0	0	34				4.1 U	3.8 U	4 U
Endrin ketone		UG/KG	0.58	3%			1	34				4.1 U	3.8 U	4 U
Gamma-BHC/Lind	lane	UG/KG	0.00	0%	9,200	0	0	34				2.1 U	2 U	2 U
Gamma-Chlordan		UG/KG	1.1	9%	0,200	0	3	34				2.1 U	2 U	2 U
Heptachlor		UG/KG	0	0%	15,000	0	õ	34				2.1 U	2 U	2 U
Heptachlor epoxid	e	UG/KG	0	0%	,	-	0	34				2.1 U	2 U	2 U
Methoxychlor		UG/KG	45	3%			1	34				21 U	20 U	20 U
Toxaphene		UG/KG	0	0%			0	34				210 U	200 U	200 U
Inorganics														
Aluminum		MG/KG	27,900	100%			97	97	12,700	9,690	10,800	17,300	19,400	18,900
Antimony		MG/KG	5.1	33%			32	97	0.19 UJ	0.16 J	0.14 UJ	10 UJ	11.5 UJ	10.8 UJ
Arsenic		MG/KG	12.6	100%	16	0	97	97	5	3.3	5.4	5	5.5	5.1
Barium		MG/KG	365	100%	400	õ	97	97	151	108	76.1	122	194	115
Beryllium		MG/KG	1.2	98%	590	ő	95	97	0.58	0.42 J	0.54	0.7 J	0.77 J	0.83 J
Cadmium		MG/KG	1,100	81%	9.3	11	77	95	4.5	1.8	0.01 U	2.8	2.4	1.1
Calcium		MG/KG	193,000	99%			96	97	41,800	40,400	53,900	8,510	10,300	21,800
Chromium		MG/KG	446	100%	1,500	0	97	97	22.8	14.4	18.8	24.1	39.3	27.4
Cobalt		MG/KG	26.8	100%			97	97	10.4	6.4	11	10.8	24.3	14.1
Copper		MG/KG	7,310	100%	270	52	97	97	240	115	24.7	79.4	192	55.8
Cyanide		MG/KG	0.7	13%	27	0	2	16				0.56 U	0.57 U	0.58 U
Iron		MG/KG	118,000	100%			97	97	25,300	15,500	19,000	25,800	75,700	30,500
Lead		MG/KG	998	100%	1,000	0	97	97	50.9	30.3	11.2	20.4	15.7	12
Magnesium		MG/KG	15,000	100%			97	97	10,300	12,500	8,380	5,530	5,950	6,790
Manganese		MG/KG	5,040	100%	10,000	0	97	97	466	380	379	562	1,150	627
Nickel		MG/KG	59.3	100%	310	0	92	92	35.5	20	34.3	29.4 UR	41.3 UR	40.5 UR
Potassium		MG/KG	4,880	100%	4 500	0	76	76	1,890 J	1,870 J	1,790 J	2,310	3,140	2,720
Selenium		MG/KG	0.92	4%	1,500	0	4	97	0.56 J	0.22 U	0.3 U	0.27 U	0.18 U	0.21 U
Silver		MG/KG MG/KG	205 213	68% 84%	1,500	0	66 81	97 97	1.4 J	0.38 J	0.12 J	1.3 UJ	1.5 UJ	2.1
Sodium Thallium		MG/KG MG/KG	0.27				6	97 97	196	166 0.09 U	188	67.1 J 0.29 UJ	100 J	114 J 0.23 UJ
Vanadium		MG/KG MG/KG	0.27 41.9	6% 100%			6 97	97 97	0.18 U 21.7	17.5	0.15 J 18.5	0.29 UJ 28.6	0.2 UJ 35.4	0.23 UJ 30.5
Zinc		MG/KG	1,470	100%	10,000	0	97	92	371	336	80.1	148 UR	122 UR	115 UR
Mercury		MG/KG	9.1	99%	2.8	49	96	97	9.1	6.7	0.04	0.43	0.63	0.17
y			0.1	0070	2.0	.5	50	51	V.1	0.1		0.40	0.00	0.17

Notes: 1) Chemical result qualifiers are assigned by the laboratory and are evaluated and modified (if necessary) by during data validation. U = non-detect, i.e. not detected equal to or above this value. [Blank] = detected chemical result value. R = Rejected, data validation rejected the results. Sample duplicate pairs have not been averaged. R = Rejected, data validation rejected the results.

3) Chemical results greater than the action level are highlighted, bolded and boxed

4) Criteria action level source document and web address. - The NYS SCO Commercial Use values were obtained from the NYSDEC Soil Cleanup Objectives.

Lo Samp	latrix (FT) Date Type		Frequency		Number	Number	Number	SEAD-45 SS45-4 SS45-4 SOIL 0-0.2 10/25/1993 SA ESI	SEAD-45 SS45-5 SS45-10 SOIL 0-0.2 10/25/1993 DU ESI	SEAD-45 SS45-5 SOIL 0-0.2 10/25/1993 SA ESI	SEAD-45 SS45-6 SS45-6 SOIL 0-0.2 10/25/1993 SA ESI	SEAD-45 SS45-7 SOIL 0-0.2 10/25/1993 SA ESI	SEAD-45 SS45-8 SS45-8 SOIL 0-0.2 10/25/1993 SA ESI
Parameter	Unit	Maximum Value	of Detection	Criteria Value	of Exceedances		of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/KG	0	0%	500,000	0	0	16	11 UJ	12 U	12 U	11 U	11 U	12 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%			0	16	11 UJ	12 U	12 U	11 U	11 U	12 U
1,1,2-Trichloroethane 1,1-Dichloroethane	UG/KG UG/KG	0	0% 0%	240,000	0	0	16 16	11 UJ 11 UJ	12 U 12 U	12 U 12 U	11 U 11 U	11 U 11 U	12 U 12 U
1,1-Dichloroethene	UG/KG	0	0%	500,000	0	0	16	11 UJ	12 U	12 U	11 U	11 U	12 U
1,2-Dichloroethane	UG/KG	0	0%	30,000	0	0	16	11 UJ	12 U	12 U	11 U	11 U	12 U
1,2-Dichloroethene (total) 1,2-Dichloropropane	UG/KG UG/KG	0	0% 0%	500,000	0	0	16 16	11 UJ 11 UJ	12 U 12 U	12 U 12 U	11 U 11 U	11 U 11 U	12 U 12 U
Acetone	UG/KG	0	0%	500,000	0	0	16	11 UJ	12 U	12 U	11 U	11 U	12 U
Benzene	UG/KG	0	0%	44,000	0	0	16	11 UJ	12 U	12 U	11 U	11 U	12 U
Bromodichloromethane Bromoform	UG/KG UG/KG	0	0% 0%			0	16 16	11 UJ 11 UJ	12 U 12 U	12 U 12 U	11 U 11 U	11 U 11 U	12 U 12 U
Carbon disulfide	UG/KG	0	0%			0	16	11 UJ	12 U	12 U	11 U	11 U	12 U
Carbon tetrachloride	UG/KG	0	0%	22,000	0	0	16	11 UJ	12 U	12 U	11 U	11 U	12 U
Chlorobenzene	UG/KG	0	0%	500,000	0	0	16	11 UJ	12 U	12 U	11 U	11 U	12 U
Chlorodibromomethane Chloroethane	UG/KG UG/KG	0	0% 0%			0	16 16	11 UJ 11 UJ	12 U 12 U	12 U 12 U	11 U 11 U	11 U 11 U	12 U 12 U
Chloroform	UG/KG	0	0%	350,000	0	0	16	11 UJ	12 U	12 U	11 U	11 U	12 U
Cis-1,3-Dichloropropene	UG/KG	0	0%			0	16	11 UJ	12 U	12 U	11 U	11 U	12 U
Ethyl benzene Methyl bromide	UG/KG UG/KG	0	0% 0%	390,000	0	0	16 16	11 UJ 11 UJ	12 U 12 U	12 U 12 U	11 U 11 U	11 U 11 U	12 U 12 U
Methyl butyl ketone	UG/KG	0	0%			0	16	11 UJ	12 U	12 U	11 U	11 U	12 U
Methyl chloride	UG/KG	0	0%			0	16	11 UJ	12 U	12 U	11 U	11 U	12 U
Methyl ethyl ketone	UG/KG	0	0%	500,000	0	0	16	11 UJ	12 U	12 U	11 U	11 U	12 U
Methyl isobutyl ketone Methylene chloride	UG/KG UG/KG	0	0% 0%	500,000	0	0	16 16	11 UJ 11 UJ	12 U 12 U	12 U 12 U	11 U 11 U	11 U 11 U	12 U 12 U
Styrene	UG/KG	õ	0%	000,000	Ū	õ	16	11 UJ	12 U	12 U	11 U	11 U	12 U
Tetrachloroethene	UG/KG	19	38%	150,000	0	6	16	11 UJ	12 U	12 U	11 U	11 U	12 U
Toluene Total Xylenes	UG/KG UG/KG	0	0% 0%	500,000 500,000	0	0	16 16	11 UJ 11 UJ	12 U 12 U	12 U 12 U	11 U 11 U	11 U 11 U	12 U 12 U
Trans-1,3-Dichloropropene	UG/KG	0	0%	300,000	0	0	16	11 UJ	12 U	12 U	11 U	11 U	12 U
Trichloroethene	UG/KG	0	0%	200,000	0	0	16	11 UJ	12 U	12 U	11 U	11 U	12 U
Vinyl chloride	UG/KG	0	0%	13,000	0	0	16	11 UJ	12 U	12 U	11 U	11 U	12 U
Semivolatile Organic Compounds	110/1/0	0	00/				05	000.11	000.11	000.11	000.11	000.11	100.11
1,2,4-Trichlorobenzene 1,2-Dichlorobenzene	UG/KG UG/KG	0	0% 0%	500,000	0	0	35 35	360 U 360 U	390 U 390 U	390 U 390 U	360 U 360 U	380 U 380 U	420 U 420 U
1,3-Dichlorobenzene	UG/KG	õ	0%	280,000	õ	õ	35	360 U	390 U	390 U	360 U	380 U	420 U
1,4-Dichlorobenzene	UG/KG	0	0%	130,000	0	0	35	360 U	390 U	390 U	360 U	380 U	420 U
2,2'-oxybis(1-Chloropropane) 2,4,5-Trichlorophenol	UG/KG UG/KG	0	0% 0%			0	16 35	360 U 870 U	390 U 950 U	390 U 950 U	360 U 870 U	380 U 920 U	420 U 1,000 U
2,4,6-Trichlorophenol	UG/KG	0	0%			0	35	360 U	390 U	390 U	360 U	380 U	420 U
2,4-Dichlorophenol	UG/KG	0	0%			0	35	360 U	390 U	390 U	360 U	380 U	420 U
2,4-Dimethylphenol	UG/KG UG/KG	0	0% 0%			0	35 35	360 U 870 U	390 U 950 U	390 U 950 U	360 U 870 U	380 U 920 U	420 U 1,000 U
2,4-Dinitrophenol 2,4-Dinitrotoluene	UG/KG	14,000	37%			13	35	360 U	950 U 75 J	160 J	830	380 U	420 U
2,6-Dinitrotoluene	UG/KG	700	6%			2	35	360 U	390 U	390 U	41 J	380 U	420 U
2-Chloronaphthalene	UG/KG UG/KG	0	0% 0%			0	35 35	360 U 360 U	390 U 390 U	390 U 390 U	360 U 360 U	380 U 380 U	420 U 420 U
2-Chlorophenol 2-Methylnaphthalene	UG/KG	0	0%			0	35	360 U	390 U	390 U	360 U	380 U	420 U
2-Methylphenol	UG/KG	0	0%	500,000	0	0	35	360 U	390 U	390 U	360 U	380 U	420 U
2-Nitroaniline	UG/KG	0	0% 0%			0	35 35	870 U	950 U	950 U	870 U	920 U	1,000 U
2-Nitrophenol 3 or 4-Methylphenol	UG/KG UG/KG	0	0%			0	35 19	360 U	390 U	390 U	360 U	380 U	420 U
3,3'-Dichlorobenzidine	UG/KG	0	0%			0	35	360 U	390 U	390 U	360 U	380 U	420 U
3-Nitroaniline	UG/KG	0	0%			0	35	870 U	950 U	950 U	870 U	920 U	1,000 U
4,6-Dinitro-2-methylphenol 4-Bromophenyl phenyl ether	UG/KG UG/KG	0	0% 0%			0	35 35	870 U 360 U	950 U 390 U	950 U 390 U	870 U 360 U	920 U 380 U	1,000 U 420 U
4-Chloro-3-methylphenol	UG/KG	0	0%			0	35	360 U	390 U	390 U	360 U	380 U	420 U
4-Chloroaniline	UG/KG	0	0%			0	35	360 U	390 U	390 U	360 U	380 U	420 U
4-Chlorophenyl phenyl ether 4-Methylphenol	UG/KG UG/KG	0	0% 0%	500,000	0	0	35 16	360 U 360 U	390 U 390 U	390 U 390 U	360 U 360 U	380 U 380 U	420 U 420 U
4-Nitroaniline	UG/KG	0	0%	300,000	U	0	35	870 U	950 U	950 U	870 U	920 U	1,000 U
4-Nitrophenol	UG/KG	0	0%			0	35	870 U	950 U	950 U	870 U	920 U	1,000 U
Acenaphthene	UG/KG	0	0%	500,000	0	0	35	360 U	390 U	390 U	360 U	380 U	420 U
Acenaphthylene Anthracene	UG/KG UG/KG	30 18	9% 6%	500,000 500,000	0	3 2	35 35	360 U 360 U	390 U 390 U	30 J 18 J	360 U 360 U	380 U 380 U	420 U 420 U
Benzo(a)anthracene	UG/KG	50	23%	5,600	0	8	35	360 U	32 J	50 J	31 J	380 U	420 U
Benzo(a)pyrene	UG/KG	82	23%	1,000	0	8	35	360 U	44 J	82 J	45 J	380 U	420 U
Benzo(b)fluoranthene Benzo(ghi)perylene	UG/KG UG/KG	55 66	26% 20%	5,600 500,000	0	9 7	35 35	360 U 360 U	33 J 27 J	55 J 39 J	36 J 360 U	380 U 380 U	420 U 420 U
Benzo(k)fluoranthene	UG/KG	58	20%	56,000	0	7	35	360 U	18 J	58 J	360 U	380 U	420 U

Area Loc ID Sample ID Matrix Sample Deth Interval (FT) Sample Date QC Type Study ID			Frequency		Number	Number	Number	SEAD-45 SS45-4 SS45-4 SOIL 0-0.2 10/25/1993 SA ESI	SEAD-45 SS45-5 SS45-10 SOIL 0-0.2 10/25/1993 DU ESI	SEAD-45 SS45-5 SS45-5 SOIL 0-0.2 10/25/1993 SA ESI	SEAD-45 SS45-6 SS45-6 SOIL 0-0.2 10/25/1993 SA ESI	SEAD-45 SS45-7 SS45-7 SOIL 0-0.2 10/25/1993 SA ESI	SEAD-45 SS45-8 SS45-8 SOIL 0-0.2 10/25/1993 SA ESI
Parameter	Unit	Maximum Value	of Detection	Criteria Value	of Exceedances	of Times	of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Bis(2-Chloroethoxy)methane	UG/KG	0	0%			0	35	360 U	390 U	390 U	360 U	380 U	420 U
Bis(2-Chloroethyl)ether Bis(2-Chloroisopropyl)ether	UG/KG UG/KG	0	0% 0%			0	35 19	360 U	390 U	390 U	360 U	380 U	420 U
Bis(2-Ethylhexyl)phthalate	UG/KG	740	26%			9	35	430	700	740	360 U	210 J	470
Butylbenzylphthalate	UG/KG	0	0%			0	35	360 U	390 U	390 U	360 U	380 U	420 U
Carbazole Chrysene	UG/KG UG/KG	0 130	0% 34%	56,000	0	0 12	35 35	360 U 19 J	390 U 55 J	390 U 68 J	360 U 52 J	380 U 380 U	420 U 20 J
Dibenz(a,h)anthracene	UG/KG	0	0%	560	0	0	35	360 U	390 U	390 U	360 U	380 U	420 U
Dibenzofuran	UG/KG	Ō	0%	350,000	ō	Ō	35	360 U	390 U	390 U	360 U	380 U	420 U
Diethyl phthalate	UG/KG	35	3%			1	35	360 U	390 U	390 U	360 U	380 U	420 U
Dimethylphthalate	UG/KG	0	0%			0	35	360 U	390 U	390 U	360 U	380 U	420 U 420 U
Di-n-butylphthalate Di-n-octylphthalate	UG/KG UG/KG	6,800 0	34% 0%			12 0	35 35	360 U 360 U	31 J 390 U	110 J 390 U	900 360 U	380 U 380 U	420 U 420 U
Fluoranthene	UG/KG	68	31%	500,000	0	11	35	23 J	44 J	66 J	42 J	380 U	420 U 22 J
Fluorene	UG/KG	0	0%	500,000	ō	0	35	360 U	390 U	390 U	360 U	380 U	420 U
Hexachlorobenzene	UG/KG	110	31%	6,000	0	11	35	20 J	41 J	43 J	55 J	380 U	420 U
Hexachlorobutadiene	UG/KG	0	0%			0	35	360 U	390 U	390 U	360 U	380 U	420 U
Hexachlorocyclopentadiene Hexachloroethane	UG/KG UG/KG	0 1,100	0% 17%			0	35 35	360 U 360 U	390 U 390 U	390 U 390 U	360 U 21 J	380 U 380 U	420 U 420 U
Indeno(1,2,3-cd)pyrene	UG/KG	52	11%	5,600	0	4	35	360 U	390 U	52 J	360 U	380 U	420 U
Isophorone	UG/KG	0	0%	0,000	0	0	35	360 U	390 U	390 U	360 U	380 U	420 U
Naphthalene	UG/KG	30	14%	500,000	0	5	35	360 U	390 U	21 J	360 U	380 U	420 U
Nitrobenzene	UG/KG	0	0%			0	35	360 U	390 U	390 U	360 U	380 U	420 U
N-Nitrosodiphenylamine	UG/KG	320	6% 14%			2	35 35	360 U	390 U	390 U	360 U	380 U	420 U
N-Nitrosodipropylamine Pentachlorophenol	UG/KG UG/KG	1,600 0	0%	6,700	0	5	35 35	360 U 870 U	390 U 950 U	390 U 950 U	110 J 870 U	380 U 920 U	420 U 1,000 U
Phenanthrene	UG/KG	46	26%	500,000	0	9	35	360 U	31 J	38 J	25 J	320 U	420 U
Phenol	UG/KG	0	0%	500,000	ō	Ō	35	360 U	390 U	390 U	360 U	380 U	420 U
Pyrene	UG/KG	110	34%	500,000	0	12	35	35 J	76 J	100 J	79 J	380 U	30 J
Herbicides													
2,4,5-T	UG/KG	0	0%			0	35	5.4 U	6 U	5.9 U	5.5 U	5.7 U	6.3 U
2,4,5-TP/Silvex	UG/KG	0	0%	500,000	0	0	35	5.4 U	6 U	5.9 UJ	5.5 U	5.7 U	6.3 U
2,4-D	UG/KG	0	0%			0	35	54 U	60 U	59 U	55 U	57 U	63 U
2,4-DB Dalapon	UG/KG UG/KG	0	0% 0%			0	35 35	54 U 130 U	60 U 150 U	59 U 150 U	55 U 130 U	57 U 140 U	63 U 160 U
Dicamba	UG/KG	0	0%			0	35	5.4 U	6 U	5.9 U	5.5 U	5.7 U	6.3 U
Dichloroprop	UG/KG	0	0%			0	35	54 U	60 U	59 U	55 U	57 U	63 U
Dinoseb	UG/KG	0	0%			0	35	27 U	30 U	30 UJ	28 U	29 U	32 U
MCPA	UG/KG	9,400	6%			2	35	5,400 U	6,000 U	5,900 U	5,500 U	5,700 U	6,300 U
MCPP	UG/KG	0	0%			0	35	5,400 U	6,000 U	5,900 U	5,500 U	5,700 U	6,300 U
Explosives													
1,3,5-Trinitrobenzene 1.3-Dinitrobenzene	UG/KG UG/KG	190 0	60% 0%			28 0	47 47	100 U 130 U	130 UJ 130 UJ	130 UJ 130 UJ	120 J 130 U	130 UJ 130 UJ	130 UJ 130 UJ
2.4.6-Trinitrotoluene	UG/KG	1,400	81%			38	47	130 U	80 J	84 J	190	130 UJ	130 UJ
2.4-Dinitrotoluene	UG/KG	1,100	77%			36	47	110 J	140 J	150 J	160	130 UJ	130 UJ
2,6-Dinitrotoluene	UG/KG	0	0%			0	47	130 U	130 UJ	130 UJ	130 U	130 UJ	130 UJ
2-amino-4,6-Dinitrotoluene	UG/KG	680	77%			36	47	130 U	270 J	280 J	590	130 UJ	130 UJ
2-Nitrotoluene	UG/KG	0	0%			0	31						
3,5-Dinitroaniline 3-Nitrotoluene	UG/KG UG/KG	0	0% 0%			0	31 31						
4-amino-2.6-Dinitrotoluene	UG/KG	500	57%			27	47	130 U	130 UJ	130 UJ	130 U	130 UJ	130 UJ
4-Nitrotoluene	UG/KG	0	0%			0	31					100 50	
HMX	UG/KG	470	68%			32	47	130 U	140 J	120 J	130 U	130 UJ	130 UJ
Nitrobenzene	UG/KG	0	0%			0	31						
Nitroglycerine	UG/KG	1,500	3%			1	31						
Pentaerythritol Tetranitrate RDX	UG/KG UG/KG	0 5.800	0% 83%			0 39	31 47	82 J	290 J	280 J	1.800	83 J	130 UJ
Tetryl	UG/KG	5,800 330	83% 9%			39	47 47	82 J 90 J	290 J 130 J	280 J 130 UJ	1,800	83 J 130 UJ	130 UJ 130 UJ
·,·	50,0	000	0,0			•		000			000		

Hamman Hamman<		Area Loc ID Sample ID Matrix Sample Depth Interval (FT) Sample Date QC Type Study ID			Frequency		Number	Number	Number	SEAD-45 SS45-4 SOIL 0-0.2 10/25/1993 SA ESI	SEAD-45 SS45-5 SS45-10 SOIL 0-0.2 10/25/1993 DU ESI	SEAD-45 SS45-5 SOIL 0-0.2 10/25/1993 SA ESI	SEAD-45 SS45-6 SOIL 0-0.2 10/25/1993 SA ESI	SEAD-45 SS45-7 SS45-7 SOIL 0-0.2 10/25/1993 SA ESI	SEAD-45 SS45-8 SS45-8 SOIL 0-0.2 10/25/1993 SA ESI
Persidicar/Clas UGKG 0 0 34 38 U 48 U 44 U Arader-126 UGKKG 4.2 05 K 0.00 1 2 34 38 U 38 U 38 U 41 U 44 U Arader-126 UGKKG 4.2 05 K 0.00 1 34 36 U 33 U 38 U 38 U 41 U Ar4 DDF UGKKG 0 05 K 36 U 34 U 34 U 34 U 32 U 11 U 32 U 31 U<	Deservator		Linit	Maximum	of	Criteria	of		of Samples	Value Ovel	Value Ovel	Value Ovel	Value Ovel	Value Ouel	Value Ovel
Andport 176 UGKS 0 0 34 38 U 38 U 38 U 38 U 38 U 41 U Andport 172 UGKS 0 0% 1.000 0 34 38 U 38 U<			Unit	value	Detection	value	Exceedances	Delected	Analyzeu	Value Quai	Value Quai	value Qual	Value Quai	Value Qual	Value Quai
Accor:221 UGKG 0 0 54 75 0 76 0 77 0 84 0 Accor:123 UGKG 0 0 54 85 0 100 0 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100				0	00/	4 000	0	0	24	00.11	00.11	00.11	00.11	00.11	44.11
Ander/122 UGKG 0 0 5 1,000 0 0 34 36 U 38 U 38 U 38 U 38 U 41 U Ander/122 UGKG 0.0 0 14 38 U 38 U 38 U 38 U 38 U 38 U 41 U Ander/124 UGKG 2,000 0 1,000 0 2 34 38 U 38 U 38 U 38 U 41 U Ander/124 UGKG 2,000 0 2 34 38 U 38 U 38 U 38 U 41 U Ander/124 UGKG 2 0 0 2 34 38 U 38 U 38 U 41 U Addm UGKG 0 76 880 0 0 34 18 U 2 U 18 U 19 U 2 U 19 U 2 U 10 38 U				-			-	-							
Anoder:1242 UGKG 0 0 5 1.000 0 0 34 38 U 38 U 38 U 38 U 38 U 41 U Anoder:1242 UGKG 20 0 1.000 0 24 38 U 41 U Anoder:1242 UGKG 2.0 0 2.4 38 U 38 U 38 U 38 U 38 U 44 U Anoder:1242 UGKG 4.2 0% 62,000 0 2.4 38 U 38 U 38 U 4.2 U															
Arador.128 UGKG 0 0% 1.000 1 2 34 38 U 38 U 38 U 38 U 38 U 38 U 41 U Arador.1282 UGKG 0 0% 1.000 0 2 34 38 U 41 U Arador.1282 UGKG 0 0% 1.000 0 2 34 38 U 38 U 38 U 38 U 42 U 44+DD UGKG 3.4 600 0% 42 U 38 U 41 U 44 U 44+DD UGKG 0 0% 600 0 43 18 U 2 U 2 U 18 U 13 U 2 U U Adm UGKG 0 0% 50,000 0 0 44 18 U 2 U 2 U 18 U 13 U 2 U U Deside/In UGKG 0 0% 50,000 0 14 48 U 2 U <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>															
$ \begin{array}{c} \frac{1}{1000} & \frac{1}{100} & \frac{1}{100}$							0								
Arcdor/280 UGKG 0 0% 1.00 0 2 34 35.0 38.0 39.0 30.0 38.0 41.0 44-DDE UGKG 4.2 6% 62.000 0 2.2 34 31.0 34.1 33.0 4.2.1 38.0 4.2.1 44-DDE UGKG 0.2 6% 50.00 0 2.2 34 31.0 3.1.1 33.0 4.2.1 38.0 4.1.0 44-DDE UGKG 0 7% 34.00 0 0 34 15.0 2.0 2.0 1.0 1.0 2.1.0 Apha-Chordrane UGKG 0 7% 34.00 0 4.4 1.5.0 2.0 1.5.0 1.9.0 2.1.0 Benefaction UGKG 0 7% 20.000 0 4.4 35.0 2.0 1.5.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.							1	2							
44-DDC UKKG 24 6% 92.00 0 2 34 36.0 38.0 43.0 44.10 44-DDC UKKG 34.2 6% 62.00 0 22 34 36.0 38.0 43.0 43.0 44.0 44-DDT UKKG 34.2 6% 67.00 0 77 34 36.0 34.1 30.0 42.0 10.0 44.10 44-DT UKKG 34.2 6% 77.0 34 36.0 24.0 10.0							o o								
44-bDE UGKG 4.2 63% 62.00 0 27 35 3.2.3 3.4.3 3.9.0 4.2.3 3.8.0 4.1.0 Adrim UGKG 0 0% 6500 0 34 3.0.0 2.0.0 1.8.0.0 1.9.0.0 2.1.0.1 Adrim UGKG 0 0% 8.600 0 34 1.8.0.0 2.0.0 1.8.0.0 1.9.0.0 2.1.0.1 Bern-Brid UGKG 0 0% 3.0.0 0 0 34 1.8.0.0 2.0.0 1.8.0.0 1.9.0.0 2.1.0.1 Bern-Brid UGKG 0 0% 3.0.0 0 0 34 1.8.0.0 2.0.0 1.8.0.0 1.9.0.0 2.1.0.1 Delta-Brid UGKG 0.0 0% 3.4.0 3.8.0.0 <td></td> <td></td> <td>UG/KG</td> <td></td> <td></td> <td></td> <td>0</td> <td>2</td> <td>34</td> <td>3.6 U</td> <td></td> <td>3.9 U</td> <td>3.6 U</td> <td>3.8 U</td> <td>4.1 U</td>			UG/KG				0	2	34	3.6 U		3.9 U	3.6 U	3.8 U	4.1 U
AirinUGAKG000341.8 U2 U2 U1.8 U1.9 U2.1 UAlpha-BHCUGAKG012/2*2/4 A00044341.5 J1.1 J2 U2 J1.8 U1.9 U2.1 UAlpha-BHCUGAKG012/2*12/4 A00044341.5 J1.1 J2 U2 J1.8 U1.9 U2.1 UBest-BHCUGAKG0012/2*3.8 U1.8 U1.2 U1.8 U1.2 U1.8 U1.9 U2.1 UDelationUGAKG3.241%1.4000144.2 5.J3.8 U3.9 U3.6 U3.8 U1.2 U1.1 UEndosultan sultateUGAKG0.83%200.000013.43.6 U3.8 U3.9 U3.6 U3.8 U4.1 UEndosultan sultateUGAKG0.83%200.000013.43.8 U3.8 U3.9 U3.6 U3.8 U4.1 UEndosultan sultateUGAKG0.83%9.000013.41.8 U2.U2.U1.8 U1.9 U2.1 UGamma-ChiOrdaneUGAKG0.87%9.000003.41.8 U2.U2.U1.8 U1.9 U2.1 UGamma-ChiOrdaneUGAKG07%9.00003.41.8 U2.U2.U1.8 U1.9 U2.1 UHeptachiCrepoideUGAKG07%1.500 <td< td=""><td></td><td></td><td>UG/KG</td><td>4.2</td><td>63%</td><td>62,000</td><td>0</td><td>22</td><td>35</td><td></td><td></td><td></td><td></td><td></td><td>4.1 U</td></td<>			UG/KG	4.2	63%	62,000	0	22	35						4.1 U
Apha-BhC UGKG 0 % 3.400 0 0 3.4 1.8 2 2 1.8 1 1.1 2 1 2 1 9 2.1 1 9 2.1 1 9 2.1 1 9 2.1 1 9 1 1 2 1 1 2 1 1 9 1 <t< td=""><td>4,4'-DDT</td><td></td><td>UG/KG</td><td>3.4</td><td>50%</td><td>47,000</td><td>0</td><td>17</td><td>34</td><td>3.6 U</td><td>3.4 J</td><td>3.9 U</td><td>2.8 J</td><td>3.8 U</td><td>4.1 U</td></t<>	4,4'-DDT		UG/KG	3.4	50%	47,000	0	17	34	3.6 U	3.4 J	3.9 U	2.8 J	3.8 U	4.1 U
Ajbra-Chlordane UGKG 2 12% 24,000 0 4 34 1.5.J 1.1.J 2 U 2.J 1.9.U 2.1.U Detta-BHC UGKG 0 0% 500,000 0 0 34 1.8.U 2.U 2.U 1.8.U 1.9.U 2.1.U Detta-BHC UGKG 0.6 6 4 1.8.U 1.8.U 2.U 2.U 1.8.U 1.9.U 2.1.U Detta-BHC UGKG 0.6 6 6 6 6 6 6 6 6 7 1.1.1.1.1.2 1.1.1.1.2 1.1.1.1.2 1.1.1.1.2 1.1.1.1.1.2 1.1.1.1.2 1.1.1.1.2 1.1.1.1.1.2 1.1.1.1.1.2 1.1.1.1.1.2 1.1.1.1.1.2 1.1.1.1.1.2	Aldrin		UG/KG	0	0%	680	0	0	34	1.8 U	2 U	2 U	1.8 U	1.9 U	2.1 U
Beins-BHC UG/KG 0 0% 50.000 0 0 34 1.8 U 2 U 2 U 1.8 U 1.9 U 2.1 U Diedidin UG/KG 32 41% 1.400 0 14 34 2.5 J 3.8 U 3.9 U 3.2 J 3.8 U 1.9 U 2.1 U Diedidin UG/KG 55 6% 200.000 0 1 34 3.6 U 3.8 U 3.8 U 3.8 U 4.1 U Endexulant UG/KG 6.6 9% 200.000 0 1 34 3.6 U 3.8 U 3.8 U 3.8 U 4.1 U Endin kubbe UG/KG 0.6 9% 0 0 3.4 3.6 U 3.8 U 3.9 U 3.6 U 3.8 U 4.1 U Endin kubbe UG/KG 0.6 9% 2.00 0 3.4 1.8 U 2.U 2.U 1.8 U 1.9 U 2.1 U Endin kubbe UG/KG 1.5.00 9% 2.0 U	Alpha-BHC					3,400	0	0		1.8 U	2 U		1.8 U	1.9 U	
Definition UG/KG 0 0 0 0 1 1 2 1 2 1															
Diddini UGKG 52 41% 1400 0 14 34 22.5 J 3.8 U 3.2 J 3.8 U 4.1 U Endosulfan I UGKG 55 60% 200.000 0 14 3.6 U 3.8 U 3.9 U 3.6 U 3.8 U 4.1 U Endosulfan sultate UGKG 0.88 3% 200.000 0 144 3.6 U 3.8 U 3.9 U 3.6 U 3.8 U 4.1 U Endosulfan sultate UGKG 0.8 3% 80.00 0 144 3.6 U 3.8 U 3.9 U 3.6 U 3.8 U 4.1 U Endosulfan ketone UGKG 0.58 3% 0 0 34 3.6 U 3.8 U 3.9 U 3.6 U 3.8 U 4.1 U Endosulfan ketone UGKG 0 0 34 1.8 U 2.U 1.8 U 1.9 U 2.1 U Methoxychor UGKG 0 0% 1 34 18 U 2.U 1.8 U 1.9 U <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							-	-							
Endoculan I UGKG 65 60% 200,000 0 21 35 1.8 U 2 U 1.8 J 1.8 U 1.9 U 2.1 U Endoculan sulate UGKG 0.8 36.0 3.8 U 3.9 U 3.6 U 3.8 U 4.1 U Endor UGKG 0.8 0.0 0.0 1 34 3.6 U 3.8 U 3.9 U 3.6 U 3.8 U 4.1 U Endin UGKG 0.0 0.0 34 3.6 U 3.8 U 3.9 U 3.6 U 3.8 U 4.1 U Endin fabriyde UGKG 0.0 0.0 34 3.8 U 3.2 U 3.0 U 3.8 U 4.1 U GammaShore UGKG 0.0 0.0 3.4 1.8 U 2.U 2.U 1.8 U 1.9 U 2.1 U Heptachor UGKG 0.0 0.0 3.4 1.8 U 2.U 2.U 1.8 U 1.9 U 2.1 U Methoxychor UGKG 0.0 0.0 0.34															
Endoculfan II UGKG 0.88 3% 200,000 0 1 34 3.6 U 3.8 U 3.9 U 3.6 U 3.8 U 4.1 U Endoculfan Iulane UGKG 0.0 0.0 1.4 3.6 U 3.8 U 3.9 U 3.6 U 3.8 U 4.1 U Endrin Metore UGKG 0.0 0.0 4.4 3.6 U 3.8 U 3.9 U 3.6 U 3.8 U 4.1 U Endrin Metore UGKG 0.0 % .0 3.4 3.6 U 3.8 U 3.8 U 4.1 U Endoculfan II UGKG 0.0 % 8,200 0 3.4 1.8 U 2.0 U 2.0 U 1.8 U 1.9 U 2.1 U Gamma-BI-CLindane UGKG 0.0 % 5,000 0 3.4 1.8 U 2.0 U 2.0 U 1.8 U 1.9 U 2.1 U Metorychior UGKG 0.0 % 15,000 17,600 1.8 U 1.9 U 2.1 U Marinory MGKG 2.1 00% 100% 7.7 90 <td></td>															
Endocularia sulfate UGKG 0 0 3.4 3.6 U 3.8 U 3.9 U 3.6 U 3.8 U 4.1 U Endrin UGKG 0.6 0 0 1 3.4 3.6 U 3.8 U 3.9 U 3.6 U 3.8 U 4.1 U Endrin ladehyde UGKG 0.6 0 0% 1 3.4 3.6 U 3.8 U 3.9 U 3.6 U 3.8 U 4.1 U Endrin kolone UGKG 0.0 0% 9.0 0 3.4 1.8 U 2.0 U 2.0 1.8 U 1.9 U 2.1 U Gamma-Chordane UGKG 0 0% 1 3.4 1.8 U 2.0 U 2.0 U 1.8 U 1.9 U 2.1 U Methorychior UGKG 4.5 3% 1 1.4 1.8 U 2.0 U 2.0 U 1.8 U 1.9 U 2.1 U Methorychior UGKG 1.0 0% 7 1.8 U 2.0 U 1.8 U 1.9 U 2.1 U <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>															
Endrin UGAKG 3.6 3.6 3.6 9.00 0 1 3.4 3.6 U 3.8 U 3.9 U 3.6 U 3.8 U 4.1 U Endrin Metone UGAKG 0.58 3% - 1 3.4 3.6 U 3.8 U 3.9 U 3.6 U 3.8 U 4.1 U Endrin Metone UGAKG 0.58 3% - 1 3.4 1.8 U 3.9 U 3.6 U 3.8 U 4.1 U Garmma-SHOLindane UGAKG 0.7% - 3 3.4 1.8 U 2.U 2.U 1.8 U 1.9 U 2.1 U Heptachlor epoxide UGAKG 0 7% - 1 3.4 1.8 U 2.U 2.U 1.8 U 1.9 U 2.1 U Methoxychor UGAKG 0 7% 1 3.4 1.8 U 2.0 U 1.8 U 1.9 U 2.1 U Antimory MGKG 7.00 10/KG 3.3 - 7.9 U 1.0 U 1.0 U 1.0 U															
Endrin aldehyde UGKG 0 9 34 38 U 30 U 38 U 30 U 30 U 30 U 30 U 30 U 30 U							0	-							
Endrinketone UG/KG 0.58 3%						69,000	0								
Gamma-BHCLindane UG/KG 0 % 9.0 0 34 18.U 2.U 2.U 18.U 1.9.U 2.1.U Gamma-GhUndane UG/KG 0 0% 15.000 0 34 1.8.U 2.U 2.U 1.8.U 1.9.U 2.1.U Heptachlor epoxide UG/KG 0 0% 15.000 0 34 1.8.U 2.U 2.U 1.8.U 1.9.U 2.1.U Methoxychlor UG/KG 45 3% I 1 34 18.U 2.0.U 2.0.U 18.U 19.U 2.1.U Toxaphene UG/KG 0 0% I 34 18.0.U 2.0.U 18.0.U 19.U 21.0.U Invamin MG/KG 2.5 00% 16 97 97 5.1 16.1 16.30.U 18.000 18.000 18.000 18.000 14.0.U 4.3.0 11.0.U 4.3.0 10.0.0 18.0.0.0 18.0.0.0 18.0.0.0 18.0.0.0															
Gamma-Chiordane UGKG 1.1 9% 3 34 1.8 U 2.U 2.U 1.8 U 1.9 U 2.1 U Heptachbor epoulde UGKG 0 0% 15,00 0 34 1.8 U 2.U 2.U 1.8 U 1.9 U 2.1 U Heptachbor epoulde UGKG 4 3.3 4 1.8 U 2.U 2.U 1.8 U 1.9 U 2.1 U Methoxythole UGKG 0 0% 0 34 1.8 U 2.U 2.U 1.8 U 1.9 U 2.1 U Methoxythole UGKG 0 0% 0 34 1.8 U 2.U 2.U 1.8 U 1.9 U 2.1 U Methoxythole UGKG 0.0% 0 34 1.8 U 2.U 2.U 1.8 U 1.9 U 2.1 U Marina MGKG 1.3 3% 97 77 1.0 0.0 15.600 17.600 16.00 18.600 Arsenic MGKG 1.2 6 100% <		ane				9 200	0								
Heptachlor UG/KG 0 0% 15,000 0 0 34 1.8 U 2 U 2 U 1.8 U 1.9 U 2.1 U Methoxychlar UG/KG 45 3% 1 34 1.8 U 2.0 U 2.0 U 1.8 U 1.9 U 2.1 U Toxaphene UG/KG 45 3% 1 34 1.8 U 2.0 U 2.0 U 1.8 U 1.9 U 2.1 U Inorganics Inorganics 9% 79 7.9 U 10.1 U 9.3 UU 8.5 U 9.7 U 1.1 U Antimory MG/KG 1.2.6 100% 1.6 0 97 97 5.1 6.4 6.2 5.5 6.8 6.4 Barium MG/KG 1.2.0 87 97 1.3 3 1.51 1.61 160 163 3 365 Cadnium MG/KG 1.2.0 87 97 9.5 J						0,200	0								
Heipachior spoxide UG/KG 0 9% 0 34 1.8 U 2 U 2 U 1.8 U 1.9 U 2.1 U Methoxychlor UG/KG 0 0% 0 34 180 U 200 U 200 U 180 U 190 U 21 U Torganics Janganics Janganics <thjanganics< th=""></thjanganics<>						15.000	0	-							
		9	UG/KG	0	0%	- ,		0	34	1.8 U	2 U	2 U	1.8 U	1.9 U	2.1 U
Inorganics Aluminum MG/KG 27,900 100% 97 97 14,900 15,600 17,600 16,300 18,000 18,600 Antimony MG/KG 12,6 100% 16 0 97 97 5,1 6,4 6,2 5,5 6,8 6,4 Barium MG/KG 12,6 100% 16 0 97 97 5,1 6,4 6,2 5,5 6,8 6,4 Barium MG/KG 1,2 98% 590 0 95 97 0,63,1 0,7,1 0,72,1 0,71,1 0,82,1 0,69,3 Calcium MG/KG 1,100 81% 9,3 11 77 95 3,9 9,5,3 9,5,3 8,8 1,6,1 4,8,1 Calcium MG/KG 1,000 1,500 97 97 12,4 12,2 12,9 11,7 13,1 12,1 Copper MG/KG 7,101 100% 270 52			UG/KG	45				1	34						
Aluminum MG/KG 27,90 10% 97 97 97 14,900 15,600 17,600 16,300 18,000 18,600 Animony MG/KG 5.1 33% 32 97 7.9 UJ 10.1 UJ 9.3 UJ 8.5 UJ 9.7 UJ 11.4 UJ Arsenic MG/KG 12.6 100% 16 0 97 97 14.3 151 16.1 160 18.3 365 Barum MG/KG 11.00 87 97 97 14.3 151 161 160 16.30 4.8 6.4 Barum MG/KG 11.00 87 9.7 97 0.63 0.7 0.72 0.71 0.82 0.69J 6.80 Cadium MG/KG 13.00 9.9 97 97 22.9 23.8 26.9 24.2 24.8 27.2 Cobin MG/KG 18.00 10.0% 270 52 97 97 24.4 12.2	Toxaphene		UG/KG	0	0%			0	34	180 U	200 U	200 U	180 U	190 U	210 U
Antimony MG/KG 5.1 33% 32 97 7.9 UJ 10.1 UJ 9.3 UJ 8.5 UJ 9.7 UJ 11.4 UJ Arsenic MG/KG 12.6 100% 16 0 97 97 5.1 6.4 6.2 5.5 6.8 6.4 Barium MG/KG 36 12.9 98% 590 0 97 97 0.7 J 0.72 J 0.71 J 0.82 J 0.69 J Cadrinium MG/KG 11.2 98% 590 0 97 97 0.7 J 0.72 J 0.71 J 0.82 J 0.69 J Cadrinium MG/KG 13.000 99% 96 97 47,000 47,000 23.400 6.930 16.800 Chromium MG/KG 26.8 100% 1.50 97 97 12.4 12.2 12.9 11.7 13.1 12.1 Coper MG/KG 15.00 100% 270 52 97 97 26,700 <	Inorganics														
Antimony MG/KG 5.1 33% 32 97 7.9 UJ 10.1 UJ 9.3 UJ 8.5 UJ 9.7 UJ 11.4 UJ Arsenic MG/KG 12.6 100% 16 0 97 97 5.1 6.4 6.2 5.5 6.8 6.4 Barium MG/KG 36 12.9 98% 590 0 97 97 0.7 J 0.72 J 0.71 J 0.82 J 0.69 J Cadrinium MG/KG 11.2 98% 590 0 97 97 0.7 J 0.72 J 0.71 J 0.82 J 0.69 J Cadrinium MG/KG 13.000 99% 96 97 47,000 47,000 23.400 6.930 16.800 Chromium MG/KG 26.8 100% 1.50 97 97 12.4 12.2 12.9 11.7 13.1 12.1 Coper MG/KG 15.00 100% 270 52 97 97 26,700 <	Aluminum		MG/KG	27.900	100%			97	97	14 900	15 600	17 600	16.300	18 000	18 600
Arsenic MG/KG 12.6 100% 16 0 97 97 5.1 6.4 6.2 5.5 6.8 6.4 Barium MG/KG 3.65 100% 400 0 97 97 143 151 161 160 163 365 Beryllum MG/KG 1.2 98% 590 0 95 97 0.63 J 0.7 J 0.72 J 0.71 J 0.82 J 0.69 J 0.69 J Calcium MG/KG 19.000 99% 95 3.9 9.5 J 9.5 J 9.5 J 8.8 1.6 J 4.8 J Calcium MG/KG 100% 1500 0 97 97 12.4 12.2 1.7 13.1 12.1 Cobalt MG/KG 7.31 100% 270 2 97 97 15.5 405 538 417 69.8 2237 Cobalt MG/KG 100% 1000 0 97 97 34.9 54.9 63.6 63.2 21.9 64.9 Copper MG/K															
Beryllium MG/KG 1.2 98% 590 0 95 97 0.63 J 0.7 J 0.72 J 0.71 J 0.82 J 0.69 J Cadium MG/KG 1100 81% 9.3 11 77 95 3.9 9.5 J 9.5 J 8.8 1.6 J 4.8 J Calcium MG/KG 1000% 1.500 0 97 97 47.000 47.000 26.000 23.400 6.930 1.6 J 4.8 J Chomium MG/KG 446 100% 1.500 0 97 97 12.4 12.2 12.9 11.7 13.1 12.1 Cobalt MG/KG 0.71 100% 270 52 97 97 155 405 538 491 69.8 293 Cyanide MG/KG 11000 1000 97 97 26.700 30.400 31.40 28.10 29.00 29.400 Lead MG/KG 19.00 97 97 <td></td> <td></td> <td></td> <td></td> <td></td> <td>16</td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						16	0								
Cadmium MG/KG 1.100 81% 9.3 11 77 95 3.9 9.5 J 9.5 J 9.8 1.6 J 4.8 J Calcium MG/KG 193,000 99% 96 97 47,000 47,000 26,000 23,400 6,930 16,800 Chromium MG/KG 42.8 100% 1,500 97 97 22.9 23.8 26.9 24.2 24.8 27.2 Cobalt MG/KG 7.310 100% 270 52 97 97 155 405 538 491 69.8 233 Cyanide MG/KG 118,000 100% 97 97 26,700 30,400 31,400 28,100 29,900 29,400 Lead MG/KG 15,000 100% 97 97 84.9 54.9 63.6 63.2 21.9 66.9 Magnesium MG/KG 15,000 0 97 97 53.0 599 575 <t< td=""><td>Barium</td><td></td><td>MG/KG</td><td>365</td><td>100%</td><td>400</td><td>0</td><td>97</td><td>97</td><td>143</td><td>151</td><td>161</td><td>160</td><td>163</td><td>365</td></t<>	Barium		MG/KG	365	100%	400	0	97	97	143	151	161	160	163	365
Calcium MG/KG 193,000 99% 96 97 47,000 47,000 26,000 23,400 6,930 16,800 Chromium MG/KG 26,8 100% 97 97 92,9 23,8 26,9 24,2 24,8 27,2 Cobalt MG/KG 26,8 100% 77 97 12,4 12,2 12,9 11,7 13,1 12,1 Copper MG/KG 7,310 100% 27 52 97 97 155 405 53.8 491 69.8 293 Cyanide MG/KG 118,000 100% 77 97 26,700 30,400 31,400 28,100 29,900 29,400 Lead MG/KG 15,000 100% 97 97 34,9 54,9 6.6 6.3 22,10 6,440 5,170 6,740 Magnesium MG/KG 15,000 0 97 97 530 599 575 555 <th< td=""><td>Beryllium</td><td></td><td>MG/KG</td><td></td><td>98%</td><td>590</td><td>0</td><td>95</td><td>97</td><td>0.63 J</td><td>0.7 J</td><td>0.72 J</td><td>0.71 J</td><td>0.82 J</td><td>0.69 J</td></th<>	Beryllium		MG/KG		98%	590	0	95	97	0.63 J	0.7 J	0.72 J	0.71 J	0.82 J	0.69 J
Chromium MG/KG 446 100% 1,500 0 97 97 22.9 23.8 26.9 24.2 24.8 27.2 Cobalt MG/KG 2.6.8 100% 77 97 12.4 12.2 12.9 11.7 13.1 12.1 Coper MG/KG 7.31 100% 270 52 97 97 155 405 538 491 69.8 293 Cyanide MG/KG 0.7 13% 27 0 2 16 0.54 U 0.67 U 0.72 U 0.52 U 0.66 U 0.72 U Lead MG/KG 19.00 10.00 97 97 34.9 54.9 63.6 63.2 21.9 66.9 Magnesium MG/KG 59.00 100% 97 97 53.0 599 575 555 1.050 449 Nickel MG/KG 59.3 100% 97 97 23.0 0.22 UJ 0.18 UJ						9.3	11								
Cobalt MG/KG 2.68 100% 97 97 12.4 12.2 12.9 11.7 13.1 12.1 Copper MG/KG 7.310 100% 270 52 97 97 155 405 538 491 69.8 293 Cyanide MG/KG 0.7 13% 27 0 2 16 0.54 U 0.67 U 0.72 U 0.66 U 0.72 U Iron MG/KG 118,000 100% 97 97 34.9 54.9 63.6 63.2 21.9 66.9 Magnesium MG/KG 15,000 100% 97 97 84.20 7,000 7,320 6,440 5,170 6,740 Magnesium MG/KG 50,31 100% 310 0 92 92 35.2 UR 36.4 40.5 34.2 UR 35.1 39.4 Nickel MG/KG 4,80 100% 10,000 97 97 23.0 0.22 UU 0.18															
Copper MG/KG 7,310 100% 270 52 97 97 155 405 538 491 69.8 293 Cyanide MG/KG 0.7 13% 27 0 2 16 0.54 U 0.67 U 0.72 U 0.65 U 0.66 U 0.72 U Iron MG/KG 118,000 100% 97 97 26,700 30,400 31,400 28,100 29,900 29,400 Lead MG/KG 150,000 100% 1,000 0 97 97 34.9 54.9 63.6 63.2 2 1.9 66.9 Magnesium MG/KG 15,000 100% 10,000 97 97 530 599 575 555 1,050 489 Nickel MG/KG 59.3 100% 100% 76 76 2,100 1,980 2,140 2,060 2,630 Selenium MG/KG 0.92 4% 1,500 66 97						1,500	0								
Cyanide MG/KG 0.7 13% 27 0 2 16 0.54 U 0.67 U 0.72 U 0.52 U 0.66 U 0.72 U Iron MG/KG 118,000 100% 97 97 26,700 30,400 31,400 28,100 29,900 29,400 Lead MG/KG 15,000 100% 97 97 34,9 54,9 63.6 63.2 21,9 66,9 Magnesium MG/KG 50,00 100% 97 97 8,420 7,000 7,320 6,440 5,170 6,740 Manganese MG/KG 59,3 100% 310 0 92 92 35.2 UR 36.4 40.5 34.2 UR 35.1 39.4 Nickel MG/KG 6,8% 100% 76 76 2,100 1,980 2,140 2,060 2,080 2,24 UI 0.24 UI															
Inn MG/KG 118,000 100% 97 97 26,700 30,400 31,400 28,100 29,900 29,400 Lead MG/KG 1998 100% 1,000 0 97 97 34.9 54.9 63.6 63.2 21.9 66.9 Magnesium MG/KG 15,000 100% 97 97 53.0 599 575 555 1,050 489 Manganese MG/KG 59.3 100% 10,000 0 97 97 53.0 599 575 555 1,050 489 Nickel MG/KG 48.0 100% 7.76 76 2,100 1.980 2,140 2,060 2,080 2,530 Selenium MG/KG 0.92 4% 1,500 0 4 97 0.23 U 0.22 UJ 0.18 UJ 0.18 UJ 0.18 UJ 0.22 UJ 0.24 UJ Silver MG/KG 21.8 84% 81 97 142 J															
Lead MG/KG 998 100% 1,000 0 97 97 34.9 54.9 63.6 63.2 21.9 66.9 Magnesium MG/KG 15,000 100% 97 97 8,420 7,000 7,320 6,440 5,170 6,740 Manganese MG/KG 5,040 100% 10,000 97 97 530 599 575 555 1,050 489 Nickel MG/KG 59.3 100% 310 0 92 92 35.2 UR 36.4 40.5 34.2 UR 35.1 39.4 Potassium MG/KG 6.8% 100% 76 76 2,100 1,980 2,140 2,060 2,080 2,530 Selenium MG/KG 20.2 68% 1,500 0 4 97 0,23 U 0,22 UJ 0,18 U 0,22 UJ 0,24 UJ Silver MG/KG 21.3 84% 81 97 142 J 104 J						21	0								
Magnesium MG/KG 15,000 100% 97 97 8,420 7,000 7,320 6,440 5,170 6,740 Manganese MG/KG 5,040 100% 10,000 0 97 97 530 599 575 555 1,050 489 Nickel MG/KG 59,31 100% 310 0 92 92 35,2 uR 36,4 40,5 34,2 uR 35,1 39,4 Potassium MG/KG 4,880 100% 76 76 2,100 1,980 2,140 2,060 2,080 2,24 UJ 0,24 UJ 0,21 UJ 2,3 J Soldium MG/KG 2,17 6% 1,500 0 66 97 1 UJ 2,7 J 3,5 J 4,3 1,2 UJ 2,3 J Sodium MG/KG 2,13						1 000	0								
Manganese MG/KG 5,040 100% 10,000 0 97 97 530 599 575 555 1,050 489 Nickel MG/KG 59,3 100% 310 0 92 92 35,2 UR 36,4 40,5 34,2 UR 35,1 39,4 Potassium MG/KG 4,80 100% 76 76 2,100 1,980 2,140 2,060 2,080 2,530 Selenium MG/KG 0.92 4% 1,500 0 4 97 0.23 U 0.22 UJ 0.18 UJ 0.18 U 0.22 UJ 0.24 UJ Silver MG/KG 213 84% 81 97 142 J 104 J 110 J 112 J 136 J 93,5 J Thallium MG/KG 0.27 6% 6 97 0.25 UJ 0.24 U 0.19 U 0.2 UJ 0.24 U 0.26 U Vanadium MG/KG 14.9 100% 97 97 23.7 25.8						1,000	U								
Nicket MG/KG 5.3 100% 310 0 92 92 35.2 UR 36.4 40.5 34.2 UR 35.1 39.4 Potassium MG/KG 4.880 100% 76 76 2,100 1,980 2,140 2,060 2,080 2,530 Selenium MG/KG 0.29 4% 1,500 0 4 97 0.23 U 0.22 UJ 0.18 UJ 0.22 UJ 0.24 UJ 0.18 UJ 0.22 UJ 2.4 UJ 2.3 J 35.1 4.3 1.2 UJ 2.3 J 35.5 J 30.5 J 30.5 J 33.5 J 34.2 UZ 32.6 J 30.6 J 34.2 UJ<						10.000	0								
Potassium MG/KG 4,880 100% 76 76 2,100 1,980 2,140 2,060 2,080 2,530 Selenium MG/KG 0.92 4% 1,500 0 4 97 0.23 U 0.22 UJ 0.18 UJ 0.18 UJ 0.18 UJ 0.22 UJ 0.24 UJ Silver MG/KG 213 84% 81 97 142 J 104 J 110 J 112 J 136 J 93.5 J Sodium MG/KG 0.27 6% 6 97 0.25 UJ 0.24 UJ 0.19 U 0.2 UJ 0.24 UJ 0.35 J Thallium MG/KG 0.17 6% 6 97 0.25 UJ 0.24 U 0.19 U 0.2 UJ 0.24 U 0.26 U Vanadium MG/KG 1.9 100% 70 97 23.7 25.8 27.9 27.3 32.5 30 Zinc MG/KG 1.470 100% 10,000 92 92 208 UR 361 427															
Selenium MG/KG 0.92 4% 1,500 0 4 97 0.23 U 0.22 UJ 0.18 UJ 0.18 UJ 0.22 UJ 0.24 UJ Silver MG/KG 205 68% 1,500 0 66 97 1 UJ 2.7 J 3.5 J 4.3 1.2 UJ 2.3 J Sodium MG/KG 213 84% 81 97 142 J 104 J 110 J 112 J 136 J 93.5 J Thallium MG/KG 0.27 6% 6 97 0.25 UJ 0.24 U 0.19 U 0.2 UJ 0.24 U 0.26 U Vanadium MG/KG 41.9 100% 97 97 23.7 25.8 27.9 27.3 32.5 30 Zinc MG/KG 14.70 100% 97 97 23.7 25.8 27.9 27.3 32.5 30						0.0	0								
Silver MG/KG 205 68% 1,500 0 66 97 1 UJ 2.7 J 3.5 J 4.3 1.2 UJ 2.3 J Sodium MG/KG 213 84% 81 97 142 J 104 J 110 J 112 J 136 J 93.5 J Thallium MG/KG 0.27 6% 6 97 0.25 UJ 0.24 U 0.19 U 0.2 UJ 0.24 U 0.26 U Vanadium MG/KG 1,470 100% 97 97 23.7 25.8 27.9 27.3 32.5 30 Zinc MG/KG 1,470 100% 10,000 92 92 208 UR 361 427 347 UR 126 306						1.500	0								
Sodium MG/KG 213 84% 81 97 142 J 104 J 110 J 112 J 136 J 93.5 J Thallum MG/KG 0.27 6% 6 97 0.25 UJ 0.24 U 0.19 U 0.2 UJ 0.24 U 0.26 U Vanadium MG/KG 41.9 100% 97 97 23.7 25.8 27.9 27.3 32.5 30 Zinc MG/KG 14.70 100% 10,000 92 92 208 UR 361 427 347 UR 126 306							ō	66							
Thallium MG/KG 0.27 6% 6 97 0.25 UJ 0.24 U 0.19 U 0.2 UJ 0.24 U 0.26 U Vanadium MG/KG 41.9 100% 97 97 23.7 25.8 27.9 27.3 32.5 30 Zinc MG/KG 1.470 100% 10,000 92 92 208 UR 361 427 347 UR 126 306															
Zinc MG/KG 1,470 100% 10,000 0 92 92 208 UR 361 427 347 UR 126 306	Thallium		MG/KG	0.27	6%			6	97			0.19 U		0.24 U	
	Vanadium											27.9	27.3	32.5	
Mercury MG/KG 9.1 99% 2.8 49 96 97 0.43 2.1 J 1.5 J 2.4 0.41 J 1.9 J							-								
	Mercury		MG/KG	9.1	99%	2.8	49	96	97	0.43	2.1 J	1.5 J	2.4	0.41 J	1.9 J

Notes: 1) Chemical result qualifiers are assigned by the laboratory and are evaluated and modified (if necessary) by during data validation. U = non-detect, i.e. not detected equal to or above this value. U = non-detect, i.e. not detected equal to or above this value. R =

J = estimated (detect or non-detect) value.

R = Rejected, data validation rejected the results. [blank] = detect, i.e. detected chemical result value. R = Rejected, data 2) Num of Analyses is the number of detected and non-detected results excluding rejected results. Sample duplicate pairs have not been averaged.

3) Chemical results greater than the action level are highlighted, bolded and boxed

Criteria action level source document and web address.
 The NYS SCO Commercial Use values were obtained from the NYSDEC Soil Cleanup Objectives.

Area Loc ID Sample ID Matrix Sample Depth Interval (FT) Sample Date QC Type Study ID			Frequency	0.1	Number	Number	Number	SEAD-45 SS45-9 SOIL 0-0.2 10/25/1993 SA ESI	SEAD-45 TP45-1 TP45-1 SOIL 3-3 11/11/1993 SA ESI	SEAD-45 TP45-1 TP45-11 SOIL 3-3 11/11/1993 DU ESI	SEAD-45 TP45-2 TP45-2 SOIL 3-3 11/11/1993 SA ESI	SEAD-45 TP45-3 TP45-3 SOIL 3-3 11/11/1993 SA ESI	SEAD-45 TP45-4 TP45-4 SOIL 3-3 11/9/1993 SA ESI	SEAD-45 TP45-5 TP45-5 SOIL 3-3 11/9/1993 SA ESI
Parameter	Unit	Maximum Value	of Detection	Criteria Value	of Exceedances	of Times Detected	of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds														
1,1,1-Trichloroethane	UG/KG	0	0%	500,000	0	0	16	12 U	11 U	11 U	12 U	11 U	11 U	11 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%			0	16	12 U	11 U	11 U	12 U	11 U	11 U	11 U
1,1,2-Trichloroethane	UG/KG	0	0%			0	16	12 U	11 U	11 U	12 U	11 U	11 U	11 U
1,1-Dichloroethane	UG/KG	0	0%	240,000	0	0	16	12 U	11 U	11 U	12 U	11 U	11 U	11 U
1,1-Dichloroethene 1,2-Dichloroethane	UG/KG UG/KG	0	0% 0%	500,000 30,000	0	0	16 16	12 U 12 U	11 U 11 U	11 U 11 U	12 U 12 U	11 U 11 U	11 U 11 U	11 U 11 U
1,2-Dichloroethene (total)	UG/KG	Ő	0%	500,000	0	Ő	16	12 U	11 U	11 U	12 U	11 U	11 U	11 U
1,2-Dichloropropane	UG/KG	0	0%			0	16	12 U	11 U	11 U	12 U	11 U	11 U	11 U
Acetone	UG/KG	0	0%	500,000	0	0	16	12 U	11 U	11 U	12 U	31 U	11 U	11 U
Benzene	UG/KG UG/KG	0	0% 0%	44,000	0	0	16 16	12 U 12 U	11 U 11 U	11 U 11 U	12 U 12 U	11 U	11 U 11 U	11 U 11 U
Bromodichloromethane Bromoform	UG/KG	0	0%			0	16	12 U 12 U	11 U	11 U	12 U 12 U	11 U 11 U	11 U	11 U
Carbon disulfide	UG/KG	õ	0%			õ	16	12 U	11 U	11 U	12 U	11 U	11 U	11 U
Carbon tetrachloride	UG/KG	0	0%	22,000	0	0	16	12 U	11 U	11 U	12 U	11 U	11 U	11 U
Chlorobenzene	UG/KG	0	0%	500,000	0	0	16	12 U	11 U	11 U	12 U	11 U	11 U	11 U
Chlorodibromomethane Chloroethane	UG/KG UG/KG	0	0% 0%			0	16 16	12 U 12 U	11 U 11 U	11 U 11 U	12 U 12 U	11 U 11 U	11 U 11 U	11 U 11 U
Chloroform	UG/KG	0	0%	350,000	0	0	16	12 U	11 U	11 U	12 U	11 U	11 U	11 U
Cis-1,3-Dichloropropene	UG/KG	Ō	0%	,		0	16	12 U	11 U	11 U	12 U	11 U	11 U	11 U
Ethyl benzene	UG/KG	0	0%	390,000	0	0	16	12 U	11 U	11 U	12 U	11 U	11 U	11 U
Methyl bromide	UG/KG	0	0%			0	16	12 U	11 U	11 U 11 U	12 U	11 U 11 U	11 U 11 U	11 U
Methyl butyl ketone Methyl chloride	UG/KG UG/KG	0	0% 0%			0	16 16	12 U 12 U	11 U 11 U	11 U	12 U 12 U	11 U	11 U	11 U 11 U
Methyl ethyl ketone	UG/KG	õ	0%	500,000	0	õ	16	12 U	11 U	11 U	12 U	11 U	11 U	11 U
Methyl isobutyl ketone	UG/KG	0	0%			0	16	12 U	11 U	11 U	12 U	11 U	11 U	11 U
Methylene chloride	UG/KG	0	0%	500,000	0	0	16	12 U	11 U	11 U	12 U	11 U	11 U	11 U
Styrene Tetrachloroethene	UG/KG UG/KG	0 19	0% 38%	150,000	0	0	16 16	12 U 12 U	11 U 4 J	11 U 6 J	12 U 8 J	11 U 19	11 U 2 J	11 U 3 J
Toluene	UG/KG	0	0%	500,000	0	0	16	12 U	11 U	11 U	12 U	11 U	11 U	11 U
Total Xylenes	UG/KG	0	0%	500,000	0	0	16	12 U	11 U	11 U	12 U	11 U	11 U	11 U
Trans-1,3-Dichloropropene	UG/KG	0	0%			0	16	12 U	11 U	11 U	12 U	11 U	11 U	11 U
Trichloroethene	UG/KG UG/KG	0	0% 0%	200,000 13,000	0	0	16 16	12 U	11 U	11 U 11 U	12 U	11 U 11 U	11 U 11 U	11 U
Vinyl chloride	00/KG	0	0%	13,000	0	0	10	12 U	11 U	110	12 U	110	11.0	11 U
Semivolatile Organic Compounds 1,2,4-Trichlorobenzene	UG/KG	0	0%			0	35	390 U	370 U	360 U	1,900 U	400 U	460 U	370 U
1,2-Dichlorobenzene	UG/KG	0	0%	500,000	0	0	35	390 U	370 U	360 U	1,900 U	400 U	460 U	370 U
1,3-Dichlorobenzene	UG/KG	0	0%	280,000	0	0	35	390 U	370 U	360 U	1,900 U	400 U	460 U	370 U
1,4-Dichlorobenzene	UG/KG	0	0%	130,000	0	0	35	390 U	370 U	360 U	1,900 U	400 U	460 U	370 U
2,2'-oxybis(1-Chloropropane)	UG/KG UG/KG	0	0% 0%			0	16 35	390 U 940 U	370 U	360 U 880 U	1,900 U 4,600 U	400 U 960 U	460 U 1,100 U	370 U 900 U
2,4,5-Trichlorophenol 2,4,6-Trichlorophenol	UG/KG	0	0%			0	35	390 U	890 U 370 U	360 U	1,900 U	400 U	460 U	370 U
2,4-Dichlorophenol	UG/KG	Ō	0%			0	35	390 U	370 U	360 U	1,900 U	400 U	460 U	370 U
2,4-Dimethylphenol	UG/KG	0	0%			0	35	390 U	370 U	360 U	1,900 U	400 U	460 U	370 U
2,4-Dinitrophenol	UG/KG	0	0%			0	35 35	940 U	890 U	880 U	4,600 U	960 U	1,100 U	900 U
2,4-Dinitrotoluene 2,6-Dinitrotoluene	UG/KG UG/KG	14,000 700	37% 6%			13 2	35	390 U 390 U	100 J 370 U	190 J 360 U	14,000 700 J	84 J 400 U	59 J 460 U	230 J 370 U
2-Chloronaphthalene	UG/KG	0	0%			0	35	390 U	370 U	360 U	1,900 U	400 U	460 U	370 U
2-Chlorophenol	UG/KG	0	0%			0	35	390 U	370 U	360 U	1,900 U	400 U	460 U	370 U
2-Methylnaphthalene	UG/KG	0	0%	500.000	0	0	35	390 U	370 U	360 U	1,900 U	400 U	460 U 460 U	370 U
2-Methylphenol 2-Nitroaniline	UG/KG UG/KG	0	0% 0%	500,000	0	0	35 35	390 U 940 U	370 U 890 U	360 U 880 U	1,900 U 4,600 U	400 U 960 U	1,100 U	370 U 900 U
2-Nitrophenol	UG/KG	õ	0%			õ	35	390 U	370 U	360 U	1,900 U	400 U	460 U	370 U
3 or 4-Methylphenol	UG/KG	0	0%			0	19							
3,3'-Dichlorobenzidine	UG/KG	0	0%			0	35	390 U	370 U	360 U	1,900 U	400 U	460 U	370 U
3-Nitroaniline 4,6-Dinitro-2-methylphenol	UG/KG UG/KG	0	0% 0%			0	35 35	940 U 940 U	890 U 890 U	880 U 880 U	4,600 U 4,600 U	960 U 960 U	1,100 U 1,100 U	900 U 900 U
4-Bromophenyl phenyl ether	UG/KG	0	0%			0	35	390 U	370 U	360 U	1,900 U	400 U	460 U	370 U
4-Chloro-3-methylphenol	UG/KG	0	0%			0	35	390 U	370 U	360 U	1,900 U	400 U	460 U	370 U
4-Chloroaniline	UG/KG	0	0%			0	35	390 U	370 U	360 U	1,900 U	400 U	460 U	370 U
4-Chlorophenyl phenyl ether 4-Methylphenol	UG/KG UG/KG	0	0% 0%	500,000	0	0	35 16	390 U 390 U	370 U 370 U	360 U 360 U	1,900 U 1,900 U	400 U 400 U	460 U 460 U	370 U 370 U
4-Nitroaniline	UG/KG	0	0%	300,000	0	0	35	940 U	890 U	880 U	4,600 U	400 U 960 U	1,100 U	900 U
4-Nitrophenol	UG/KG	0	0%			0	35	940 U	890 U	880 U	4,600 U	960 U	1,100 U	900 U
Acenaphthene	UG/KG	0	0%	500,000	0	0	35	390 U	370 U	360 U	1,900 U	400 U	460 U	370 U
Acenaphthylene	UG/KG	30 18	9% 6%	500,000	0 0	3 2	35 35	390 U 390 U	19 J	17 J 360 U	1,900 U	400 U	460 U 460 U	370 U 370 U
Anthracene Benzo(a)anthracene	UG/KG UG/KG	18 50	6% 23%	500,000 5,600	0	2	35 35	390 U 390 U	17 J 32 J	360 U 30 J	1,900 U 1,900 U	400 U 22 J	460 U 36 J	370 U 32 J
Benzo(a)pyrene	UG/KG	82	23%	1,000	õ	8	35	390 U	46 J	41 J	1,900 U	28 J	45 J	42 J
Benzo(b)fluoranthene	UG/KG	55	26%	5,600	0	9	35	20 J	38 J	36 J	1,900 U	24 J	39 J	42 J
Benzo(ghi)perylene	UG/KG UG/KG	66 58	20% 20%	500,000	0	7 7	35 35	390 U	66 J	58 J	1,900 U	34 J	53 J	45 J
Benzo(k)fluoranthene	00/60	30	2070	56,000	0	1	55	390 U	28 J	26 J	1,900 U	21 J	34 J	23 J

Sample Dep	Area Loc ID Sample ID Matrix th Interval (FT) Sample Date QC Type Study ID		Frequency		Number	Number	Number	SEAD-45 SS45-9 SOIL 0-0.2 10/25/1993 SA ESI	SEAD-45 TP45-1 TP45-1 SOIL 3-3 11/11/1993 SA ESI	SEAD-45 TP45-1 TP45-11 SOIL 3-3 11/11/1993 DU ESI	SEAD-45 TP45-2 TP45-2 SOIL 3-3 11/11/1993 SA ESI	SEAD-45 TP45-3 TP45-3 SOIL 3-3 11/11/1993 SA ESI	SEAD-45 TP45-4 TP45-4 SOIL 3-3 11/9/1993 SA ESI	SEAD-45 TP45-5 TP45-5 SOIL 3-3 11/9/1993 SA ESI
Parameter	Unit	Maximum Value		Criteria Value	of Exceedances	of Times	of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Bis(2-Chloroethoxy)methane	UG/KG		0%			0	35	390 U	370 U	360 U	1,900 U	400 U	460 U	370 U
Bis(2-Chloroethyl)ether Bis(2-Chloroisopropyl)ether	UG/KG UG/KG		0% 0%			0	35 19	390 U	370 U	360 U	1,900 U	400 U	460 U	370 U
Bis(2-Ethylhexyl)phthalate	UG/KG		26%			9	35	350 J	65 J	50 J	1,900 U	400 U	460 U	370 U
Butylbenzylphthalate	UG/KG	0	0%			0	35	390 U	370 U	360 U	1,900 U	400 U	460 U	370 U
Carbazole	UG/KG	0	0%			0	35	390 U	370 U	360 U	1,900 U	400 U	460 U	370 U
Chrysene	UG/KG UG/KG	130 0	34% 0%	56,000 560	0	12 0	35 35	27 J 390 U	46 J 370 U	44 J 360 U	1,900 U 1,900 U	37 J 400 U	51 J 460 U	47 J 370 U
Dibenz(a,h)anthracene Dibenzofuran	UG/KG		0%	350,000	0	0	35	390 U	370 U 370 U	360 U 360 U	1,900 U	400 U 400 U	460 U 460 U	370 U
Diethyl phthalate	UG/KG		3%	000,000	0	1	35	390 U	370 U	360 U	1,900 U	400 U	35 J	370 U
Dimethylphthalate	UG/KG	0	0%			0	35	390 U	370 U	360 U	1,900 U	400 U	460 U	370 U
Di-n-butylphthalate	UG/KG		34%			12	35	390 U	35 J	170 J	6,800	27 J	75 J	230 J
Di-n-octylphthalate Fluoranthene	UG/KG UG/KG	0 68	0% 31%	500.000	0	0 11	35 35	390 U 30 J	370 U 59 J	360 U 50 J	1,900 U 1,900 U	400 U 52 J	460 U 68 J	370 U 58 J
Fluorene	UG/KG		0%	500,000	0	0	35	390 U	370 U	360 U	1,900 U	400 U	460 U	370 U
Hexachlorobenzene	UG/KG		31%	6,000	õ	11	35	30 J	62 J	54 J	1,900 U	52 J	48 J	42 J
Hexachlorobutadiene	UG/KG		0%			0	35	390 U	370 U	360 U	1,900 U	400 U	460 U	370 U
Hexachlorocyclopentadiene	UG/KG	0	0%			0	35	390 U	370 U	360 U	1,900 U	400 U	460 U	370 U
Hexachloroethane	UG/KG UG/KG		17% 11%	5.600	0	6 4	35 35	390 U 390 U	72 J 37 J	68 J 360 U	1,900 U 1,900 U	1,100 400 U	41 J 29 J	36 J 26 J
Indeno(1,2,3-cd)pyrene Isophorone	UG/KG		0%	5,000	0	4	35	390 U	370 U	360 U	1,900 U	400 U	460 U	370 U
Naphthalene	UG/KG		14%	500,000	0	5	35	390 U	30 J	27 J	1,900 U	24 J	30 J	370 U
Nitrobenzene	UG/KG		0%			0	35	390 U	370 U	360 U	1,900 U	400 U	460 U	370 U
N-Nitrosodiphenylamine	UG/KG		6%			2	35	390 U	370 U	360 U	1,900 U	400 U	460 U	370 U
N-Nitrosodipropylamine	UG/KG UG/KG		14% 0%	6.700	0	5	35 35	390 U 940 U	370 U 890 U	30 J 880 U	1,600 J 4.600 U	20 J 960 U	460 U 1.100 U	25 J 900 U
Pentachlorophenol Phenanthrene	UG/KG		26%	500,000	0	9	35	940 U 18 J	46 J	38 J	4,800 U 1,900 U	38 J	1,100 U 44 J	34 J
Phenol	UG/KG		0%	500,000	ő	õ	35	390 U	370 U	360 U	1,900 U	400 U	460 U	370 U
Pyrene	UG/KG	110	34%	500,000	0	12	35	36 J	110 J	98 J	100 J	90 J	110 J	97 J
Herbicides														
2,4,5-T	UG/KG		0%			0	35	5.9 U	5.6 U	5.5 U	5.8 U	6 U	6.9 U	5.6 U
2,4,5-TP/Silvex	UG/KG		0%	500,000	0	0	35	5.9 U	5.6 U	5.5 U	5.8 U	6 U	6.9 U	5.6 U
2,4-D	UG/KG UG/KG		0% 0%			0	35 35	59 U 59 U	56 U 56 U	55 U 55 U	58 U 58 U	60 U 60 U	69 U 69 U	56 U 56 U
2,4-DB Dalapon	UG/KG		0%			0	35 35	59 U 150 U	56 U 140 U	55 U 140 U	58 U 140 U	150 U	69 U 170 U	56 U 140 U
Dicamba	UG/KG		0%			ŏ	35	5.9 U	5.6 U	5.5 U	5.8 U	6 U	6.9 U	5.6 U
Dichloroprop	UG/KG		0%			0	35	59 U	56 U	55 U	58 U	60 U	69 U	56 U
Dinoseb	UG/KG	0	0%			0	35	30 U	28 U	28 U	29 U	30 U	35 U	28 U
MCPA	UG/KG		6%			2	35	5,900 U	5,600 U	5,500 U	5,800 U	6,000 U	6,900 U	5,600 U
MCPP	UG/KG	0	0%			U	35	5,900 U	5,600 U	5,500 U	5,800 U	6,000 U	6,900 U	5,600 U
Explosives 1.3.5-Trinitrobenzene	UG/KG	190	60%			28	47	130 UJ	150 J	170 J	190 J	130 UJ	180	140
1,3,5-1 rinitrobenzene 1,3-Dinitrobenzene	UG/KG UG/KG		60% 0%			28	47 47	130 UJ 130 UJ	150 J 130 UJ	170 J 130 UJ	190 J 130 UJ	130 UJ 130 UJ	180 130 U	140 130 U
2,4,6-Trinitrotoluene	UG/KG		81%			38	47	1,400 J	330 J	340 J	600 J	400 J	330	280
2,4-Dinitrotoluene	UG/KG	1,100	77%			36	47	130 UJ	130 UJ	140 J	190 J	120 J	110 J	90 J
2,6-Dinitrotoluene	UG/KG		0%			0	47	130 UJ	130 UJ	130 UJ	130 UJ	130 UJ	130 U	130 U
2-amino-4,6-Dinitrotoluene	UG/KG		77%			36	47	130 UJ	430 J	430 J	680 J	530 J	480	350
2-Nitrotoluene 3,5-Dinitroaniline	UG/KG UG/KG		0% 0%			0	31 31							
3.Nitrotoluene	UG/KG		0%			0	31							
4-amino-2,6-Dinitrotoluene	UG/KG		57%			27	47	270 J	130 UJ	130 UJ	130 UJ	130 UJ	130 U	130 U
4-Nitrotoluene	UG/KG	0	0%			0	31							
HMX	UG/KG		68%			32	47	130 UJ	250 J	430 J	470 J	240 J	350	200
Nitrobenzene	UG/KG		0%			0	31							
Nitroglycerine Pentaerythritol Tetranitrate	UG/KG UG/KG		3% 0%			1	31 31							
RDX	UG/KG		83%			39	47	5,800 J	2,500 J	1,600 J	2,700 J	2,500 J	4,300	1,300
Tetryl	UG/KG		9%			4	47	130 UJ	130 UJ	130 UJ	130 UJ	130 UJ	130 U	180 J

	Area Loc ID Sample ID Matrix Sample Depth Interval (FT) Sample Date QC Type Study ID			Frequency		Number	Number	Number	SEAD-45 SS45-9 SOIL 0-0.2 10/25/1993 SA ESI	SEAD-45 TP45-1 TP45-1 SOIL 3-3 11/11/1993 SA ESI	SEAD-45 TP45-1 SOIL 3-3 11/11/1993 DU ESI	SEAD-45 TP45-2 SOIL 3-3 11/11/1993 SA ESI	SEAD-45 TP45-3 SOIL 3-3 11/11/1993 SA ESI	SEAD-45 TP45-4 SOIL 3-3 11/9/1993 SA ESI	SEAD-45 TP45-5 TP45-5 SOIL 3-3 11/9/1993 SA ESI
Parameter		Unit	Maximum Value	of Detection	Criteria Value	of Exceedances	of Times Detected	of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Pesticides/PCBs		Unit	value	Detection	value	LACEEdances	Delected	Analyzeu	value Quai	Value Quai	Value Quai	value Quai	Value Quai	Value Quai	Value Qual
Aroclor-1016		UG/KG	0	0%	1.000	0	0	34	38 UR	37 U	36 U	38 U	40 U	46 U	37 U
Aroclor-1221		UG/KG	0	0%	1,000	0	0	34	78 UR	74 U	74 U	77 U	40 U 81 U	48 U 93 U	75 U
Aroclor-1232		UG/KG	õ	0%	1,000	õ	Ő	34	38 UR	37 U	36 U	38 U	40 U	46 U	37 U
Aroclor-1242		UG/KG	0	0%	1,000	0	0	34	38 UR	37 U	36 U	38 U	40 U	46 U	37 U
Aroclor-1248		UG/KG	0	0%	1,000	0	0	34	38 UR	37 U	36 U	38 U	40 U	46 U	37 U
Aroclor-1254		UG/KG	2,000	6%	1,000	1	2	34	38 UR	37 U	36 U	38 U	40 U	46 U	37 U
Aroclor-1260		UG/KG	0	0%	1,000	0	0	34	38 UR	37 U	36 U	38 U	40 U	46 U	37 U
4,4'-DDD 4.4'-DDE		UG/KG UG/KG	2.4 4.2	6% 63%	92,000 62.000	0	2 22	34 35	3.8 UR	3.7 U	3.6 U 3.6 U	3.8 U	4 U 4 U	4.6 U	3.7 U
4,4'-DDE 4.4'-DDT		UG/KG UG/KG	4.2 3.4	63% 50%	62,000 47.000	0	22	35 34	3.3 J 3.8 UR	3.7 U 3.7 U	3.6 U 2.3 J	3.8 U 3.8 U	4 U 2.9 J	3.2 J 4.6 U	1.9 J 3.7 U
Aldrin		UG/KG	0	0%	680	0	0	34	2 UR	1.9 U	2.3 J 1.9 U	2 U	2.9 J 2 U	4.6 U 2.4 U	1.9 U
Alpha-BHC		UG/KG	0	0%	3,400	0	Ő	34	2 UR	1.9 U	1.9 U	2 U 2 U	2 U	2.4 U	1.9 U
Alpha-Chlordane		UG/KG	2	12%	24,000	õ	4	34	2 UR	1.9 U	1.9 U	2 0	2 U	2.4 U	1.9 U
Beta-BHC		UG/KG	0	0%	3,000	0	0	34	2 UR	1.9 U	1.9 U	2 U	2 U	2.4 U	1.9 U
Delta-BHC		UG/KG	0	0%	500,000	0	0	34	2 UR	1.9 U	1.9 U	2 U	2 U	2.4 U	1.9 U
Dieldrin		UG/KG	3.2	41%	1,400	0	14	34	3.8 UR	3.7 U	3.6 U	3.8 U	4 U	2.4 J	3.7 U
Endosulfan I		UG/KG	55	60%	200,000	0	21	35	1 J	1.9 J	2.2 J	1.9 J	1.6 J	2.4 U	1.9 U
Endosulfan II		UG/KG	0.88	3%	200,000	0	1	34	3.8 UR	3.7 U	3.6 U	3.8 U	4 U	4.6 U	3.7 U
Endosulfan sulfate	9	UG/KG UG/KG	0	0% 3%	200,000	0	0 1	34 34	3.8 UR	3.7 U	3.6 U	3.8 U	4 U	4.6 U	3.7 U
Endrin		UG/KG UG/KG	3.6 0		89,000	0	1	34 34	3.8 UR 3.8 UR	3.7 U 3.7 U	3.6 U 3.6 U	3.8 U	4 U 4 U	4.6 U	3.7 U
Endrin aldehyde Endrin ketone		UG/KG UG/KG	0.58	0% 3%			1	34 34	3.8 UR	3.7 U 3.7 U	3.6 U	3.8 U 3.8 U	4 U 4 U	4.6 U 4.6 U	3.7 U 3.7 U
Gamma-BHC/Lind	lane	UG/KG	0.50	0%	9.200	0	0	34	2 UR	1.9 U	1.9 U	2 U	4 U 2 U	4.0 U	1.9 U
Gamma-Chlordane		UG/KG	1.1	9%	0,200	0	3	34	2 UR	1.9 U	1.9 U	20	2 U	2.4 U	1.9 U
Heptachlor	-	UG/KG	0	0%	15,000	0	ō	34	2 UR	1.9 U	1.9 U	2 U	2 U	2.4 U	1.9 U
Heptachlor epoxid	e	UG/KG	0	0%			0	34	2 UR	1.9 U	1.9 U	2 U	2 U	2.4 U	1.9 U
Methoxychlor		UG/KG	45	3%			1	34	20 UR	19 U	19 U	20 U	20 U	24 U	19 U
Toxaphene		UG/KG	0	0%			0	34	200 UR	190 U	190 U	200 U	200 U	240 U	190 U
Inorganics															
Aluminum		MG/KG	27,900	100%			97	97	17,800	20,100	16,500	20,800	22,800	20,600	17,300
Antimony		MG/KG	5.1	33%			32	97	9.4 UJ	9.7 UJ	7.6 UJ	12.1 UJ	12.4 UJ	10.2 U	9.2 U
Arsenic		MG/KG	12.6	100%	16	0	97	97	6.1	6.8	6.3	7.1	8.2	6 J	5.1 J
Barium		MG/KG	365	100%	400	0	97	97	202	208	177	201	248	216	174
Beryllium Cadmium		MG/KG MG/KG	1.2 1,100	98% 81%	590 9.3	11	95 77	97 95	0.79 J 5.5 J	0.9 J 10.4 J	0.8 9.6 J	0.91 J 9.5 J	1.1 J 13.1 J	0.94 J 10.9 UR	0.8 J 7.4 UR
Calcium		MG/KG	193,000	99%	9.5		96	95	22,600	42,700	31,500	26,400	32,500	36,400	32,100
Chromium		MG/KG	446	100%	1,500	0	97	97	27.4	31.3	25.7	30.1	35.5	32.1	27.6
Cobalt		MG/KG	26.8	100%			97	97	15	13.2	13.2	12.8	16.9	15.3	12.1
Copper		MG/KG	7,310	100%	270	52	97	97	267	722	555	561	791	1,240 J	449 J
Cyanide		MG/KG	0.7	13%	27	0	2	16	0.7 U	0.7	0.54 U	0.55 U	0.55 U	0.62	0.51 U
Iron		MG/KG	118,000	100%			97	97	32,500	35,700	31,900	31,500	41,300	37,600	31,600
Lead		MG/KG	998	100%	1,000	0	97 97	97 97	77.7	54.1	73.3	69.4	87.8	74.7	61.9
Magnesium		MG/KG	15,000	100%	10.000	0	97 97		7,110	7,910	7,780 613	7,800	9,270	8,940	7,570
Manganese Nickel		MG/KG MG/KG	5,040 59.3	100% 100%	10,000 310	0	97 92	97 92	912 42.5	1,380 41.8	39.1	605 40.5	827 51	726 48.3	600 39.2
Potassium		MG/KG	4,880	100%	510	0	92 76	92 76	2.260	3.040	1.960	3,280	3.010	2.400	1.960
Selenium		MG/KG	0.92	4%	1,500	0	4	97	0.24 UJ	0.23 UJ	0.15 UJ	0.16 UJ	0.23 UJ	0.27 UJ	0.2 UJ
Silver		MG/KG	205	68%	1,500	õ	66	97	1.3 J	3.2 J	4.7 J	5 J	6.6 J	26.2 J	3.9 J
Sodium		MG/KG	213	84%			81	97	93.4 J	141 J	105 J	116 J	135 J	136 J	122 J
Thallium		MG/KG	0.27	6%			6	97	0.26 U	0.25 U	0.16 U	0.17 U	0.25 U	0.29 UJ	0.22 UJ
Vanadium		MG/KG	41.9	100%			97	97	28.9	32.4	26.7	34.4	38	32.6	27.3
Zinc		MG/KG	1,470	100%	10,000	0	92	92	383	345	360	390	538	557 J	333 J
Mercury		MG/KG	9.1	99%	2.8	49	96	97	1.9 J	3.1 J	1.4 J	3.1 J	4 J	3.6	4.3

Notes: 1) Chemical result qualifiers are assigned by the laboratory and are evaluated and modified (if necessary) by during data validation. U = non-detect, i.e. not detected equal to or above this value. [blank] = detect, i.e. detected chemical result value. Result value J = estimated (detect or non-detect) value.

R = Rejected, data validation rejected the results.

2) Num of Analyses is the number of detected and non-detected results excluding rejected results. Sample duplicate pairs have not been averaged.

3) Chemical results greater than the action level are highlighted, bolded and boxed

Criteria action level source document and web address.
 The NYS SCO Commercial Use values were obtained from the NYSDEC Soil Cleanup Objectives.

Are Loc I Sample I Matr Sample Da QC Typ Study I	D D ix ie								SEAD-45 MW1 MW1 GW 2/1/1994 SA ESI	SEAD-45 MW2 MW2 GW 2/2/1994 SA ESI	SEAD-45 MW3 GW 2/1/1994 SA ESI	SEAD-45 MW4 GW 2/2/1994 SA ESI	SEAD-45 MW45-2 GW 2/3/1994 SA ESI	SEAD-45 MW45-3 GW 2/3/1994 SA ESI
Doromotor	Unit	Maximum Value	Frequency of Detection	Criteria Source	Criteria Value	Number of Exceedances	Number of Times Detected	Number of Samples Analyzed	N Value Qual	N Value Qual	N Value Qual	N Value Qual	N Value Qual	N Value Qual
Parameter	Unit	value	Delection	Source	value	Liteeuances	Delected	Analyzeu	Value Quai	Value Quai	Value Quai	value Quai	Value Quai	Value Qual
Volatile Organic Compounds		_			_									
1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethene 1,2-Dichloroethane	μG/L μG/L μG/L μG/L μG/L	0 0 0 0 0	0% 0% 0% 0% 0%	GA GA GA GA GA	5 5 1 5 5 0.6	0 0 0 0 0	0 0 0 0 0	8 8 8 8 8 8	10 U 10 U 10 U 10 U 10 U 10 U	10 U 10 U 10 U 10 U 10 U 10 U	10 U 10 U 10 U 10 U 10 U 10 U	10 U 10 U 10 U 10 U 10 U 10 U	10 U 10 U 10 U 10 U 10 U 10 U	10 U 10 U 10 U 10 U 10 U 10 U 10 U
1,2-Dichloroethene (total)	μG/L	0	0%	GA	5	0	0	8	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloropropane Acetone Benzene Bromodichloromethane	μG/L μG/L μG/L μG/L	0 0 0 0	0% 0% 0%	GA GA MCL	1 1 80	0 0	0 0 0	8 8 8 8	10 U 10 U 10 U 10 U	10 U 10 U 10 U 10 U	10 U 10 U 10 U 10 U 10 U	10 U 10 U 10 U 10 U 10 U	10 U 10 U 10 U 10 U	10 U 10 U 10 U 10 U
Bromoform	μG/L	0	0%	MCL	80	0	0	8	10 U	10 U	10 U	10 U	10 U	10 U
Carbon disulfide Carbon tetrachloride	μG/L μG/L	0	0% 0%	GA	5	0	0	8	10 U 10 U	10 U 10 U	10 U 10 U	10 U 10 U	10 U 10 U	10 U 10 U
Chlorobenzene	μG/L μG/L	0	0%	GA GA	5	0	0	8	10 U	10 U	10 U	10 U	10 U	10 U
Chlorodibromomethane	μG/L	0	0%	MCL	80	0	ő	8	10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane	μG/L	õ	0%	GA	5	õ	õ	8	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform	μG/L	0	0%	GA	7	0	0	8	10 U	10 U	10 U	10 U	10 U	10 U
Cis-1,3-Dichloropropene	μG/L	0	0%	GA	0.4	0	0	8	10 U	10 U	10 U	10 U	10 U	10 U
Ethyl benzene	μG/L	0	0%	GA	5	0	0	8	10 U	10 U	10 U	10 U	10 U	10 U
Methyl bromide	μG/L	0	0%	GA	5	0	0	8	10 U	10 U	10 U	10 U	10 U	10 U
Methyl butyl ketone	μG/L	0	0%		_		0	8	10 U	10 U	10 U	10 U	10 U	10 U
Methyl chloride	μG/L	0	0%	GA	5	0	0	8	10 U	10 U	10 U	10 U	10 U	10 U
Methyl ethyl ketone	μG/L	0	0%				0	8	10 U	10 U	10 U	10 U	10 U	10 U
Methyl isobutyl ketone	μG/L μG/L	0	0% 0%	~	5	0	0	8	10 U	10 U	10 U	10 U	10 U	10 U
Methylene chloride Styrene	μG/L μG/L	0	0%	GA GA	5 5	0	0	8	10 U 10 U	10 U 10 U	10 U 10 U	10 U 10 U	10 U 10 U	10 U 10 U
Tetrachloroethene	μG/L	1	13%	GA	5	0	1	8	1 J	10 U	10 U	10 U	10 U	10 U
Toluene	μG/L	0	0%	GA	5	Ő	ò	8	10 U	10 U	10 U	10 U	10 U	10 U
Total Xylenes	μG/L	0	0%	GA	5	Ō	0	8	10 U	10 U	10 U	10 U	10 U	10 U
Trans-1,3-Dichloropropene	μG/L	0	0%	GA	0.4	0	0	8	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	μG/L	0	0%	GA	5	0	0	8	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl chloride	μG/L	0	0%	GA	2	0	0	8	10 U	10 U	10 U	10 U	10 U	10 U
Semivolatile Organic Compou	nds													
1.2.4-Trichlorobenzene	μG/L	0	0%	GA	5	0	0	8	10 U	11 U	10 U	10 U	11 U	11 U
1,2-Dichlorobenzene	μG/L	0	0%	GA	3	0	0	8	10 U	11 U	10 U	10 U	11 U	11 U
1,3-Dichlorobenzene	μG/L	0	0%	GA	3	0	0	8	10 U	11 U	10 U	10 U	11 U	11 U
1,4-Dichlorobenzene	μG/L	0	0%	GA	3	0	0	8	10 U	11 U	10 U	10 U	11 U	11 U
2,2'-oxybis(1-Chloropropane)	μG/L	0	0%				0	8	10 U	11 U	10 U	10 U	11 U	11 U
2,4,5-Trichlorophenol	μG/L	0	0%	GA	1	0	0	8	25 U	28 U	25 U	26 U	27 U	27 U
2,4,6-Trichlorophenol	μG/L	0	0%	GA	1	0	0	8	10 U	11 U	10 U	10 U	11 U	11 U
2,4-Dichlorophenol	μG/L μG/L	0 0	0% 0%	GA	5	0	0	8 8	10 U	11 U	10 U	10 U	11 U	11 U
2,4-Dimethylphenol 2,4-Dinitrophenol	μG/L μG/L	0	0%				0	8	10 U 25 U	11 U 28 U	10 U 25 U	10 U 26 U	11 U 27 U	11 U 27 U
2,4-Dinitrophenol	μG/L μG/L	0	0%	GA	5	0	0	8	25 U 10 U	28 U 11 U	25 U 10 U	26 U 10 U	27 U 11 U	27 U 11 U
2,6-Dinitrotoluene	μG/L	Ő	0%	GA	5	õ	õ	8	10 U	11 U	10 U	10 U	11 U	11 U
2-Chloronaphthalene	μG/L	õ	0%	200	-	-	õ	8	10 U	11 U	10 U	10 U	11 U	11 U
2-Chlorophenol	μG/L	0	0%				0	8	10 U	11 U	10 U	10 U	11 U	11 U
2-Methylnaphthalene	μG/L	0	0%				0	8	10 U	11 U	10 U	10 U	11 U	11 U
2-Methylphenol	μG/L	0	0%				0	8	10 U	11 U	10 U	10 U	11 U	11 U

Area Loc II Sample II Matri: Sample Dat QC Typ Study II	D D X e e								SEAD-45 MW1 MW1 GW 2/1/1994 SA ESI	SEAD-45 MW2 MW2 GW 2/2/1994 SA ESI	SEAD-45 MW3 MW3 GW 2/1/1994 SA ESI	SEAD-45 MW4 MW4 GW 2/2/1994 SA ESI	SEAD-45 MW45-2 MW45-2 GW 2/3/1994 SA ESI	SEAD-45 MW45-3 GW 2/3/1994 SA ESI
		Maximum	Frequency of	Criteria	Criteria	Number of	Number of Times	Number of Samples	Ν	Ν	Ν	Ν	Ν	Ν
Parameter	Unit	Value	Detection	Source	Value	Exceedances	Detected	Analyzed	Value Qual	Value Qual				
2-Nitroaniline	μG/L	0	0%	GA	5	0	0	8	25 U	28 U	25 U	26 U	27 U	27 U
2-Nitrophenol	μG/L	0	0%	GA	1	0	0	8	10 U	11 U	10 U	10 U	11 U	11 U
3,3'-Dichlorobenzidine	μG/L	0	0%	GA	5	0	0	8	10 U	11 U	10 U	10 U	11 U	11 U
3-Nitroaniline	μG/L	0	0%	GA	5	0	0	8	25 U	28 U	25 U	26 U	27 U	27 U
4,6-Dinitro-2-methylphenol	μG/L	0	0%	GA	1	0	0	8	25 U	28 U	25 U	26 U	27 U	27 U
4-Bromophenyl phenyl ether	μG/L	0	0%	~	1	0	0	8 8	10 U	11 U	10 U	10 U	11 U	11 U
4-Chloro-3-methylphenol 4-Chloroaniline	μG/L μG/L	0	0% 0%	GA GA	5	0	0	8	10 U 10 U	11 U 11 U	10 U 10 U	10 U 10 U	11 U 11 U	11 U 11 U
4-Chlorophenyl phenyl ether	μG/L μG/L	0	0%	GA	5	0	0	8	10 U	11 U	10 U	10 U	11 U	11 U
4-Methylphenol	μG/L	0	0%				0	8	10 U	11 U	10 U	10 U	11 U	11 U
4-Nitroaniline	μG/L	0	0%	GA	5	0	0	8	25 U	28 U	25 U	26 U	27 U	27 U
4-Nitrophenol	μG/L	õ	0%	GA	1	õ	õ	8	20 U	28 U	25 U	26 U	27 U	27 U
Acenaphthene	μG/L	Ō	0%	0,1			Ō	8	10 U	11 U	10 U	10 U	11 U	11 U
Acenaphthylene	μG/L	0	0%				0	8	10 U	11 U	10 U	10 U	11 U	11 U
Anthracene	μG/L	0	0%				0	8	10 U	11 U	10 U	10 U	11 U	11 U
Benzo(a)anthracene	μG/L	0	0%				0	8	10 U	11 U	10 U	10 U	11 U	11 U
Benzo(a)pyrene	μG/L	0	0%	GA	0		0	8	10 U	11 U	10 U	10 U	11 U	11 U
Benzo(b)fluoranthene	μG/L	0	0%				0	8	10 U	11 U	10 U	10 U	11 U	11 U
Benzo(ghi)perylene	μG/L	0	0%				0	8	10 U	11 U	10 U	10 U	11 U	11 U
Benzo(k)fluoranthene	μG/L	0	0%				0	8	10 U	11 U	10 U	10 U	11 U	11 U
Bis(2-Chloroethoxy)methane	μG/L	0	0%	GA	5	0	0	8	10 U	11 U	10 U	10 U	11 U	11 U
Bis(2-Chloroethyl)ether	μG/L	0	0%	GA	1	0	0	8	10 U	11 U	10 U	10 U	11 U	11 U
Bis(2-Ethylhexyl)phthalate	μG/L	33	50%	GA	5	4	4	8	33	11 U	12	11	23	11 U
Butylbenzylphthalate	μG/L	0	0%				0	8	10 U	11 U	10 U	10 U	11 U	11 U
Carbazole	μG/L	0	0%				0 0	8 8	10 U	11 U	10 U	10 U	11 U	11 U
Chrysene	μG/L μG/L	0	0% 0%				0	8	10 U 10 U	11 U 11 U	10 U 10 U	10 U 10 U	11 U 11 U	11 U 11 U
Dibenz(a,h)anthracene Dibenzofuran	μG/L μG/L	0	0%				0	8	10 U	11 U	10 U	10 U	11 U	11 U
Diethyl phthalate	μG/L	0	0%				0	8	10 U	11 U	10 U	10 U	11 U	11 U
Dimethylphthalate	μG/L	Ő	0%				Ő	8	10 U	11 U	10 U	10 U	11 U	11 U
Di-n-butylphthalate	μG/L	Ő	0%	GA	50	0	õ	8	10 U	11 U	10 U	10 U	11 U	11 U
Di-n-octylphthalate	μG/L	Ō	0%	0,1			Ō	8	10 U	11 U	10 U	10 U	11 U	11 U
Fluoranthene	μG/L	0	0%				0	8	10 U	11 U	10 U	10 U	11 Ŭ	11 U
Fluorene	μG/L	0	0%				0	8	10 U	11 U	10 U	10 U	11 U	11 U
Hexachlorobenzene	μG/L	0	0%	GA	0.04	0	0	8	10 U	11 U	10 U	10 U	11 U	11 U
Hexachlorobutadiene	μG/L	0	0%	GA	0.5	0	0	8	10 U	11 U	10 U	10 U	11 U	11 U
Hexachlorocyclopentadiene	μG/L	0	0%	GA	5	0	0	8	10 U	11 U	10 U	10 U	11 U	11 U
Hexachloroethane	μG/L	0	0%	GA	5	0	0	8	10 U	11 U	10 U	10 U	11 U	11 U
Indeno(1,2,3-cd)pyrene	μG/L	0	0%				0	8	10 U	11 U	10 U	10 U	11 U	11 U
Isophorone	μG/L	0	0%				0	8	10 U	11 U	10 U	10 U	11 U	11 U
Naphthalene	μG/L μG/L	0	0% 0%	GA	0.4	0	0 0	8 8	10 U	11 U	10 U	10 U	11 U	11 U
Nitrobenzene	μG/L μG/L	0	0% 0%	GA	0.4	U	0	8	10 U 10 U	11 U 11 U	10 U	10 U 10 U	11 U	11 U 11 U
N-Nitroso-di-n-propylamine	μG/L μG/L	0	0%				0	8	10 U 10 U	11 U 11 U	10 U 10 U	10 U 10 U	11 U 11 U	11 U 11 U
N-Nitrosodiphenylamine Pentachlorophenol	μG/L μG/L	0	0%	GA	1	0	0	8	10 U 25 U	11 U 28 U	10 U 25 U	10 U 26 U	11 U 27 U	11 U 27 U
Phenanthrene	μG/L	0	0%	GA		0	0	8	25 U 10 U	28 U 11 U	25 U 10 U	20 U 10 U	27 U 11 U	27 U 11 U
Phenol	μG/L	0	0%	GA	1	0	0	8	10 U	11 U	10 U	10 U	11 U	11 U
Pyrene	μG/L	Ő	0%	0		-	õ	8	10 U	11 U	10 U	10 U	11 U	11 U
. ,	-	-					-	-						

Area Loc II Sample II Matri Sample Dat QC Type Study II	D D X e e								SEAD-45 MW1 GW 2/1/1994 SA ESI	SEAD-45 MW2 GW 2/2/1994 SA ESI	SEAD-45 MW3 GW 2/1/1994 SA ESI	SEAD-45 MW4 GW 2/2/1994 SA ESI	SEAD-45 MW45-2 GW 2/3/1994 SA ESI	SEAD-45 MW45-3 GW 2/3/1994 SA ESI
		Maximum	Frequency of	Criteria	Criteria	Number of	Number of Times	Number of Samples	Ν	Ν	Ν	Ν	Ν	Ν
Parameter	Unit	Value	Detection	Source	Value	Exceedances	Detected	Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Herbicides														
2,4,5-T 2,4,5-TP/Silvex 2,4-D 2,4-DB Dalapon Dicamba Dichloroprop Dinoseb MCPA Explosives 1,3,5-Trinitrobenzene 1,3-Dinitrobenzene 2,4,6-Trinitrotoluene 2,6-Dinitrotoluene 2,6-Dinitrotoluene 2-amino-4,6-Dinitrotoluene 4-amino-2,6-Dinitrotoluene	μG/L μG/L μG/L μG/L μG/L μG/L μG/L μG/L	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0% 0% 0% 0% 0% 0% 0% 0% 13% 0% 0% 0% 0%	GA GA GA GA GA GA GA GA	35 0.26 50 0.44 1 0.44 5 5 5 5 5		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	0.11 U 0.11 U 1.1 U 2.5 U 0.11 U 1.1 U 0.53 U 110 U 110 U 0.13 U 0.13 U 0.13 U 0.13 U 0.13 U 0.13 U 0.13 U 0.13 U 0.13 U	0.12 U 0.12 U 1.2 U 2.7 U 0.12 U 1.2 U 0.58 U 120 U 120 U 0.13 U 0.13 U 0.13 U 0.13 U 0.13 U 0.13 U 0.13 U	0.11 U 0.11 U 1.1 U 1.1 U 2.4 U 0.11 U 1.1 U 0.52 U 110 U 110 U 0.13 U 0.13 U 0.13 U 0.13 U 0.13 U 0.13 U	0.12 U 0.12 U 1.2 U 1.2 U 2.7 U 0.12 U 1.2 U 0.59 U 120 U 120 U 0.13 U 0.13 U 0.13 U 0.13 U 0.13 U 0.13 U 0.13 U	0.11 U 0.11 U 1.1 U 1.5 U 0.11 U 1.1 U 0.54 U 110 U 110 U 0.13 UJ 0.13 UJ 0.14 UJ 0.15 UJ	0.11 U 0.11 U 1.1 U 1.1 U 2.5 U 0.11 U 1.1 U 0.53 U 110 U 110 U 0.13 U 0.13 U 0.13 U 0.13 U 0.13 U 0.13 U 0.13 U 0.13 U
HMX RDX Tetryl Pesticides/PCBs	μG/L μG/L μG/L	0.5 0 0	13% 0% 0%				1 0 0	8 8 8	0.5 0.13 U 0.13 U	0.13 U 0.13 U 0.13 U	0.13 U 0.13 U 0.13 U	0.13 U 0.13 U 0.13 U	0.13 UJ 0.13 UJ 0.13 UJ	0.13 U 0.13 U 0.13 U
4,4'-DDD 4,4'-DDT Aldrin Alpha-BHC Alpha-Chlordane Aroclor-1016 Aroclor-1221 Aroclor-1222 Aroclor-1232 Aroclor-1248 Aroclor-1248 Aroclor-1248 Aroclor-1254 Aroclor-1260 Beta-BHC Delta-BHC	գեր ԱՅԱՆ ԱՅԱՆ ԱՅԱՆ ԱՅԱՆ ԱՅԱՆ ԱՅԱՆ ԱՅԱՆ ԱՅԱ		0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0	GA GA GA GA GA GA GA GA GA GA GA GA GA G	0.3 0.2 0.2 0 0.01 0.09 0.09 0.09 0.09 0.09 0.09 0.			8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	$\begin{array}{c} 0.14 \ U \\ 0.14 \ U \\ 0.14 \ U \\ 0.068 \ U \\ 0.068 \ U \\ 1.4 \ U \\ 2.7 \ U \\ 1.4 \ U \\ 0.068 \ U \\ 0.068 \ U \\ 0.14 \ U \\ 0.168 \ U \\ 0.068 \ U \\ 0.68 \ U \\ 0$	0.11 U 0.11 U 0.057 U 0.057 U 1.1 U 2.3 U 1.1 U 0.057 U 0.057 U 0.057 U 0.11 U 0.11 U 0.11 U 0.11 U 0.11 U 0.11 U 0.057 U 0.057 U 0.057 U 0.057 U 0.57 U 0.057 U 0.57 U 0.57 U 0.57 U 0.57 U 0.57 U 0.57 U	$\begin{array}{c} 0.1 \ U \\ 0.1 \ U \\ 0.1 \ U \\ 0.052 \ U \\ 0.052 \ U \\ 1 \ U \\ 2.1 \ U \\ 1 \ U \\ 0.052 \ U \\ 0.052 \ U \\ 0.052 \ U \\ 0.1 \ U \\ 0.52 \ U \\ 0.052 \ U \\ 0.52 \ $	0.12 U 0.12 U 0.12 U 0.059 U 0.059 U 1.2 U 0.059 U 0.059 U 0.12 U 0.12 U 0.12 U 0.12 U 0.12 U 0.12 U 0.12 U 0.12 U 0.059 U 0.12 U 0.12 U 0.12 U 0.059 U 0.12 U 0.059 U 0.59 U 0.59 U	$\begin{array}{c} 0.11 \ U \\ 0.11 \ U \\ 0.11 \ U \\ 0.056 \ U \\ 0.056 \ U \\ 1.1 \ U \\ 2.2 \ U \\ 1.1 \ U \\ 0.056 \ U \\ 0.056 \ U \\ 0.11 \ U \\ 0.056 \ U \\ 0.56 \ U \\ $	0.12 U 0.12 U 0.12 U 0.059 U 0.059 U 1.2 U 0.059 U 0.059 U 0.12 U 0.059 U 0.59 U 0.59 U

	Area Loc ID Sample ID Matrix Sample Date QC Type Study ID									SEAD-45 MW1 MW1 GW 2/1/1994 SA ESI	SEAD-45 MW2 MW2 GW 2/2/1994 SA ESI	SEAD-45 MW3 MW3 GW 2/1/1994 SA ESI	SEAD-45 MW4 MW4 GW 2/2/1994 SA ESI	SEAD-45 MW45-2 MW45-2 GW 2/3/1994 SA ESI	SEAD-45 MW45-3 MW45-3 GW 2/3/1994 SA ESI
				Frequency	.	0.11.11	Number	Number	Number	N	N	N	N	Ν	N
Parameter		Unit	Maximum Value	of Detection	Criteria Source	Criteria Value	of Exceedances	of Times Detected	of Samples Analyzed	Value Qual	Value Qual				
Inorganics															
Aluminum		μG/L	63,300	75%				9	12	124 J	828	83.5 J	17,700	42 U	7,510
Antimony		μG/L	52.1	58%	GA	3	7	7	12	24.3 J	23.1 J	52.1 J	49.6 J	26.8 J	36.7 J
Arsenic		μG/L	9.5	25%	MCL	10	0	3	12	1.4 U	1.4 U	1.4 U	1.7 J	1.4 U	1.8 J
Barium		μG/L	751	100%	GA	1,000	0	12	12	56.5 J	50.8 J	25.5 J	195 J	27.2 J	62.1 J
Beryllium		μG/L	5	25%	MCL	4	1	3	12	0.4 U	0.4 U	0.4 U	0.87 J	0.4 U	0.52 J
Cadmium		μG/L	3.8	33%	GA	5	0	4	12	2.2 J	2.1 U	2.1 U	3.8 J	2.9 J	3.2 J
Calcium		μG/L	660,000	100%				12	12	118,000	94,600	91,700	152,000	232,000	211,000
Chromium		μG/L	106	42%	GA	50	1	5	12	2.6 U	4.1 J	2.6 U	28.9	2.6 U	16.1
Cobalt		μG/L	94.4	33%				4	12	4.4 U	5.3 J	4.4 U	11 J	4.4 U	14.6 J
Copper		μG/L	123	58%	GA	200	0	7	12	3.1 U	7.2 J	3.9 J	79.2	3.1 U	11.9 J
Cyanide		μG/L	0	0%				0	11	5 U	5 U	5 U	5 U	5 U	5 U
Iron		μG/L	113,000	83%	GA	300	5	10	12	207	940	109	27,500	48.5 J	14,100
Iron+Manganese		μG/L	117,640	100%	GA	500	6	12	12	211.4 J	963.7	111.9 J	27,884	1,449 J	14,725
Lead		μG/L	75.6	67%	MCL	15	2	8	12	0.71 J	0.66 J	0.73 J	15.7	0.71 J	9.5
Magnesium		μG/L	77,900	100%				12	12	26,400	15,700	15,800	31,600	57,800	77,900
Manganese		μG/L	4,640	100%	GA	300	4	12	12	4.4 J	23.7	2.9 J	384	1,400	625
Mercury		μG/L	1.8	25%	GA	0.7	1	3	12	0.04 U	0.04 U	0.04 U	1.8	0.04 U	0.08 J
Nickel		μG/L	209	42%	GA	100	1	5	12	4 U	4 U	4 U	43.9	10.2 J	30.7 J
Potassium		μG/L	18,700	75%				9	12	910 U	1,050 J	904 U	6,540	9,660	18,700
Selenium		μG/L	2.5	42%	GA	10	0	5	12	0.99 J	0.7 U	0.7 U	1.9 J	2.5 J	1.9 J
Silver		μG/L	4.6	17%	GA	50	0	2	12	4.2 U	4.2 U	4.2 U	4.6 J	4.2 U	4.2 U
Sodium		μG/L	40,000	100%	GA	20,000	1	12	12	10,000	13,100	3,400 J	15,800	40,000	18,600
Thallium		μG/L	3.4	8%	MCL	2	1	1	12	1.2 U	1.2 U				
Vanadium		μG/L	93.1	25%				3	12	3.7 U	3.7 U	3.7 U	29.7 J	3.7 U	11.7 J
Zinc		μG/L	321	100%				12	12	15.3 J	23	14 J	164	31.6	81.1

Footnote:

1) Chemical result qualifiers are assigned by the laboratory and are evaluated and modified (if necessary) by during data validation.

U = non-detect, i.e. not detected equal to or above this value. J = estimated (detect or non-detect) value.

[blank] = detect, i.e. detected chemical result value.

R = Rejected, data validation rejected the results. 2) Num of Analyses is the number of detected and non-detected results excluding rejected results. Sample duplicate pairs have not been averaged.

3) Chemical results greater than the action level are highlighted, bolded and boxed

4) Criteria action level source document and web address.

- The NYS GA Standard and EPA MCL values were obtained from the provided links.

http://www.dec.ny.gov/regulations/2652.html http://water.epa.gov/drink/contaminants/index.cfm#List

Are Loc II Sample II Matri Sample Dat QC Typ Study II	D D ix ie							SEAD-45 MW45-4 122000 GW 4/9/1999 SA RI 1	SEAD-45 MW45-4 122247 GW 12/7/1999 SA RI 2	SEAD-45 MW45-4 122248 GW 12/7/1999 DU RI 2	SEAD-45 MW45-4 GW 1/26/1994 SA ESI	SEAD-45 MW45-4 OB108 GW 6/18/1997 SA OB_Quarterly 0	SEAD-45 MW5 GW 2/2/1994 SA ESI
		Maximum	Frequency of	Criteria		Number of	Number of Times	Ν	Ν	Ν	Ν	Ν	Ν
Parameter	Unit	Value	Detection	Source	Value	Exceedances	Detected	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds													
1,1,1-Trichloroethane	μG/L μG/L	0 0	0% 0%	GA	5 5	0 0	0				10 U		10 U
1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane	μG/L μG/L	0	0%	GA GA	5 1	0	0				10 U 10 U		10 U 10 U
1.1-Dichloroethane	μG/L	0	0%	GA	5	0	0				10 U		10 U
1,1-Dichloroethene	μG/L	Ő	0%	GA	5	0	õ				10 U		10 U
1,2-Dichloroethane	μG/L	Ō	0%	GA	0.6	0	Ō				10 U		10 U
1,2-Dichloroethene (total)	μG/L	0	0%	GA	5	0	0				10 U		10 U
1,2-Dichloropropane	μG/L	0	0%	GA	1	0	0				10 U		10 U
Acetone	μG/L	0	0%				0				10 U		10 U
Benzene	μG/L	0	0%	GA	1	0	0				10 U		10 U
Bromodichloromethane	μG/L	0	0%	MCL	80	0	0				10 U		10 U
Bromoform	μG/L	0	0%	MCL	80	0	0				10 U		10 U
Carbon disulfide	μG/L μG/L	0	0% 0%	~	5	0	0				10 U		10 U
Carbon tetrachloride Chlorobenzene	μG/L μG/L	0	0%	GA GA	5	0	0				10 U 10 U		10 U 10 U
Chlorodibromomethane	μG/L	0	0%	MCL	80	0	0				10 U		10 U
Chloroethane	μG/L	0	0%	GA	5	0	0				10 U		10 U
Chloroform	μG/L	õ	0%	GA	7	Ő	õ				10 U		10 U
Cis-1,3-Dichloropropene	μG/L	Ō	0%	GA	0.4	0	Ō				10 U		10 U
Ethyl benzene	μG/L	0	0%	GA	5	0	0				10 U		10 U
Methyl bromide	μG/L	0	0%	GA	5	0	0				10 U		10 U
Methyl butyl ketone	μG/L	0	0%				0				10 U		10 U
Methyl chloride	μG/L	0	0%	GA	5	0	0				10 U		10 U
Methyl ethyl ketone	μG/L	0	0%				0				10 U		10 U
Methyl isobutyl ketone	μG/L	0	0%		_		0				10 U		10 U
Methylene chloride	μG/L	0	0%	GA	5	0	0				10 U		10 U
Styrene	μG/L μG/L	0 1	0% 13%	GA	5 5	0 0	0				10 U		10 U
Tetrachloroethene		0	0%	GA	5 5	0	0				10 U		10 U
Toluene Total Xulanca	μG/L μG/L	0	0%	GA GA	5	0	0				10 U 10 U		10 U 10 U
Total Xylenes Trans-1,3-Dichloropropene	μG/L	0	0%	GA	0.4	0	0				10 U		10 U
Trichloroethene	μG/L	0	0%	GA	5	0	0				10 U		10 U
Vinyl chloride	μG/L	Ő	0%	GA	2	0	õ				10 U		10 U
Semivolatile Organic Compou	•			0,1							10 0		10 0
1,2,4-Trichlorobenzene	μG/L	0	0%	GA	5	0	0				11 U		10 U
1,2-Dichlorobenzene	μG/L	0	0%	GA	3	0	Ő				11 U		10 U
1,3-Dichlorobenzene	μG/L	0	0%	GA	3	0	0				11 U		10 U
1,4-Dichlorobenzene	μG/L	Ō	0%	GA	3	0	Ō				11 U		10 U
2,2'-oxybis(1-Chloropropane)	μG/L	0	0%				0				11 U		10 U
2,4,5-Trichlorophenol	μG/L	0	0%	GA	1	0	0				27 U		26 U
2,4,6-Trichlorophenol	μG/L	0	0%	GA	1	0	0				11 U		10 U
2,4-Dichlorophenol	μG/L	0	0%	GA	5	0	0				11 U		10 U
2,4-Dimethylphenol	μG/L	0	0%				0				11 U		10 U
2,4-Dinitrophenol	μG/L	0	0%		-		0				27 U		26 U
2,4-Dinitrotoluene	μG/L	0	0%	GA	5	0	0				11 U		10 U
2,6-Dinitrotoluene	μG/L	0	0%	GA	5	0	0				11 U		10 U
2-Chloronaphthalene	μG/L μG/L	0 0	0% 0%				0				11 U		10 U
2-Chlorophenol	μG/L μG/L	0	0%				0				11 U 11 U		10 U 10 U
2-Methylnaphthalene 2-Methylphenol	μG/L μG/L	0	0%				0				11 U 11 U		10 U 10 U
∠ mourypronut	μ0/L	5	070				5				110		10 0

Area Loc ID Sample ID Matrix Sample Date QC Type Study ID								SEAD-45 MW45-4 122000 GW 4/9/1999 SA RI 1	SEAD-45 MW45-4 122247 GW 12/7/1999 SA RI 2	SEAD-45 MW45-4 122248 GW 12/7/1999 DU RI 2	SEAD-45 MW45-4 MW45-4 GW 1/26/1994 SA ESI	SEAD-45 MW45-4 OB108 GW 6/18/1997 SA OB_Quarterly 0	SEAD-45 MW5 GW 2/2/1994 SA ESI
		Maximum	Frequency of	Criteria	Criteria	Number of	Number of Times	Ν	N	Ν	Ν	Ν	Ν
Parameter	Unit	Value	Detection	Source	Value	Exceedances	Detected	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
2-Nitroaniline	μG/L	0	0%	GA	5	0	0				27 U		26 U
2-Nitrophenol	μG/L	0	0%	GA	1	0	0				11 U		10 U
3,3'-Dichlorobenzidine	μG/L	0	0%	GA	5	0	0				11 U		10 U
3-Nitroaniline	μG/L	0	0%	GA	5	0	0				27 U		26 U
4,6-Dinitro-2-methylphenol	μG/L	0	0%	GA	1	0	0				27 U		26 U
4-Bromophenyl phenyl ether	μG/L	0	0%				0				11 U		10 U
4-Chloro-3-methylphenol	μG/L	0	0%	GA	1	0	0				11 U		10 U
4-Chloroaniline	μG/L	0	0%	GA	5	0	0				11 U		10 U
4-Chlorophenyl phenyl ether	μG/L	0	0%				0				11 U		10 U
4-Methylphenol	μG/L	0	0%		-		0				11 U		10 U
4-Nitroaniline	μG/L	0	0%	GA	5 1	0	0				27 U		26 U
4-Nitrophenol	μG/L	0	0%	GA	1	0					27 U		26 U
Acenaphthene	μG/L	0	0%				0				11 U		10 U
Acenaphthylene	μG/L	0	0%								11 U		10 U
Anthracene	μG/L	0	0%				0				11 U		10 U
Benzo(a)anthracene	μG/L	0	0%				0				11 U		10 U
Benzo(a)pyrene	μG/L	0	0%	GA	0		0				11 U		10 U
Benzo(b)fluoranthene	μG/L	0	0%				0				11 U		10 U
Benzo(ghi)perylene	μG/L	0	0%				0				11 U		10 U
Benzo(k)fluoranthene	μG/L	0	0%		_		0				11 U		10 U
Bis(2-Chloroethoxy)methane	μG/L	0	0%	GA	5	0	0				11 U		10 U
Bis(2-Chloroethyl)ether	μG/L	0	0%	GA	1	0	0				11 U		10 U
Bis(2-Ethylhexyl)phthalate	μG/L	33	50%	GA	5	4	4				11 U		10 U
Butylbenzylphthalate	μG/L	0	0%				0				11 U		10 U
Carbazole	μG/L	0	0%				0				11 U		10 U
Chrysene	μG/L	0	0%				0				11 U		10 U
Dibenz(a,h)anthracene	μG/L	0	0%				0				11 U		10 U
Dibenzofuran	μG/L	0	0%				0				11 U		10 U
Diethyl phthalate	μG/L	0	0%				0				11 U		10 U
Dimethylphthalate	μG/L	0	0%				0				11 U		10 U
Di-n-butylphthalate	μG/L	0	0%	GA	50	0	0				11 U		10 U
Di-n-octylphthalate	μG/L	0	0%				0				11 U		10 U
Fluoranthene	μG/L	0	0%				0				11 U		10 U
Fluorene	μG/L	0	0%				0				11 U		10 U
Hexachlorobenzene	μG/L	0	0%	GA	0.04	0	0				11 U		10 U
Hexachlorobutadiene	μG/L	0	0%	GA	0.5	0	0				11 U		10 U
Hexachlorocyclopentadiene	μG/L	0	0%	GA	5	0	0				11 U		10 U
Hexachloroethane	μG/L	0	0%	GA	5	0	0				11 U		10 U
Indeno(1,2,3-cd)pyrene	μG/L	0	0%				0				11 U		10 U
Isophorone	μG/L	0	0%				0				11 U		10 U
Naphthalene	μG/L	0	0%				0				11 Ū		10 U
Nitrobenzene	μG/L	0	0%	GA	0.4	0	0				11 Ū		10 U
N-Nitroso-di-n-propylamine	μG/L	0	0%				0				11 U		10 U
N-Nitrosodiphenylamine	μG/L	0	0%				0				11 U		10 U
Pentachlorophenol	μG/L	0	0%	GA	1	0	Ō				27 U		26 U
Phenanthrene	μG/L	0	0%			-	Ō				11 U		10 U
Phenol	μG/L	0	0%	GA	1	0	Ō				11 U		10 U
Pyrene	μG/L	0	0%				0				11 U		10 U
. ,	F	-					-						

Are Loc II Sample II Matri Sample Dat QC Typ Study II	D D ix ie							SEAD-45 MW45-4 122000 GW 4/9/1999 SA RI 1	SEAD-45 MW45-4 122247 GW 12/7/1999 SA RI 2	SEAD-45 MW45-4 122248 GW 12/7/1999 DU RI 2	SEAD-45 MW45-4 GW 1/26/1994 SA ESI	SEAD-45 MW45-4 OB108 GW 6/18/1997 SA OB_Quarterly 0	SEAD-45 MW5 GW 2/2/1994 SA ESI
		Maximum	Frequency of	Criteria	Criteria	Number of	Number of Times	Ν	Ν	Ν	N	Ν	Ν
Parameter	Unit	Value	Detection	Source	Value	Exceedances	Detected	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Herbicides													
2,4,5-T	μG/L	0	0%	GA	35	0	0				0.11 U		0.11 U
2,4,5-TP/Silvex	μG/L	0	0%	GA	0.26	0	0				0.11 U		0.11 U
2,4-D 2,4-DB	μG/L μG/L	0	0% 0%	GA	50	0	0				1.1 U 1.1 U		1.1 U 1.1 U
Z,4-DB Dalapon	μG/L	0	0%	GA	50	0	0				2.5 U		2.5 U
Dicamba	μG/L	0	0%	GA	0.44	0	0				0.11 U		0.11 U
Dichloroprop	μG/L	0	0%				0				1.1 U		1.1 U
Dinoseb	μG/L	0	0%	GA	1	0	0				0.54 U		0.55 U
MCPA MCPP	μG/L μG/L	0	0% 0%	GA	0.44	0	0				110 U 110 U		110 U 110 U
Explosives	µ0/L	0	070				0				110 0		110 0
1,3,5-Trinitrobenzene	μG/L	0	0%	GA	5	0	0				0.13 U		0.13 U
1,3-Dinitrobenzene	μG/L	0.067	13%	GA	5	0	1				0.13 U		0.067 J
2,4,6-Trinitrotoluene	μG/L	0	0%	-			0				0.13 U		0.13 U
2,4-Dinitrotoluene	μG/L	0	0%	GA	5	0	0				0.13 U		0.13 U
2,6-Dinitrotoluene	μG/L	0	0%	GA	5	0	0				0.13 U		0.13 U
2-amino-4,6-Dinitrotoluene	μG/L	0	0% 0%				0				0.13 U		0.13 U
4-amino-2,6-Dinitrotoluene HMX	μG/L μG/L	0.5	13%				1				0.13 U 0.13 U		0.13 U 0.13 U
RDX	μG/L	0.0	0%				0				0.13 U		0.13 U
Tetryl	μG/L	0	0%				0				0.13 U		0.13 U
Pesticides/PCBs													
4,4'-DDD	μG/L	0	0%	GA	0.3	0	0				0.11 UJ		0.11 U
4,4'-DDE	μG/L	Ō	0%	GA	0.2	0	0				0.11 UJ		0.11 U
4,4'-DDT	μG/L	0	0%	GA	0.2	0	0				0.11 UJ		0.11 U
Aldrin	μG/L	0	0%	GA	0		0				0.056 UJ		0.054 U
Alpha-BHC	μG/L	0	0% 0%	GA	0.01	0	0				0.056 UJ		0.054 U
Alpha-Chlordane Aroclor-1016	μG/L μG/L	0	0%	GA	0.09	0	0				0.056 UJ 1.1 UJ		0.054 U 1.1 U
Aroclor-1221	μG/L	0	0%	GA	0.09	0	0				2.2 UJ		2.2 U
Aroclor-1232	μG/L	0	0%	GA	0.09	0	0				1.1 UJ		1.1 U
Aroclor-1242	μG/L	0	0%	GA	0.09	0	0				1.1 UJ		1.1 U
Aroclor-1248	μG/L	0	0%	GA	0.09	0	0				1.1 UJ		1.1 U
Aroclor-1254	μG/L μG/L	0	0% 0%	GA GA	0.09 0.09	0	0				1.1 UJ 1.1 UJ		1.1 U 1.1 U
Aroclor-1260 Beta-BHC	μG/L μG/L	0	0%	GA GA	0.09	0	0				0.056 UJ		0.054 U
Delta-BHC	μG/L	0	0%	GA	0.04	0	0				0.056 UJ		0.054 U
Dieldrin	μG/L	0	0%	GA	0.004	0	0				0.11 UJ		0.11 U
Endosulfan I	μG/L	0	0%				0				0.056 UJ		0.054 U
Endosulfan II	μG/L	0	0%				0				0.11 UJ		0.11 U
Endosulfan sulfate	μG/L μG/L	0	0% 0%	C A	0		0				0.11 UJ		0.11 U
Endrin Endrin aldehyde	μG/L μG/L	0	0%	GA GA	5	0	0				0.11 UJ 0.11 UJ		0.11 U 0.11 U
Endrin ketone	μG/L	0	0%	GA	5	0	0				0.11 UJ		0.11 U
Gamma-BHC/Lindane	μG/L	Ő	0%	GA	0.05	õ	õ				0.056 UJ		0.054 U
Gamma-Chlordane	μG/L	0	0%				0				0.056 UJ		0.054 U
Heptachlor	μG/L	0	0%	GA	0.04	0	0				0.056 UJ		0.054 U
Heptachlor epoxide	μG/L	0	0%	GA	0.03	0	0				0.056 UJ		0.054 U
Methoxychlor	μG/L μG/L	0	0% 0%	GA GA	35 0.06	0	0				0.56 UJ		0.54 U 5.4 U
Toxaphene	μG/L	U	070	GA	0.00	0	U				5.6 UJ		5.4 U

$\begin{array}{ c c c c c c c c c c c c c c c c c c c$		Area Loc ID Sample ID Matrix Sample Date QC Type Study ID			-				No. 10	SEAD-45 MW45-4 122000 GW 4/9/1999 SA RI 1	SEAD-45 MW45-4 122247 GW 12/7/1999 SA RI 2	SEAD-45 MW45-4 122248 GW 12/7/1999 DU RI 2	SEAD-45 MW45-4 MW45-4 GW 1/26/1994 SA ESI	SEAD-45 MW45-4 OB108 GW 6/18/1997 SA OB_Quarterly 0	SEAD-45 MW5 GW 2/2/1994 SA ESI
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$				Maximum		Criteria	Criteria			N	N	N	N	N	N
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Parameter	l	Unit	Value	Detection	Source	Value	Exceedances	Detected	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Inorganics														
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Aluminum	μ	ıG/L	63,300	75%				9	215	14.3 U	14.3 U	63.300	36.8	821
Barium μG/L 751 100% GA 1,000 0 12 24.4 J 28.2 J 28.4 J 751 23.4 82.8 J Beryllium μG/L 5 25% MCL 4 1 3 0.1 U 0.2 U 5 2 U 0.4 U Cadmium μG/L 5.8 33% GA 5 0 4 0.3 U 0.3 U 0.3 U 5 2 U 0.4 U Calcium μG/L 106 42% GA 50 1 5 0.7 U 0.9 U 0.9 U 106 1.3 U 2.6 J Cobalt μG/L 123 58% GA 200 0 7 1 U 1.9 J 1.7 U 123 1.5 3.1 U Cyanide μG/L 13,000 83% GA 300 5 10 256 25.4 U 25.4 U 113,000 67.8 J 1,220 Iron μG/L 117,640 100% GA <t< td=""><td>Antimony</td><td>μ</td><td>ıG/L</td><td>52.1</td><td>58%</td><td>GA</td><td>3</td><td>7</td><td>7</td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	Antimony	μ	ıG/L	52.1	58%	GA	3	7	7						
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Arsenic	μ	ıG/L	9.5	25%	MCL	10	0	3	1.8 U	1.9 U	1.9 U	9.5 J	3.6 U	1.4 U
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Barium	μ	ıG/L	751	100%	GA	1,000	0	12	24.4 J	28.2 J	28.4 J	751	23.4	82.8 J
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Beryllium					MCL	4		3	0.1 U	0.2 U	0.2 U			0.4 U
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$						GA	5	0							
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$															
Copper µG/L 123 58% GA 200 0 7 1 U 1.9 J 1.7 U 123 1.5 3.1 U Cyanide µG/L 0 0 5 U 10 UJ 10 UJ 10 UJ 5 U 5 U Iron µG/L 113,000 83% GA 300 6 10 256 25.4 U 13.7 J 117,640 62.8 1,220 Iron+Manganese µG/L 117,640 100% GA 500 6 12 263.1 J 13.8 J 13.7 J 117,640 67.8 J 1,225 Lead µG/L 75.6 67% MCL 15 2 8 0.9 U 1 U 1 U 75.6 2 U 1.1 J Magnesium µG/L 77.60 100% 4 12 7.1 J 1.1 J 1 J 4.640 5 J 55 Mercury µG/L 1.8 25% GA 0.7 1 3 0.1 UJ <	Chromium					GA	50	1	-						
Copper Los Los <thlos< th=""> <thlos< t<="" td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-</td><td></td><td></td><td></td><td></td><td></td><td></td></thlos<></thlos<>									-						
Iron μG/L 113,000 83% GA 300 5 10 256 25.4 U 25.4 U 113,000 62.8 1,220 Iron+Manganese μG/L 117,640 100% GA 300 5 10 256 25.4 U 25.4 U 113,000 62.8 1,220 Iron+Manganese μG/L 17,640 100% GA 500 6 12 263.1 J 13.8 J 13.7 J 117,640 67.8 J 1,220 Magnesium μG/L 77.6 67% MCL 15 2 8 0.9 U 1 U 1 U 75.6 2 U 1.1 J Magnesium μG/L 1.8 25% GA 0.7 1 3 0.1 UJ 0.1 UJ 0.2 U						GA	200	0	1					1.5	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Cyanide													-	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$															
Magnesium µG/L 77,900 100% 12 31,400 36,500 37,400 73,500 24,200 27,700 Manganese µG/L 4,640 100% GA 300 4 12 7.1 J 1.1 J 1 J 4,640 5 J 55 Mercury µG/L 1.8 25% GA 0.7 1 3 0.1 UJ 0.1 UJ 0.29 0.2 U 0.04 U Nickel µG/L 209 42% GA 100 1 5 1.4 U 1.7 U 1.7 U 209 2.2 4 U Potassium µG/L 18,700 75% 9 2,460 J 2,660 J 2,870 J 13,900 2,180 907 U Selenium µG/L 2.5 42% GA 10 0 5 1.8 U 2.4 UJ 2.4 UJ 0.7 U 3.1 U 1.5 J															
Marganese μG/L 4,640 100% GA 300 4 12 7.1 J 1.1 J 1 J 4,640 5 J 55 Mercury μG/L 1.8 25% GA 0.7 1 3 0.1 UJ 0.1 UJ 0.1 UJ 0.2 U 0.04 U Nickel μG/L 209 42% GA 100 1 5 1.4 U 1.7 U 1.7 U 209 2.2 U 0.04 U Nickel μG/L 18,700 75% 9 2,460 J 2,660 J 2,870 J 13,900 2,180 907 U Selenium μG/L 2.5 42% GA 10 0 5 1.8 U 2.4 UJ 2.4 UJ 0.7 U 3.1 U 1.5 J						MCL	15	2							
Mercury μG/L 1.8 25% GA 0.7 1 3 0.1 UJ 0.1 UJ 0.1 UJ 0.29 0.2 U 0.04 U Nickel μG/L 209 42% GA 100 1 5 1.4 U 1.7 U 1.7 U 209 2.2 4 U Potassium μG/L 18,700 75% 9 2,460 J 2,660 J 2,870 J 13,900 2,180 907 U Selenium μG/L 2.5 42% GA 10 0 5 1.8 U 2.4 UJ 2.4 UJ 0.7 U 3.1 U 1.5 J						~ .	000								
Nickel µG/L 209 42% GA 100 1 5 1.4 U 1.7 U 1.7 U 209 2.2 4 U Potassium µG/L 18,700 75% 9 2,460 J 2,860 J 2,870 J 13,900 2,180 907 U Selenium µG/L 2.5 42% GA 10 0 5 1.8 U 2.4 UJ 2.4 UJ 0.7 U 3.1 U 1.5 J															
Potassium μG/L 18,700 75% 9 2,460 J 2,660 J 2,870 J 13,900 2,180 907 U Selenium μG/L 2.5 42% GA 10 0 5 1.8 U 2.4 UJ 2.4 UJ 0.7 U 3.1 U 1.5 J															
Selenium µG/L 2.5 42% GA 10 0 5 1.8 U 2.4 UJ 2.4 UJ 0.7 U 3.1 U 1.5 J						GA	100	1	-						
						C A	10	0	9						
									2						
Sodium µG/L 40,000 100% GA 20,000 1 12 11,400 14,000 13,900 17,300 10,600 16,100								1	-						
$\begin{array}{cccccccccccccccccccccccccccccccccccc$								1	1						
μ_{diam}						MOL	-	•	3						
Zinc µG/L 321 100% 12 5.8 J 5.1 J 5.3 J 321 6.8 24.5															

Footnote:

1) Chemical result qualifiers are assigned by the laboratory and are evaluated and modified (if necessary) by during data validation.

U = non-detect, i.e. not detected equal to or above this value. J = estimated (detect or non-detect) value.

[blank] = detect, i.e. detected chemical result value.

R = Rejected, data validation rejected the results. 2) Num of Analyses is the number of detected and non-detected results excluding rejected results. Sample duplicate pairs have not been averaged.

3) Chemical results greater than the action level are highlighted, bolded and boxed

4) Criteria action level source document and web address.

- The NYS GA Standard and EPA MCL values were obtained from the provided links.

http://www.dec.ny.gov/regulations/2652.html http://water.epa.gov/drink/contaminants/index.cfm#List

Area Loc IE Sample IE Matriz Sample Depth Interval (Ft Sample Date QC Type Study IE	D D X I) E							SEAD-45 SW/SD45-1 SW45-1 SURFACE WATER 0-0.1 11/1/1993 SA ESI	SEAD-45 SW/SD45-2 SW45-2 SURFACE WATER 0-0.1 11/1/1993 SA ESI	SEAD-45 SW/SD45-3 SW45-3 SURFACE WATER 0-0.1 11/1/1993 SA ESI	SEAD-45 SW/SD45-4 SW45-4 SURFACE WATER 0-0.1 11/1/1993 SA ESI
		Maximum	Frequency of	Criteria	Number of	Number of Times	Number of Samples				
Parameter	Unit	Value	Detection	Value	Exceedances		Analyzed	Value Qua	I Value Qual	Value Qua	Value Qual
Volatile Organic Compounds	s										
1,1,1-Trichloroethane	μG/L	0	0%			0	4	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	μG/L	0	0%			0	4	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane	μG/L	0	0%			0	4	10 U	10 U	10 U	10 U
1,1-Dichloroethane	μG/L	0	0%			0	4	10 U	10 U	10 U	10 U
1,1-Dichloroethene	μG/L	0	0%			0	4	10 U	10 U	10 U	10 U
1,2-Dichloroethane	μG/L	0	0%			0	4	10 U	10 U	10 U	10 U
1,2-Dichloroethene (total)	μG/L	0	0%			0	4	10 U	10 U	10 U	10 U
1,2-Dichloropropane	μG/L	0	0%			0	4 4	10 U	10 U	10 U	10 U
Acetone	μG/L μG/L	0 0	0% 0%			0	4	10 U 10 U	10 U 10 U	10 U 10 U	10 U 10 U
Benzene Bromodichloromethane	μG/L μG/L	0	0%			0	4	10 U	10 U	10 U	10 U
Bromoform	μG/L	0	0%			0	4	10 U	10 U	10 U	10 U
Carbon disulfide	μG/L	0	0%			0	4	10 U	10 U	10 U	10 U
Carbon tetrachloride	μG/L	0 0	0%			0 0	4	10 U	10 U	10 U	10 U
Chlorobenzene	μG/L	0	0%	5	0	0	4	10 U	10 U	10 U	10 U
Chlorodibromomethane	μG/L	0	0%			0	4	10 U	10 U	10 U	10 U
Chloroethane	μG/L	0	0%			0	4	10 U	10 U	10 U	10 U
Chloroform	μG/L	0	0%			0	4	10 U	10 U	10 U	10 U
Cis-1,3-Dichloropropene	μG/L	0	0%			0	4	10 U	10 U	10 U	10 U
Ethyl benzene	μG/L	0	0%			0	4	10 U	10 U	10 U	10 U
Methyl bromide	μG/L	0	0%			0	4	10 U	10 U	10 U	10 U
Methyl butyl ketone	μG/L	0	0%			0	4	10 U	10 U	10 U	10 U
Methyl chloride	μG/L	0	0%			0	4 4	10 U	10 U	10 U	10 U
Methyl ethyl ketone	μG/L	0	0%			0	4	10 U	10 U	10 U	10 U
Methyl isobutyl ketone	μG/L μG/L	0 0	0% 0%			0	4	10 U 10 U	10 U 10 U	10 U 10 U	10 U 10 U
Methylene chloride Styrene	μG/L μG/L	0	0%			0	4	10 U	10 U	10 U	10 U
Tetrachloroethene	μG/L	0	0%			0	4	10 U	10 U	10 U	10 U
Toluene	μG/L	0	0%	6,000	0	0	4	10 U	10 U	10 U	10 U
Total Xylenes	μG/L	0	0%	0,000	Ũ	0	4	10 U	10 U	10 U	10 U
Trans-1,3-Dichloropropene	μG/L	0	0%			0	4	10 U	10 U	10 U	10 U
Trichloroethene	μG/L	0	0%	40	0	0	4	10 U	10 U	10 U	10 U
Vinyl chloride	μG/L	0	0%			0	4	10 U	10 U	10 U	10 U
Semivolatile Organic Compo	ounds										
1,2,4-Trichlorobenzene	μG/L	0	0%	5	0	0	4	10 U	11 U	11 U	10 U
1,2-Dichlorobenzene	μG/L	0	0%	5	0 0	0	4	10 U	11 U	11 U	10 U
1,3-Dichlorobenzene	μG/L	0	0%	5	0 0	0	4	10 U	11 U	11 U	10 U
1,4-Dichlorobenzene	μG/L	0	0%	5	0	0	4	10 U	11 U	11 U	10 U
2,2'-oxybis(1-Chloropropane)	μG/L	0	0%			0	4	10 U	11 U	11 U	10 U
2,4,5-Trichlorophenol	μG/L	0	0%			0	4	26 U	27 U	26 U	25 U
2,4,6-Trichlorophenol	μG/L	0	0%			0	4	10 U	11 U	11 U	10 U
2,4-Dichlorophenol	μG/L	0	0%	1	0	0	4	10 U	11 U	11 U	10 U
2,4-Dimethylphenol	μG/L	0	0%	1,000	0	0	4	10 U	11 U	11 U	10 U
2,4-Dinitrophenol	μG/L	0	0%	400	0	0	4	26 U	27 U	26 U	25 U
2,4-Dinitrotoluene	μG/L	0	0%			0	4	10 U	11 U	11 U	10 U
2,6-Dinitrotoluene	μG/L	0	0%			0	4	10 U	11 U	11 U	10 U
2-Chloronaphthalene	μG/L	0	0%			0	4	10 U	11 U	11 U	10 U

Area	SEAD-45	SEAD-45	SEAD-45	SEAD-45
Loc ID	SW/SD45-1	SW/SD45-2	SW/SD45-3	SW/SD45-4
Sample ID	SW45-1	SW45-2	SW45-3	SW45-4
Matrix	SURFACE WATER	SURFACE WATER	SURFACE WATER	SURFACE WATER
Sample Depth Interval (Ft)	0-0.1	0-0.1	0-0.1	0-0.1
Sample Date	11/1/1993	11/1/1993	11/1/1993	11/1/1993
QC Type	SA	SA	SA	SA
Study ID	ESI	ESI	ESI	ESI

		Maximum	Frequency of	Critorio	Number of	Number	Number of Samples				
Parameter	Unit	Value	Detection	Criteria Value	Exceedances		•	Value Qual	Value Qual	Value Qual	Value Qual
2-Chlorophenol	μG/L	0	0%	10.100	2//00044//000	0	4	10 U	11 U	11 U	10 U
2-Methylnaphthalene	μG/L	0	0%	4.7	0	0	4	10 U	11 U	11 U	10 U
2-Methylphenol	μG/L	0	0%			0	4	10 U	11 U	11 U	10 U
2-Nitroaniline	μG/L	0	0%			0	4	26 U	27 U	26 U	25 U
2-Nitrophenol	μG/L	0	0%			0	4	10 U	11 U	11 U	10 U
3,3'-Dichlorobenzidine	μG/L	0	0%			0	4	10 U	11 U	11 U	10 U
3-Nitroaniline	μG/L	0	0%			0	4	26 U	27 U	26 U	25 U
4,6-Dinitro-2-methylphenol	μG/L	0	0%			0	4	26 U	27 U	26 U	25 U
4-Bromophenyl phenyl ether	μG/L	0	0%			0	4	10 U	11 U	11 U	10 U
4-Chloro-3-methylphenol	μG/L	0	0%			0	4	10 U	11 U	11 U	10 U
4-Chloroaniline	μG/L	0	0%			0	4	10 U	11 U	11 U	10 U
4-Chlorophenyl phenyl ether	μG/L	0	0%			0	4	10 U	11 U	11 U	10 U
4-Methylphenol	μG/L	0	0%			0	4	10 U	11 U	11 U	10 U
4-Nitroaniline	μG/L	0	0%			0	4	26 U	27 U	26 U	25 U
4-Nitrophenol	μG/L	0	0%			0	4	26 U	27 U	26 U	25 U
Acenaphthene	μG/L	0	0%			0	4	10 U	11 U	11 U	10 U
Acenaphthylene	μG/L	0	0%			0	4	10 U	11 U	11 U	10 U
Anthracene	μG/L	0	0%			0	4	10 U	11 U	11 U	10 U
Benzo(a)anthracene	μG/L	0 0	0%			0 0	4	10 U	11 U	11 U	10 U
Benzo(a)pyrene	μG/L	0	0%			0	4	10 U	11 U	11 U	10 U
Benzo(b)fluoranthene	μG/L	0 0	0%			Ő	4	10 U	11 U	11 U	10 U
Benzo(ghi)perylene	μG/L	0	0%			0	4	10 U	11 U	11 U	10 U
Benzo(k)fluoranthene	μG/L	Õ	0%			0 0	4	10 U	11 U	11 U	10 U
Bis(2-Chloroethoxy)methane	μG/L	0	0%			0	4	10 U	11 U	11 U	10 U
Bis(2-Chloroethyl)ether	μG/L	0	0%			0	4	10 U	11 U	11 U	10 U
Bis(2-Ethylhexyl)phthalate	μG/L	Õ	0%	0.6	0	0 0	4	10 U	11 U	11 U	10 U
Butylbenzylphthalate	μG/L	0	0%		-	0	4	10 U	11 U	11 U	10 U
Carbazole	μG/L	0 0	0%			0 0	4	10 U	11 U	11 U	10 U
Chrysene	μG/L	0	0%			0	4	10 U	11 U	11 U	10 U
Dibenz(a,h)anthracene	μG/L	Õ	0%			0 0	4	10 U	11 U	11 U	10 U
Dibenzofuran	μG/L	0	0%			0	4	10 U	11 U	11 U	10 U
Diethyl phthalate	μG/L	0 0	0%			Ő	4	10 U	11 U	11 U	10 U
Dimethylphthalate	μG/L	0	0%			0 0	4	10 U	11 U	11 U	10 U
Di-n-butylphthalate	μG/L	0 0	0%			0 0	4	10 U	11 U	11 U	10 U
Di-n-octylphthalate	μG/L	0	0%			0	4	10 U	11 U	11 U	10 U
Fluoranthene	μG/L	0 0	0%			0	4	10 U	11 U	11 U	10 U
Fluorene	μG/L	0 0	0%			0	4	10 U	11 U	11 U	10 U
Hexachlorobenzene	μG/L	0 0	0%	0.00003	0	0	4	10 U	11 U	11 U	10 U
Hexachlorobutadiene	μG/L	0 0	0%	0.01	0 0	0	4	10 U	11 U	11 U	10 U
Hexachlorocyclopentadiene	μG/L	0	0%	0.45	Õ	0	4	10 U	11 U	11 U	10 U
Hexachloroethane	μG/L	0	0%	0.6	0 0	0	4	10 U	11 U	11 U	10 U
Indeno(1,2,3-cd)pyrene	μG/L	0	0%	0.0	0	0	4	10 U	11 U	11 U	10 U
Isophorone	μG/L	0	0%			0	4	10 U	11 U	11 U	10 U
Naphthalene	μG/L	0	0%			0	4	10 U	11 U	11 U	10 U
Nitrobenzene	μG/L μG/L	0	0%			0	4	10 U	11 U	11 U	10 U
N-Nitroso-di-n-propylamine	μG/L μG/L	0	0%			0	4	10 U	11 U	11 U	10 U
N-Nitrosodiphenylamine	μG/L μG/L	0	0%			0	4	10 U	11 U	11 U	10 U
Pentachlorophenol	μG/L μG/L	0	0%	1	0	0	4	26 U	27 U	26 U	25 U
Phenanthrene	μG/L μG/L	0	0%	I	0	0	4	20 U 10 U	27 U 11 U	26 U 11 U	25 U 10 U
	μG/L	0	0 /0			0	7	10 0	110	11.0	10 0

Area	SEAD-45	SEAD-45	SEAD-45	SEAD-45
Loc ID	SW/SD45-1	SW/SD45-2	SW/SD45-3	SW/SD45-4
Sample ID	SW45-1	SW45-2	SW45-3	SW45-4
Matrix	SURFACE WATER	SURFACE WATER	SURFACE WATER	SURFACE WATER
Sample Depth Interval (Ft)	0-0.1	0-0.1	0-0.1	0-0.1
Sample Date	11/1/1993	11/1/1993	11/1/1993	11/1/1993
QC Type	SA	SA	SA	SA
Study ID	SA ESI	ESI	ESI	ESI

		Maximum	Frequency		Number	Number	Number of Samples				
Parameter	Unit	Value	of Detection	Criteria Value	of Exceedances		Analyzed	Value Qual	Value Qual	Value Qual	Value Qual
Phenol	μG/L	0	0%	5	0	0	4	10 U	11 U	11 U	10 U
Pyrene	μG/L	0	0%			0	4	10 U	11 U	11 U	10 U
Herbicides											
2,4,5-T	μG/L	0	0%			0	4	0.12 U	0.12 U	0.11 U	0.11 U
2,4,5-TP/Silvex	μG/L	0	0%			0	4	0.12 U	0.12 U	0.11 U	0.11 U
2,4-D	μG/L	0	0%			0 0	4	1.2 U	1.2 U	1.1 U	1.1 U
2,4-DB	μG/L	0	0%			0	4	1.2 U	1.2 U	1.1 U	1.1 U
Dalapon	μG/L	0	0%			0	4	2.6 U	2.6 U	2.5 U	2.4 U
Dicamba	μG/L	0	0%			0	4	0.12 U	0.12 U	0.11 U	0.11 U
Dichloroprop	μG/L	0	0%			0	4	1.2 U	1.2 U	1.1 U	1.1 U
Dinoseb	μG/L	0	0%			0	4	0.56 U	0.56 U	0.54 U	0.52 U
MCPA	μG/L	0	0%			0	4	120 U	120 U	110 U	110 U
MCPP	μG/L	0	0%			0	4	120 U	120 U	110 U	110 U
Explosives	P =										
1,3,5-Trinitrobenzene	μG/L	0	0%			0	4	0.13 U	0.13 U	0.13 U	0.13 U
1,3-Dinitrobenzene	μG/L	0	0%			0	4	0.13 U	0.13 U	0.13 U	0.13 U
2,4,6-Trinitrotoluene	μG/L	0	0%			0	4	0.13 U	0.13 U	0.13 U	0.13 U
2,4-Dinitrotoluene	μG/L	0	0%			0	4	0.13 U	0.13 U	0.13 U	0.13 U
2,6-Dinitrotoluene	μG/L	0	0%			0	4	0.13 U	0.13 U	0.13 U	0.13 U
2-amino-4,6-Dinitrotoluene	μG/L	0	0%			0	4	0.13 U	0.13 U	0.13 U	0.13 U
4-amino-2.6-Dinitrotoluene	μG/L	0	0%			0	4	0.13 U	0.13 U	0.13 U	0.13 U
НМХ	μG/L	0.49	50%			2	4	0.13 U	0.45	0.49	0.13 U
RDX	μG/L	2	50%			2	4	0.24 J	2	0.13 U	0.13 U
Tetryl	μG/L	0	0%			0	4	0.13 U	0.13 U	0.13 U	0.13 U
Pesticides/PCBs											
4,4'-DDD	μG/L	0	0%	0.00008	0	0	4	0.1 U	0.1 U	0.12 U	0.12 U
4,4'-DDE	μG/L	0	0%	0.000007	0	0	4	0.1 U	0.1 U	0.12 U	0.12 U
4,4'-DDT	μG/L	0	0%	0.00001	0	0	4	0.1 U	0.1 U	0.12 U	0.12 U
Aldrin	μG/L	0	0%	0.001	0	0	4	0.052 U	0.052 U	0.058 U	0.058 U
Alpha-BHC	μG/L	0	0%			0	4	0.052 U	0.052 U	0.058 U	0.058 U
Alpha-Chlordane	μG/L	0	0%			0	4	0.052 U	0.052 U	0.058 U	0.058 U
Aroclor-1016	μG/L	0	0%	0.000001	0	0	4	1 U	1 U	1.2 U	1.2 U
Aroclor-1221	μG/L	0	0%	0.000001	0	0	4	2.1 U	2.1 U	2.3 U	2.3 U
Aroclor-1232	μG/L	0	0%	0.000001	0	0	4	1 U	1 U	1.2 U	1.2 U
Aroclor-1242	μG/L	0	0%			0	4	1 U	1 U	1.2 U	1.2 U
Aroclor-1248	μG/L	0	0%	0.000001	0	0	4	1 U	1 U	1.2 U	1.2 U
Aroclor-1254	μG/L	0	0%	0.000001	0	0	4	1 U	1 U	1.2 U	1.2 U
Aroclor-1260	μG/L	0	0%	0.000001	0	0	4	1 U	1 U	1.2 U	1.2 U
Beta-BHC	μG/L	0	0%			0	4	0.052 U	0.052 U	0.058 U	0.058 U
Delta-BHC	μG/L	0	0%			0	4	0.052 U	0.052 U	0.058 U	0.058 U
Dieldrin	μG/L	0	0%	0.000006		0	4	0.1 U	0.1 U	0.12 U	0.12 U
Endosulfan I	μG/L	0	0%	0.009	0	0	4	0.052 U	0.052 U	0.058 U	0.058 U
Endosulfan II	μG/L	0	0%	0.009	0	0	4	0.1 U	0.1 U	0.12 U	0.12 U
Endosulfan sulfate	μG/L	0	0%			0	4	0.1 U	0.1 U	0.12 U	0.12 U
Endrin	μG/L	0	0%	0.002	0	0	4	0.1 U	0.1 U	0.12 U	0.12 U
Endrin aldehyde	μG/L	0	0%			0	4	0.1 U	0.1 U	0.12 U	0.12 U
Endrin ketone	μG/L	0	0%			0	4	0.1 U	0.1 U	0.12 U	0.12 U

Area					SEAD-45	SEAD-45	SEAD-45	SEAD-45
Loc ID					SW/SD45-1	SW/SD45-2	SW/SD45-3	SW/SD45-4
Sample ID					SW45-1	SW45-2	SW45-3	SW45-4
Matrix					SURFACE WATER	SURFACE WATER	SURFACE WATER	SURFACE WATER
Sample Depth Interval (Ft)					0-0.1	0-0.1	0-0.1	0-0.1
Sample Date					11/1/1993	11/1/1993	11/1/1993	11/1/1993
QC Type					SA	SA	SA	SA
Study ID					ESI	ESI	ESI	ESI
	Frequency	Number	Number	Number				

			Frequency		Number	Number	Number				
		Maximum	of	Criteria	of	of Times	of Samples				
Parameter	Unit	Value	Detection	Value	Exceedances	Detected	Analyzed	Value Qual	Value Qual	Value Qual	Value Qua
Gamma-BHC/Lindane	μG/L	0	0%			0	4	0.052 U	0.052 U	0.058 U	0.058 U
Gamma-Chlordane	μG/L	0	0%			0	4	0.052 U	0.052 U	0.058 U	0.058 U
Heptachlor	μG/L	0	0%	0.0002	0	0	4	0.052 U	0.052 U	0.058 U	0.058 U
Heptachlor epoxide	μG/L	0	0%	0.0003	0	0	4	0.052 U	0.052 U	0.058 U	0.058 U
Methoxychlor	μG/L	0	0%	0.03	0	0	4	0.52 U	0.52 U	0.58 U	0.58 U
Toxaphene	μG/L	0	0%	0.000006	0	0	4	5.2 U	5.2 U	5.8 U	5.8 U
Inorganics											
Aluminum	μG/L	37,500	100%	100	4	4	4	29,000	4,370	968	37,500
Antimony	μG/L	0	0%			0	4	52.6 U	52.4 U	52.8 U	52.5 U
Arsenic	μG/L	2.3	25%	150	0	1	4	1.2 U	1.2 U	1.2 U	2.3 J
Barium	μG/L	439	100%			4	4	204	82.5 J	33.5 J	439
Beryllium	μG/L	1.5	50%	1,100	0	2	4	1.3 J	0.3 U	0.3 U	1.5 J
Cadmium	μG/L	11.2	25%	3.84	1	1	4	3.3 U	3.3 U	3.3 U	11.2
Calcium	μG/L	194,000	100%			4	4	194,000	38,500	33,800	105,000
Chromium	μG/L	50.8	75%	139.45	0	3	4	45.4	3.4 J	2.5 U	50.8
Cobalt	μG/L	18.2	50%	5	2	2	4	15.2 J	4.9 U	4.9 U	18.2 J
Copper	μG/L	612	100%	17.32	4	4	4	203	119	24.8 J	612
Cyanide	μG/L	47.7	25%	5.2	1	1	4	8.3 U	8.3 U	8.3 U	47.7
Iron	μG/L	60,400	100%	300	4	4	4	47,700 J	5,920 J	1,270 J	60,400 J
Lead	μG/L	68.7	100%	1.4624632	4	4	4	27.2	10.9	1.9 J	68.7
Magnesium	μG/L	24,300	100%			4	4	24,300	4,680 J	3,280 J	19,300
Manganese	μG/L	1,250	100%			4	4	841	56.7	21.1	1,250
Mercury	μG/L	3	100%	0.0007	4	4	4	0.32	0.5	0.18 J	3
Nickel	μG/L	74.2	100%	99.92	0	4	4	72.7	8.1 J	4.2 J	74.2
Potassium	μG/L	9,670	100%			4	4	6,650	5,020	1,530 J	9,670
Selenium	μG/L	0	0%	4.6	0	0	4	5.5 U	1.1 U	1.1 U	5.5 U
Silver	μG/L	0	0%	0.1	0	0	4	6.7 UJ	6.6 UJ	6.7 UJ	6.7 UJ
Sodium	μG/L	4,340	100%			4	4	2,810 J	899 J	1,080 J	4,340 J
Thallium	μG/L	0	0%	8	0	0	4	1.2 U	1.2 U	1.2 U	1.2 U
Vanadium	μG/L	54.9	75%	14	2	3	4	45.9 J	6.1 J	3.3 U	54.9
Zinc	μG/L	883	100%	159.25	2	4	4	226	98.9	23.3	883

Footnote:

1) Chemical result qualifiers are assigned by the laboratory and are evaluated and modified (if necessary) by during data validation.

U = non-detect, i.e. not detected equal to or above this value. J = estimated (detect or non-detect) value.

[blank] = detect, i.e. detected chemical result value. R = Rejected, data validation rejected the results.

2) Num of Analyses is the number of detected and non-detected results excluding rejected results.

3) Chemical results greater than the action level are highlighted, bolded and boxed

Area Loc ID	SEAD-45 SW/SD45-1	SEAD-45 SW/SD45-2	SEAD-45 SW/SD45-3	SEAD-45 SW/SD45-4
Sample ID	SD45-1	SD45-2	SD45-3	SD45-4
Matrix	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
Sample Depth Interval (ft)	0-0.5	0-0.5	0-0.5	0-0.5
Sample Date	11/1/1993	11/1/1993	11/1/1993	11/1/1993
	SA	SA	SA	SA
Study ID	ESI	ESI	ESI	ESI

Parameter	Unit	Max Detected Value	Frequency of Detects	Num of Detects	Num of Analyses	Action Level	Num of Detects Above Standard	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compound											
1,1,1-Trichloroethane	UG/KG	0	0%	0	4	680	0	13 U	14 U	15 U	13 U
1,1,2,2-Tetrachloroethane	UG/KG	0	0%	0	4			13 U	14 U	15 U	13 U
1,1,2-Trichloroethane	UG/KG	0	0%	0	4			13 U	14 U	15 U	13 U
1,1-Dichloroethane	UG/KG	0	0%	0	4	270	0	13 U	14 U	15 U	13 U
1,1-Dichloroethene	UG/KG	0	0%	0	4	330	0	13 U	14 U	15 U	13 U
1,2-Dichloroethane	UG/KG	0	0%	0	4	20	0	13 U	14 U	15 U	13 U
1,2-Dichloroethene (total)	UG/KG	0	0%	0	4	190	0	13 U	14 U	15 U	13 U
1,2-Dichloropropane	UG/KG	0	0%	0	4			13 U	14 U	15 U	13 U
Acetone	UG/KG	0	0%	0	4	50	0	13 U	14 U	15 U	13 U
Benzene	UG/KG	0	0%	0	4	60	0	13 U	14 U	15 U	13 U
Bromodichloromethane	UG/KG	0	0%	0	4			13 U	14 U	15 U	13 U
Bromoform	UG/KG	0	0%	0	4			13 U	14 U	15 U	13 U
Carbon disulfide	UG/KG	0	0%	0	4			13 U	14 U	15 U	13 U
Carbon tetrachloride	UG/KG	0	0%	0	4	760	0	13 U	14 U	15 U	13 U
Chlorobenzene	UG/KG	0	0%	0	4	1,100	0	13 U	14 U	15 U	13 U
Chlorodibromomethane	UG/KG	0	0%	0	4			13 U	14 U	15 U	13 U
Chloroethane	UG/KG	0	0%	0	4			13 U	14 U	15 U	13 U
Chloroform	UG/KG	0	0%	0	4	370	0	13 U	14 U	15 U	13 U
Cis-1,3-Dichloropropene	UG/KG	0	0%	0	4			13 U	14 U	15 U	13 U
Ethyl benzene	UG/KG	0	0%	0	4	1,000	0	13 U	14 U	15 U	13 U
Methyl bromide	UG/KG	0	0%	0	4			13 U	14 U	15 U	13 U
Methyl butyl ketone	UG/KG	0	0%	0	4			13 U	14 U	15 U	13 U
Methyl chloride	UG/KG	0	0%	0	4			13 U	14 U	15 U	13 U
Methyl ethyl ketone	UG/KG	0	0%	0	4	120	0	13 U	14 U	15 U	13 U
Methyl isobutyl ketone	UG/KG	0	0%	0	4			13 U	14 U	15 U	13 U
Methylene chloride	UG/KG	0	0%	0	4	50	0	13 U	14 U	15 U	13 U
Styrene	UG/KG	0	0%	0	4			13 U	14 U	15 U	13 U
Tetrachloroethene	UG/KG	0	0%	0	4	1,300	0	13 U	14 U	15 U	13 U
Toluene	UG/KG	0	0%	0	4	700	0	13 U	14 U	15 U	13 U
Total Xylenes	UG/KG	0	0%	0	4	260	0	13 U	14 U	15 U	13 U
Trans-1,3-Dichloropropene	UG/KG	0	0%	0	4			13 U	14 U	15 U	13 U
Trichloroethene	UG/KG	0	0%	0	4	470	0	13 U	14 U	15 U	13 U
Vinyl chloride	UG/KG	0	0%	0	4	20	0	13 U	14 U	15 U	13 U
Herbicides	-								-		
2,4,5-T	UG/KG	0	0%	0	4			6.4 U	8 U	7.6 U	6.8 U
2,4,5-TP/Silvex	UG/KG	0	0%	0	4	3,800	0	6.4 U	8 U	7.6 U	6.8 U
2,4-D	UG/KG	0	0%	0	4	- ,	-	64 U	80 U	76 U	68 U

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Area	SEAD-45	SEAD-45	SEAD-45	SEAD-45
Loc ID	SW/SD45-1	SW/SD45-2	SW/SD45-3	SW/SD45-4
Sample ID	SD45-1	SD45-2	SD45-3	SD45-4
Matrix	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
Sample Depth Interval (ft)	0-0.5	0-0.5	0-0.5	0-0.5
Sample Date	11/1/1993	11/1/1993	11/1/1993	11/1/1993
QC Type	SA	SA	SA	SA
Study ID	ESI	ESI	ESI	ESI

							Num of Detects				
		Max Detected		Num of	Num of	A (* 1 1	Above				
Parameter 2,4-DB	Unit UG/KG	Value 0	of Detects 0%	Detects 0	Analyses 4	Action Level	Standard	Value Qual 64 U	Value Qual 80 U	Value Qual 76 U	Value Qual 68 U
Dalapon	UG/KG	0	0%	0	4			160 U	200 U	190 U	170 U
Dicamba	UG/KG	0	0%	0	4			6.4 U	200 U 8 U	7.6 U	6.8 U
Dichloroprop	UG/KG	0	0%	0	4			64 U	80 U	7.6 U	68 U
Dinoseb	UG/KG	0	0%	0	4			32 U	40 U	38 U	34 U
MCPA	UG/KG	0	0%	0	4			6.400 U		7,600 U	6,800 U
MCPA				0	4			-,	8,000 U	,	,
	UG/KG	0	0%	0	4			6,400 U	8,000 U	7,600 U	6,800 U
Explosives		0	00/	0	4			400.11	100.11	400.11	400.11
1,3,5-Trinitrobenzene	UG/KG	0	0%	0	4			130 U	130 U	130 U	130 U
1,3-Dinitrobenzene	UG/KG	0	0%	0	4			130 U	130 U	130 U	130 U
2,4,6-Trinitrotoluene	UG/KG	120	25%	1	4			130 U	120 J	130 U	130 U
2,4-Dinitrotoluene	UG/KG	83	25%	1	4			130 U	83 J	130 U	130 U
2,6-Dinitrotoluene	UG/KG	0	0%	0	4			130 U	130 U	130 U	130 U
2-amino-4,6-Dinitrotoluene	UG/KG	260	25%	1	4			130 U	260	130 U	130 U
4-amino-2,6-Dinitrotoluene	UG/KG	0	0%	0	4			130 U	130 U	130 U	130 U
HMX	UG/KG	0	0%	0	4			130 U	130 U	130 U	130 U
RDX	UG/KG	210	25%	1	4			130 U	210	130 U	130 U
Tetryl	UG/KG	140	25%	1	4			130 U	140 J	130 U	130 U
Semivolatile Organic Compo											
1,2,4-Trichlorobenzene	UG/KG	0	0%	0	4			420 U	530 U	500 U	440 U
1,2-Dichlorobenzene	UG/KG	0	0%	0	4	1,100	0	420 U	530 U	500 U	440 U
1,3-Dichlorobenzene	UG/KG	0	0%	0	4	2,400	0	420 U	530 U	500 U	440 U
1,4-Dichlorobenzene	UG/KG	0	0%	0	4	1,800	0	420 U	530 U	500 U	440 U
2,2'-oxybis(1-Chloropropane)	UG/KG	0	0%	0	4			420 U	530 U	500 U	440 U
2,4,5-Trichlorophenol	UG/KG	0	0%	0	4			1,000 U	1,300 U	1,200 U	1,100 U
2,4,6-Trichlorophenol	UG/KG	0	0%	0	4			420 U	530 U	500 U	440 U
2,4-Dichlorophenol	UG/KG	0	0%	0	4			420 U	530 U	500 U	440 U
2,4-Dimethylphenol	UG/KG	0	0%	0	4			420 U	530 U	500 U	440 U
2,4-Dinitrophenol	UG/KG	0	0%	0	4			1,000 U	1,300 U	1,200 U	1,100 U
2,4-Dinitrotoluene	UG/KG	0	0%	0	4			420 U	530 U	500 U	440 U
2.6-Dinitrotoluene	UG/KG	0	0%	0	4			420 U	530 U	500 U	440 U
2-Chloronaphthalene	UG/KG	0	0%	0	4			420 U	530 U	500 U	440 U
2-Chlorophenol	UG/KG	0	0%	Õ	4			420 U	530 U	500 U	440 U
2-Methylnaphthalene	UG/KG	0	0%	Õ	4			420 U	530 U	500 U	440 U
2-Methylphenol	UG/KG	0	0%	0 0	4	330	0	420 U	530 U	500 U	440 U
2-Nitroaniline	UG/KG	0	0%	0	4	000	v	1,000 U	1,300 U	1,200 U	1,100 U
2-Nitrophenol	UG/KG	0	0%	0	4			420 U	530 U	500 U	440 U
3,3'-Dichlorobenzidine	UG/KG	0	0%	0	4			420 U	530 U	500 U	440 U
0,0 Didnorobenziume	50,10	v	070	U	т			720 0	000 0	000 0	0 077

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Area	SEAD-45	SEAD-45	SEAD-45	SEAD-45
Loc ID	SW/SD45-1	SW/SD45-2	SW/SD45-3	SW/SD45-4
Sample ID	SD45-1	SD45-2	SD45-3	SD45-4
Matrix	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
Sample Depth Interval (ft)	0-0.5	0-0.5	0-0.5	0-0.5
Sample Date	11/1/1993	11/1/1993	11/1/1993	11/1/1993
QC Type	SA	SA	SA	SA
Study ID	ESI	ESI	ESI	ESI

			_				Num of Detects				
Parameter	Unit	Max Detected Value	Frequency of Detects	Num of Detects	Num of Analyses	Action Level	Above Standard	Value Qual	Value Qual	Value Qual	Value Qual
3-Nitroaniline	UG/KG	0	0%	0	4		Otaridara	1,000 U	1,300 U	1,200 U	1,100 U
4,6-Dinitro-2-methylphenol	UG/KG	0	0%	0 0	4			1,000 U	1,300 U	1,200 U	1,100 U
4-Bromophenyl phenyl ether	UG/KG	0	0%	0	4			420 U	530 U	500 U	440 U
4-Chloro-3-methylphenol	UG/KG	0	0%	0	4			420 U	530 U	500 U	440 U
4-Chloroaniline	UG/KG	0	0%	0	4			420 U	530 U	500 U	440 U
4-Chlorophenyl phenyl ether	UG/KG	0	0%	0	4			420 U	530 U	500 U	440 U
4-Methylphenol	UG/KG	0	0%	0	4	330	0	420 U	530 U	500 U	440 U
4-Nitroaniline	UG/KG	0	0%	0	4			1,000 U	1,300 U	1,200 U	1,100 U
4-Nitrophenol	UG/KG	0	0%	0	4			1,000 U	1,300 U	1,200 U	1,100 U
Acenaphthene	UG/KG	0	0%	0	4	20,000	0	420 U	530 U	500 U	440 U
Acenaphthylene	UG/KG	0	0%	0	4	100,000	0	420 U	530 U	500 U	440 U
Anthracene	UG/KG	0	0%	0	4	100,000	0	420 U	530 U	500 U	440 U
Benzo(a)anthracene	UG/KG	32	50%	2	4	1,000	0	420 U	32 J	23 J	440 U
Benzo(a)pyrene	UG/KG	37	50%	2	4	1,000	0	420 U	37 J	28 J	440 U
Benzo(b)fluoranthene	UG/KG	37	50%	2	4	1,000	0	420 U	37 J	28 J	440 U
Benzo(ghi)perylene	UG/KG	48	25%	1	4	100,000	0	420 U	48 J	500 U	440 U
Benzo(k)fluoranthene	UG/KG	28	50%	2	4	800	0	420 U	28 J	26 J	440 U
Bis(2-Chloroethoxy)methane	UG/KG	0	0%	0	4			420 U	530 U	500 U	440 U
Bis(2-Chloroethyl)ether	UG/KG	0	0%	0	4			420 U	530 U	500 U	440 U
Bis(2-Ethylhexyl)phthalate	UG/KG	0	0%	0	4			420 U	530 U	500 U	440 U
Butylbenzylphthalate	UG/KG	0	0%	0	4			420 U	530 U	500 U	440 U
Carbazole	UG/KG	0	0%	0	4			420 U	530 U	500 U	440 U
Chrysene	UG/KG	50	75%	3	4	1,000	0	420 U	50 J	36 J	20 J
Dibenz(a,h)anthracene	UG/KG	0	0%	0	4	330	0	420 U	530 U	500 U	440 U
Dibenzofuran	UG/KG	0	0%	0	4	7,000	0	420 U	530 U	500 U	440 U
Diethyl phthalate	UG/KG	0	0%	0	4			420 U	530 U	500 U	440 U
Dimethylphthalate	UG/KG	0	0%	0	4			420 U	530 U	500 U	440 U
Di-n-butylphthalate	UG/KG	25	25%	1	4			420 U	25 J	500 U	440 U
Di-n-octylphthalate	UG/KG	0	0%	0	4			420 U	530 U	500 U	440 U
Fluoranthene	UG/KG	60	75%	3	4	100,000	0	420 U	60 J	47 J	31 J
Fluorene	UG/KG	0	0%	0	4	30,000	0	420 U	530 U	500 U	440 U
Hexachlorobenzene	UG/KG	40	50%	2	4	330	0	420 U	40 J	500 U	30 J
Hexachlorobutadiene	UG/KG	0	0%	0	4			420 U	530 U	500 U	440 U
Hexachlorocyclopentadiene	UG/KG	0	0%	0	4			420 U	530 U	500 U	440 U
Hexachloroethane	UG/KG	0	0%	0	4			420 U	530 U	500 U	440 U
Indeno(1,2,3-cd)pyrene	UG/KG	32	25%	1	4	500	0	420 U	32 J	500 U	440 U
Isophorone	UG/KG	0	0%	0	4			420 U	530 U	500 U	440 U
Naphthalene	UG/KG	24	25%	1	4	12,000	0	420 U	530 U	500 U	24 J

Area	SEAD-45	SEAD-45	SEAD-45	SEAD-45
Loc ID	SW/SD45-1	SW/SD45-2	SW/SD45-3	SW/SD45-4
Sample ID	SD45-1	SD45-2	SD45-3	SD45-4
Matrix	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
Sample Depth Interval (ft)	0-0.5	0-0.5	0-0.5	0-0.5
Sample Date	11/1/1993	11/1/1993	11/1/1993	11/1/1993
QC Type	SA	SA	SA	SA
Study ID	ESI	ESI	ESI	ESI

							Num of Detects				
		Max Detected		Num of	Num of		Above				
Parameter	Unit	Value	of Detects	Detects	Analyses	Action Level	Standard	Value Qual	Value Qual	Value Qual	Value Qual
Nitrobenzene	UG/KG		0%	0	4			420 U	530 U	500 U	440 U
N-Nitroso-di-n-propylamine	UG/KG		0%	0	4			420 U	530 U	500 U	440 U
N-Nitrosodiphenylamine	UG/KG		0%	0	4			420 U	530 U	500 U	440 U
Pentachlorophenol	UG/KG		0%	0	4	800	0	1,000 U	1,300 U	1,200 U	1,100 U
Phenanthrene	UG/KG	34	75%	3	4	100,000	0	420 U	34 J	24 J	25 J
Phenol	UG/KG	0	0%	0	4	330	0	420 U	530 U	500 U	440 U
Pyrene	UG/KG	110	75%	3	4	100,000	0	420 U	110 J	59 J	61 J
Pesticides/PCBs											
4,4'-DDD	UG/KG	0	0%	0	4	3.3	0	4.2 U	5.3 U	5 U	4.5 U
4,4'-DDE	UG/KG	12	50%	2	4	3.3	2	4.2 U	4.3 J	5 U	12 J
4,4'-DDT	UG/KG	0	0%	0	4	3.3	0	4.2 U	5.3 U	5 U	4.5 U
Aldrin	UG/KG	2.2	25%	1	4	5	0	2.2 U	2.7 U	2.6 U	2.2 J
Alpha-BHC	UG/KG	0	0%	0	4	20	0	2.2 U	2.7 U	2.6 U	2.3 U
Alpha-Chlordane	UG/KG	5.7	25%	1	4	94	0	2.2 U	2.7 U	2.6 U	5.7 J
Aroclor-1016	UG/KG	0	0%	0	4	100	0	42 U	53 U	50 U	45 U
Aroclor-1221	UG/KG	0	0%	0	4	100	0	85 U	110 U	100 U	91 U
Aroclor-1232	UG/KG	0	0%	0	4	100	0	42 U	53 U	50 U	45 U
Aroclor-1242	UG/KG	0	0%	0	4	100	0	42 U	53 U	50 U	45 U
Aroclor-1248	UG/KG	0	0%	0	4	100	0	42 U	53 U	50 U	45 U
Aroclor-1254	UG/KG	580	50%	2	4	100	1	42 U	74	50 U	580 J
Aroclor-1260	UG/KG	0	0%	0	4	100	0	42 U	53 U	50 U	45 U
Beta-BHC	UG/KG	0	0%	0	4	36	0	2.2 U	2.7 U	2.6 U	2.3 U
Delta-BHC	UG/KG	0	0%	0	4	40	0	2.2 U	2.7 U	2.6 U	2.3 U
Dieldrin	UG/KG	7.4	25%	1	4	5	1	4.2 U	5.3 U	5 U	7.4 J
Endosulfan I	UG/KG	2.7	50%	2	4	2.400	0	2.2 U	2.7 J	1.3 J	2.3 U
Endosulfan II	UG/KG	0	0%	0	4	2,400	0	4.2 U	5.3 U	5 U	4.5 U
Endosulfan sulfate	UG/KG	0	0%	0	4	2,400	0	4.2 U	5.3 U	5 U	4.5 U
Endrin	UG/KG	0	0%	0	4	14	0	4.2 U	5.3 U	5 U	4.5 U
Endrin aldehyde	UG/KG	3.2	25%	1	4		Ū	4.2 U	5.3 U	5 U	3.2 J
Endrin ketone	UG/KG	0	0%	0	4			4.2 U	5.3 U	5 U	4.5 U
Gamma-BHC/Lindane	UG/KG	0	0%	0	4	100	0	2.2 U	2.7 U	2.6 U	2.3 U
Gamma-Chlordane	UG/KG		0%	0 0	4		Ū	2.2 U	2.7 U	2.6 U	2.3 U
Heptachlor	UG/KG		0%	Ő	4	42	0	2.2 U	2.7 U	2.6 U	2.3 U
Heptachlor epoxide	UG/KG	0	0%	0	4	12	č	2.2 U	2.7 U	2.6 U	2.3 U
Methoxychlor	UG/KG		0%	0	4			22 U	27 U	26 U	23 U
Toxaphene	UG/KG	0	0%	0	4			220 U	270 U	260 U	230 U
Inorganics	00/10	U	070	U	т			220 0	210 0	200 0	200 0
Aluminum	MG/KG	35,000	100%	4	4			14,400	35,000	22,300	21,100

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Area	SEAD-45	SEAD-45	SEAD-45	SEAD-45
Loc ID	SW/SD45-1	SW/SD45-2	SW/SD45-3	SW/SD45-4
Sample ID	SD45-1	SD45-2	SD45-3	SD45-4
Matrix	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
Sample Depth Interval (ft)	0-0.5	0-0.5	0-0.5	0-0.5
Sample Date	11/1/1993	11/1/1993	11/1/1993	11/1/1993
QC Type	SA	SA	SA	SA
Study ID	ESI	ESI	ESI	ESI

							Num of Detects				
		Max Detected	Frequency	Num of	Num of		Above				
Parameter	Unit	Value	of Detects	Detects	Analyses	Action Level	Standard	Value Qual	Value Qual	Value Qual	Value Qual
Antimony	MG/KG	0	0%	0	4			10.1 U	13.4 U	11.7 U	7.2 UJ
Arsenic	MG/KG	16.1	100%	4	4	13	1	6.9	4.2	7.3	16.1
Barium	MG/KG	308	100%	4	4	350	0	85.4	308	187	176
Beryllium	MG/KG	1.4	100%	4	4	7.2	0	0.62 J	1.4	0.94 J	0.83
Cadmium	MG/KG	25.6	100%	4	4	2.5	3	0.76 J	14.9	5.6	25.6 J
Calcium	MG/KG	84,400	100%	4	4			84,400	21,700	25,100	25,100
Chromium	MG/KG	48.4	100%	4	4	30	3	22.5	48.4	31.4	31.8
Cobalt	MG/KG	19.7	100%	4	4			11.2	19.7	12.9	13.2
Copper	MG/KG	814	100%	4	4	50	4	63.9	814	323	241
Cyanide	MG/KG	0	0%	0	4	27	0	0.61 U	0.68 U	0.74 U	0.68 U
Iron	MG/KG	50,500	100%	4	4			25,600	50,500	32,600	33,200
Lead	MG/KG	101	100%	4	4	63	2	19.8	101	52.8	72.9
Magnesium	MG/KG	10,200	100%	4	4			9,720	10,200	7,630	7,510
Manganese	MG/KG	935	100%	4	4	1,600	0	458	692	616	935
Mercury	MG/KG	5.3	100%	4	4	0.18	4	0.38	5.3	4.4	2.2 J
Nickel	MG/KG	67.7	100%	4	4	30	4	40.1	67.7	41.6	44.6
Potassium	MG/KG	4,680	100%	4	4			2,580	4,680	3,360	2,840
Selenium	MG/KG	0	0%	0	4	3.9	0	0.19 U	0.35 U	0.24 U	0.28 UJ
Silver	MG/KG	5.8	75%	3	4	2	3	1.3 U	5.8	3.1	2.5 J
Sodium	MG/KG	377	100%	4	4			208 J	377 J	146 J	130 J
Thallium	MG/KG	0	0%	0	4			0.21 U	0.38 U	0.26 U	0.31 U
Vanadium	MG/KG	53.7	100%	4	4			23.9	53.7	37.2	32.9
Zinc	MG/KG	755	100%	4	4	109	3	104	755	312	329

Footnote:

1) Chemical result qualifiers are assigned by the laboratory and are evaluated and modified (if necessary) by during data validation.

U = non-detect, i.e. not detected equal to or above this value. J = estimated (detect or non-detect) value.

[blank] = detect, i.e. detected chemical result value.

2) Num of Analyses is the number of detected and non-detected results excluding rejected results.

3) Chemical results greater than the action level are highlighted, bolded and boxed.

4) Criteria action level source document and web address. The NYS SCO Unrestricted Use values were obtained from the NYSDEC Soil Cleanup Objectives.

http://www.dec.ny.gov/regs/15507.html

Table A-5 Summary of SPLP Extract and Total Metals Anaysis Feasibility Study - OD Grounds Seneca Army Depot Activity

Loc ID Sample ID	SEAD-45 S45-0DH-4-01	SEAD-45 S45-0DH-4-01	SEAD-45 S45-TP-1-02	SEAD-45 S45-TP-1-02	SEAD-45 S45-TP-2-04	SEAD-45 S45-TP-2-04	SEAD-45 S45-R4-01	SEAD-45 S45-R4-01
Matrix	SOIL	Leachate	SOIL	Leachate	SOIL	Leachate	SOIL	Leachate
Date Sampled	3/12/2010	3/12/2010	3/12/2010	3/12/2010	3/12/2010	3/12/2010	4/1/2010	4/1/2010
Sample Type	SA	SA	SA	SA	SA	SA	SA	SA
Campio Type	O/ C	0,1	en c	0/1	en t	O/ C	U	U. Y
	mg/Kg	ug/L	mg/Kg	ug/L	mg/Kg	ug/L	mg/Kg	ug/L
Parameter	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
ALUMINUM	15000		14400		16500		19000	
ANTIMONY	0.47 U	ND	0.63 J	ND	0.29 J	2.6 J	0.18 U	ND
ARSENIC	12.6	7.4 J	8.7	1.86 U	4.8	16	5.7	11.6
BARIUM	220	495	101	132	227	1340	140	562
BERYLLIUM	0.67		0.62		0.73		0.88	
CADMIUM	1100	11	13.4	0.6 J	7.6	18.9	1.1 J	4 J
CALCIUM	23200		62400		29500		12200	
CHROMIUM	37.8	38.3	35	12.7 J	26.7	77.2	2804	52
COBALT	14	10.5 J	12.9	2.3 J	11.3	32	10.9	11.7 J
COPPER	1780	909	7310	139	2490	716	82.6	243
IRON	118000		60900		25600		24000	
LEAD	57.2	78	22.3	8.7	91	274	22.5	52
MAGNESIUM	5680		9200		7380		6750	
MANGANESE	648		574		407		428	
MERCURY	3.1	12.7 (1)	4.3	0.27 (1)	9.1	44.2 (1)	1.4	12.2
NICKEL	46.2		54		38.2		37	
POTASSIUM	2160		2180		2400		2970	
SELENIUM	1.03 U	3.67 U	0.59 U	3.67 U	0.4 U	3.67 U	0.63 U	3.67 U
SILVER	205	6.2 J	53.7	0.75 J	0.63 J	3.5 J	0.42 J	2 J
SODIUM	103		151		189		79 J	
THALLIUM	0.44 U		0.25 U		0.17 U		0.27 U	
VANADIUM	24.4	50	22.3	19 J	26.9	98	33.6	6.8 J
ZINC	1270	767	150	100	1470	2770	160	1030

Footnote:

1) Chemical result qualifiers were assigned by the laboratory.

or above this value.

J = estimated (detect or non-detect) value.

value.

U = non-detect

Table A-5 Summary of SPLP Extract and Total Metals Anaysis Feasibility Study - OD Grounds Seneca Army Depot Activity

Loc ID	SEAD-45	SEAD-45						
Sample ID	S45-RI-02	S45-RI-02	S45-R2-02	S45-R2-02	S45-R5-05	S45-R5-05	S45-R15-01	S45-R15-01
Matrix	SOIL	Leachate	SOIL	Leachate	SOIL	Leachate	SOIL	Leachate
Date Sampled	4/1/2010	4/1/2010	4/1/2010	4/1/2010	3/16/2010	3/16/2010	3/16/2010	3/16/2010
Sample Type	SA	SA						
	mg/Kg	ug/L	mg/Kg	ug/L	mg/Kg	ug/L	mg/Kg	ug/L
Parameter	Value (Q)	Value (Q)						
ALUMINUM	16200	Value (Q)	17700	Value (&)	18700	Value (&)	19900	Value (Q)
ANTIMONY	0.64 J	ND	0.62 J	3.7 J	0.11 U	ND	0.25 U	ND
ARSENIC	5.1	13.6	5.4	18.9	5.2	9.8	7.6	6.8 J
BARIUM	150	777	164	940	165	703	287	487
BERYLLIUM	0.72		0.86		0.79		1	-
CADMIUM	7.7	17.3	9.1	25.3	5.1	8.7 J	1.8 J	1.2 J
CALCIUM	25400		20300		29300		3630	
CHROMIUM	27.4	73	27.7	99.9	26.7	63.1	24.6	53.6
COBALT	12.3	37.5	11.8	29 J	10	16.7 J	26.8	11.9 J
COPPER	794	1444	462	2260	219	654	22.8	59.5
IRON	25200		27600		25400		35300	
LEAD	69.2	147	72.3	193	42.9	71	22	29
MAGNESIUM	7910		6560		7140		4080	
MANGANESE	676		618		489		5040	
MERCURY	3.5	13.2	3	9.8	1.3	4.2 (1)	0.21	0.34 (1)
NICKEL	39.6		39.8		33.4		29.8	
POTASSIUM	2450		2920		3220		2780	
SELENIUM	0.7 U	3.67 U	0.72 U	3.67 U	0.24 U	3.67 U	0.56 U	3.67 U
SILVER	3.2	13.6 J	3.6	19.7	0.46 J	3.1 J	0.17 U	2.1 J
SODIUM	87.7 J		90.9 J		127		87.4 J	
THALLIUM	0.29 U		0.3 U		0.1 U		0.24 U	
VANADIUM	27.3	93	30.9	124	30.1	79	30.7	78
ZINC	1350	3100	321	1750	360	1290	101	243

Footnote:

1) Chemical result qualifiers were assigned by the

or above this value.

J = estimated (detect or non-detect) value.

value.

U = non-detect

APPENDIX B

MEC HAZARD ASSESSMENT

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MUNITIONS AND EXPLOSIVES OF CONCERN HAZARD ASSESSMENT FOR

OPEN DETONATION GROUNDS

SENECA ARMY DEPOT ACTIVITY ROMULUS, SENECA COUNTY, NEW YORK

Prepared for:

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B.1 EXECUTIVE SUMMARY

Parsons has been tasked by the U.S. Army Corps of Engineers (USACE), Huntsville District, under Contract No. W912DY-08-D-0003, Task Order No. 0013 to prepare a munitions and explosives of concern (MEC) hazard assessment (HA) for the Open Detonation (OD) Grounds, also known as SEAD-45, located at the Seneca Army Depot Activity (SEDA or the Depot) in Romulus, New York. The purpose of this MEC HA is to assess qualitatively the potential explosive hazards to human receptors associated with complete MEC exposure pathways at the OD Grounds munitions response site (MRS). This appendix contains a detailed description of the MEC HA conducted for the OD Grounds, including the information and assumptions used for this assessment.

The MEC HA method was developed by the Technical Working Group for Hazard Assessment, which included representatives from the Department of Defense (DoD), the U.S. Department of the Interior, the USEPA, and various states and tribes. The method provides an assessment of the acute explosive hazards associated with remaining MEC at an MRS by analyzing site-specific conditions and human issues that affect the likelihood that a MEC accident will occur (Subchapter B.5). Under the MEC HA method, the potential MEC hazards are evaluated qualitatively for each MRS by evaluating site conditions and assigning related "input factors" that generate a total MEC HA score between 125 and 1,000, with the upper limit representing the maximum level of explosive hazard (Subchapters B.7 and B.8).

This MEC HA divides the OD Grounds into two areas for assessment purposes based on differing anticipated explosive hazard characteristics (Subchapter B.6). Previous investigations indicate the density of potential MEC is highest at the center of the OD Grounds, in the vicinity of the OD Hill where the demolition activities took place and areas in the immediate vicinity that received most of the "kick-outs" from those activities. This area is referred to as the "OD Hill area" in this MEC HA. The second assessment area includes areas further away from the OD Hill that received kick-outs, but in lower densities. This second assessment area is referred to as the "Kickout Area" in this MEC HA. The locations of these two assessment areas are shown on Figure 1-3 in the FS Report.

A qualitative baseline evaluation of the potential MEC hazards posed was conducted by reviewing each of the MEC HA input factors for the OD Hill and Kickout areas (Subchapter B.9). Having generated baseline MEC HA scores for each assessment area, different remedial alternatives were further evaluated using the MEC HA method to compare how they might reduce the explosive hazards in each area (Subchapter B.10). The remedial alternatives evaluated were (1) geophysical mapping, intrusive investigation, and installation of an 18-inch thick cap, followed by implementation of land use controls (LUCs) and (2) geophysical mapping, intrusive investigation, excavation, off-site soil disposal, followed by implementation of LUCs. These are referred to here and in the FS as Remedial Alternatives 2 and 3, respectively. Remedial Alternative 1 represents the no action alternative, which is the baseline scenario for this MEC HA.

The results of the MEC HA conducted for both assessment areas are shown in Table B.6 (Subchapter B.9). For the OD Hill area, the baseline score (the no action alternative) results in a MEC HA score of 865. Remedial Alternative 2 (geophysical mapping, intrusive investigation, and installation of an 18-inch

thick cap, followed by implementation of LUCs) results in a MEC HA score of 470. Remedial Alternative 3 (geophysical mapping, intrusive investigation, excavation, off-site disposal, and implementation of LUCs) was also evaluated for the OD Hill area, and resulted in a MEC HA score of 470, the same as Alternative 2. The reduction in MEC HA score from 865 to 470 reduces the corresponding Hazard Level rating from 1 ('highest potential explosive hazard conditions') to 4 ('low potential explosive hazard conditions'). Based on these results, there is no significant difference between these remedial alternatives with respect to reduction of explosive hazards at the OD Hill area.

For the Kickout area, the baseline score (the no action alternative) results in a MEC HA score of 715. Remedial Alternatives 2 and 3 both result in a MEC HA score of 445. This reduction in MEC HA score reduces the corresponding Hazard Level rating from 3 ('moderate potential explosive hazard conditions') to 4 ('low potential explosive hazard conditions'). Based on these results, there is no significant difference between these remedial alternatives with respect to reduction of explosive hazards at the Kickout area.

The remaining sections of this appendix provide information on the site history, current and future land use, the MEC HA input and output factors, the details of the baseline MEC HA evaluation, the remedial action alternatives, and the adjusted MEC HA scores resulting from the implementation of these remedial action alternatives.

B.2 SITE HISTORY AND PREVIOUS DISCOVERIES

Since its inception in 1941, SEDA's military mission included receipt, storage, distribution, maintenance, and demilitarization of conventional ammunition, explosives, and special weapons.

The OD Grounds located in the northwestern corner of the Depot and is designated as SEAD-45. The site is largely meadow with some wooded and heavily brushed areas. Reeder Creek runs through the OD Grounds. Access is possible via a paved road that enters the area from the southeast and roughly parallels the path of Reeder Creek along its western bank. The unnamed access road branches off North-South Baseline Road near Building 2104, which is located in the southeastern corner of the OD Grounds.

The OD Grounds were used to destroy munitions resulting from SEDA's military mission. Operations at the OD Grounds began circa 1941 when the Depot was first constructed and continued at regular intervals until circa 2000 when the military mission of the Depot ceased. Detonations were conducted on an approximately 30-foot high man-made hill constructed to buffer the intensity of planned detonations (the 'OD Hill'). Detonations occurred intermittently since the Depot closed as part of continuing munitions response activities being performed at the Depot. During operations, off specification munitions were placed in an excavated opening in the side of the OD Hill with additional demolition material, covered with a minimum of 8 feet of soil, and detonated remotely. After demolition was completed, explosively displaced portions of the mound were reconstructed by moving displaced and native soils back into the central earthen mound.

These historic operations resulted in MEC, material potentially presenting an explosive hazard (MPPEH), and munitions debris (MD) being expelled ("kicked out") from the OD Hill to the surrounding

area. Investigations indicate the highest MPPEH densities are in the vicinity of the OD Hill, which is to be expected as this area contains both the former detonation location and the areas that would have received most "kick outs". Densities of "kick-outs" from the demolition operations decrease moving away from the demolition operations.

B.3 MEC POTENTIALLY PRESENT ONSITE

Several characterization efforts and investigations for MPPEH have been conducted at the OD Grounds and are summarized in the FS document. Based on historical data, previous investigations and removal actions, the MPPEH present at the site is summarized in Subchapter B.5.

B.4 CURRENT AND FUTURE LAND USE

The OD Grounds are currently closed. The planned future use for the area that encompasses the OD Grounds is projected to be a "Conservation/Recreation Area". For the remedial alternatives considered in this MEC HA, it is assumed land use controls (LUC) will be implemented that will restrict the area to non-intrusive recreational activities such as hiking, with no camping allowed. The LUCs will also restrict access to groundwater, prohibit digging or any intrusive activities, and prohibit the use of the site for residential or day care uses.

B.5 EXPLOSIVE HAZARDS AND HAZARD ASSESSMENT

An explosive hazard exists at a site if there is a potentially complete MEC exposure pathway. A complete MEC exposure pathway is present any time a receptor can come near or into contact with MEC and interact with the item in a manner that might result in its detonation. There are three elements of a complete MEC exposure pathway: (1) a source of MEC, (2) a receptor, and (3) the potential for interaction between the MEC source and the receptor. <u>All three</u> of these elements must be present for a potentially complete MEC exposure pathway to exist.

Based on the findings of previous investigations, MPPEH remains or has the potential to remain within the OD Grounds area. Known or suspected munitions include the Mortar 81mm HE; Projectile 75mm HE, Projectile, 57 mm HE, Rocket, 3.5 inch HEAT, Bomb 4lb Frag (Butterfly), Grenade 40mm HE, projectile 37mm HE, Projectile 75mm HEAT, Grenade Rifle Antitank, Fuze Bomb Nose, Fuze Tail, Projectile 20mm HEI, Grenade Hand Fragmentation, Fuze, Point Detonating, Fuze Base Detonating, Flare Trip Parachute, Grenade Hand Riot, Signal, Illuminating, Ground, Parachute, Projectile 40mm Practice, Rocket Sub-Caliber and Mortar 60mm Illumination.

The qualitative hazard assessment technique presented here follows the MEC HA method, which provides an assessment of the acute explosive hazards associated with remaining MEC at a MRS by analyzing site-specific conditions and human issues that affect the likelihood that a MEC accident will occur. The MEC HA method focuses on hazards to human receptors and does not directly address environmental or ecological concerns that might be associated with MEC. The process for conducting the MEC HA is described in the MEC HA interim guidance document (U.S. Environmental Protection Agency [USEPA] 2008) and uses input data based on historical documentation, field observations, and

the results of previous studies and removal actions. The MEC HA interim guidance was developed by the Technical Working Group for Hazard Assessment, which included representatives from the DoD, the U.S. Department of the Interior, the USEPA, and various states and tribes. The DoD has encouraged use of this method on a trial basis (DoD 2009).

The MEC HA method reflects the basic difference between assessing acute hazards from exposure to MEC and assessing chronic environmental risks from exposure to potential contaminants, such as munitions constituents (MC). An explosive hazard can result in immediate injury or death; therefore, risks from explosive hazards are evaluated either as being present or not present. If the potential for an encounter with MEC exists, then the potential that the encounter may result in injury or death also exists. This MEC HA was conducted to evaluate the baseline conditions for the site with regard to explosive hazards. These baseline evaluations provide the basis for the evaluation and implementation of effective management response alternatives in a FS for this property. The MEC HA also supports hazard communication among stakeholders by organizing site information in a consistent manner for the hazard management decision-making process. However, the MEC HA does not provide a quantitative assessment of MEC hazards and is not used to determine whether or not further action is necessary at a site.

B.6 DEFINING THE AREAS TO BE ASSESSED

A MEC HA is focused on each MRS at a site. However, the MEC-related characteristics of discrete areas within an MRS may differ with regard to the ordnance types and quantities, land uses, receptors, and other factors. If these factors vary significantly, the qualitative MEC hazards associated with the discrete areas are likely to differ. For example, the characteristics of a range impact area and its safety fan are likely to differ with regard to the amount of MEC potentially present or different land use activities may exist that create differing potentials for MEC interaction with human receptors within a large maneuver area.

Different MEC hazards may result in different response alternatives being appropriate for these discrete areas; consequently, an MRS may be subdivided into two or more distinct "assessment areas," each of which will be the subject of a separate MEC HA for purposes of hazard assessment and subsequent response alternative evaluation. However, if an MRS is likely to be the subject of only one response alternative (e.g., the MRS is small), the MRS may be evaluated as a single assessment area, despite the potential for differing MEC-related characteristics. In this event, the most conservative MEC HA input factors (see below) are selected for purposes of the MEC HA.

Based on the history of the site and the results of previous investigations, the area at and in the immediate vicinity of the OD Hill (within 1,000 feet), where demolition activities were previously conducted, are known to exhibit higher densities of MPPEH than the surrounding areas (e.g, the Kickout area). Due to these differing MEC-related characteristics, the OD Grounds is divided into two areas for assessment purposes: the OD Hill area and the Kickout area.

The OD Hill area, includes the OD Hill where detonations occurred, and the area in the immediate vicinity (within 1,000 feet) that received most of the kick-outs from those detonations. The Kickout area

(more than 1,000 feet from the OD Hill) received lower quantities of kick-outs and therefore has a lower potential for MPPEH to be present. Separate MEC HA scores are calculated for each of these assessment areas. The two areas are shown on Figure 1-3 of the FS Report.

B.7 OVERVIEW OF MEC HA INPUT FACTORS

Under the MEC HA method, the potential MEC hazards are evaluated qualitatively for each MRS or assessment area by evaluating three primary factors. These primary factors are related to the three critical elements noted previously are:

- *Severity*: the potential consequences of the effect on a human receptor should a MEC item detonate;
- Accessibility: the likelihood that a human receptor will come into contact with a MEC item; and
- *Sensitivity*: the likelihood that a MEC item will detonate if a human receptor interacts with the item.

To complete the baseline MEC HA for each MRS/assessment area, the input factors are reviewed and suitable categories (baseline, surface MEC cleanup, or subsurface MEC cleanup) are selected based on historical documentation and field observations. The input factors for the MEC HA method are highlighted below (USEPA 2008):

Energetic Material Type: This factor describes the general type of energetic material associated with the munition(s) known or suspected to be present within the MRS or assessment area. The six possible categories for this factor, ranging from the most to least potentially hazardous, are 'high explosives and low explosive fillers in fragmenting rounds,' 'white phosphorus,' 'pyrotechnics,' 'propellants,' 'spotting charges,' and 'incendiaries.' The category selected for each MRS or assessment area is based on the energetic material with the greatest potential explosive hazard known or suspected to be present.

Location of Additional Human Receptors: Human receptors other than the individual who causes a detonation may be exposed to overpressure and/or fragmentation hazards from the detonation of MEC. This factor describes whether or not there are additional human receptors located within the MRS/assessment area or within the explosive safety quantity-distance (ESQD) arc surrounding the MRS/assessment area. The two possible categories for this factor are "inside the MRS or inside the Explosive Safety Quantity-Distance (ESQD) arc surrounding the MRS" and "outside the ESQD arc."

Site Accessibility: The site accessibility factor describes how easily human receptors can gain access to the MRS or assessment area and takes into account the various barriers to entry that might be present. The four possible categories of site accessibility range from "full accessibility" (i.e., a site with no barriers to entry) to "very limited accessibility" (i.e., a site with guarded chain link fences or terrain that requires special skills and equipment to access). This factor differs from the Potential Contact Hours factor (see below) and does not include or account for land use controls (LUCs) that might restrict site access. The effects of LUCs are assessed in the FS alternatives assessment.

Potential Contact Hours: This factor accounts for the amount of time receptors spend within the MRS or assessment area during which they might come into contact with MEC and intentionally or unintentionally cause a detonation. Both the number of receptors and the amount of time each receptor spends in the MRS/assessment area are used to calculate the total "receptor-hours/year." This total is calculated for all activities that might result in potential MEC interaction and there are four possible categories, ranging from "many hours" (1,000,000 receptor-hours/year) to "very few hours" (< 10,000 receptor-hours/year).

Amount of MEC: This input factor describes the relative quantity of MEC anticipated to remain within the MRS or assessment area as a result of past munitions-related activities. For example, a greater quantity of MEC would be expected to be present in a former target area than at a former firing point. The nine possible categories for this factor, from the largest to the least anticipated amount of MEC, range from "target area" and "OB/OD area," through "burial pit" and "firing point," to "storage" and "explosives-related industrial facility."

Minimum MEC Depth Relative to the Maximum Receptor Intrusive Depth: This factor indicates whether the MEC in the MRS or assessment area are located at depths that might be reached by the anticipated human receptor activities. For the baseline MEC HA, the four possible categories concern whether or not MEC are located at the surface and in the subsurface within the MRS or assessment area, or whether MEC are present in the subsurface only, and whether or not the receptor intrusive depth overlaps with this MEC location.

Migration Potential: The migration potential factor addresses the likelihood that MEC in the MRS or assessment area might migrate by natural processes (e.g., erosion or frost heave) thereby increasing the chance of subsequent exposure to potential human receptors. The two possible categories for this factor are "possible" and "unlikely."

MEC Classification: This factor accounts for how easily a human receptor might cause a detonation of the MEC and relates directly to the MEC sensitivity. The six possible categories for this factor, ranging from the highest to lowest sensitivity (and explosive hazard) are "sensitive UXO," "other UXO," fuzed sensitive DMM," "fuzed DMM," "unfuzed DMM," and "bulk explosives." The selection of category for each MRS or assessment area is made using the MEC with the highest potential sensitivity known or suspected to be present and, where uncertainty exists, conservative assumptions are made and documented. For example, UXO is always assumed to be present within a known target area, whether or not the investigation uncovers UXO at the site.

MEC Size: This factor indicates how easy it is for a typical human receptor to move the MEC item(s) present within the MRS or assessment area. For example, an individual is considerably more likely to pick up or accidentally kick a hand grenade than a 200-lb. bomb. The basic assumption used in this category is that MEC weighing 90-lbs or more is unlikely to be moved without the use of special equipment. Based on this assumption, the two possible categories for this factor are "small" (i.e., items weighing less than 90-lbs.) and "large" (items weighing 90-lbs. or more). The selection of category for each MRS or assessment area is based on the MEC known or suspected to be present with the highest potential to be moved (i.e., the smallest item).

Each category for each of the MEC HA input factors has an assigned score that relates to the relative contributions of the different input factors to the overall MEC hazard. These scores were developed by the Technical Working Group for HA. These factors and their associated scores for the baseline condition and after cleanup conditions are provided in Table B.1a. The detailed technical basis for the scores assigned is provided in the MEC HA interim guidance document (USEPA 2008).

Input Factor	Input Factor Category	Baseline Score	Score After Subsurface Cleanup
Energetic Material	HE and Low Explosive Fillers in Fragmenting Rounds	100	100
Туре	White Phosphorus	70	70
	Pyrotechnic	60	60
	Propellant	50	50
	Spotting Charge	40	40
	Incendiary	30	30
Location of Additional Human Receptors	Inside the MRS or inside the ESQD arc surrounding the MRS	30	30
	Outside of the ESQD arc	0	0
Site Accessibility	Full Accessibility	80	80
	Moderate Accessibility	55	55
	Limited Accessibility	15	15
	Very Limited Accessibility	5	5
Potential Contact	Many Hours	120	30
Hours	Some Hours	70	20
	Few Hours	40	10
	Very Few Hours	15	5
Amount of MEC	Target Area	180	30
	Open Burning/Open Detonation (OB/OD) Area	180	30
	Function Test Range	165	25
	Burial Pit	140	10
	Maneuver Areas	115	5
	Firing Points	75	5
	Safety Buffer Areas	30	5
	Storage	25	5
	Explosive-Related Industrial Facility	10	5

 Table B.1a

 Summary of MEC HA Input Factors and Associated Baseline Scores

Input Factor	Input Factor Category	Baseline Score	Score After Subsurface Cleanup
Minimum MEC Depth vs. Maximum Intrusive Depth	Baseline Condition : MEC located on surface and in subsurface; After Cleanup : intrusive depth overlaps with minimum MEC depth	240	95
	Baseline Condition : MEC located on surface and in subsurface; After Cleanup : intrusive depth <i>does not</i> overlap with minimum MEC depth	240	25
	Baseline Condition : MEC located only in subsurface; Baseline Condition or After Cleanup : intrusive depth overlaps with minimum MEC depth	150	95
	Baseline Condition : MEC located only in subsurface; Baseline Condition or After Cleanup : intrusive depth <i>does not</i> overlap with minimum MEC depth	50	25
Migration Potential	Possible	30	10
	Unlikely	10	10
MEC Classification	Sensitive UXO	180	180
	UXO	110	110
	Fuzed Sensitive DMM	105	105
	Fuzed DMM	55	55
	Unfuzed DMM	45	45
	Bulk Explosives	45	45
MEC Size	Small	40	40
	Large	0	0

 Table B.1a, cont'd.

 Summary of MEC HA Input Factors and Associated Baseline Scores

Source: MEC HA interim guidance document (USEPA 2008)

NOTE: Alternative 2 (geophysical mapping, intrusive investigation, installation of cap, followed by implementation of LUCs), is equivalent to a subsurface clearance for MEC HA purposes.

Scores for the categories are in multiples of five, with a total maximum possible score for all factors of 1,000 and a minimum possible score of 125. These MEC HA scores are *qualitative references only* and should <u>not</u> be interpreted as quantitative measures of explosive hazard. A summary of the maximum possible scores and their related weights with regard to the overall MEC HA score are shown in Table B.1b.

Explosive Hazard Component	Input Factor	Maximum Scores	Weights	
Severity	Energetic Material Type	100	10%	
	Location of Additional Human Receptors	30	3%	
	Component Total	130	13%	
Accessibility	Site Accessibility	80	8%	
	Total Contact Hours	120	12%	
	Amount of MEC	180	18%	
	Minimum MEC Depth vs. Maximum Intrusive Depth	240	24%	
	Migration Potential	30	3%	
	Component Total	650	65%	
Sensitivity	MEC Classification	180	18%	
	MEC Size	40	4%	
Component Total		220	22%	
	Maximum Total Score 1,000 100%			

Table B.1bSummary of MEC HA Scoring

Source: MEC HA interim guidance document (USEPA 2008)

B.8 OVERVIEW OF MEC HA OUTPUT FACTORS

Once the categories and scores for all input factors are defined for each MRS or assessment area at the site, the related scores for each category are totaled to calculate an overall MEC HA score for each MRS/assessment area. The total maximum possible MEC HA score for an MRS/assessment area ranges from 125 - 1,000. The MEC HA method identified the associated hazard levels for these scores, which range from 1 to 4. A Hazard Level of 1 indicates the highest potential explosive hazard conditions and a hazard level of 4 indicates low potential explosive hazard conditions. The basis for these hazard levels is detailed in the MEC HA interim guidance document (USEPA 2008). The total MEC HA scores and associated hazard levels are *qualitative references only* and should <u>not</u> be interpreted as quantitative measures of explosive hazard, or as the sole basis for determining whether or not further action is necessary at a site. A summary of the hazard levels and their related MEC HA scores is presented in Table B.2.

Hazard Level	Maximum MEC HA Score	Minimum MEC HA Score	Associated Relative Explosive Hazard
1	1,000	840	Highest potential explosive hazard conditions
2	835	725	High potential explosive hazard conditions
3	720	530	Moderate potential explosive hazard conditions
4	525	125	Low potential explosive hazard conditions

Table B.2 Hazard Level Scoring Rankings Table

Source: MEC HA interim guidance document (USEPA 2008).

B.9 BASELINE MEC HAZARD EVALUATION

A qualitative baseline evaluation of the potential MEC hazards posed was conducted by reviewing each of the MEC HA input factors described above for the two assessment areas, the OD Hill and Kickout areas. Historical and field investigation data were used to determine the appropriate categories for each MEC HA input factor (see Subchapter B.7).

Based on the site history and previous investigations, the OD Grounds was the location of an area used to destroy munitions by detonation in support of the Army mission. The site is currently closed, although hunting is performed. Numerous MPPEH items including mortars, large or medium caliber projectiles, rockets, bombs, grenades, and fuzes have been removed from this site, some of which were configured with explosives, explosive bursters, and/or fuzes. All of the MPPEH items found were described as UXO based on the terminology used during the time of the investigation. No items were classified as DMM.

Assessment Area Definition: The assessment areas that are the subject of the MEC HA for the OD Grounds are the OD Hill and Kickout areas. The primary differences between these two assessment areas

are the potential amount of MEC and contact hours in each one; most other site characteristics are identical for each assessment area.

Energetic Material Type: The MEC items known or suspected to be present within the OD Grounds include mortars, large or medium caliber projectiles, rockets, bombs, grenades, and fuzes. Items with various fillers have been found, and some of these items contain high explosives or are fragmenting rounds. The energetic material type selected for both assessment areas is determined to be 'high explosives and low explosive filler in fragmenting rounds,' which is the most potentially hazardous of the available selections.

Location of Additional Human Receptors: The MEC item anticipated to be present within the OD Grounds that is considered to be the most hazardous, based on Hazardous Fragment Distance (HFD), is the Mortar, 81mm, HE, M374. For this item, the HFD is 239 feet. On this basis, the ESQD used for this MEC HA is 239 feet for both the OD Hill and Kickout areas. Although receptors are present in both assessment areas, there are no locations within the ESQD of either assessment area where people will congregate. Based on this information, the location of additional human receptors for the OD Hill and Kickout assessment areas is assessed to be 'outside the ESQD arc.'

Site Accessibility: The Current Site Conditions for both assessment areas assumes that no fence is present to limit access. Based on this information, both the OD Hill and Kickout assessment areas are classified as having 'full accessibility' under the Current Site Conditions scenario.

Potential Contact Hours: As described above, the Current Site Conditions for the OD Grounds MRS assumes the site is located at a closed military installation, and the OD Grounds are closed. Hunting is performed in the area. The deer hunting season begins approximately mid November and ends the second week of December.

• Under this scenario for both the OD Hill and the Kickout area, 10 hunters are assumed to hunt in the area, with each spending an average of 12 hours per day, 16 days per year, for a total of 192 hours per year per receptor. Based on this information, the total potential contact hours for the assessment area are calculated to be 1,920 receptor-hours/year, which corresponds to a classification of 'very few hours' (less than 10,000 receptor-hours/year) for the OD Hill assessment area.

Amount of MEC: The potential for MEC presence varies within the OD Grounds MRS.

- In the OD Hill assessment area, the primary cause of MPPEH presence is munitions disposal by open detonation. For this reason, a classification of 'OB/OD Area' is considered appropriate for purposes of this MEC HA.
- In the Kickout assessment area, which is outside the former OD area and is not where disposal activities were actually conducted, the presence of MPPEH is the result of potential kick-outs only. For this reason, a MEC HA classification of "Safety Buffer Area" is considered appropriate for purposes of this MEC HA.

Minimum MEC Depth Relative to the Maximum Receptor Intrusive Depth: At the OD Grounds MRS, MPPEH has been found on the ground surface and to depths of 36 inches bgs. There are currently no intrusive activities performed in this area so the maximum receptor intrusive depth at the site is assumed to be 0 inches. Based on this information, for the OD Hill and the Kickout areas, the minimum MEC depth relative to the maximum receptor intrusive depth for the assessment area is assessed to be 'MEC located surface and subsurface – intrusive depth overlaps with minimum MEC depth'.

Migration Potential: The site conditions at the OD Grounds are currently largely meadow with some wooded and, heavily brushed areas.

- The slopes of the OD Hill assessment area are steep (up to 2:1 ft/ft the eastern side of the hill), and therefore surface erosion that might result in the exposure of buried MEC is likely. Also, temperatures of freezing or below occur regularly each winter and the frost line extends down to approximately 3 ft, which is greater than the minimum MEC depth at the site (see above). Therefore, is possible that both erosion and frost heave might result in the exposure of buried MPPEH and the migration potential is evaluated as 'possible' for this assessment area.
- Within the Kickout assessment area, slopes are milder and not a concern, but freezing temperatures are present each winter. Therefore, it is possible that frost heave might result in the exposure of buried MPPEH and the migration potential is evaluated as 'possible' for this assessment area.

MEC Classification: As described previously, the MPPEH items known or suspected to be present at the OD Grounds MRS include mortars, large or medium caliber projectiles, rockets, bombs, grenades, and fuzes. Some of these items also contain high explosive anti-tank (HEAT) fillers. Mortars, hand grenades, and HEAT munitions are all classified as 'special case' items in the MEC HA guidance. Because UXO items have been found in both assessment areas during prior investigations and because MEC found would be the result of munitions disposal, it is assumed that UXO might be present. Therefore, according to the criteria listed in the MEC HA method, the MEC classification for MPPEH items that might remain at the site is 'Sensitive UXO.'

MEC Size: The MEC items known or suspected to be present within both assessment areas of the OD Grounds MRS include mortars, large or medium caliber projectiles, rockets, bombs, grenades, and fuzes. Based on the criteria defined in the MEC HA method, because many of the munitions known or suspected to be present weigh less than 90 pounds, the MEC size for the site is classified as having the highest potential to be moved or 'small' for purposes of this MEC HA.

MEC HA Baseline Results: The two assessment areas within the OD Grounds MRS, were evaluated separately. The primary differences between the two evaluations were the "Amount of MEC" and "Potential Contact Hours" classifications. The OD Hill assessment area was classified as an "OB/OD Area", while the Kickout assessment area was classified as a "Safety Buffer Area." Total receptor contact hours differed between the two assessment areas, though the classification for both areas was "very few hours." The resulting MEC HA scores are summarized below:

- The OD Hill assessment area has a total MEC HA score of 865 under the current site conditions, which equates to a Hazard Level of 1 (Table B.3). This hazard level indicates an area with 'Highest potential explosive hazard conditions' (USEPA 2008).
- The Kickout assessment area has a total MEC HA score of 715 under the current site conditions, which equates to a Hazard Level of 3 (Table B.3). This hazard level indicates an area with 'moderate potential explosive hazard conditions' (USEPA 2008).

This information provides the baseline for the assessment of response alternatives presented in Subchapter B.10.

Note that the total MEC HA score and the associated hazard level are *qualitative references only* and should <u>not</u> be interpreted as quantitative measures of explosive hazard. Also, this MEC HA does <u>not</u> address or otherwise evaluate potential risks related to munitions constituents posed by that might be present at the site.

Table B.3			
Summary of MEC HA Baseline Scores			
OD Hill and Kickout Assessment Areas			
Current Site Conditions			

Explosive Hazard	Input Factors	Category Selected for	Score ^{(1), (2)} (<i>Max. Score</i>)	
Component		MRS/Area	OD Hill	Kickout
Severity	Energetic Material Type	High explosives and low explosive filler in fragmenting rounds	100 (<i>100</i>)	100 (<i>100</i>)
	Location of Additional Human Receptors	Outside of the ESQD arc	0 (<i>30</i>)	0 (<i>30</i>)
Accessibility	Site Accessibility	Full accessibility	80 (<i>80</i>)	80 (<i>80</i>)
	Total Contact Hours	Very few hours	15 (<i>120</i>)	15 (120)
	Amount of MEC	OB/OD Area (180) Safety Buffer Area (30)	180 (<i>180</i>)	30 (180)
	Minimum MEC Depth vs. Maximum Intrusive Depth	MEC located in surface and subsurface; max. intrusive depth overlaps min. MEC depth	240 (240)	240 (240)
	Migration Potential	Possible	30 (<i>30</i>)	30 (<i>30</i>)
Sensitivity	MEC Classification	Sensitive UXO	180 (<i>180</i>)	180 (<i>180</i>)
	MEC Size	Small	40 (40)	40 (40)
Total MEC HA Score ⁽²⁾			865 (1,000)	715 (<i>1,000</i>)
MEC HA Hazard Level			1 ⁽³⁾	3 ⁽⁴⁾

Scores assigned for each factor as listed and described in MEC HA interim guidance document (USEPA 2008). The maximum possible MEC HA score is listed in parentheses beneath the assigned score(s) for reference purposes.

- (2) The scores for the input factors are based on the baseline condition.
- (3) A MEC HA Hazard Level of 1 indicates an area with "Highest potential explosive hazard conditions".
- (4) A MEC HA Hazard Level of 3 indicates an area with "Moderate potential explosive hazard conditions".

July 2012 \\Bosfs02\Projects\PIT\Projects\Huntsville Cont W912DY-08-D-0003\TO#13 - OD Grounds RI-FS\Documents\FS\Draft FS\Appendices\App B - MEC HA\Draft_OD_Grounds_MEC_HA_041112.doc

B.10 EVALUATION OF POTENTIAL REMEDIAL ACTIONS

In addition to providing a technique to evaluate baseline MEC hazards, the MEC HA method also establishes a process to evaluate qualitatively the hazard mitigation that would be achieved by remedial actions. This process is based on assumptions made regarding the effects of a given remedial response (e.g., LUCs, surface cleanup, subsurface cleanup), coupled with modified scores for MEC HA input factors, to evaluate how the MEC HA score might be reduced following implementation of the response. The primary purpose of this process is to support the evaluation of response alternatives conducted during an FS; i.e., this evaluation should not be used as the sole basis upon which to recommend a remedial response. As with the baseline score, these total MEC HA scores and the associated hazard levels are *qualitative references only* and should <u>not</u> be interpreted as quantitative measures of explosive hazard.

Two potential remedial scenarios are evaluated in this document: The first scenario is presented as Alternative 2; the second as Alternative 3. Future land use under both scenarios would be assumed to be non-intrusive recreational land use (e.g., hiking, no camping). A brief description of each of these potential remedial alternative scenarios is provided in the following subchapters, together with the associated modifications to the MEC HA score.

The first remedial alternative considered (Alternative 2) would include geophysical mapping, intrusive investigation, installation of an 18-inch cap compliant with New York State Department of Environmental Conservation (NYSDEC) Solid Waste Regulations for leaving waste in place, implementation of LUCs, and long term monitoring and maintenance. The net effect of installing the cap is considered equivalent to a subsurface MEC clearance to a depth of 18 inches. Under this scenario, activities at the property would be change to non-intrusive conservation/recreational use (hiking, no camping), monitoring and maintenance of the cap, and LUCs.

The second remedial alternative (Alternative 3) considered would be geophysical mapping, intrusive investigation, excavation, off-site disposal, and implementation of LUCs. Under this scenario, activities at the property would change to conservation/recreational use (hiking, no camping).

Both remedial alternatives considered in this MEC HA reflect a scenario under which the property is remediated and can revert to restricted public use. Under both alternatives, the LUCs would prohibit intrusive activities, prohibit use or access of groundwater, and prohibit any future land use other than non-intrusive recreation (e.g., no residential or day care use).

B.10.1 OD Hill Area

Both scenarios were considered for the OD Hill Assessment Area. Using the above assumptions, these scenarios modify the input assumptions for the assessment area with regard to *potential contact hours, amount of MEC, minimum MEC depth vs. maximum intrusive depth, and migration potential.* All other input assumptions and related MEC HA scores are unchanged. The scores assigned for these categories under the baseline condition are reduced in accordance with USEPA 2008 to reflect subsurface MEC clearance to either 18 inches (Remedial Alternative 2) or 36 inches (Remedial Alternative 3). Therefore, in both scenarios, after cleanup, activities do not overlap with MEC location. Consequently,

human receptors are no longer as likely to come into contact with MEC in the assessment area. The modified assumptions and their affect on the associated MEC HA input factors are described below. The effect of both scenarios is the same on MEC HA scoring and both scenarios are addressed together in the following sections.

MRS Definition: Unchanged from baseline evaluation.

Energetic Material Type: Unchanged from baseline evaluation.

Location of Additional Human Receptors: Unchanged from baseline evaluation.

Site Accessibility: Unchanged from baseline evaluation.

Potential Contact Hours: As described above, the future land use scenario considered for the OD Hill once a remedial response has been implemented assumes the future use of conservation/recreation, which includes hiking but no camping. Though it is not anticipated that the OD Grounds will become a hiking destination, for the purposes of this evaluation, this MEC HA conservatively assumes that 2,000 people visit the area each year and each person is assumed to spend an average of 4 hours on the site, for a total of 8,000 hours per year. No intrusive activities are permitted or expected to occur. Based on this information, the total potential contact hours for the assessment area under the future scenario are calculated to be 8,000 receptor-hours/year. This value corresponds to a classification of 'very few hours' (less than 10,000 receptor-hours/year). Even though the potential contact hours classification does not change, the MEC HA score is reduced from 15 to 5 for this input factor, because the remedial action (surface clearance and placement of the cap) is equivalent to a subsurface MEC clearance of 18 inches (USEPA 2008).

Amount of MEC: The potential MEC presence at the OD Hill assessment area is the result of open detonation; therefore, the classification of 'OB/OD Area' is selected. However, the MEC HA associated score for this input factor is reduced from 180 to 30 due to the remedial action (surface clearance and the placement of cap) which is equivalent to a subsurface MEC clearance of 18 inches (USEPA 2008).

Minimum MEC Depth Relative to the Maximum Receptor Intrusive Depth: The maximum receptor intrusive depth at the site is anticipated to be 0 feet with a future land use of non-intrusive conservation/recreation (hiking, no camping) and LUCs that restrict intrusive activity. As a result of the remedial actions, the minimum MEC depth would change to 18 inches (Remedial Alternative 2) and 36 inches (Remedial Alternative 3). The maximum intrusive depth for both scenarios would no longer overlap with the minimum MEC depth. The input parameter would change to 'MEC located only in subsurface – intrusive depth *does not* overlap with minimum MEC depth'. This approach has the result of reducing the score for this input factor from 240 to 25 for both scenarios.

Migration Potential: The selection for this factor ('possible') is unchanged from the baseline evaluation. However, the MEC HA associated score for this input factor is reduced from 30 to 10 for both remedial action scenarios due to the installation of the cap (equivalent to a subsurface clearance) or the excavation (USEPA 2008).

MEC Classification: Unchanged from baseline evaluation.

MEC Size: Unchanged from baseline evaluation.

MEC HA Results: Accounting for these score modifications resulting from either Remedial Alternative 2 (or Remedial Action 3 and a land use change for both to non-intrusive conservation/recreational (hiking, no camping), the total MEC HA score for the OD Hill assessment area would be reduced from 865 to 470. This reduction in the MEC HA score reduces the corresponding Hazard Level rating from 1 ('highest potential explosive hazard conditions') to 4 ('low potential explosive hazard conditions') for both remedial alternatives. The revised MEC HA scores for both alternatives are shown in Table B.4.

Explosive Hazard Component	Input Factors	Category Selected for Area	Score ⁽¹⁾⁽²⁾ (<i>Max. Score</i>) Alt 2 and Alt 3
Severity	Energetic Material Type	High explosives and low explosive filler in fragmenting rounds	100 (<i>100</i>)
	Location of Additional Human Receptors	Outside of the ESQD arc	0 (<i>30</i>)
Accessibility	Site Accessibility	Full accessibility	80 (80)
	Total Contact Hours	Very few hours	5 (120)
	Amount of MEC	OB/OD Area	30 (180)
	Minimum MEC Depth vs. Maximum Intrusive Depth	MEC located only in subsurface; max. intrusive depth <u>does not</u> overlap with min. MEC depth	25 (240)
	Migration Potential	Possible	10 (30)
Sensitivity	MEC Classification	Sensitive UXO	180 (<i>180</i>)
	MEC Size	Small	40 (<i>40</i>)
Total MEC HA Score			
MEC HA Hazard Level			

Table B.4Summary of MEC HA ScoreRemedial Alternative 2 and Remedial Alternative 3OD Hill Assessment Area

- (1) Scores assigned for each factor for Alternative 2 are considered equivalent to an 18 inch subsurface cleanup and are scored under a "subsurface cleanup" scenario as listed and described in USEPA 2008. The maximum possible MEC HA score is listed in parentheses beneath the assigned score(s) for reference purposes.
- (2) Categories and/or scores that change from the baseline as a result of the assumed future scenario are shown in *bold italics*.
- (3) A MEC HA Hazard Level of 4 indicates an area with "Low potential explosive hazard conditions" (USEPA 2008).

B.10.2 Kickout Area

Alternatives 2 and 3 were considered for the Kickout area. Using the above assumptions, this scenario modified the input assumptions for this assessment area with regard to *potential contact hours*, *amount of MEC*, *minimum MEC depth vs. maximum intrusive depth, and migration potential*. All other input assumptions and related MEC HA scores are unchanged. The scores assigned for these categories under the baseline condition are reduced in accordance with USEPA, 2008 to reflect subsurface MEC clearance to depth of detection (Remedial Alternative 3). After cleanup, activities do not overlap with MEC location. Consequently, human receptors are no longer as likely to come into contact with MEC in the assessment area. The modified assumptions and their affect on the associated MEC HA input factors are described below.

MRS Definition: Unchanged from baseline evaluation.

Energetic Material Type: Unchanged from baseline evaluation.

Location of Additional Human Receptors: Unchanged from baseline evaluation.

Site Accessibility: Unchanged from baseline evaluation.

Potential Contact Hours: As described above, the future land use scenario considered for the Kickout assessment area after a remedial response has been implemented assumes the future use of conservation/recreation, which includes hiking but no camping. Though it is not anticipated that the OD Grounds will become a hiking destination, for the purposes of this evaluation, this MEC HA conservatively assumes that 2,000 people visit the area each year and each person is assumed to spend an average of 4 hours on the site, for a total of 8,000 hours per year. No intrusive activities are permitted or expected to occur. Based on this information, the total potential contact hours for the assessment area under the future scenario are calculated to be 8,000 receptor-hours/year. This value corresponds to a classification of 'very few hours' (less than 10,000 receptor-hours/year). Even though the potential contact hours classification does not change, the MEC HA score is reduced from *15* to *5* for this input factor, due to the remedial action (subsurface clearance) (USEPA 2008).

Amount of MEC: The potential MEC presence in the Kickout assessment area is the result of kickouts from open detonation, but with no actual detonation occurring in the area. Therefore, the MEC HA classification of 'Safety Buffer Area' is selected. However, the MEC HA associated score for this input factor is reduced from 30 to 5 due to the remedial action (subsurface clearance) (USEPA 2008).

Minimum MEC Depth Relative to the Maximum Receptor Intrusive Depth: The maximum receptor intrusive depth at the site is anticipated to be 0 feet with a future land use of non-intrusive conservation/recreation (hiking, no camping) and LUCs that restrict intrusive activity. As a result of the remedial action (subsurface clearance), the minimum MEC depth would change to 36 inches. The maximum intrusive depth would no longer overlap with the minimum MEC depth. The input parameter would change to 'MEC located only in subsurface – intrusive depth *does not* overlap with minimum MEC depth'. This approach has the result of reducing the score for this input factor from 240 to 25.

Migration Potential: The selection for this factor ('possible') is unchanged from the baseline evaluation. However, the MEC HA associated score for this input factor is reduced from 30 to 10 due to the subsurface clearance (USEPA 2008).

MEC Classification: Unchanged from baseline evaluation.

MEC Size: Unchanged from baseline evaluation.

MEC HA Results: Accounting for these score modifications resulting from Remedial Alternative 2 or Remedial Alternative 3, the total MEC HA score for the Kickout assessment area would be reduced from 715 to 445 under both remedial alternatives. This reduction in MEC HA score reduces the corresponding Hazard Level rating from 3 ('moderate potential explosive hazard conditions') to 4 ('low potential explosive hazard conditions'). The revised MEC HA scores for the Kickout assessment area are shown in Table B.5.

Table B.5 Summary of MEC HA Score Remedial Alternative 2 and Remedial Alternative 3 Kickout Assessment Area

Explosive Hazard Component	Input Factors	Category Selected for Area	Score ⁽¹⁾⁽²⁾ (Max. Score) Alt 2 and Alt 3
Severity	Energetic Material Type	High explosives and low explosive filler in fragmenting rounds	100 (100)
	Location of Additional Human Receptors	Outside of the ESQD arc	0 (30)
Accessibility	Site Accessibility	Full accessibility	80 (80)
	Total Contact Hours	Very few hours	5 (120)
	Amount of MEC	Safety Buffer Area	5 (180)
	Minimum MEC Depth vs. Maximum Intrusive Depth	MEC located only in subsurface; max. intrusive depth does not overlap with min. MEC depth	25 (240)
	Migration Potential	Possible	10 (30)
Sensitivity	MEC Classification	Sensitive UXO	180 (180)
	MEC Size	Small	40 (40)
Total MEC HA Score			445 (1,000)
MEC HA Hazard Le	4 ⁽³⁾		

- (1) Scores assigned for each factor are scored under a "subsurface cleanup" scenario as listed and described in USEPA 2008. The maximum possible MEC HA score is listed in parentheses beneath the assigned score(s) for reference purposes.
- (2) Categories and/or scores that change from the baseline as a result of the assumed future scenario are shown in bold italics.
- (3) A MEC HA Hazard Level of 4 indicates an area with "Low potential explosive hazard conditions" (USEPA 2008).

B.11 DISCUSSION OF RESULTS

A summary of the results of the MEC HAs conducted for the baseline and possible future remedial alternatives at the OD Grounds is presented in Table B.6. For the OD Hill area, the baseline score (the no action alternative) results in a MEC HA score of 865 and a Hazard Level of 1 ('highest potential explosive hazard conditions'). As shown in the table, Remedial Alternative 2 and Remedial Alternative 3, both result in the same MEC HA score of 470 for the OD Hill assessment area. Based on this result, both remedial alternative scenarios, if implemented, would significantly reduce the MEC hazards at the site (from 'highest potential explosive hazard conditions' to 'low potential explosive hazard conditions'). There would be no differences between these remedial alternatives with regard to reduction explosive hazards at the OD Hill area. The revised MEC HA scores for both alternatives are shown in Table B.6.

For the Kickout area, the baseline score (the no action alternative) results in a MEC HA score of 715 and a Hazard Level of 3 ('moderate potential explosive hazard conditions'). Remedial Alternative 2 and 3 both result in the same MEC HA score of 445. Based on this result, the remedial action scenario, if implemented, would reduce the MEC hazards at the site (from 'moderate potential explosive hazard conditions'). The revised MEC HA score for this alternative is shown in Table B.6.

Based on these results, there is no significant difference between these remedial alternatives with respect to reduction of explosive hazards at the OD Hill area. As has been noted before, these total MEC HA scores and the associated hazard levels are *qualitative references only* and should <u>not</u> be interpreted as quantitative measures of explosive hazard, nor should the results of this evaluation be used as the sole basis on which to recommend a remedial response. Also, this MEC HA does <u>not</u> address or otherwise evaluate potential risks related to MC that might be present at the site.

1 2 3

Location of Additional Site **Total Contact** Amount of Minimum MEC Depth vs. Energetic Migration **Scenario Description Material Type** Human Receptors Accessibility Hours MEC **Maximum Intrusive Depth** Potential Clas Maximum MEC HA Score 100 30 80 120 180 240 30 **OD Hill Assessment Area** 240 **BASELINE SCENARIO: Current** 100 0 80 15 180 MEC located surface and 30 Conditions/No Action Alternative *HE or fragmenting* Outside MRS or ESQD Full Very few **OB/OD** Area Possible subsurface; max. intrusive Sens rounds accessibility hours Current Site Conditions No Public Use. arc *depth overlaps min. MEC depth* **REMEDIAL ACTION Alternative - 2:** 25 geophysical mapping, intrusive 100 0 80 5 MEC located in subsurface 30 10 investigation, Installation of cap, followed *HE or fragmenting* Outside MRS or ESQD Full Very few only; max. intrusive depth Possible **OB/OD** Area Sens by implementation of LUCs accessibility rounds arc hours does not overlap min. MEC Future Use: restricted Recreational ⁽¹⁾⁽²⁾ depth **REMEDIAL ACTION Alternative - 3::** 25 geophysical mapping, intrusive 100 80 MEC located in subsurface 0 5 investigation, subsurface clearance to 30 10 HE or fragmenting Outside MRS or ESQD Full only; max. intrusive depth Very few depth of detection, off-site disposal, and **OB/OD** Area Possible Sens rounds accessibility hours does not overlap min. MEC arc implementation of LUCs depth Future Use: restricted Recreational ⁽¹⁾⁽²⁾ **Kickout Assessment Area** 240 **BASELINE SCENARIO: Current** 100 0 80 15 30 MEC located surface and 30 Conditions/No Action Alternative Outside MRS or ESOD Full Safety Buffer *HE or fragmenting* Very few subsurface; max. intrusive Possible Sens accessibility rounds hours Area depth overlaps min. MEC arc Current Site Conditions No Public Use. depth **REMEDIAL ACTION Alternative - 2:** 25 geophysical mapping, intrusive 80 100 0 5 5 MEC located in subsurface 10 investigation, Installation of cap, followed HE or fragmenting Outside MRS or ESQD Full Very few Safety Buffer only; max. intrusive depth Possible Sens by implementation of LUCs rounds arc accessibility hours Area does not overlap min. MEC Future Use: restricted Recreational (1)(2) depth **REMEDIAL ACTION Alternative -3:** 25 geophysical mapping, intrusive 100 0 80 5 5 MEC located in subsurface investigation, subsurface clearance to 10 *HE or fragmenting* Outside MRS or ESQD Full only; max. intrusive depth Very few Safety Buffer depth of detection, off-site disposal, and Possible Sens rounds accessibility hours does not overlap min. MEC arc Area implementation of LUCs depth Future Use: restricted Recreational ⁽¹⁾⁽²⁾

Table B.6 Summary of MEC HA Results for All Evaluated Scenarios and Assessment Areas OD Grounds

(1) For these remedial actions, scores are assigned for each factor assuming a 'subsurface cleanup' scenario as listed and described in the MEC HA interim guidance document (USEPA 2008). The installation of an 18 inch cap is equivalent to a subsurface clearance to 18 inches (USEPA 2008).

(2) Categories and/or scores that change from the baseline as a result of the assumed future scenario are shown in *bold italics*.

MEC assification	MEC Size	Total MEC HA Score (125-1,000)	MEC HA Hazard Level (1-4)
180	40	1,000	1
180 asitive UXO	40 Small	865	1 Highest potential (840-1000)
180 1sitive UXO	40 Small	470	4 Low potential (125-525)
180 asitive UXO	40 Small	470	4 Low potential (125-525)
180 asitive UXO	40 Small	715	3 Moderate potential (530-720)
180 1sitive UXO	40 Small	445	4 Low potential (125-525)
180 asitive UXO	40 Small	445	4 Low potential (125-525)

1 **B.12 GLOSSARY OF TERMS**

- Discarded Military Munitions (DMM): Military munitions that have been abandoned without proper disposal or removed from storage in a military magazine or other storage area for the purpose of disposal. The term does not include unexploded ordnance, military munitions that are being held for future use or planned disposal, or military munitions that have been properly disposed of consistent with applicable environmental laws and regulations. (10 U.S.C. 2710(e)(2))
- *Munitions and Explosives of Concern (MEC):* This term, which distinguishes specific categories of
 military munitions that may pose unique explosives safety risks, means: (a) Unexploded Ordnance
 (UXO), as defined in 10 U.S.C. 2710 (e) (9); (b) Discarded Military Munitions (DMM), as defined
 in 10 U.S.C. 2710(e)(2), or (c) Munitions constituents (e.g., TNT, RDX) present in high enough
 concentrations to pose an explosive hazard.
- Munitions Potentially Presenting an Explosive Hazard (MPPEH): Material potentially containing 12 13 explosives or munitions (e.g., munitions containers and packaging material, munitions debris remaining after munitions use, demilitarization, or disposal; and range related debris); or material 14 potentially contaminated with a high enough concentration of explosives such that the material 15 presents an explosive hazard (e.g., equipment, drainage systems, holding tanks, piping, ventilation 16 17 ducts) associated with munitions production, demilitarization or disposal operations. Excluded from MPPEH are munitions within DOD's established munitions management system and other 18 hazardous items that may present explosion hazards (e.g., gasoline cans, compressed gas cylinders) 19 that are not munitions and are not intended for use as munitions. 20
- Unexploded Ordnance (UXO): Military munitions that: (a) Have been primed, fuzed, armed, or
 otherwise prepared for action; (b) Have been fired, dropped, launched, projected or placed in such a
 manner as to constitute a hazard to operations, installations, personnel, or material; and (c) Remain
 unexploded either by malfunction, design, or any other cause. (U.S.C. 2710(e)(9))

25 **B.13 REFERENCES**

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 Assistant Secretary of the Navy (Installations and Environment); and Assistant Secretary of the Air
 Force (Installations, Environment, and Logistics). Subject: Trial Use of the Interim Munitions and
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 Deputy Under Secretary of Defense (Installations and Environment). Office of the Under Secretary
 of Defense, 3000 Defense Pentagon, Washington, D.C. January 29, 2009.
- Engineering Science, Inc, 1995. Expanded Site Investigation for Seven High Priority SWMU SEAD
 1,16,17,24, 25,26,45, Seneca Army Depot. December 1995.
- Parsons, 2004. Final Ordnance and Explosives Engineering Evaluation/Cost Analysis Report (OE
 EE/CA), Seneca Army Depot. February 2004.

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- USEPA 2008. Munitions and Explosives of Concern Hazard Assessment Methodology. Interim.
 <u>http://www.epa.gov/fedfac/documents/mec_methodology_document.htm</u>. EPA 505B08001.
 October 2008.
- Weston, 2005. Final Site Specific Project Report SEAD45/115 Open Detonation Grounds Ordnance and
 Explosives Removal Phase I Geophysical Survey and Cost Estimate, Seneca Army Depot. March
 2005.
- 9 Weston, 2006. Draft Phase II Ordnance and Explosives Removal Report. March 2006.

MEC HA Summary Information

		Comments
Site ID: OD Hill Assessment Area		
Date: 4/2/2012		
Please identify the single specific area to be assessed in this hazard assessment. From	this point forward all	
references to "site" or "MRS" refer to the specific area that you have defined.	uns point forward, an	
A. Enter a unique identifier for the site:		
OD Grounds/OD Hill Assessment Area		
Provide a list of information sources used for this hazard assessment. As you are comp		
use the "Select Ref(s)" buttons at the ends of each subsection to select the applicable	nformation sources	
from the list below.		
Ref. No. Title (include version, publication date)		
1 Expanded Site Investigation (ESI) for Seven High Priority Solid Waste		
2 Final Ordnance and Explosives Engineering Evaluation/Cost Analysis Report		
3 Final Site Specific Project Report SEAD45/115 Open Detonation Grounds		
4 Draft Phase II Ordnance and Explosives Removal Report (Weston, March		
5 Additional Munitions Response Site Investigation Report, Seneca Army		
6 Draft Feasibility Study, Seneca Army Depot (Parsons, 2012)		
7		
8		
9		
10		
11		
12		
B. Briefly describe the site:		
1. Area (include units): 72.1 acres		
2. Past munitions-related use:		
OB/OD Area		
3. Current land-use activities (list all that occur):		
Closed OD Area, Hunting.		
	No	No changes to land use
4. Are changes to the future land-use planned?		
T. Are changes to the ruture land-use planned:		without remediation.
5. What is the basis for the site boundaries?		without remediation.
		without remediation.
5. What is the basis for the site boundaries? Area determined to have very high MEC density from previous investigations.		without remediation.
5. What is the basis for the site boundaries?Area determined to have very high MEC density from previous investigations.6. How certain are the site boundaries?		without remediation.
 5. What is the basis for the site boundaries? Area determined to have very high MEC density from previous investigations. 6. How certain are the site boundaries? Certain. General area planned to be capped is 0-1000' from the OD Hill. Some variation 	ns may be necessary	without remediation.
5. What is the basis for the site boundaries?Area determined to have very high MEC density from previous investigations.6. How certain are the site boundaries?	ns may be necessary	without remediation.
 5. What is the basis for the site boundaries? Area determined to have very high MEC density from previous investigations. 6. How certain are the site boundaries? Certain. General area planned to be capped is 0-1000' from the OD Hill. Some variation due to topography during implementation. 	ns may be necessary	without remediation.
 5. What is the basis for the site boundaries? Area determined to have very high MEC density from previous investigations. 6. How certain are the site boundaries? Certain. General area planned to be capped is 0-1000' from the OD Hill. Some variation due to topography during implementation. Reference(s) for Part B: 	ns may be necessary	without remediation.
 5. What is the basis for the site boundaries? Area determined to have very high MEC density from previous investigations. 6. How certain are the site boundaries? Certain. General area planned to be capped is 0-1000' from the OD Hill. Some variation due to topography during implementation. 	ns may be necessary	without remediation.
 5. What is the basis for the site boundaries? Area determined to have very high MEC density from previous investigations. 6. How certain are the site boundaries? Certain. General area planned to be capped is 0-1000' from the OD Hill. Some variation due to topography during implementation. Reference(s) for Part B: Draft Feasibility Study. Seneca Army Depot (Parsons, 2012) 	ns may be necessary	without remediation.
 5. What is the basis for the site boundaries? Area determined to have very high MEC density from previous investigations. 6. How certain are the site boundaries? Certain. General area planned to be capped is 0-1000' from the OD Hill. Some variation due to topography during implementation. Reference(s) for Part B: Draft Feasibility Study, Seneca Army Depot (Parsons, 2012) Select Ref(s) 	ns may be necessary	without remediation.
 5. What is the basis for the site boundaries? Area determined to have very high MEC density from previous investigations. 6. How certain are the site boundaries? Certain. General area planned to be capped is 0-1000' from the OD Hill. Some variation due to topography during implementation. Reference(s) for Part B: Draft Feasibility Study, Seneca Army Depot (Parsons, 2012) Select Ref(s) C. Historical Clearances]	
 5. What is the basis for the site boundaries? Area determined to have very high MEC density from previous investigations. 6. How certain are the site boundaries? Certain. General area planned to be capped is 0-1000' from the OD Hill. Some variation due to topography during implementation. Reference(s) for Part B: Draft Feasibility Study, Seneca Army Depot (Parsons, 2012) Select Ref(s) C. Historical Clearances 	ns may be necessary	Intrusive investigation,
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 5. What is the basis for the site boundaries? Area determined to have very high MEC density from previous investigations. 6. How certain are the site boundaries? Certain. General area planned to be capped is 0-1000' from the OD Hill. Some variation due to topography during implementation. Reference(s) for Part B: Draft Feasibility Study, Seneca Army Depot (Parsons, 2012) Select Ref(s) <i>C. Historical Clearances</i> 1. Have there been any historical clearances at the site? 2. If a clearance occurred: a. What year was the clearance performed? b. Provide a description of the clearance activity (e.g., extent, depth, amoundaries) 	No, none	Intrusive investigation,
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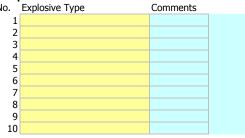
Cased Munitions Information

						Is			Minimum Depth for		Comments (include rationale
	Munition Type (e.g., mortar,	Munition	Munition		Energetic Material	Munition		Fuze		Location of	for munitions that are
Item No.	projectile, etc.)		Size Units	Mark/ Model	Туре	Fuzed?	Fuzing Type	Condition	(ft)	Munitions	"subsurface only")
1	Mortars	81	mm	M374	High Explosive	Yes		UNK	(Surface and Subsurface	Item with greatest HFD
2	Fuzes							UNK	(Surface and Subsurface	Smallest MEC items
3	Fuzes							UNK	(Surface and Subsurface	Smallest MEC Items
4											
5											
6											
7											
8											
9											
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Reference(s) for table above: Draft Feasibility Study, Seneca Army Depot (Parsons, 2012)

Select Ref(s)

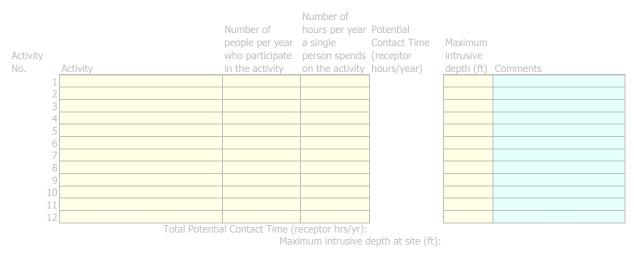
Bulk Explosive InformationItem No.Explosive Type



Activities Currently Occurring at the Site



Activities Planned for the Future at the Site (If any are planned: see 'Summary Info' Worksheet, Question 4)



Reference(s) for table above:

Draft Feasibility Study, Seneca Army Depot (Parsons, 2012)

Planned Remedial or Removal Actions

Tidinica		Expected Resulting		Will land use activities		
Response		Minimum MEC	Expected Resulting	change if this response		
Action No.	Response Action Description	Depth (ft)	Site Accessibility	action is implemented?	What is the expected scope of cleanup?	Comments
1	geophysical mapping, intrusive investigation,	1.5	Full Accessibility	Yes	cleanup of MECs located both on the surface	The net effect of the cap
	installation of cap, followed by				and subsurface	is a sub-surface clearance
	implementation of LUCs					to 1.5 ft.
2	geophysical mapping, intrusive investigation,	3	Full Accessibility	Yes	cleanup of MECs located both on the surface	
	subsurface clearance to depth of detection,				and subsurface	
	off-site disposal, and implementation of					
	LUCs					
3						
4						
5						
6						

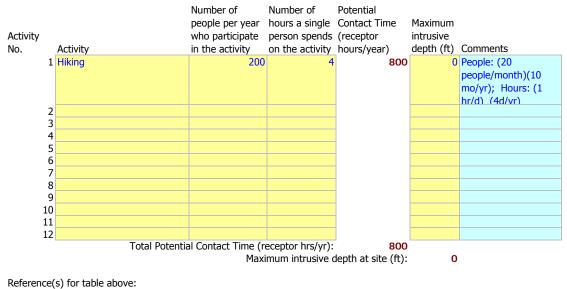
According to the 'Summary Info' worksheet, no future land uses are planned. For those alternatives where you answered 'No' in Column E, the land use activities will be assessed against current land uses.

Reference(s) for table above:

Draft Feasibility Study, Seneca Army Depot (Parsons, 2012)

This worksheet needs to be completed for each remedial/removal action alternative listed in the 'Remedial-Removal Action' worksheet that will cause a change in land use.

Land Use Activities Planned After Response Alternative #1: geophysical mapping, intrusive investigation, installation of cap, followed by implementation of LUCs



Draft Feasibility Study, Seneca Army Depot (Parsons, 2012)

Select Ref(s)

investigation, subsurface clearance to depth of detection, off-site disposal, and implementation of LUCs

		Number of	Number of	Potential		
		people per year	hours a single	Contact Time	Maximum	
Activity		who participate	person spends	(receptor	intrusive	
No.	Activity	in the activity	on the activity	hours/year)	depth (ft)	Comments
	1 non-intrusive	200	4	800	0	People: (20
	Conservation/Recreation,					people/month)(10
	(hiking, no camping)					mo/yr); Hours: (1
						hr/d) (4d/vr)
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
1	.0					
1	1					
1	2					
	Total Potenti	al Contact Time (r				
		Maxi	imum intrusive o	lepth at site (ft):	0	
P (

Reference(s) for table above: Draft Feasibility Study, Seneca Army Depot (Parsons, 2012)

Energetic Material Type Input Factor Categories

Baseline Surface Subsurface Cleanup Cleanup High Explosive and Low Explosive Filler in Fragmenting Rounds 100 100 100 White Phosphorus 70 70 70 70 Propechnic 50 50 50 50 Propellant 50 50 50 50 Inendiary 30 30 30 30 The most hazardous type of energetic material listed in the 'Munitions, Bulk Explosive Iller in Fragmenting Rounds'. Score Baseline Conditions: 100 100 100 Surface Cleanup: 100 100 100 Surface Cleanup: 100 100 100 Subsurface Cleanup: 100 100 100 Location of Additional Human Receptors Input Factor Categories 100 100 Location of Additional Human Receptors Input Factor Categories No No 100 2. Are there currently any features or facilities where people may congregate within the MRS, or Whith the ESQD arc? No No 100 2. Are there currently any features or facilities where people may congregate within the MRS, or Unitade the ESQD for current use activities Select MEC(s) No	Energetic Material Type Input Factor Categor	ries				Comments
Baseline Surface Subsurface Cleanup Cleanup High Explosive and Low Explosive Filler in Fragmenting Rounds 100 100 100 White Phosphorus 70 70 70 70 Propechnic 50 50 50 50 Propellant 50 50 50 50 Inendiary 30 30 30 30 The most hazardous type of energetic material listed in the 'Munitions, Bulk Explosive Iller in Fragmenting Rounds'. Score Baseline Conditions: 100 100 100 Surface Cleanup: 100 100 100 Surface Cleanup: 100 100 100 Subsurface Cleanup: 100 100 100 Location of Additional Human Receptors Input Factor Categories 100 100 Location of Additional Human Receptors Input Factor Categories No No 100 2. Are there currently any features or facilities where people may congregate within the MRS, or Whith the ESQD arc? No No 100 2. Are there currently any features or facilities where people may congregate within the MRS, or Unitade the ESQD for current use activities Select MEC(s) No	The following table is used to determine scores associated with	th the energe	tic materials	. Materials are		
Conditions Cleanup Cleanup Rounds 100 100 100 White Phosphorus 70 70 70 Pyrotechnic 60 60 60 Spotting Charge 40 40 40 Incendiary 30 30 30 The most hazardous type of energetic material listed in the 'Munitions, Bulk Explosive Information the category 'High Explosive and Low Explosive Filler in Fragmenting Rounds'. Score Baseline Conditions: 100 100 100 Surface Cleanup: 100 100 100 Subsurface Cleanup: 100 100 100 Subsurface Cleanup: 100 100 100 Subsurface Cleanup: 100 100 100 Are there currently any features or facilities where people may congregate within the MRS, or within the Explosive Siting Plan or the Explosive Sare Subsurface 239 feet Picose describe the facility or feature. No No No McC then(s) used to calculate the ESQD for current use activities Select MEC(s) Select MEC(s) The following table is used to determine scores associated with the location of additional human Seore	listed in order from most hazardous to least hazardous.					
High Explosive and Low Explosive Filler in Fragmenting White Phosphorus 70 70 70 Pyrotechnic 60 60 60 Pyrotechnic 50 50 50 Spotting Charge 40 40 40 Incendiary 30 30 30 The most hazardous type of energetic material listed in the 'Munitions, Bulk Explosive Info' Worksheet falls under the category 'High Explosive and Low Explosive Filler in Fragmenting Rounds'. Score Baseline Conditions: 100 100 100 Surface Cleanup: 100 100 100 Surface Cleanup: 100 100 100 Surface Cleanup: 100 100 100 Location of Additional Human Receptors Input Factor Categories 239 feet L. What is the Explosive Safety Quantity Distance (ESQD) from the Explosive Siting Plan or the Explosive Siting Plan or the Explosive Safety Submission for the MRS? No No . Are there currently any features or facilities where people may congregate within the MRS, or within the ESQD arc? No No . Please describe the facility or feature. Select MEC(s) Select MEC(s) Select MEC(s) The followin						
Reinds 100 100 100 White Phosphorus 70 70 70 Pyrotechnic 60 60 60 Propeliant 50 50 50 Spotting Charge 40 40 40 Incerdiary 30 30 30 30 The most hazardous type of energetic material listed in the 'Munitions, Bulk Explosive Filler in Fragmenting Rounds'. Score Baseline Conditions: 100 100 100 Surface Cleanup: 100 100 100 Subsurface Cleanup: 100 100 100 Location of Additional Human Receptors Input Factor Categories 100 239 1. What is the Explosive Safety Quantity Distance (ESQD) from the Explosive Siting Plan or the Explosive Siting Plan or the Explosive Safety Submission for the MRS? 239 Feet 2. Are there currently any features or facilities where people may congregate within the MRS, or within the ESQD arc? No 30 30 30 3. Please describe the facility or feature. Econditions Uncarue Select MEC(s) Elenup Elenup Elenup Miter #11. Mortars (81mm, High Explosive): Select MEC(s)		Conditions	Cleanup	Cleanup		
White Phosphorus 70 70 70 Propelant 50 50 50 Propelant 30 30 30 The most hazardous type of energetic material listed in the 'Munitions, Bulk Explosive Info' Worksheet falls under the category 'High Explosive and Low Explosive Filler in Fragmenting Rounds'. Score Baseline Conditions: 100 100 100 Sufface Cleanup: 100 100 Sufface Cleanup: 100 100 L. What is the Explosive Safety Quantity Distance (ESQD) from the Explosive Siting Plan or the Explosive Safety Submission for the MRS? 239 A. We there currently any features or facilities where people may congregate within the MRS, or within the ESQD arc? No 3. Please describe the facility or feature. Select MEC(s) The following table is used to calculate the ESQD for current use activities therm #1. Mortars (81mm, High Explosive) Select MEC(s) The following table is used to determine scores associated with the location of additional human receptors (current use activities are 'Ou		100	4.00	100		
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Propertiant 50 50 50 Spotting Charge 40 40 40 Incendary 30 30 30 The most hazardous type of energetic material listed in the 'Munitions, Bulk Explosive Filler in Fragmenting Rounds'. Score Baseline Conditions: 100 Surface Cleanup: 100 Subsurface Cleanup: 100 Subsurface Cleanup: 100 Location of Additional Human Receptors Input Factor Categories 100 1. What is the Explosive Safety Quantity Distance (ESQD) from the Explosive Siting Plan or the Explosive Safety Submission for the MRS? No 2. Are there currently any features or facilities where people may congregate within the MRS, or within the ESQD arc? No 3. Please describe the facility or feature. No WEC Item(\$) used to calculate the ESQD for current use activities Item #1. Mortars (\$1mm, High Explosive) Select MEC(\$) The following table is used to determine scores associated with the location of additional human receptors (current use activities): Sourface Cleanup Inside the MRS or inside the ESQD arc 30 30 30 Subsurface Cleanup: 0 0 0 0 Subsurface Cleanup: 0 0						
Spotting Charge 40 40 40 incendiary 30 30 30 The most hazardous type of energetic material listed in the "Munitions, Bulk Explosive Info: Worksheet fails under the category 'High Explosive and Low Explosive Filler In Fragmenting Rounds'. Score Baseline Conditions: 100 Sufface Cleanup: 100 Subsurface Cleanup: 100 Location of Additional Human Receptors Input Factor Categories 1. What is the Explosive Safety Quantity Distance (ESQD) from the Explosive Siting Plan or the Explosive Safety Submission for the MRS? 2. Are there currently any features or facilities where people may congregate within the MRS, or within the ESQD arc? 3. Please describe the facility or feature. MEC Item(s) used to calculate the ESQD for current use activities Item #1. Mortars (81mm, High Explosive) Inside the MRS or inside the ESQD arc 0 0 0 4. Current use activities are 'Outside of the ESQD arc', based on Question 2.' Score Baseline Conditions: 0 Outside of the ESQD arc 0 0 0 4. Current use activities are 'Outside of the ESQD arc', based on Question 2.' Score Baseline Conditions: 0 Subsurface Cleanup: 0 5. Are there future plans to locate or construct features or facilities where people may congregate when the MRS, or within the ESQD arc 0 0 0 4. Current use activities are 'Outside of the ESQD arc', based on Question 2.' Score Baseline Conditions: 0 5. Are there future plans to locate or construct features or facilities where people may congregate WEC Item(s) used to calculate the ESQD for future use activities Highing trails, wildlife observation areas WEC Theorem(s) used to calculate the ESQD for future use activities Highing trails, wildlife observation areas WEC Theorem(s) used to calculate the ESQD for future use activities Highing trails, wildlife observation areas WEC Theorem(s) used to calculate the ESQD for future use activities Highing trails, wildlife observation areas HEC Theorem(s) used to calculate the ESQD for future use activities Highing trails, wildlife observation areas HEC Theorem(•					
Inteendiary 30 30 30 30 The most hazardous type of energetic material listed in the 'Munitions, Bulk Explosive Info' Worksheet falls under the category 'High Explosive and Low Explosive Filler in Fragmenting Rounds'. Score Baseline Conditions: 100 Subsurface Cleanup: 100 Subsurface Cleanup: 100 Subsurface Cleanup: 100 Location of Additional Human Receptors Input Factor Categories 1. What is the Explosive Safety Quantity Distance (ESQD) from the Explosive Siting Plan or the Explosive Safety Submission for the MRS? 2. Are there currently any features or facilities where people may congregate within the MRS, or within the ESQD arc? 3. Please describe the facility or feature. MEC Item(s) used to calculate the ESQD for current use activities Item #1. Mortars (B1mm, High Explosive) The following table is used to determine scores associated with the location of additional human receptors (current use activities): Baseline Surface Subsurface Conditions Cleanup Cleanup Inside the MRS or inside the ESQD arc 0 0 0 4. Current use activities are 'Outside of the ESQD arc', based on Question 2.' Score Baseline Conditions: 0 Subsurface Cleanup: 0	•					
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Surface Cleanup: 100 Subsurface Cleanup: 100 Location of Additional Human Receptors Input Factor Categories 239 feet 1. What is the Explosive Safety Quantity Distance (ESQD) from the Explosive Siting Plan or the Explosive Safety Submission for the MRS? 239 feet 2. Are there currently any features or facilities where people may congregate within the MRS, or within the ESQD arc? No 3. Please describe the facility or feature. Select MEC(s) MEC Item(s) used to calculate the ESQD for current use activities Select MEC(s) The following table is used to determine scores associated with the location of additional human receptors (current use activities): Select MEC(s) Inside the MRS or inside the ESQD arc 30 30 Outside of the ESQD arc 0 0 Subsurface Cleanup: 0 <td< th=""><th>· · · · ·</th><th></th><th>-</th><th></th><th>Score</th><th></th></td<>	· · · · ·		-		Score	
Surface Cleanup: 100 Subsurface Cleanup: 100 Location of Additional Human Receptors Input Factor Categories 239 feet 1. What is the Explosive Safety Quantity Distance (ESQD) from the Explosive Siting Plan or the Explosive Safety Submission for the MRS? 239 feet 2. Are there currently any features or facilities where people may congregate within the MRS, or within the ESQD arc? No 3. Please describe the facility or feature. Select MEC(s) WEC Item(s) used to calculate the ESQD for current use activities Select MEC(s) The following table is used to determine scores associated with the location of additional human receptors (current use activities): Select MEC(s) Inside the MRS or inside the ESQD arc 30 30 Outside of the ESQD arc 0 0 Subsurface Cleanup: 0 0 0 Subsurface Cleanup: 0 0 0 Subsurface Cleanup: 0 0 0 0 Subsurface Cleanup: 0 0 0 0 Subsurface Cleanup: 0 0 0 0 0 Subsurface Cleanup: 0 0 0 0 0 0 0 0	Pagalina Canditiana				100	
Subsurface Cleanup: 100 Location of Additional Human Receptors Input Factor Categories 239 1. What is the Explosive Safety Quantity Distance (ESQD) from the Explosive Siting Plan or the Explosive Safety Submission for the MRS? No 2. Are there currently any features or facilities where people may congregate within the MRS, or within the ESQD arc? No 3. Please describe the facility or feature. No MEC Item(\$) used to calculate the ESQD for current use activities Select MEC(\$) The following table is used to determine scores associated with the location of additional human receptors (current use activities): Baseline Surface Subsurface Cleanup Inside the MRS or inside the ESQD arc 30 30 Outside of the ESQD arc 0 0 Subsurface Cleanup: 0 0 Subsurface Cleanup: <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td></t<>						
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Item #1. Mortars (81mm, High Explosive) Select MEC(s) The following table is used to determine scores associated with the location of additional human receptors (current use activities): Baseline Surface Subsurface Cleanup Inside the MRS or inside the ESQD arc 30 30 Outside of the ESQD arc 0 0 A. Current use activities are 'Outside of the ESQD arc', based on Question 2.' Score Baseline Conditions: 0 Outside Cleanup: 0 Sufface Cleanup: 0						
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Baseline Conditions: 0 Surface Cleanup: 0 Subsurface Cleanup: 0 Su	Outside of the ESQD arc		0	0	U	
Surface Cleanup: 0 Subsurface Cleanup: 0 Sub		based on Q	uestion 2.'			
Subsurface Cleanup: 0 5. Are there future plans to locate or construct features or facilities where people may congregate within the ESQD arc? No 6. Please describe the facility or feature. Image: Cleanup in the ESQD arc in the ESQD arc in the end of t						
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within the MRS, or within the ESQD arc?	•	cilitios whore	noonlo may	congragata		
Hiking trails, wildlife observation areas	within the MRS, or within the ESQD arc?	cliftles where	реоріе піау	congregate		
MEC Item(s) used to calculate the ESQD for future use activities	6. Please describe the facility or feature.					
Item #1 Mortars (81mm High Explosive)	Hiking trails, wildlife observation areas					
Item #1 Mortars (81mm High Explosive)	MEC Item(s) used to calculate the ESOD for future use activit	ies				
Select MEC(s)	Item #1. Mortars (81mm, High Explosive)				Select MEC(s)	

Site Accessibility Input Factor Categories

The following table is u.	sed to determine scores associated with	Baseline	Surface	Subsurface		
	Description	Conditions		Cleanup		
	No barriers to entry, including	25.10.0010	p			
- ull Accessibility	signage but no fencing	80) 8) 8	0	
,			-		-	
	Some barriers to entry, such as					
Inderate Accessibility	barbed wire fencing or rough terrain	55	5 5	5 5	5	
	Significant barriers to entry, such as					
	unguarded chain link fence or					
	requirements for special				_	
imited Accessibility	transportation to reach the site	15	5 1	5 1	5	
	A site with guarded chain link fence					
lon (Limited	or terrain that requires special					
/ery Limited Accessibility	equipment and skills (e.g., rock climbing) to access	5		5	5	
ACCESSIDIIILY	cliffbilig) to access	-)	J	
Current Use Activi	tios				Score	
	t best describes the site accessibility un	der the curre	nt use scen	ario:	50010	
Baseline Conditions:					80	
					80	
Surface Cleanup:					80	
Subsurface Cleanup: Future Use Activiti					80	
Subsurface Cleanup: Future Use Activiti Select the category that Full Accessibility Baseline Conditions: Surface Cleanup: Subsurface Cleanup:	t best describes the site accessibility un	der the futur	e use scena	rio:		
Subsurface Cleanup: <i>Future Use Activiti</i> Select the category that Full Accessibility Baseline Conditions: Surface Cleanup: Subsurface Cleanup: Reference(s) for above	t best describes the site accessibility un		e use scena	rio:	80 80 80 80	
Subsurface Cleanup: Future Use Activiti Select the category that Full Accessibility Baseline Conditions: Surface Cleanup: Subsurface Cleanup: Reference(s) for above Draft Feasibility Stuc	t best describes the site accessibility un information: dy, Seneca Army Depot (Parsons, 2	012)			80 80 80	
Subsurface Cleanup: Future Use Activiti Select the category that Full Accessibility Saseline Conditions: Surface Cleanup: Subsurface Cleanup: Reference(s) for above Draft Feasibility Stuc Response Alternat	t best describes the site accessibility un information: ly, Seneca Army Depot (Parsons, 2 <i>ive No. 1: geophysical mapping</i>	012) 1, intrusive			80 80 80 80	
Subsurface Cleanup: Future Use Activiti Select the category that Full Accessibility Baseline Conditions: Surface Cleanup: Subsurface Cleanup: Reference(s) for above Draft Feasibility Stuc Response Alternat installation of cap,	information: ly, Seneca Army Depot (Parsons, 2 <i>ive No. 1: geophysical mapping</i> <i>followed by implementation o</i>	012) 1, intrusive f LUCs	investiga	ation,	80 80 80 80 Select Ref(s)	
Subsurface Cleanup: Future Use Activiti Select the category that Full Accessibility Baseline Conditions: Surface Cleanup: Subsurface Cleanup: Reference(s) for above Draft Feasibility Stuc Response Alternat installation of cap, Based on the 'Planne	information: ly, Seneca Army Depot (Parsons, 2 <i>ive No. 1: geophysical mapping</i> <i>followed by implementation o</i>	012) 1, intrusive f LUCs	investiga	ation,	80 80 80 80 Select Ref(s)	
Subsurface Cleanup: Future Use Activiti Gelect the category that Full Accessibility Saseline Conditions: Surface Cleanup: Subsurface Cleanup: Subsurface Cleanup: Reference(s) for above Draft Feasibility Stuc Response Alternations installation of cap, Based on the 'Planne to 'Full Accessibility'	information: ly, Seneca Army Depot (Parsons, 2 <i>ive No. 1: geophysical mapping</i> <i>followed by implementation o</i>	012) 1, intrusive f LUCs	investiga	ation,	80 80 80 80 Select Ref(s)	
Subsurface Cleanup: Future Use Activiti Gelect the category that Full Accessibility Saseline Conditions: Surface Cleanup: Subsurface Cleanup: Subsurface Cleanup: Reference(s) for above Draft Feasibility Stuc Response Alternations installation of cap, Based on the 'Planne to 'Full Accessibility' Baseline Conditions:	information: ly, Seneca Army Depot (Parsons, 2 <i>ive No. 1: geophysical mapping</i> <i>followed by implementation o</i>	012) 1, intrusive f LUCs	investiga	ation,	80 80 80 Select Ref(s)	
Subsurface Cleanup: Future Use Activiti Select the category that Full Accessibility Baseline Conditions: Surface Cleanup: Subsurface Cleanup: Reference(s) for above Draft Feasibility Stuc Response Alternat installation of cap, Based on the 'Planne to 'Full Accessibility' Baseline Conditions: Surface Cleanup:	information: ly, Seneca Army Depot (Parsons, 2 <i>ive No. 1: geophysical mapping</i> <i>followed by implementation o</i>	012) 1, intrusive f LUCs	investiga	ation,	80 80 80 80 Select Ref(s) 80 80	
Subsurface Cleanup: Future Use Activiti Select the category that Full Accessibility Baseline Conditions: Surface Cleanup: Subsurface Cleanup: Reference(s) for above Draft Feasibility Stuc Response Alternat installation of cap, Based on the 'Planne to 'Full Accessibility' Baseline Conditions: Surface Cleanup: Subsurface Cleanup: Subsurface Cleanup:	information: dy, Seneca Army Depot (Parsons, 2 <i>ive No. 1: geophysical mapping</i> <i>followed by implementation o</i> ed Remedial or Removal Actions' W	012) 1, intrusive f LUCs forksheet, t	<i>investiga</i> his alterna	<i>ation,</i> Itive will lead	80 80 80 Select Ref(s)	
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Subsurface Cleanup: Future Use Activiti Select the category that Full Accessibility Baseline Conditions: Surface Cleanup: Subsurface Cleanup: Reference(s) for above Draft Feasibility Stuc Response Alternat installation of cap, Based on the 'Planne to 'Full Accessibility' Baseline Conditions: Surface Cleanup: Subsurface Cleanup: Response Alternat subsurface clearar Based on the 'Planne	information: dy, Seneca Army Depot (Parsons, 2 <i>ive No. 1: geophysical mapping</i> <i>followed by implementation of</i> ed Remedial or Removal Actions' W	012) 1, intrusive f LUCs /orksheet, t 1, intrusive te disposa	investiga his alterna investiga I, and	ation, htive will lead	80 80 80 80 Select Ref(s) 80 80 80	
Subsurface Cleanup: <i>Future Use Activiti</i> Select the category that Full Accessibility Baseline Conditions: Surface Cleanup: Subsurface Cleanup: Reference(s) for above Draft Feasibility Stuc <i>Response Alternat</i> <i>installation of cap</i> , Based on the 'Planne to 'Full Accessibility' Subsurface Cleanup: Subsurface C	information: dy, Seneca Army Depot (Parsons, 2 <i>ive No. 1: geophysical mapping</i> <i>followed by implementation o</i> ed Remedial or Removal Actions' W <i>ive No. 2: geophysical mapping</i> <i>foce to depth of detection, off-si</i> ed Remedial or Removal Actions' W	012) 1, intrusive f LUCs /orksheet, t 1, intrusive te disposa	investiga his alterna investiga I, and	ation, htive will lead	80 80 80 80 Select Ref(s) 80 80 80	
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Potential Contact Hours Input Factor Categories

	nours input i dotor outegoi	105			_	
The following table is us	ed to determine scores associated wit		ial contact time rface Subsu		_	
Many Hours	Description ≥1,000,000 receptor-hrs/yr	Conditions Cle 120	anup Clean 90	up 30	-	
Some Hours	100,000 to 999,999 receptor hrs/yr	70	50	20	_	
Few Hours Very Few Hours	10,000 to 99,999 receptor-hrs/yr <10,000 receptor-hrs/yr	40 15	20 10	10 5	-	
Current Use Activities	s:				-	
'Current and Future Acti	etermined for baseline conditions for c vities' Worksheet, the Total Potential (re, this corresponds to a input factor s	Contact Time is:		he	receptor 1,920 hrs/yr 15 Score	
'Current and Future Active Based on the table above	etermined for baseline conditions for f vities' Worksheet, the Total Potential (re, this corresponds to a input factor s on No. 1: geophysical mapping, intr	Contact Time is: core of:		ie	receptor hrs/yr Score	
Based on the 'Planne change if this alterna	d Remedial or Removal Actions' V tive is implemented.	Vorksheet, land	use activities	s will		
Total Potential Conta 'Post-Response Land Based on the table abov Baseline Conditions: Surface Cleanup: Subsurface Cleanup: Response Alternative	ct Time, based on the contact tim Use' Worksheet) re, this corresponds to input factor sco e No. 2: geophysical mapping, intr	ores of: Fusive investigation	tion,	Score	800 9 15 10 5	
change if this alterna Total Potential Conta 'Post-Response Land	ct Time, based on the contact tim	e listed for this			800 9 15 10 5	

Amount of MEC I	nput Factor Categories					
The following table is u	sed to determine scores associated with	n the Amount	of MEC:			
5	Description	Baseline Conditions	Surface Cleanup	Subsurface Cleanup		
Target Area	Areas at which munitions fire was directed	180	120	30)	
OB/OD Area	Sites where munitions were disposed of by open burn or open detonation methods. This category refers to the core activity area of an OB/OD area. See the "Safety Buffer Areas" category for safety fans and kick- outs.	180	110	30)	
Function Test Range	Areas where the serviceability of stored munitions or weapons systems are tested. Testing may include components, partial functioning or complete functioning of stockpile or developmental items.	165	90	25	5	
Burial Pit	The location of a burial of large quantities of MEC items.	140	140	10)	
Maneuver Areas	Areas used for conducting military exercises in a simulated conflict area or war zone	115	15	5	5	
Firing Points	The location from which a projectile, grenade, ground signal, rocket, guided missile, or other device is to be ignited, propelled, or released.	75	10	5	5	
Safety Buffer Areas	Areas outside of target areas, test ranges, or OB/OD areas that were designed to act as a safety zone to contain munitions that do not hit targets or to contain kick-outs from OB/OD areas.	30	10	5	5	
Storage	Any facility used for the storage of military munitions, such as earth- covered magazines, above-ground magazines, and open-air storage areas.	25	10	5	;	
Explosive-Related Industrial Facility	Former munitions manufacturing or demilitarization sites and TNT production plants	20	10	5	5	
Select the category that	t best describes the <i>most hazardous</i>	amount of M	EC:		Score	
OB/OD Area Baseline Conditions:					180	
Surface Cleanup:					110	
Subsurface Cleanup:					30	

Amount of MEC Input Factor Categories

Minimum MEC Depth Relative to the Maximu Factor Categories <i>Current Use Activities</i>	m Intrusiv	ve Depth	Input			
The shallowest minimum MEC depth, based on the 'Cased Mu The deepest intrusive depth:					0 ft 0 ft	
The table below is used to determine scores associated with t maximum intrusive depth:	he minimum	MEC depth	relative to the	5		
	Baseline Conditions	Surface Cleanup	Subsurface Cleanup			
Baseline Condition: MEC located surface and subsurface. After Cleanup: Intrusive depth overlaps with subsurface MEC.		0 1!	50	95		
Baseline Condition: MEC located surface and subsurface, Afte Cleanup: Intrusive depth does not overlap with subsurface MEC.	r 24	0 !	50	25		
Baseline Condition: MEC located only subsurface. Baseline Condition or After Cleanup: Intrusive depth overlaps with		.		05		
minimum MEC depth. Baseline Condition: MEC located only subsurface. Baseline Condition or After Cleanup: Intrusive depth does not overlap	15	0 N,	A	95		
with minimum MEC depth.	5	0 N,	Ά	25		
Because the shallowest minimum MEC depth is less th depth, the intrusive depth will overlap after cleanup. surface and subsurface, based on the 'Munitions, Bulk Therefore, the category for this input factor is 'Baselin and subsurface. After Cleanup: Intrusive depth overla 'Current Use Activities', only Baseline Conditions are c <i>Future Use Activities</i>	MECs are loo Explosive lue Condition ps with sub	cated at b nfo' Work : MEC loca	oth the sheet. Ited surface	ve	240 Score	
Deepest intrusive depth:					ft	
Not enough information has been entered to determin Response Alternative No. 1: geophysical mapping, into			• •	of	Score	
Expected minimum MEC depth (from the 'Planned Remedial or Based on the 'Planned Remedial or Removal Actions' V change if this alternative is implemented.	Vorksheet, I	and use a	ctivities will		1.5 ft	
Maximum Intrusive Depth, based on the maximum int alternative (see 'Post-Response Land Use' Worksheet) Because the shallowest minimum MEC depth is greate	r than the d	eepest in	rusive deptl	n,	0 ft	
the intrusive depth does not overlap. MECs are locate subsurface, based on the 'Munitions, Bulk Explosive Ir category for this input factor is 'Baseline Condition: M	nfo' Workshe	eet. There	fore, the	e,		
After Cleanup: Intrusive depth does not overlap with s	subsurface N	/IEC.'		Score		
Baseline Conditions: Surface Cleanup:						
Subsurface Cleanup:					25	
Response Alternative No. 2: geophysical mapping, inter Expected minimum MEC depth (from the 'Planned Remedial or Based on the 'Planned Remedial or Removal Actions' V	r Removal Ac	tions' Work	sheet):		3 ft	
change if this alternative is implemented. Maximum Intrusive Depth, based on the maximum int alternative (see 'Post-Response Land Use' Worksheet) Because the shallowest minimum MEC depth is greate				h,	<mark>0</mark> ft	
the intrusive depth does not overlap. MECs are locate subsurface, based on the 'Munitions, Bulk Explosive Ir category for this input factor is 'Baseline Condition: M After Cleanup: Intrusive depth does not overlap with s	d at both the fo' Workshe EC located s	e surface eet. There urface an	and fore, the	е,		
Baseline Conditions:				Score		
Surface Cleanup: Subsurface Cleanup:					25	

Minustian Detential Innut Faster Categories							
Migration Potential Input Factor Categories Is there any physical or historical evidence that indicates it is possible	e for no	+		al farcas in	Mar		
					Yes		
the area (e.g., frost heave, erosion) to expose subsurface MEC items MEC items?	, or me	ove surra	ice c	or subsurface			
If "yes", describe the nature of natural forces. Indicate key areas of	notent	ial miara	ation				
overland water flow) on a map as appropriate (attach a map to the b							
separate worksheet).	000000	01 1113 3	neet	, or us u			
The slopes of the OD Hill are steep (up to .60 ft/ft on the eastern sid	o of the	a hill) a	nd t	horoforo curfa			
that might result in the exposure of buried MEC is likely. Also, tempe							
each winter and the frost line extends down to approximately 3 feet,							
at the site.	which	is great				icpui	
The following table is used to determine scores associated with the n	niaratio	n poten	tial:				
Baseli		Surface		Subsurface			
Condi	itions	Cleanu	р	Cleanup			
Possible	30		30	1	.0		
Unlikely	10)	10	1	.0		
Based on the question above, migration potential is 'Possible	e.'				Score		
Baseline Conditions:						30	
Surface Cleanup:						30	
Subsurface Cleanup:						10	
Reference(s) for above information:							
Draft Feasibility Study, Seneca Army Depot (Parsons, 2012)							
					Select	: Ref(s)	
MEC Classification Input Faster Categories							
MEC Classification Input Factor Categories							
Cased munitions information has been inputed into the 'Mun							
Worksheet; therefore, bulk explosives do not comprise all MI	EUS TO	r this ivi	IRS.				
The 'Amount of MEC' category is 'OB/OD Area'.							
Has a technical assessment shown that MEC in the OB/OD Area is DM	4M?				No		
Are any of the munitions listed in the 'Munitions, Bulk Explosive Info'	Works	heet:			Yes		
Submunitions							
 Rifle-propelled 40mm projectiles (often call 	ed 40m	nm grena	ades	5)			
 Munitions with white phosphorus filler 							
 High explosive anti-tank (HEAT) rounds 							
· Hand grenades							
Fuzes							
· Mortars							
At least one item listed in the 'Munitions, Bulk Explosive Info	o' Worl	ksheet	was	identified			
as 'fuzed'.			- 4				
The following table is used to determine scores associated with MEC							
Basel UXO Special Case Condi		Surface Cleanu		Subsurface Cleanup			
UXO Special Case Condi UXO Special Case	180		р 180	•	20		
UXO	110		110				
Fuzed DMM Special Case	105		105				
Fuzed DMM	55		55		5		
Unfuzed DMM	45		45		15		
Bulk Explosives	45	i	45	4	15		
Based on your answers above, the MEC classification is 'UXO	Speci	al Case	۱. I		Score		
Baseline Conditions:	-					180	
Surface Cleanup:						180	
Subsurface Cleanup:						180	

MEC Size Input F							
The following table is u	sed to determine scores associated with	n MEC Size:					
5		Baseline	Surface	Subsurface			
	Description	Conditions					
	Description	Conditions	Cleanup	Cleanup			
	Any munitions (from the 'Munitions,						
	, , , ,						
	Bulk Explosive Info' Worksheet)						
	weigh less than 90 lbs; small enough						
	for a receptor to be able to move and						
c "	•			•	40		
Small	initiate a detonation	40) 4	0	40		
	All munitions weigh more than 90 lbs;						
Large	too large to move without equipment	()	0	0		
Based on the definition	s above and the types of munitions at t	he site (see '	Munitions	Bulk Explosive	Small		
	,1		numerons,	Duik Explosive	Sindi		
info worksneet), the M	1EC Size Input Factor is:						
					Score		
Baseline Conditions:						40	
Surface Cleanup:						40	
Subsurface Cleanup:						40	

Scoring Summary

Site ID:	OD Hill Assessment Area	a. Scoring Summary for Current Use Activities	
Date:	4/2/2012	Response Action Cleanup:	No Response Action
	Input Factor	Input Factor Category	Score
I. Ene	ergetic Material Type	High Explosive and Low Explosive Filler in Fragmenting Rounds	100
II. Location of	Additional Human Receptors	Outside of the ESQD arc	0
III	. Site Accessibility	Full Accessibility	80
IV. Po	tential Contact Hours	<10,000 receptor-hrs/yr	15
V	. Amount of MEC	OB/OD Area	180
VI. Minimum MEC D	epth Relative to Maximum Intrusive Depth	Baseline Condition: MEC located surface and subsurface. After Cleanup: Intrusive depth overlaps with subsurface MEC.	240
VII.	Migration Potential	Possible	30
VIII	. MEC Classification	UXO Special Case	180
	IX. MEC Size	Small	40
		Total Score	865
		Hazard Level Category	1

Site ID: OD Hill Assessment Area	b. Scoring Summary for Future Use Activities	
Date: 4/2/2012	Response Action Cleanup:	No Response Action
Input Factor	Input Factor Category	Score
I. Energetic Material Type	High Explosive and Low Explosive Filler in Fragmenting Rounds	100
II. Location of Additional Human Receptors	Outside of the ESQD arc	0
III. Site Accessibility	Full Accessibility	80
IV. Potential Contact Hours		
V. Amount of MEC	OB/OD Area	180
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth		
VII. Migration Potential	Possible	30
VIII. MEC Classification	UXO Special Case	180
IX. MEC Size	Small	40
	Total Score	610
	Hazard Level Category	3

Site ID: OD Hill Assessment Area	c. Scoring Summary for Response Alternative 1: geophysical m	apping, intrusive investigation, installation o
Date: 4		cleanup of MECs located both on the eanup: surface and subsurface
Input Factor	Input Factor Category	Score
I. Energetic Material Type	High Explosive and Low Explosive Filler in Fragmenting Rounds	100
II. Location of Additional Human Receptor	Outside of the ESQD arc	0
III. Site Accessibility	Full Accessibility	80
IV. Potential Contact Hours	<10,000 receptor-hrs/yr	5
V. Amount of MEC	OB/OD Area	30
VI. Minimum MEC Depth Relative to Maximum In Depth	trusive Baseline Condition: MEC located surface and subsurface, After Cleanup: Intrusive depth does not overlap with subsurface MEC.	25
VII. Migration Potential	Possible	10
VIII. MEC Classification	UXO Special Case	180
IX. MEC Size	Small	40
	Total	Score 470
	Hazard Level Cat	tegory 4

Site ID:	OD Hill Assessment Area	d. Scoring Summary for Response Alternative 2: geophysical mapping	g, intrusive investigation, subsurface cl
Date:	4/2/2012	Response Action Cleanup:	cleanup of MECs located both on the surface and subsurface
	Input Factor	Input Factor Category	Score
I. Ene	ergetic Material Type	High Explosive and Low Explosive Filler in Fragmenting Rounds	100
II. Location of	Additional Human Receptors	Outside of the ESQD arc	0
III	. Site Accessibility	Full Accessibility	80
IV. Po	tential Contact Hours	<10,000 receptor-hrs/yr	5
V	. Amount of MEC	OB/OD Area	30
VI. Minimum MEC D		Baseline Condition: MEC located surface and subsurface, After Cleanup: Intrusive depth does not overlap with subsurface MEC.	25
VII.	Migration Potential	Possible	10
VIII	. MEC Classification	UXO Special Case	180
	IX. MEC Size	Small	40
		Total Score	470
		Hazard Level Category	4

MEC HA Hazard Level [Determination	
Site ID: OD Hill Assessment Area		
Date: 4/2/2012		
	Hazard Level Category	Score
a. Current Use Activities	1	865
b. Future Use Activities	3	610
c. Response Alternative 1: geophysical mapping, intrusive investigation, installation of cap, followed by implementation of	4	470
d. Response Alternative 2: geophysical mapping, intrusive investigation, subsurface clearance to depth of detection, off-site	4	470
e. Response Alternative 3:		
f. Response Alternative 4:		
g. Response Alternative 5:		
h. Response Alternative 6:		
Characteristics of	the MRS	
Is critical infrastructure located within the MRS or within the ESQD arc?	Ν	lo
Are cultural resources located within the MRS or within the ESQD arc?	Ν	lo
Are significant ecological resources located within the MRS or within the ESQD arc?	Ν	lo

MEC HA Summary Information

		Comments
Site ID: OD Grounds-Kickout Area		
Date: 4/2/2012		
Please identify the single specific area to be assessed in this hazard ass		
references to "site" or "MRS" refer to the specific area that you have de	efined.	
A. Enter a unique identifier for the site:		
OD Grounds MRS - Kickout Area		
Provide a list of information sources used for this hazard assessment.	As you are completing the	
worksheets, use the "Select Ref(s)" buttons at the ends of each subsec	, , ,	
information sources from the list below.		
Ref. No. Title (include version, publication date)	the table of t	
1 Expanded Site Investigation (ESI) for Seven High Priority So		
2 Final Ordnance and Explosives Engineering Evaluation/Cost		
3 Final Site Specific Project Report SEAD45/115 Open Detonat		
4 Draft Phase II Ordnance and Explosives Removal Report (W	eston, March	
5 Additional Munitions Response Site Investigation Report, Se	neca Army	
6 Draft Feasibility Study, Seneca Army Depot (Parsons, 2012)		
7		
8		
9		
10		
11		
12		
D. Briefler de serie etter		
B. Briefly describe the site:		
1. Area (include units): 216.4 ac		
2. Past munitions-related use:		
Safety Buffer Areas		
3. Current land-use activities (list all that occur):		
Closed OD Area, Hunting		
	No	No changes to land use
4. Are changes to the future land-use planned?		without remediation.
5. What is the basis for the site boundaries?		
Area determined to have high MEC density from previous investigations		
6. How certain are the site boundaries?		
Certain. Area greater than 1000' radius from OD Hill center, and which	investigations have determined to	
have high MEC density present. Some variations may be necessary due		
implementation.		
Reference(s) for Part B:		
Draft Feasibility Study, Seneca Army Depot (Parsons, 2012)		
Diant reasibility study, seneca Anny Depot (Parsons, 2012)	Select Ref(s)	
C. Historical Clearances		
	No, none	Intrusive investigation, but
 Have there been any historical clearances at the site? 		no clearances.
2. If a clearance occurred:		
a. What year was the clearance performed?		
b. Provide a description of the clearance activity (e.g., exte	nt, depth, amount of munitions-	
related items removed, types and sizes of removed items, a		
used):		
Reference(s) for Part C:		
Draft Feasibility Study, Seneca Army Depot (Parsons, 2012)	Soloct Pof(c)	
	Select Ref(s)	

D. Attach maps of the site below (select 'Insert/Picture' on the menu bar.)

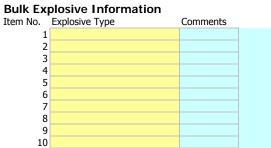
Site ID: OD Grounds-Kickout Area Date: 4/2/2012

Cased Munitions Information

						Is			Minimum Depth for		Comments (include rationale
	Munition Type (e.g., mortar,		Munition			Munition		Fuze			for munitions that are
	projectile, etc.)						Fuzing Type	Condition		Munitions	"subsurface only")
1	Mortars	81	mm	M374	High Explosive	Yes		UNK	C	Surface and Subsurface	Item with greatest HFD
2	Fuzes							UNK	C	Surface and Subsurface	Smallest Item
3	Fuzes							UNK	C	Surface and Subsurface	Smallest Item
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18 19											
20											

Reference(s) for table above: Draft Feasibility Study, Seneca Army Depot (Parsons, 2012)

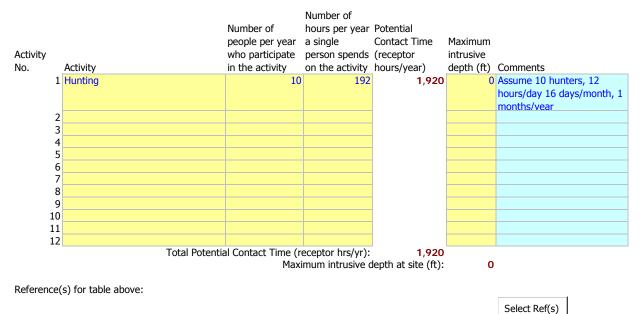
Select Ref(s)



Reference(s) for table above:

Site ID: OD Grounds-Kickout Area Date: 4/2/2012

Activities Currently Occurring at the Site



Activities Planned for the Future at the Site (If any are planned: see 'Summary Info' Worksheet, Question 4)



Reference(s) for table above:

Site ID: OD Grounds-Kickout Area Date: 4/2/2012

Planned Remedial or Removal Actions

Response Action No.	Response Action Description	Expected Resulting Minimum MEC Depth (ft)	Expected Resulting Site Accessibility	Will land use activities change if this response action is implemented?	What is the expected scope of cleanup?	Comments
1	geophysical mapping, intrusive investigation,	3	Full Accessibility	Yes	cleanup of MECs located both on the surface	
	installation of cap, followed by				and subsurface	
	implementation of LUCs					
2						
3						
4						
5						
6						

According to the 'Summary Info' worksheet, no future land uses are planned. For those alternatives where you answered 'No' in Column E, the land use activities will be assessed against current land uses.

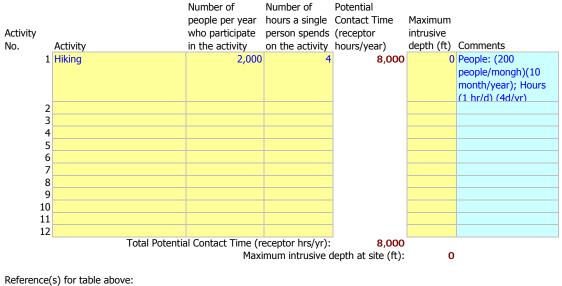
Reference(s) for table above:

Draft Feasibility Study, Seneca Army Depot (Parsons, 2012)

Site ID: OD Grounds-Kickout Area Date: 4/2/2012

This worksheet needs to be completed for each remedial/removal action alternative listed in the 'Remedial-Removal Action' worksheet that will cause a change in land use.

Land Use Activities Planned After Response Alternative #1: geophysical mapping, intrusive investigation, installation of cap, followed by implementation of LUCs



Draft Feasibility Study, Seneca Army Depot (Parsons, 2012)

Select Ref(s)

Land Use Activities Planned After Response Alternative #2:

people per year	hours a single	Contact Time	Maximum intrusive	
in the activity	on the activity	hours/year)	depth (ft)	Comments
al Datantial Cantact Time (r				
	people per year who participate in the activity 2000 - 2000 2000 -	people per year who participate in the activityhours a single person spends on the activityImage: Image:	Number of people per year who participate in the activity Number of hours a single person spends Potential Image: Contact Time person spends Image: Contact Time person spends Image: Contact Time person spends Image: Contact Time person spends Image: Contact Time person spends Image: Contact Time person spends Image: Contact Time person spends Image: Contact Time person spends Image: Contact Time person spends Image: Contact Time person spends Image: Contact Time person spends Image: Contact Time person spends Image: Contact Time person spends Image: Contact Time person spends Image: Contact Time person spends Image: Contact Time person spends Image: Contact Time person spends Image: Contact Time person spends Image: Contact Time person spends Image: Contact Time person spends Image: Contact Time person spends Image: Contact Time person spends Image: Contact Time person spends Image: Contact Time person spends Image: Contact Time person spends	people per year who participate in the activity hours a single person spends on the activity Contact Time (receptor hours/year) Maximum intrusive depth (ft) Image:

Maximum intrusive depth at site (ft):

Reference(s) for table above:

Comments

 Site ID:
 OD Grounds - Buffer Area

 Date:
 4/1/2012

Energetic Material Type Input Factor Categories

The following table is used to determine scores associated with the energetic materials. Materials are listed in order from most hazardous to least hazardous.

	Baseline	Surface	Subsurface
	Conditions	Cleanup	Cleanup
High Explosive and Low Explosive Filler in Fragmenting		•	•
Rounds	100	100	100
White Phosphorus	70	70	70
Pyrotechnic	60	60	60
Propellant	50	50	50
Spotting Charge	40	40	40
Incendiary	30	30	30

The most hazardous type of energetic material listed in the 'Munitions, Bulk Explosive Info' Worksheet falls under the category 'High Explosive and Low Explosive Filler in Fragmenting Rounds'.

Baseline Conditions:100Surface Cleanup:100Subsurface Cleanup:100100100		
--	--	--

Location of Additional Human Receptors Input Factor Categories

1. What is the Explosive Safety Quantity Distance (ESQD) from the Explosive Siting Plan or the	239
Explosive Safety Submission for the MRS?	
2. Are there currently any features or facilities where people may congregate within the MRS, or	No
within the ESQD arc?	
3 Please describe the facility or feature	

5. Thease describe the facility of reature.

MEC Item(s) used to calculate the ESQD for current use activities Item #1. Mortars (81mm, High Explosive)

Select MEC(s)

feet

Score

The following table is used to determine scores associated with the location of additional human receptors (current use activities):

	Baseline	Surface	Subsurface	
	Conditions	Cleanup	Cleanup	
Inside the MRS or inside the ESQD arc	30	30	30	
Outside of the ESQD arc	0	0	0	

4. Current use activities are 'Outside of the ESQD arc', based on Question 2.'		
Baseline Conditions:		0
Surface Cleanup:		0
Subsurface Cleanup:		0
5. Are there future plans to locate or construct features or facilities where people may congregate		
within the MRS, or within the ESQD arc?		
6. Please describe the facility or feature.		

MEC Item(s) used to calculate the ESQD for future use activities

Select MEC(s)

The following table is used to determine scores associated with the location of additional human receptors (future use activities):

	Baseline Conditions			
Inside the MRS or inside the ESQD arc Outside of the ESQD arc	30 0	30 0	30 0	
7. Please answer Question 5 above to determine the so	cores.		Score	è

7. Please answer Question 5 above to determine the scores. Baseline Conditions: Surface Cleanup: Subsurface Cleanup:

	used to determine scores associated wi Description No barriers to entry, including	Baseline Conditions	Surface	Subsurface Cleanup		
Full Accessibility	signage but no fencing	80) 80	0 80)	
Noderate Accessibility	Some barriers to entry, such as barbed wire fencing or rough terrain Significant barriers to entry, such as unguarded chain link fence or	55	5 55	5 55		
imited Accessibility	requirements for special transportation to reach the site A site with guarded chain link fence	15	5 15	5 15		
/ery Limited	or terrain that requires special equipment and skills (e.g., rock climbing) to access	Į	5	5 5	;	
aseline Conditions: urface Cleanup: ubsurface Cleanup:					80 80 80	
Future Use Activit	ies					
Select the category tha Baseline Conditions: Surface Cleanup:	<i>ies</i> It best describes the site accessibility u	nder the fut	ure use scel	nario:]	
Select the category that Baseline Conditions: Surface Cleanup: Subsurface Cleanup:	t best describes the site accessibility u	nder the fut	ure use scei	nario:]	
elect the category that aseline Conditions: urface Cleanup: ubsurface Cleanup: deference(s) for above	it best describes the site accessibility u				Select Ref(s)	
elect the category that aseline Conditions: urface Cleanup: ubsurface Cleanup: eference(s) for above Response Alternation nstallation of cap	it best describes the site accessibility u information: tive No. 1: geophysical mapping followed by implementation of	g, intrusivo of LUCs	e investig	nation,	Select Ref(s)	
Baseline Conditions: Surface Cleanup: Subsurface Cleanup: Reference(s) for above Response Alternations and the second sec	ti best describes the site accessibility u information: tive No. 1: geophysical mapping followed by implementation c ed Remedial or Removal Actions'	g, intrusivo of LUCs	e investig	nation,	Select Ref(s)	

Potential Contact Hours Input Factor Categories

The following table is u	used to determine scores associated w	Baseline	Surface	Subsurface		
Many Hours	Description ≥1,000,000 receptor-hrs/yr	Conditions 120	Cleanup 90	Cleanup) 3	0	
Some Hours	100,000 to 999,999 receptor hrs/yr	70	50) 2	0	
Few Hours Very Few Hours	10,000 to 99,999 receptor-hrs/yr <10,000 receptor-hrs/yr	40 15			0 5	
Current Use Activiti	es:					
'Current and Future Ac	determined for baseline conditions for tivities' Worksheet, the Total Potential ove, this corresponds to a input factor s:	Contact Time	e is:		receptor 1,920 hrs/yr 15 Score	
Current and Future Ac Based on the table abo	determined for baseline conditions for tivities' Worksheet, the Total Potential ove, this corresponds to a input factor <i>ie No. 1: geophysical mapping, int</i>	Contact Time score of:	e is:	sed on the	receptor hrs/yr Score	
Based on the 'Plann change if this altern Total Potential Cont 'Post-Response Lan	ed Remedial or Removal Actions' ative is implemented. act Time, based on the contact tir	Worksheet, ne listed for	land use a		8,000 <i>Score</i> 15 10 5	

Amount of MEC Input Factor Categories

The following table is u	used to determine scores associated wi	Baseline	Surface	Subsurface
	Description	Conditions	Cleanup	Cleanup
Target Area	Areas at which munitions fire was directed	180	120	30
OB/OD Area	Sites where munitions were disposed of by open burn or open detonation methods. This category refers to the core activity area of an OB/OD area. See the "Safety Buffer Areas" category for safety fans and kick- outs.		110	30
Function Test Range	Areas where the serviceability of stored munitions or weapons systems are tested. Testing may include components, partial functioning or complete functioning of stockpile or developmental items.	165	90	25
Burial Pit	The location of a burial of large quantities of MEC items.	140	140	10
Maneuver Areas	Areas used for conducting military exercises in a simulated conflict area or war zone	115	15	5
Firing Points	The location from which a projectile, grenade, ground signal, rocket, guided missile, or other device is to be ignited, propelled, or released.	75	10	5
Safety Buffer Areas	Areas outside of target areas, test ranges, or OB/OD areas that were designed to act as a safety zone to contain munitions that do not hit targets or to contain kick-outs from OB/OD areas.	30	10	5
Storage	Any facility used for the storage of military munitions, such as earth- covered magazines, above-ground magazines, and open-air storage areas.	25	10	5
Explosive-Related Industrial Facility	Former munitions manufacturing or demilitarization sites and TNT production plants	20	10	5
Select the category that	at best describes the <i>most hazardou</i> s	s amount of	MEC:	Score
Safety Buffer Areas Baseline Conditions: Surface Cleanup: Subsurface Cleanup:				

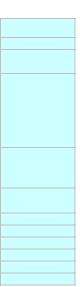
30 10 5

Minimum MEC Depth Relative to the Maxim Factor Categories <i>Current Use Activities</i>	um Intrusive I	Depth Inp	ut			
The shallowest minimum MEC depth, based on the 'Cased N The deepest intrusive depth:	Iunitions Information	on' Workshee	t:	0 ft 0 ft		
The table below is used to determine scores associated with maximum intrusive depth:		•				
		face Subsu anup Clean	urface Iup			
Baseline Condition: MEC located surface and subsurface. After Cleanup: Intrusive depth overlaps with subsurface MEC.	240	150	95			
Baseline Condition: MEC located surface and subsurface, After Cleanup: Intrusive depth does not overlap with subsurface MEC.	240	50	25			
Baseline Condition: MEC located only subsurface. Baseline Condition or After Cleanup: Intrusive depth overlaps with minimum MEC depth.	150	N/A	95			
Baseline Condition: MEC located only subsurface. Baseline Condition or After Cleanup: Intrusive depth does not overlap	0					
with minimum MEC depth.	50	N/A	25			
Because the shallowest minimum MEC depth is less than or equal to the deepest intrusive depth, the intrusive depth will overlap after cleanup. MECs are located at both the surface and subsurface, based on the 'Munitions, Bulk Explosive Info' Worksheet. Therefore, the category for this input factor is 'Baseline Condition: MEC located surface and subsurface. After Cleanup: Intrusive depth overlaps with subsurface MEC.' For 'Current Use Activities', only Baseline Conditions are considered. 240 Score Future Use Activities Deepest intrusive						
depth:				ft		
Not enough information has been entered to determ Response Alternative No. 1: geophysical mapping, in	•			Score		
Expected minimum MEC depth (from the 'Planned Remedial Based on the 'Planned Remedial or Removal Actions' change if this alternative is implemented.	or Removal Action Worksheet, land	s' Worksheet use activit): ies will	3 ft		
Maximum Intrusive Depth, based on the maximum in alternative (see 'Post-Response Land Use' Workshee Because the shallowest minimum MEC depth is great depth, the intrusive depth does not overlap. MECs a subsurface, based on the 'Munitions, Bulk Explosive category for this input factor is 'Baseline Condition: I subsurface, After Cleanup: Intrusive depth does not	t) ter than the deep re located at both Info' Worksheet. MEC located surf	est intrusiv h the surfac Therefore, ace and	e e and the C.'	0 ft		
Baseline Conditions:			Scor	e		
Surface Cleanup: Subsurface Cleanup:				25		

Migration Potentia	al Input Factor Categorie						
	nistorical evidence that indicates i		tural physica	l forces in	Yes		
	erosion) to expose subsurface	•	• •				
subsurface MEC items?							
	ure of natural forces. Indicate ke	ey areas of potentia	al migration	(e.q.,			
	a map as appropriate (attach a m						
separate worksheet).	i i prosperio de la companya de la c		,				
. ,	or below occur regularly each w	inter and the frost	line extends	down to app	roximately		
	ed to determine scores associated						
-				Ibsurface			
		Conditions C	Cleanup Cle	eanup			
Possible		30	30	10			
Unlikely		10	10	10			
Based on the question	above, migration potential is	s 'Possible.'			Score		
Baseline Conditions:					30		
Surface Cleanup:					30		
Subsurface Cleanup:					10		
Defense (a) fan abour in	formation						
Reference(s) for above in	normation:						_
					Select Ref(s)		
				1	.,	1	_
							_
MEC Classification	Input Factor Categories	5					
Cased munitions infor	mation has been inputed into	the 'Munitions,	Bulk Explo	sive Info'			
Worksheet; therefore	, bulk explosives do not comp	rise all MECs for	this MRS.				
,	• • •						
The 'Amount of MEC'	category is 'Safety Buffer Are	as'. It cannot be	automatic	ally			
assumed that the MEC	C items from this category are	DMM. Therefor	e, the cons	ervative			
assumption is that the	e MEC items in this MRS are U	IXO.					
Has a technical assessme	ent shown that MEC in the OB/OE) Area is DMM?					
Are any of the munitions	listed in the 'Munitions, Bulk Exp	losive Info' Worksh	neet:		Yes		
	Submunitions						
	Rifle-propelled 40mm projectiles	•	m grenades)				
	Munitions with white phosphorus						
	High explosive anti-tank (HEAT)	rounds					
	Hand grenades						
	Fuzes						
	Mortars						_
	d in the 'Munitions, Bulk Expl	osive Info' Work	sheet was	identified			
as 'fuzed'.							
The following table is use	ed to determine scores associated						
				Ibsurface			
	UXO Special Case	Conditions C		eanup			
UXO Special Case		180	180	180			_
UXO		110	110	110			
Fuzed DMM Special Case		105	105	105			
Fuzed DMM		55	55	55			_
Unfuzed DMM		45 45	45 45	45 45			
Bulk Explosives		45	40	45			
Deced on second one			1.0		C		
	rs above, the MEC classification	on is 'UXU Specia	ai Case'.		Score		
Baseline Conditions:					180		
Surface Cleanup:					180 180		
Subsurface Cleanup:					180		

MEC Size Input Factor Categories The following table is used to determine scores associated with MEC Size:

The following table is	used to determine scores associated w	Baseline	Surface	Subsurface		
	Description	Conditions	Cleanup	Cleanup		
Small	Any munitions (from the 'Munitions, Bulk Explosive Info' Worksheet) weigh less than 90 lbs; small enough for a receptor to be able to move and initiate a detonation) 40) 40	1	
Large	All munitions weigh more than 90 lbs; too large to move without equipment	() () ()	
Based on the definition	ns above and the types of munitions at MEC Size Input Factor is:	t the site (see	'Munitions,	Bulk Explosive	Small	
Baseline Conditions: Surface Cleanup: Subsurface Cleanup:					Score	40 40 40



Scoring Summary

Site ID:	OD Grounds-Kickout Area	a. Scoring Summary for Current Use Activities	
Date:	4/2/2012	Response Action Cleanup:	No Response Action
	Input Factor	Input Factor Category	Score
I. Ene	ergetic Material Type	High Explosive and Low Explosive Filler in Fragmenting Rounds	100
II. Location of	f Additional Human Receptors	Outside of the ESQD arc	0
III	. Site Accessibility	Full Accessibility	80
IV. Po	tential Contact Hours	<10,000 receptor-hrs/yr	15
V	. Amount of MEC	Safety Buffer Areas	30
VI. Minimum MEC D		Baseline Condition: MEC located surface and subsurface. After Cleanup: Intrusive depth overlaps with subsurface MEC.	240
VII.	Migration Potential	Possible	30
VIII	. MEC Classification	UXO Special Case	180
	IX. MEC Size	Small	40
		Total Score	715
		Hazard Level Category	3

Site ID:	OD Grounds-Kickout Area	b. Scoring Summary for Future Use Activities	
Date:	4/2/2012	Response Action Cleanup:	No Response Action
	Input Factor	Input Factor Category	Score
I. Ene	ergetic Material Type	High Explosive and Low Explosive Filler in Fragmenting Rounds	100
	Additional Human Receptors		
-	. Site Accessibility		
IV. Po	tential Contact Hours		
V	Amount of MEC	Safety Buffer Areas	30
VI. Minimum MEC D	epth Relative to Maximum Intrusive Depth		
VII.	Migration Potential	Possible	30
VIII	. MEC Classification	UXO Special Case	180
	IX. MEC Size	Small	40
		Total Score	380
		Hazard Level Category	4

Site ID:	OD Grounds-Kickout Area	c. Scoring Summary for Response Alternative 1: geophysical mapping	, intrusive investigation, installation o
Date:	4/2/2012	Response Action Cleanup:	cleanup of MECs located both on the surface and subsurface
	Input Factor	Input Factor Category	Score
I. Ene	ergetic Material Type	High Explosive and Low Explosive Filler in Fragmenting Rounds	100
II. Location of	f Additional Human Receptors	Outside of the ESQD arc	0
III	. Site Accessibility	Full Accessibility	80
IV. Po	tential Contact Hours	<10,000 receptor-hrs/yr	5
V	. Amount of MEC	Safety Buffer Areas	5
VI. Minimum MEC D	epth Relative to Maximum Intrusive Depth	Baseline Condition: MEC located surface and subsurface, After Cleanup: Intrusive depth does not overlap with subsurface MEC.	25
VII.	Migration Potential	Possible	10
VIII	. MEC Classification	UXO Special Case	180
	IX. MEC Size	Small	40
		Total Score	445
		Hazard Level Category	4

Site ID:	OD Grounds-Kickout Area	d. Scoring Summary for Response Alternative 2:	
Date:	4/2/2012	Response Action Cleanup:	
	Input Factor	Input Factor Category	Score
I. En	ergetic Material Type	High Explosive and Low Explosive Filler in Fragmenting Rounds	
II. Location o	f Additional Human Receptors	Outside of the ESQD arc	
III	. Site Accessibility		
IV. Po	otential Contact Hours		
V	. Amount of MEC	Safety Buffer Areas	
VI. Minimum MEC D	epth Relative to Maximum Intrusive Depth		
VII.	Migration Potential	Possible	
VIII	. MEC Classification	UXO Special Case	
	IX. MEC Size	Small	
		Total Score Hazard Level Category	

MEC HA Hazard Level I	Determination	
Site ID: OD Grounds-Kickout Area		
Date: 4/2/2012		
	Hazard Level Category	Score
a. Current Use Activities	3	715
b. Future Use Activities	4	380
c. Response Alternative 1: geophysical mapping, intrusive investigation, installation of cap, followed by implementation of	4	445
d. Response Alternative 2:		
e. Response Alternative 3:		
f. Response Alternative 4:		
g. Response Alternative 5:		
h. Response Alternative 6:		
Characteristics of	the MRS	
Is critical infrastructure located within the MRS or within the ESQD arc?	Ν	lo
Are cultural resources located within the MRS or within the ESQD arc?	Ν	lo
Are significant ecological resources located within the MRS or within the ESQD arc?	Ν	lo

APPENDIX C

DETAILED COST ESTIMATE

July 2012 \\Bosfs02\projects\PIT\Projects\Huntsville Cont W912DY-08-D-0003\TO#13 - OD Grounds RI-FS\Documents\FS\Draft FS\text\OD FS Rev 071012 - for merge.doc

Table C-1A Summary of Costs for Alternative 2 Feasibility Study Report - OD Grounds Seneca Army Depot Activity

Description	Total Labor Hours	Total Labor Budget	Total Subs, Equipment, and ODCs	Total Costs
Capital Costs				
Reporting	6,350	\$572,550	\$23,000	\$595,550
Field Work	36,280	\$2,538,300	\$4,174,270	\$6,712,570
Capital Costs Total	42,630	\$3,110,850	\$4,197,270	\$7,308,120
Annual LTM				
LTM	187	\$16,120	\$4,995	\$21,115
LUCs	64	\$6,070	\$4,300	\$10,370
Annual LTM Costs Total	251	\$22,190	\$9,295	\$31,485
Five Year Review	372	\$35,300	\$5,000	\$40,300
Total Present Worth Cost ¹				\$7,786,000

Note:

1. The total present worth cost includes a 5-Year Review, and the annual LTM and LUC review, with a discount rate of 7% over a 30 year interval.

Table C-1B Labor Costs for Alternative 2 Feasibility Study Report - OD Grounds Seneca Army Depot Activity

	Project	Safety	Site			Sr.			Admin				UXO Tech	UXO Tech	UXO Tech	Total	
Description	Manager	Manager	Manager	Engineer II	Engineer I	Geologist	Geophysicist	Drafter	Support	SUXOS	UXO QC	UXOSO	I	II	III	Hours	Total Labor
	\$140	\$120	\$100	\$90	\$80	\$75	\$80	\$60	\$55	\$75	\$67	\$69	\$46	\$55	\$66		
Reporting	910	600	0	1,470	1,760	280	0	1,180	150	0	0	0	0	0	0	6,350	\$572,550
Work Plans	550	400	0	800	1,012	100	0	692	75	0	0	0	0	0	0	3,629	\$331,105
Completion Reports	360	200	0	670	748	180	0	488	75	0	0	0	0	0	0	2,721	\$241,445
Field Work	1,500	120	3,000	1,200	3,000	3,000	1,200	60	0	2,800	2,000	2,200	7,500	6,700	2,000	36,280	\$2,538,300
DGM/Intrusive Invest.	1,000	80	2,000	600	300	1,500	1,200	0	0	2,800	2,000	2,200	7,500	6,100	2,000	29,280	\$1,944,400
Capping	500	40	1,000	600	2,700	1,500	0	60	0	0	0	0	0	600	0	7,000	\$593,900
Excavation, T&D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0
LTM	20	5	0	80	30	10	0	12	30	0	0	0	0	0	0	187	\$16,120
	20	5	0	80	30	10	0	12	30	0	0	0	0	0	0	187	\$16,120
LUCs	16	0	0	20	10	10	0	8	0	0	0	0	0	0	0	64	\$6,070
	16	0	0	20	10	10	0	8	0	0	0	0	0	0	0	64	\$6,070
Total Hours	2,446	725	3,000	2,770	4,800	3,300	1,200	1,260	180	2,800	2,000	2,200	7,500	6,700	2,000	42,881	
Total Labor	\$342,440	\$87,000	\$300,000	\$249,300	\$384,000	\$247,500	\$96,000	\$75,600	\$9,900	\$210,000	\$134,000	\$151,800	\$345,000	\$368,500	\$132,000		\$3,133,040

Table C-1CEquipment and ODC Costs for Alternative 2Feasibility Study Report - OD GroundsSeneca Army Depot Activity

Description	Quantity	Units	Unit Price	Total
Reporting				\$23,000
Reproduction/Shipping	1	LS	\$8,000	\$8,000
Travel	1	LS	\$15,000	\$15,000
Field Work				\$1,595,770
EM 61	55	/per unit/ mo	\$1,774	\$97,570
Radios	80	/per unit/ mo	\$75	\$6,000
Schonstedts	35	/per unit/ mo	\$450	\$15,750
Trimble	70	/per unit/ mo	\$550	\$38,500
Vehicles	50	/per unit/ mo	\$900	\$45,000
H&S equipment	2	LS	\$10,000	\$20,000
Office equipment	1	LS	\$12,000	\$12,000
Field materials (tape, flags, etc)	4	LS	\$8,000	\$32,000
Per Diem	6,700	/per day/per person	\$146	\$978,200
Kubota	10	/per unit/ mo	\$1,575	\$15,750
Tow Behind Magnet	1	LS	\$35,000	\$35,000
Other travel	1	LS	\$300,000	\$300,000
LTM				\$4,995
Reproduction and Binding	4400	/page	0.64	\$2,816
Airfare	2	/trip	500	\$1,000
Per Diem	8	/day	123	\$984
Mileage	100	/mile	0.55	\$55
Car	4	/day	35	<u>\$140</u>
		,,		
LUCs				\$4,300
Reproduction/Shipping	1	LS	\$800	\$800
Travel	1	LS	\$3,500	\$3,500
		-	· · /	T - /
Total				\$1,628,065

Table C-1D Subcontractor Costs for Alternative 2 Feasibility Study Report - OD Grounds Seneca Army Depot Activity

Description	Quantity	Units	Unit Price	Total
Reporting				\$0
Field Work				\$2,578,500
Brush Clearing	1	LS	\$210,500	\$210,500
UXO	1	LS	\$680,000	\$680,000
Scrap	1	LS	\$37,200	\$37,200
Surveyor	1	LS	29000	\$29,000
Analytical	1	LS	\$34,800	\$34,800
Geotech	1	LS	\$225,000	\$225,000
Hydroseeding	1	LS	\$55,000	\$55,000
Earthwork	1	LS	\$1,307,000	\$1,307,000
LTM				\$0
LUCs				\$0
				-
Total				\$2,578,500

Table C-2A Summary of Costs for Alternative 3 Feasibility Study Report - OD Grounds Seneca Army Depot Activity

Description	Total Labor Hours	Total Labor Budget	Total Subs, Equipment, and ODCs	Total Costs
Capital Costs				
Reporting	6,350	\$572,550	\$23,000	\$595,550
Field Work	67,350	\$4,684,700	\$21,808,814	\$26,493,514
Capital Costs Total	73,700	\$5,257,250	\$21,831,814	\$27,089,064
Annual LUC Inspections	69	\$6,470	\$4,300	\$10,770
Five Year Review	372	\$35,300	\$5,000	\$40,300
Total Present Worth Cost ¹				\$27,310,000

Note:

1. The total present worth cost includes a 5-Year Review, and the annual LUC review, with a discount rate of 7% over a 30 year interval.

Table C-2B Labor Costs for Alternative 3 Feasibility Study Report - OD Grounds Seneca Army Depot Activity

	Project	Safety	Site			Sr.			Admin				UXO Tech	UXO Tech	UXO Tech	Total	
Description	Manager	Manager	Manager	Engineer II	Engineer I	Geologist	Geophysicist	Drafter	Support	SUXOS	UXO QC	UXOSO	I	11	ш	Hours	Total Labor
	\$140	\$120	\$100	\$90	\$80	\$75	\$80	\$60	\$55	\$75	\$67	\$69	\$46	\$55	\$66		
Reporting	910	600	0	1,470	1,760	280	0	1,180	150	0	0	0	0	0	0	6,350	\$572,550
Work Plans	550	400	0	800	1,012	100	0	692	75	0	0	0	0	0	0	3,629	\$331,105
Completion Reports	360	200	0	670	748	180	0	488	75	0	0	0	0	0	0	2,721	\$241,445
Field Work	2,200	200	5,200	5,100	4,800	4,300	1,250	0	0	5,800	2,200	5,200	15,500	10,600	5,000	67,350	\$4,684,700
DGM/Intrusive Invest.	1,000	80	2,000	600	300	1,500	1,200	0	0	2,800	2,000	2,200	7,500	6,100	2,000	29,280	\$1,944,400
Capping	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0
Excavation, T&D	1,200	120	3,200	4,500	4,500	2,800	50	0	0	3,000	200	3,000	8,000	4,500	3,000	38,070	\$2,740,300
LTM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0
LUCs	16	0	0	20	15	10	0	8	0	0	0	0	0	0	0	69	\$6,470
	16	0	0	20	15	10	0	8	0	0	0	0	0	0	0	69	\$6,470
Total Hours	3,126	800	5,200	6,590	6,575	4,590	1,250	1,188	150	5,800	2,200	5,200	15,500	10,600	5,000	73,769	
Total Labor	\$437,640	\$96,000	\$520,000	\$593,100	\$526,000	\$344,250	\$100,000	\$71,280	\$8,250	\$435,000	\$147,400	\$358,800	\$713,000	\$583,000	\$330,000		\$5,263,720

Table C-2C Equipment and ODC Costs for Alternative 3 Feasibility Study Report - OD Grounds Seneca Army Depot Activity

Description	Quantity	Units	Unit Price	Total
Reporting				\$23,000
Reproduction/Shipping	1	LS	\$8,000	\$8,000
Travel	1	LS	\$15,000	\$15,000
Field Work				\$2,217,675
EM 61	100	/per unit/ mo	\$1,774	\$177,400
Radios	155	/per unit/ mo	\$75	\$11,625
Schonstedts	110	/per unit/ mo	\$450	\$49,500
Trimble	105	/per unit/ mo	\$550	\$57,750
Vehicles	120	/per unit/ mo	\$900	\$108,000
H&S equipment	3	LS	\$10,000	\$30,000
Office equipment	1	LS	\$12,000	\$12,000
Field materials (tape, flags, etc)	4	LS	\$8,000	\$32,000
Per Diem	9,000	/per day/per person	\$146	\$1,314,000
Kubota	32	/per unit/ mo	\$1,575	\$50,400
Tow Behind Magnet	1	LS	\$35,000	\$35,000
Other travel	1	LS	\$300,000	\$300,000
Demo	2	LS	\$20,000	\$40,000
LTM				\$0
Reproduction and Binding		/page	0.64	\$0
Airfare		/trip	500	\$0
Per Diem		/day	123	\$0
Mileage		/mile	0.55	\$0
Car		/day	35	\$0
LUCs				\$4,300
Reproduction/Shipping	1	LS	\$800	\$800
Travel	1	LS	\$3,500	\$3,500
Total				\$2,244,975

Table C-2D Subcontractor Costs for Alternative 3 Feasibility Study Report - OD Grounds Seneca Army Depot Activity

Description	Quantity	Units	Unit Price	Total
Reporting				\$0
Field Work				\$19,591,139
Brush Clearing	1	LS	\$210,577	\$210,577
UXO	1	LS	\$676,179	\$676,179
Scrap	1	LS	\$37,183	\$37,183
Surveyor	1	LS	4000	\$4,000
Analytical	1	LS	\$49,200	\$49,200
Geotech	1	LS	\$0	\$0
Hydroseeding	1	LS	\$0	\$0
Earthwork	1	LS	\$10,550,000	\$10,550,000
T&D	1	LS	\$8,064,000	\$8,064,000
LTM				\$0
LUCs				\$0
Total				\$19,591,139